# Determinants of Own Source Revenue Generation in Rural Local Bodies and Efficiency of Collection

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National Institute of Public Finance and Policy New Delhi



# Determinants of Own Source Revenue Generation in Rural Local Bodies and Efficiency of Collection<sup>1</sup>

#### Aakanksha Shrawan<sup>2</sup> Nikhil Rahangdale Amar Nath H K

#### Abstract

The paper is an attempt to find the determinants of own sources of revenue of Gram Panchayats, for eight Indian states and evaluates the efficiency of the collection of tax revenues given the availability of resources available to them. The paper disaggregates the own source revenue data into two major sub-components i.e., property tax and other taxes/user charges, using the primary data collected for the years 2020-21, 2021-22, 2022-23 and 2023-24. The size of the population and the extent of commercial activities play a significant role in driving the own source revenues of the Gram Panchayats. However, the distance from the nearest town is a deterrent in the property tax collections of the villages. A look into the efficiency of revenue collection by the Gram Panchayats reveals that the mere presence of staff, *pucca* houses and commercial establishments does not guarantee efficient collection of own source revenue. The efficient utilisation of the available resources is also dependent on the political willingness, innovative practices, efficient governance and financial autonomy of the Gram Panchayats.

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## Introduction

Panchayati Raj Institutions (PRIs) are the embodiment of 'arassroots democracy' and 'democratic decentralisation' in India. India marked a significant milestone in its governance framework through the 73<sup>rd</sup> and 74<sup>th</sup> Amendments to the Constitution. These amendments aimed to strengthen local self-governance in rural (73<sup>rd</sup> Amendment) and urban areas (74th Amendment), empowering Local Bodies to handle various matters listed in the 11<sup>th</sup> and 12<sup>th</sup> Schedules of the Constitution (Rao et al., 2004). These amendments focus on decentralising power to the grassroots level and promote democratic governance and inclusive development in rural and urban areas. Despite the constitutional amendment and the respective Panchayati Raj Acts of the State governments that advocate autonomy and financial powers at the Gram Panchayat (GP) level, the collection of the Own Source Revenue (OSR) accounts for a mere 6-7 per cent of the total receipts of the GPs' finances in most states (with Kerala, Karnataka and Goa being rare exceptions) (MoPR, 2024). This implies that the GPs still depend heavily on the transfers from the State and Union government, with a meagre collection of revenue from levying and appropriating taxes, user charges and fees through the empowerment accorded to them by Article 243H (MoPR, 2024) (for a complete list of taxes and user fees (non-taxes) levied by the GPs across India, please see MoPR (2024) and RBI (2024)). The persistent over-reliance on grants from the Centre and States has not only eroded the fiscal and financial autonomy of these PRIs, making them more of an implementing agency rather than self-reliant local governments, but also raises questions about not mobilising enough resources at the local level. There are various statutory, administrative and other factors that affect the potential of mobilisation of revenues. This paper makes an attempt to address some of the determinants of OSR mobilisation at GP level. Followed by the Introduction in Section 1, Section 2 details the literature on mobilisation of OSR in the Indian context, Section 3 presents the data employed, variables used and the methodological framework employed in the paper. In **Section 4**, the paper discusses the results. Section 5 concludes.

## Section 2. Review of Literature

The tax base is also observed to be quite low because even though GPs are vested with the right to collect property tax, professional tax, water charges, license fees, market fees and revenue from Common Property Resources (CPRs) (like fisheries and grazing lands), the actual levy remains abysmally low due to political resistance, administrative inefficiencies and lack of enforcement mechanisms. In many states, despite having tax mandates in



place, GPs fear imposing them lest it antagonise the voters or is politically disadvantageous. Using the data for 26 States/UTs in India for the years 2020-21, 2021-22 and 2022-23, RBI (2024) reports that own tax revenue comprises a miniscule 1.1 per cent of the total receipts of the GPs in the sample. There, however, exists wide inter-state disparities. States such as Kerala and Maharashtra have successfully mobilised higher OSR with the help of strong administrative frameworks, digitisation of tax collection, and more vibrant community participation. While states such as Himachal Pradesh (INR 1), [harkhand (INR 2) and Bihar (INR 4) have one of the lowest Per Capita OSR collections, states such as Kerala (INR 286), Karnataka (INR 148) and Goa (INR 1635) have amongst the highest OSR Per Capita collections (MoPR, 2024). Arguably, property tax is the most untapped potential, as its optimisation has been constrained by antiquated valuation methods and weak enforcement (MoPR, 2024). Common property resources (CPRs) continue to be vastly underutilised, with merely 18 per cent of GPs availing them. In the case of Odisha, for example, fisheries contribute over 32 per cent of local income, but gigantic CPRs go unutilised due to missing policies and their implementation gaps (NCAER, 2022). Property taxes account for the major share of the tax revenues of the local governments in India (Oommen et al., 2017; MoPR, 2024; RBI, 2024). Following the 'benefit principle' in public finance, Fischel (2001) considers the levy of property taxes on the residents an apt source of funding for the local governments. Given the positive association between the provision of services by the local government (such as roads, water, solid waste management, sanitation, hospitals etc.) and the appreciation of property values, the citizens view the payment of recurrent property tax as a cost incurred for the benefit of service-delivery (operating as a 'benefit tax'). Given its characteristics, the levy of immovable property tax also adequately captures the 'ability to pay' of the taxpayer. Piketty (2014), in Capital in the 21st Century, looks at the inequality perpetrated by untaxed incomes from land, which, in turn, can be invested in the social development of the society (including education and health), reducing income inequalities prevalent in the society. A look at just the property taxation revenue as a per cent of GDP in the urban areas (which boasts of a higher buoyancy in property transactions vis-à-vis rural areas) reveals that India drags behind at 0.2 per cent, with the corresponding figure for its OECD counterparts at 1.1 per cent (Awasthi and Nagarajan, 2020).

