

## CHAPTER - 6

EFFECTS OF GRANTS ON LOCAL REVENUES

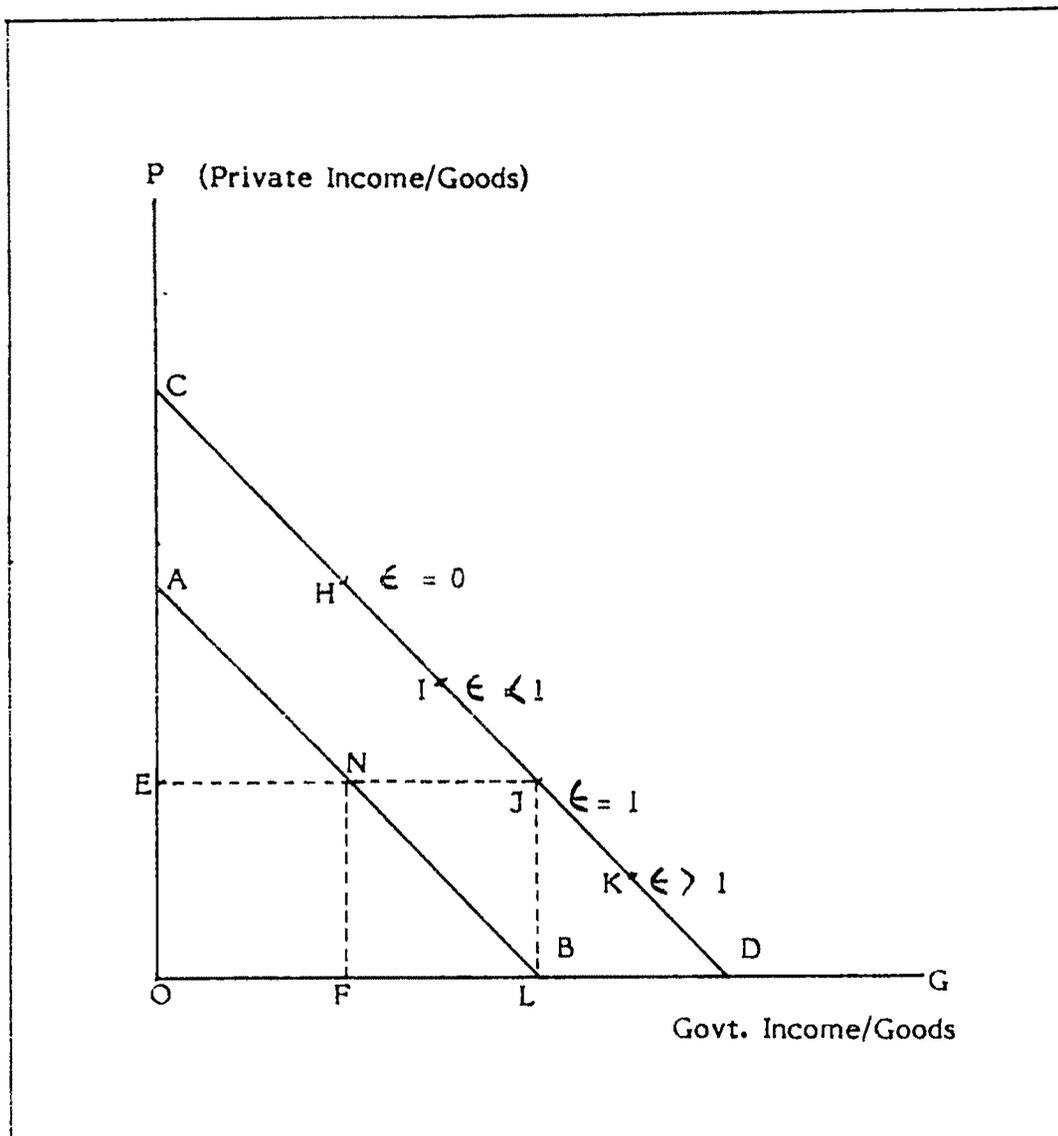
The fiscal implications of grant is not merely confined to its supplementary role to local finance, but extends beyond. Particularly its impact on local revenues and expenditure has invoked considerable research interest among the academicians far and wide. Though a less documented area than its expenditure effect, revenue effect of grant is also not less important (Spahn, 1977). It has two aspects --- revenue substitutive and stimulative effects. To these we now turn.

**A) Revenue Substitution Effect :**

Theoretically, unconditional general purpose grant (GPG) is more likely to offset local revenues under ideal conditions. We have already noted in Figure - 2 how automatic transfer of such grant may dampen local revenue raising spirit particularly in a situation where strict collection of own revenues risks the popularity of local tax administrators. Apart from this non-economic factor, there is also the possibility of revenue substitutive economic influence from lower income elasticity of demand for local services. This aspect was considered by Spahn (1977). A slightly modified version of the geometric tool used by him is produced (Figure - 7) to help explain this.

In Figure 7, pre-grant income of the local community is classified into (i) local government income or local tax revenue collected from people for producing public goods (G) shown along OG line and (ii) post-tax disposable private income for consuming private goods (P) measured along OP line. With its slope determined by the relative prices of G & P, the budget line AB represents the constraints that at OA amount of private income there is no public spending while OB amount of government income involved 100% taxation of

Figure - 7

REVENUE EFFECT OF UNCONDITIONAL GENERAL GRANT

local income leaving no income for private spending. In course of trading-off between private income and public income (local tax revenues), a point on the budget line will be decided at which P & G equilibrate. At point N, for example, OF volume of public spending will be financed through taxing AE amount of local income, with the remaining income OE to be spent on NF or EO level of private goods. Now suppose NJ amount of grant is injected into local income stream. This will cause a parallel shift of budget line to CD, as the grant exerts only income effect and does not alter the relative prices of P and G. In the new situation, it would be possible to produce more of public goods without increasing taxation or same level public goods through decreased taxation. Actual solution will, nevertheless, depend on the degree of elasticity of demand for local public goods.

At unitary elasticity level, the solution will be 'J' at which entire grant income will be absorbed in producing additional public goods, leading to a total of OL amount of such goods while consumption of private goods as well as local taxation remains the same. This unitary elasticity level represents the break-even situation