In addition to property taxes, GPs, along with District and Block Panchayats, can also charge fees and user charges on providing various services, which also account for a significant share of their OSR. Provision of services on an individual- or household-basis necessitates the levy of user charges as they are able to adequately reflect the demand for



the service and the actual cost borne by the local bodies in terms of resources. These include rents from GP-owned buildings (say shopping complexes), fees on certificates/forms, building plan outlay fees, road-cutting fees, private water connection fees etc. However, a look at the Panchayati Raj Act of several states (*for instance*, Gujarat) confirms that the State government has just laid down the minimum and maximum rates of the fees and user charges that the GPs can levy that have not been revised for a long time. The Report on Indian Urban Infrastructure and Services (2011) highlights, in the case of urban areas, the sheer inadequacy of user charges, which even fall short in undertaking the operation and maintenance cost of various assets. A rationalisation of the user charges to augment their OSR will also provide an impetus to service delivery, along with an improvement in the quality of services. The Report recommends that the ULBs should levy a separate charge for water and sewage (rather than collecting it with property taxes) along with collecting the complete cost of operation and maintenance of water and solid waste management in cities.

Some PRIs have also attempted to expand their revenue base by tapping the common property resources (CPRs) in their geographies. FC-XII also identifies CPRs as a source of revenue and recommends the identification, listing, along with leasing/auctioning/renting of the property in such a way that the GP is able to generate revenue from them. NSSO (2000) reports that 48 per cent of the rural population depends on CPRs such as bamboo, fuelwood, fruits, vegetables, grass etc., for their sustenance in the villages. Some of the major CPRs that can be found in the village boundaries include ponds, community forests, compost pits, solid waste management plants etc. NCAER (2022) found that a meagre 18 per cent of the sample GPs were deriving revenues from monetising the CPRs in their geography (mostly from fisheries and ponds, commercial complexes and tube wells. The top states that monetise the CPRs were found to be Andhra Pradesh, Haryana, Karnataka, Madhya Pradesh and Maharashtra. The First SFC of Chhattisgarh considers vacant land a source of additional revenue for the Gram Panchayats as they can lease out vacant stretches of land to augment OSR (NCAER, 2022). Presently, the auction is done on the basis of a tender, where there is a fixed increase of 10 per cent every year of the tender amount. The Gram Panchayat does not undertake an assessment of the value of the CPR in question, before auctioning it off to an outside agency. MoPR (2024) reports that the GP should prepare a list of the CPRs in its entire area and update their intrinsic value every year. For instance, the lease value of a forest with trees can depend on the potential produce from the trees accompanied by the present and future market/sale value of the fruits and other products. However, *de facto* 



tax enforcement lags behind than *de jure* fiscal empowerment, which, further, increases the problem in this regard. This might be a result of the limited operational and fiscal autonomy along with bureaucratic governance and unclear directives from the State government Furthermore, unsatisfactory and poor implementation of the State Finance Commissions' recommendations again erode the financial base of PRIs. As a result of negligible revenues from OSR, GPs remain fiscally dependent on higher tiers of the Central and State government which renders them unable to assert their character as selfaccounting institutions at the grassroots of governance. This, further, necessitates a deeper look into the dynamics of OSR collection at the GP level.

The role of the level of economic development has been analysed in the literature as an important driver of tax collection (Luo and Douglas, 1996 (for the USA); Overton, 2017 (for the USA); Olowu and Smoke, 1992 (for Sub-Saharan Africa), amongst others). In the Indian context, Sridhar and Ravi (2022), in a recent paper, estimate using an OLS framework the determinants of Karnataka's OSR for the urban local bodies (ULBs). By employing the data for 2018-19, the authors conclude the positive and significant role played by the city's Per Capita income in increasing its Per Capita OSR. Additionally, the authors also note the positive role played by literacy rate, employment rate and infrastructure indicators such as roads etc., in enhancing the OSR of the ULBs. Dash and Raja (2014), in a paper of 14 Indian states, for the period 1980–81 to 2006–07, find the significant role played by *Per Capita income* as a determining factor of own tax revenue (total), own direct tax revenue and own indirect tax revenue. The importance of income, population, administrative efficiency and fiscal policy frameworks also feature prominently in the literature. Luo and Douglas (1996), for instance, highlight how revenue effort—a measure of a local government's capacity to generate income—is influenced by factors such as personal income, socio-economic conditions, and the number of business firms. Their paper also finds that jurisdictions with a higher revenue effort tend to receive higher grant revenues, reinforcing the interconnectedness between local revenue generation and intergovernmental fiscal transfers. Furthermore, the findings challenge earlier assumptions by demonstrating that higher revenue efforts do not deter business activity but might, in fact, promote economic participation within a jurisdiction. Overton (2017) further broadens this perspective by analysing the role of competition among local governments in U.S. cities and its impact on metropolitan governance scholarship. Using a Spatial Durbin Model, the paper finds that factors like household income differentiation and manufacturing differentiation significantly shape revenue yields by limiting direct competition among local governments. The paper also



underscores the importance of collaboration and entry barriers in fostering financial stability. In the Indian context, Sridhar and Ravi (2022) further elucidate by stating that education and infrastructure are crucial enablers of revenue generation. This paper observes that investments in education and road infrastructure are not just expenditures but act as catalysts for expanding the tax base by increasing employability, access to jobs, and overall economic activity. This is supported by the general observation by Dash and Raja (2014) that greater levels of economic development, characterised by higher Per Capita incomes are equivalent to larger tax bases and more commercial activity which, in turn increase revenue collections. Since a higher level of economic development is synonymous with a larger tax-base and greater extent of commercial activities, the positive relationship is to be expected (Dash and Raja, 2014; Sridhar and Ravi, 2022). Adverse socio-economic challenges and higher personal incomes can simultaneously impact the revenue efforts of local governments in the USA (Luo and Douglas, 1996). This paper also questions the argument that increased revenue efforts deter business activity, finding instead that they may encourage greater economic participation. These findings support the idea that revenue generation is a function of economic capacity but is also shaped by other socioeconomic and administrative conditions. One of the few studies which looks into the determinants of OSR Per Capita for the GPs in the state of Kerala is by Oommen et al. (2017). The authors selected 62 GPs in Kerala using multistage random sampling for the year 2004-2013. The authors conclude that only grants from higher tiers of the government have a positive and statistically significant impact on OSR generation. Similarly, for West Bengal, Bahl et al. (2010) find only a negative impact of population on OSR Per Capita in West Bengal in 2, 067 GPs in West Bengal. However, to the best of our knowledge, no study examines the determinants of OSR at an all-India level or uses a dataset of more states in respect of RLBs. The present paper is, therefore, one of the first attempts to find the determinants of OSR by considering a sample of 64 GPs spread across 8 states.

# Section 3. Data, Variables and Methodology

*First*, the study conducts an econometric analysis using the Ordinary Least Squares (OLS) framework to shed some light on the determinants of OSR at the GP level. *Second*, the paper also controls for location of the GP in terms of geography by including a dummy variable for the location of the GP (i.e., North, West, East and South, taking *north* as the base category for comparison). This would help us in ascertaining whether the location of the GP in a particular corner of the country impacts their OSR collections, keeping other



variables constant. Third, the paper also estimates a metric of the tax-paying capacity of the GP as a potential determinant of the OSR collection, by using several variables collected using the primary survey. *Lastly*, the study also evaluates the efficiency of the GPs in revenue generation, with regards to the resources available with them. The paper has been structured as follows. This paper is based on an analysis of 64 sample GPs, spread across eight states i.e., Andhra Pradesh, Karnataka, Maharashtra, Gujarat, Odisha, West Bengal, Uttar Pradesh and Madhya Pradesh. The states were selected with the aim to comprehensively capture the variations across the Indian states in terms of sociocultural differences and to ensure substantial geographical coverage. Two districts from each state, based on the accessibility were selected, i.e., one closer to the state capital and the other farther away from the state capital. The blocks from each of the selected districts were also chosen similarly based on the (Per Capita) own source revenue generated for the latest financial year and the distance of the block headquarters from the district headquarters. For each of these selected blocks in each State, the GPs were selected based on their generated OSR (Per Capita) in such a way that the sample consists of one GP with sufficient collection of OSR and one with lower collections of OSR. The following sections and sub-sections examine in detail the potential determinants of OSR and their impacts on OSR generation. In addition to the Per Capita income of the GP, we also study the role of distance from the nearest urban agglomeration (say, district or block headquarters), extent of commercial activity in the GP such as number of shops, industries and factories, number of *pucca* houses, tax-paying capacity of the GP-population as measured by the number of BPL families in the GP and grants given by the Centre and the State government.

#### 3.1 Role of Per Capita income in OSR generation

Given the imperative role played by income in OSR generation according to the literature, the study attempts to understand the role of income in the determination of OSR of the GPs. Since there is no official data source available for the incomes of the GPs, we, *first*, obtain the association between the Per Capita income of the districts and the average OSR generated at the District level (from the sample GPs). The latest Per Capita income at the district level for all the states under study is available at ICRISAT. The authors also employed the average growth rate of GSDP at the state-level, from MoSPI, for the years when data was not available to calculate the district Per Capita income for those years. The Per Capita OSR for a district was an average of the OSR of the sample GPs in that district. *For instance*, the OSR (Per Capita) for Udupi district of Karnataka is an average of



the four sample GPs (*Marne, Nitte, Amasbail, Koteshwara*). The following figure (Fig. 1) underscores the positive association between the Per Capita income of a district and their collection of OSR in the year 2023-24 (2022-23 for Karnataka). The upward sloping trend line depicts that a higher level of economic development is synonymous with higher tax and non-tax collections at the district-level. Since a higher level of economic development is synonymous with a larger tax base and a greater extent of commercial activities, a positive relationship is to be expected (Dash and Raja, 2014; Sridhar and Ravi, 2022).

**Figure 1.** Relationship between Per Capita income and OSR Per Capita: District-Level (2023-24)



There exists, however, only six districts (*in particular*, Udupi (KA), Chikkaballapur (KA), Kurnool (AP), East Godavari (AP), Wardha (MH) and Kheda (GJ)) which lie above the upward sloping trend line. On the other hand, the association between Per Capita district income and own source collection Per Capita, is unclear for the other districts. *For instance*, despite a lower (estimated) Per Capita income for Bijnor (INR 82,229) than Jagatsinghpur (Odisha) (INR 2,50,219), the Per Capita OSR collection in the case of Bijnor exceeds that of Jagatsinghpur (INR 93 versus INR 79). This sheds light on the fact that though (Per Capita) district income is an important determinant of OSR collections, it is not the sole driver. The paper, therefore, takes a step further and attempts to conduct an econometric analysis using the Ordinary Least Squares (OLS) framework to shed some light on the determinants of OSR at the GP level. To the best of our knowledge, the paper



is among the first, to develop a deeper understanding of the factors which influence the collection of OSR of the GPs. In particular, this paper examines the determinants of the following variables in the analysis:

(a) Own source revenue

- (b) Property tax revenue
- (c) Other taxes and user charges

#### 3.2 Income Estimation at GP level

To estimate a metric of the tax-paying capacity of the GP, say GP Domestic Product or Income at GP level, the paper utilises several data sources and information related to the economic activity of the people which is mostly available from the GP records or Revenue Department. This information is authenticated by informal structured discussions with general public, Gram Panchayat representatives and an investigator's perspective about the activities in the Gram Panchayat. Several simulations have been done to prepare a model to estimate the income of the GP (GP Domestic Product) so that the OSR generation can be linked to GP Domestic Product. This will enable us to estimate the association between OSR and GP's estimated income. To ascertain the robustness of our calculations, the estimated (Per Capita) GP income is compared with district Per Capita income available from MOSPI and ICRISAT, in such a way that estimated income is less than the official district's GDP figures. Additionally, the Per Capita estimated annual income of the district is obtained by dividing the total estimated annual district income (calculated using the estimated GPs' incomes) by the district population. This figure is then compared with the district's Per Capita current GDP (based on official statistics). The official Per Capita district income was found to be similar to the estimated Per Capita district income. In particular, the above information was collected using primary surveys for calculating GP income:

- The data on the total cultivated area for all the crops in each Gram Panchayat (from the Revenue Department).
- The number of individuals engaged in each principal occupation (*self-employed in agriculture, self-employed in non-agriculture, casual labour in agriculture, casual labour in non-agriculture, regular wage/salary earner*),
- number of days employed

- number of shops in each category (grocery stores, salons, dairy shops, chicken/mutton shops, repair/service shops etc.), daily turnover and profit margins,
- Taxes and fees paid by shops/commercial establishments and households.
- Interactions with the public helped in estimating average yield, average turnover of the shops, average wage rate existing in the GP, selling price of agricultural products in GP etc.

Finally, the paper estimates the GPs income in the following manner:

The estimated yearly income for all *self-employed individuals in agriculture* is calculated by aggregating the total annual production value of all cultivated crops. Thus, total annual production value of all crops

 $I_{ag} = \sum_{i} I_{ag_i} = \sum_{i} (A_i. Y_i. P_i)$  where  $A_i$  is total cultivated area (in hectare) of crop *i*,  $Y_i$  is yield (quintal per hectare) of crop *i* and,  $P_i$  is selling price (rupees per quintal) of crop *i*.

- For self-employed individuals in non-agricultural sectors, the yearly turnover was estimated, by extrapolating average daily turnover. Then, profit is estimated by applying the respective average profit margin for each category of shops. The total income of all self-employed individuals in non-agricultural sectors, such as shops and commercial establishments, was obtained by multiplying the total profit by the total number of shops in the village.
- ➤ Thus total income of all **self-employed individuals in non-agricultural sectors**  $I_c = \sum_j I_{c_j} = \sum_j \left[ T_j \cdot \left( \frac{p_j}{100} \right) \cdot n_j \right]$  where  $T_j$  is yearly turnover of *j* type of shops/commercial establishment,  $p_j$  is profit margin (%) and  $n_j$  is number *of j* type shops/commercial establishments (this paper classifies type of shops such as grocery, salons, chemists, stationery etc.)
- ► For *casual labourers (agriculture and non-agriculture)*, the paper calculates annual income by multiplying the daily wage rates for males and females by the number of working days per year and the number of individuals employed. This approach allowed us to estimate the total earnings of casual labourers in a given year. Thus,  $I_{lc} = \sum_m I_{lc_m} = w_m * 365$  where  $w_m$  is daily wage and m is total number of casual labourers in Gram Panchayat.



- ➤ For *regular wage or salary earners*, the paper calculated total annual income by multiplying their monthly income by the number of working individuals. The paper assumes a consistent monthly income for this group to arrive at the total annual income. The paper assumes a consistent monthly income for this group to arrive at the total annual income.  $I_{ls} = \sum_{n} I_{lsn} = s_n * 12$  where  $s_n$  is monthly salary and n is total number of salaried employees in GP.
- > Thus, total GP Income is calculated as

$$I = I_{ag} + I_c + I_{lc} + I_{ls}$$

The (estimated) GP Per Capita income for 2023-24 is provided in Appendix 1 for all the 64 GPs

Figure 2 evaluates an association between the GP income Per Capita and the OSR Per Capita (based on survey data) for the year 2023-24. The scatterplot, based on the data of 64 GPs, suggests a positive relationship between the two variables with most GPs bunched at the origin because of zero collections of OSR. An interesting point to note is that GPs with the lowest (estimated) Per Capita income in the sample had non-zero OSR collections on a Per Capita basis. For instance, GPs such as Ramapura (Karnataka), Nuagarrh (Odisha), Haijarabad (Gujarat) and Garama (Odisha) despite having the lowest incomes were earning positive OSR Per Capita in 2023-24. However, Madiya Agrasen (Madhya Pradesh), Mandawali (Uttar Pradesh), Marounda Suchit (Uttar Pradesh) and Loharwara (Madhya Pradesh) despite having eight times the Per Capita income as Ramapura were not collecting any taxes and user charges. This necessitates an understanding of other explanatory variables, apart from income, that have a bearing on the collections of Per Capita OSR in a particular GP which is undertaken in Section 4.



**Figure 2**. Relationship between Per Capita income and OSR Per Capita: GP-Level (2023-24)



The analysis employs the data on the OSR collections (tax and non-tax) for the period 2020-21 to 2023-24 for 64 GPs spread across eight states in India. The latest data on the population of the GPs for the above years was collected from the GP offices through several sources such as the Jal Jeevan Mission, Household Surveys, Ration cards etc. Once the authors estimated an index of the potential tax-paying capacity of the GP, an attempt is made to assess the other determinants of OSR, in addition to GP income. This paper employs the simple Ordinary Least Squares (OLS) framework to quantify the impact of the determinants of the OSR. Using multiple linear regression, the model establishes relationship between the dependent variable and multiple independent variables, including estimated GP Per Capita income and other GP-specific characteristics. This technique is useful for isolating the individual contribution of each factor to OSR, while controlling for others. The model considers several variables, which include access variables, a metric of tax-paying capacity, socio-economic condition of the GP, poverty in the GP, infrastructure in the GP etc. The paper evaluates the determinants of total own source revenue, house tax and other taxes & user charges. The data for the population of all the GPs was obtained from the records of the GP for the years 2020-21, 2021-22, 2022-23 and 2023-24. For the GPs where the latest data on population was not available, the



data on (estimated) population growth rate for the corresponding district was utilised to ascertain the population of the GPs for the required years (i.e., 2020-21 to 2023-24), based on the 2011 Census data for the GP (Dhar, 2022). The data on the Centre and State's (Per Capita) grants was obtained from the financial records of the GP office. In Table 1, we provide a complete description of the variables employed in the study.

	1
Description	Short-form
Average population of the GP (2020-21 to 2023-24)	рор
Distance of the GP from the nearest town	dist_town
Number of commercial establishments in the GP	comm
Income Estimation	income
Number of BPL Families in the GP	BPL
Number of <i>pucca</i> houses in the GP	рисса
Centre and States grants (Per Capita)	grants_pc

#### Table 1. Variables description

The below table (Table 2) summarises the descriptive statistics of the variables under study. Though Maharashtra has the highest mean GP-level OSR among all the states, it also has the highest standard deviation (INR 60, 72,040). While the OSR of Palsgaon GP is INR 4, 39,294, the OSR of Wadi Ratnagiri GP is INR 1, 45, 61,344, which signifies a high standard deviation of the state. Uttar Pradesh, on the other hand, has the lowest mean OSR (INR 50, 658) during the period of paper (2020-21 to 2023-24). Jalabpur Gudal is the only GP in Uttar Pradesh that has recently begun the collection of user fees for sanitation in 2023-24. The rest seven GPs did not collect any user fees or taxes in any of the years. Though GPs in Uttar Pradesh and Odisha are not empowered, as per their State Panchayati Raj Acts, for the collection of property taxes, Odisha has a mean OSR collection of INR 4, 61,838. This is a result of State's collection from non-tax sources such as income from the auction of ponds, fish markets, trees, interest receipts etc.



Table 2. Descriptive Statistics	s (2020-21 to 2023-24)
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State	OSR				
	Mean	Minimum	Maximum	Std. Deviation	
Andhra Pradesh	25, 52,606	73,347.5	73, 67,829	25, 18,997	
Gujarat	5, 91,681	44,371	15, 73,763	5, 54,683	
Karnataka	43, 53,725	6, 92,932	1,03,06,059	33, 71,661	
Madhya Pradesh*	97,977	1,000	3,24,085	1,43,097	
Maharashtra	46, 85,580	4, 39,294	1,45,61,344	60, 72,040	
Odisha	4, 61,838	23, 725	16, 19,917	5, 28,035	
Uttar Pradesh*	4,05,265#	-	-	-	
West Bengal	18, 68,693	2, 64,594	65, 39,969	22, 51,660	

*Note: \*: Excluding the years for which there was no collection of OSR, #: OSR was collected only in one GP in Uttar Pradesh* 

**Table 3.** Classification of Gram Panchayats based on their Per Capita own source revenues(2023-24):

Per Capita Own Source of	Number of GPs (In per cent)
Revenue (In INR)	
0-10	16 (25)
10 to 50	10 (16)
50 to 100	7 (11)
100 to 500	22 (34)
500 to 1000	7 (11)
More than 1000	2 (3)

Table 3 groups all the 64 GPs in the sample, based on their Per Capita OSR for the latest year i.e., 2023-24 (2022-23 for the case of Karnataka due to unavailability of data). Around 25 per cent of the GPs had less than INR 10 as Per Capita collection of revenues (*with 14 GPs earning zero OSR in 2023-24, mostly in Odisha, Uttar Pradesh and Madhya Pradesh*). Around 17 per cent of GPs were earning between INR 10 and INR 100. A significant share of GPs (34 per cent) had own revenue between INR 100 to INR 500 on a Per Capita basis. This was followed by seven GPs who earned between INR 500 to INR 1000 in 2023-24. Three of these seven GPs were located in Karnataka. Billekallu (Andhra Pradesh) and Wadi Ratnagiri (Maharashtra) were earning the highest Per Capita own revenue, i.e., INR 1543 (income from tomato market auctions) and INR 3866 (pilgrimage



tax collections), respectively, in the year 2023-24. In all, most of the high-earning GPs were located in Andhra Pradesh, Karnataka, Gujarat and Maharashtra. It is also observed from the sample that property taxes constitute the major share of the OSR of the GPs. Based on the field survey data, in 2022-23, house tax comprised around 40 per cent of the total OSR of all the GPs (excluding the GPs of Uttar Pradesh and Odisha). Except for Odisha and Uttar Pradesh, all the states are empowered to collect house taxes as per their State Panchayati Raj Acts.

# Section 4. Results and Discussion

In the present Section, the paper presents the regression results for the determinants of total own source revenue. Column 1, 2 and 3 in the Table 4, present the regression results for the determinants of *total OSR, property/house tax* and *other taxes & user charges* of the 64 GPs respectively.

#### 4.1 Determinants of Total OSR

The paper controls for the population of the GP to ascertain agglomeration effects since it is an indicator of a greater tax base along with increased economic activity in the corresponding GP (see Bahl et al., 2009). The number of commercial establishments (groceries, rice mills, beauty parlours, salons, chemists etc.) (Estimated through a primary survey) as well as estimated income also indicate the tax-paying capacity of the GP population and the extent of commercial activity in a GP, thus, indicating higher potential OSR collection. The paper also controls for the location of the GP in terms of geography by including a dummy variable for the location of the GP (i.e., North, West, East and South, taking North as the base category for comparison). Since Uttar Pradesh and Odisha are not empowered to collect property tax, the paper also includes an empowered dummy which is 0 for the GPs of Uttar Pradesh and Odisha and 1 for the GPs of the other six states. As expected, a higher population of GP leads to a positive and statistically significant impact on total OSR and other taxes & user charges collection. Since the association between the number of *pucca* houses and property tax collection is expected to be stronger rather than its association with the total population of the GP, the paper does not control for population as a determining factor of property tax collection of the GP. A GP which is closer to an urbanised area or a town, will also lead to a higher total OSR collection vis-àvis a GP which is further away from a town. A higher proximity to an urban area will imply a higher extent of economic activity and employment of a higher share of the GP population in more regular-wage employed jobs. As can be seen from the results, on



average, a GP closer to an urban area is expected to earn a higher revenue, to the extent of INR 4, 976 annually. Additionally, the impact of a higher number of commercial establishments, which includes grocery shops, mobile towers, flour mills, factories, chemist shops, beauty parlours/salons etc., is also found to be positive and statistically significant at 10 per cent level of significance. Since the Panchayati Raj Acts of several states empower the GPs to levy a property tax, license fees, trade registration fees etc., on an annual basis, a higher number of commercial establishments has a positive relationship with the total OSR collection of the GPs. In particular, an additional shop in a GP will lead to, on average, an increase in the OSR by around INR 8, 575 on an annual basis. The impact is also statistically significant at 1 per cent level of significance. The paper also accounts for the geographical location of the GP since this will control for the state-level differences in governance and policy-making among the GPs. The results shed light on the fact that, on average, GPs in the Southern states will earn an additional INR 24, 18,736 (compared to the GPs in the Northern states of Uttar Pradesh and Madhya Pradesh). GPs in the Southern states (Andhra Pradesh and Karnataka) had well-defined Rules and GOs, which led to high OSR collections in them. The states also had comprehensive rules and criteria for the collection of license fees. Next, GPs in Gujarat and Maharashtra earn INR 17, 11,599 more than their Northern counterparts, on average. Though the coefficients for both *South* and *West* are statistically significant at 5 per cent level of significance, the coefficient on *East* is statistically insignificant. This implies that there is no statistical difference in OSR between Eastern and Northern GPs. The paper also finds a positive and statistically significant impact of the tax-paying capacity of the GP population on the augmentation of total OSR (12.54). In the year 2022-23, property tax (without water, sanitation and lighting tax/user charges) accounted for 40 per cent of the total OSR collection based on the financial data of the 64 GPs. A high R-square of 0.601 further indicates that the selected variables explain 60 per cent of the variation in OSR collections.

#### 4.2 Determinants of Property Tax

The next column (Col. 2), examines the determinants of the property tax collections. Here, property tax collections include house/property tax, vacant land tax, sanitation tax/user charges, water tax/user charges and lighting tax/water charges collected by the GPs. As can be witnessed from the table, distance from the nearest town plays a statistically significant negative impact on the property tax collection of the GP (INR 21, 353). An increase in the distance from the town by one km reduces the property tax revenues by more than INR 20, 000. The impact is more pronounced when the dependent variable is



property tax vis-à-vis when the dependent variable is total OSR collection. Houses and commercial establishments further away from urban areas have lower circle rates and hence, pay lower property taxes. As expected, a higher number of commercial establishments also leads to an increase in property tax collections by around INR 6, 960. Higher grants from the Centre and the state (on a per capita basis) also has a positive and statistically significant impact on property tax collections of the GPs. Higher transfers from the Centre and State might lead to higher investments in the provision of services to the Gram Panchayat (such as water supply, construction of roads etc.), which might lead to more willingness on the part of the GP residents to timely and adequately pay their property taxes. Since Uttar Pradesh and Odisha did not collect any property taxes and Madhya Pradesh had insignificant collections, instead of including a region dummy, the model includes an *empowered dummy* to find whether there exists any statistical difference between the property tax collections of the GPs which are empowered to collect property taxes and those which are not (GPs in Uttar Pradesh and Odisha). As can be witnessed from Col. 2, it is found that empowered GPs, on average, earn INR 5, 17,629 more in property taxes as against the GPs whose Panchayati Raj Acts do not empower the GPs to levy any taxes on properties. As expected, the proxy for measuring the tax-paying capacity of the GP (income) is also found to have a positive and significant impact on the GP's property tax collections (INR 8.55), which also implies that the estimation of the GPs income has been undertaken in a robust manner. An R-square of 0.7508 implies that 75 per cent of the variation in property tax collection is explained by the explanatory variables.

#### 4.3 Determinants of user charges and other fees

Lastly, Col. 3 undertakes an analysis of the determinants of non-property taxes/user charges (or, in other words, OSR net of property/house tax, lighting tax, sanitation tax and water tax). The other taxes of the Gram Panchayats include auction fees, market fees, taxes on advertisements, income from the lease of parks/ponds, income from annual festivals etc. A look at the determinants of the non-property taxes/user charges reveals a positive and statistically significant impact of the population of the GP and the number of commercial establishments (which indicates the extent of commercial activities in the GP). Additionally, with respect to the base category of Northern GPs, Southern GPs once again display a higher collection of other taxes and user charges, followed by the GPs in Maharashtra and Gujarat. A low explanatory power of the model is an indication of the GP level.



#### **Table 4.** Regression Results

Variable	OSR	Property Tax	Other Taxes
	Col. 1	Col. 2	Col. 3
рор	93.22**		64.75***
dist_town	-4, 976.42	-21,352.94*	
comm	8,574.76***	6,959.55***	1, 766.27**
region dummy			
West	17,11,599**		12, 16,738*
East	-2,17,756.2		35, 757.31
South	24,18,736**		15, 08,756**
income	14.33**	8.55*	6.85
BPL	-121.72	292.26	-152.94
рисса		-65.12	
grants_pc	12.54	731.49**	-493.61
empowered dummy		5,17,629.1**	
Constant	-14,24,283**	-9,01,830.2**	-4, 01,166.40**
Number of observations	58	58	58
F-Statistic	$F(9, 15) = 47.51^{***}$	F(7, 15)= 32.19***	F(8,
			15)=9.77***
R-squared	0.6086	0.7508	0.2720

Note: \*, \*\* and \*\*\* denotes statistical significance at 10%, 5% and 1% level of significance.

#### 4.4 Efficiency Analysis

The paper also attempts to evaluate the performance of the GPs in revenue generation, with regards to the resources available with them. Stochastic Frontier Analysis (SFA) is an econometric framework used to evaluate the efficiency of entities in converting inputs into outputs while accounting for random noise (Table 5) (Aigner et al., 1977; Greene, 2005). This methodology is particularly relevant for assessing the efficiency of GPs in utilising available resources to generate OSR. By estimating a production frontier, SFA enables us to benchmark the GPs in the sample, based on their performance relative to the most efficient ones in the dataset. The SFA model estimates an efficiency frontier, which represents the maximum OSR a GP can generate given its inputs (such as commercial establishments, population of the GP, *pucca* houses etc.). Efficiency scores are derived by comparing actual OSR against the estimated frontier for all 64 GPs. Efficiency scores range between 0.053 and 0.999, where higher scores indicate optimal resource



utilisation (see Table A2 for a complete list of rankings). The table below (Table 5) reports the efficiency scores for the top and bottom five GPs, to identify disparities in resource utilisation and revenue generation and shed some light on the scope for improvement.

High Efficiency GPs	Score	Low Efficiency GPs	Score
Billekallu (Andhra Pradesh)	0.999	Sulkapara (West Bengal)	0.093
Pandvania (Gujarat)	0.999	Kammarachedu (Andhra Pradesh)	0.078
Chandpur (Madhya Pradesh)	0.999	Bhaliakata (Odisha)	0.073
Jhunku (Madhya Pradesh)	0.999	Madiya Agrasen (Madhya Pradesh)	0.054
Wadi Ratnagiri (Maharashtra)	0.999	Borikina (Odisha)	0.053

Table 5. E	Efficiency Scores:	Top and	bottom	five GPs
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The table displays a stark contrast between the high- and low-efficiency GPs which the authors presume might be driven by the differences in governance, staffing efficiency and financial management among the GPs. For instance, high-efficiency GPs like Billekallu (0.999) and Pandvania (0.999) have 11 elected members each and perform exceptionally well. This suggests that these representatives are engaged in the decision-making process and governance. Haijarabad (0.111) is a GP which has no elected members at all, which probably explains its inefficiency as there is no local leadership to drive governance and hence, leading to ineffective decision-making. Total sanctioned staff strength also might play a major role in the GP's administration and service delivery. However, it was observed that mere high staff numbers is not sufficient as one needs efficient governance and financial independence also. For instance, the high efficiency GPs like Jhunku (0.999) and Ramapura (0.928) have sanction staffs of only 5 and 10 respectively, but are working efficiently due to better manpower utilisation. Interestingly, Gargoti (0.232) has more than 50 sanctioned staff but is comparatively inefficient. Therefore, SFA analysis indicates that there exists a significant efficiency difference between GPs and clearly indicates that even with abundant resources, high revenue collection is not guaranteed. With the right approach, a high OSR can be achieved through enhanced resource utilisation, effective governance and innovation.



## Section 5. Conclusion

The present paper attempts to evaluate the determinants of the OSR generated by the GPs, based on a sample of 64 GPs which are situated across eight Indian states for the period 2020-21 to 2023-24. It was found that more than 40 per cent of the GPs in the sample were collecting less than INR 50 as Per Capita OSR, on average, during the period of the study. Since the paper establishes that the Per Capita income and OSR Per Capita collection at the GP-level does not have a one-to-one relationship, it is imperative that the paper explores other potential determinants of OSR which can impact its collection at the GP-level. Using an OLS framework, the authors found that higher population and extent of commercial activities in the village aided the collection of OSR. Moreover, in comparison to their Northern GP counterparts, Western and Southern GPs had significantly high and statistically significant OSR collection. Higher (estimated) income was also found to be positively impacting total OSR collections in the sample under consideration. Property tax collections, similar to total OSR collections, was positively associated with the extent of commercial activities in the GP and the (estimated) income. As expected, a higher distance from an urban centre was having a profound negative impact on the property tax collections. In Per Capita terms, higher grants from the Centre and states, lead to an increase in the property tax revenues, implying better infrastructure and services created by the grants in aid. Finally, higher population and higher number of shops/commercial activities is positively associated with other taxes/user charges. Next, the paper also evaluates the efficiency performance of the GPs to ascertain the optimum utilisation of the resources given their resource availability and finds that, in addition to the explanatory variables employed in the regression exercise, there might be other variables at play which might determine the efficiency of OSR collections such as the governance quality, staffing strength and financial autonomy etc.



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#### <u>APPENDIX</u>

#### **Table A1.** (Estimated) GP Per Capita income (2023-24)

State	Gram Panchayat	Per	State	Gram	Per
		Capita		Panchayat	Capita
		GP			GP
		Income			Income
Andhra Pradesh	Kadiyapulanka	1,92,745	Maharashtra	Gangapur	24,511
Andhra Pradesh	Veeravaram	73,266	Maharashtra	Gargoti	1,09,263
Andhra Pradesh	Pothavaram	43,047	Maharashtra	Kotoli	60,803
Andhra Pradesh	Prakasaraopalem	57,789	Maharashtra	Wadi Ratnagiri	86,144
Andhra Pradesh	Kammarachedu	1,32,976	Maharashtra	Bharaswada	33,971
Andhra Pradesh	Molagavalli Kottala	88,218	Maharashtra	Sahur	31,623
Andhra Pradesh	Billekallu	1,26,971	Maharashtra	Palsgaon	58,152
Andhra Pradesh	Joharapuram	1,09,965	Maharashtra	Vijaygopal	58,161
Gujarat	Bamthiya	20,745	Odisha	Borikina	22,347
Gujarat	Sheth Vadala	78,333	Odisha	Garama	6,672
Gujarat	Jogvad	7,759	Odisha	Nuagarrh	4,476
Gujarat	Pipartoda	1,44,705	Odisha	Pandua	17,166
Gujarat	Haijarabad	6,407	Odisha	Deogaon	21,850
Gujarat	Sokhda	27,848	Odisha	Dhama	64,667
Gujarat	Malai	17,242	Odisha	Bhaliakata	79,028
Gujarat	Pandavania	71,555	Odisha	Mochibahal	95,687
Varnataka	Ramapura	1,095	Uttar	Kasampur Garhi	21,743
KalillataKa			Pradesh		
Karnataka	Thondebhavi	59,393	Uttar	Seervasuchand	20,234
Kai liataka			Pradesh		
Karnataka	Ganjigunte	10,488	Uttar	Jalabpur Gudal	21,826
			Pradesh		
Karnataka	Kumbigana Halli	26,795	Uttar	Mandawali	8,989
Karnataka			Pradesh		
Karnataka	Marne	1,60,712	Uttar	Kursath Gramin	17,948
Karnataka			Pradesh		
Karnataka	Nitte	2,82,756	Uttar	Shadi Pur	18,830
Karnataka			Pradesh		
Karnataka	Amasebail	1,47,372	Uttar	Marounda	9,316
Karnataka			Pradesh	Suchit	
Karnataka	Koteshwara	1,25,044	Uttar	Patari	15,227
Karnataka			Pradesh		
Madhya Pradesh	Basadi	32,541	West Bengal	Angrabhasa-I	33,810
Madhya Pradesh	Loharwara	9,462	West Bengal	Sulkapara	90,581
Madhya Pradesh	Atarsuma	89,729	West Bengal	Fulbari-I	22,201
Madhya Pradesh	Khamha	18,518	West Bengal	Kukurjan	11,143
Madhya Pradesh	Jhunku	14,063	West Bengal	Baikunthapur-I	39,015
Madhya Pradesh	Kusmi	52,641	West Bengal	Nabastha-II	61,974
Madhya Pradesh	Chandpur	72,590	West Bengal	Mertala	86,466
Madhya Pradesh	Madiya Agrasen	8,957	West Bengal	Patuli	28,115

Source: Authors' calculations



#### **Table A2.** Efficiency Scores of Sample Gram Panchayats (Highest to Lowest)

Andhra PradeshBillekallu0.999GujaratPandavania0.999Madhya PradeshChandpur0.999	
GujaratPandavania0.999Madhya PradeshChandpur0.999	
Madhya PradeshChandpur0.999	
Madhya Pradesh Jhunku 0.999	
Maharashtra Wadi Ratnagiri 0.999	
Odisha Deogaon 0.999	
West Bengal Angrabhasa 0.999	
Gujarat Jogvad 0.999	
West Bengal Fulbari I 0.847	
Maharashtra Bharswada 0.839	
Gujarat Sokhda 0.833	
Maharashtra Sahur 0.676	
Maharashtra Vijaygopal 0.661	
Andhra Pradesh Kadiyapulanka 0.647	
Odisha Nuagarh 0.618	
Maharashtra Gangapur 0.572	
Gujarat Malai 0.544	
Andhra Pradesh Prakasaraopalem 0.501	
Andhra Pradesh Pothavaram 0.423	
Gujarat Pipartoda 0.418	
Karnataka Thondebhavi 0.380	
Karnataka Koteshwara 0.331	
Uttar Pradesh Jalabpur Gudal 0.319	
Gujarat Sheth Vadala 0.265	
Karnataka Kumbigana Halli 0.264	
Karnataka Ganjigunte 0.251	
Karnataka Nitte 0.251	
Maharashtra Kotoli 0.246	
Maharashtra Gargoti 0.232	
Andhra Pradesh Veeravaram 0.214	
Madhya Pradesh Atarsuma 0.209	
Karnataka Amasebail 0.177	
Odisha Pandua 0.157	
Karnataka Marne 0.154	
Gujarat Bamthiya 0.133	
Andhra Pradesh Molagavalli Kottala 0.130	
Odisha Garama 0.129	
Andhra Pradesh Joharapuram 0.125	
Guiarat Haijarabad 0.111	
Madhva Pradesh Kusmi 0.109	
Odisha Dhama 0.109	
West Bengal Patuli 0.097	
West Bengal Sulkapara 0.093	
Andhra Pradesh Kammarachedu 0.078	
Odisha Bhaliakata 0.073	
Madhya Pradesh Madiya Agrasen 0.054	
Odisha Borikina 0.053	

Source: Authors' calculations

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Aakanksha Shrawan, is Assistant Professor, NIPFP, New Delhi Email: aakansha.shrawan@nipfp.org.in

Nikhil Rahangdale, is Consultant, NIPFP, New Delhi Email: Nikhil.rahangdale@nipfp.org.in

Amar Nath H K, is Associate Professor, NIPFP, New Delhi Email: hk.amarnath@nipfp.org.in



National Institute of Public Finance and Policy, 18/2, Satsang Vihar Marg, Special Institutional Area (Near JNU), New Delhi 110067 Tel. No. 26569303, 26569780, 26569784 Fax: 91-11-26852548 www.nipfp.org.in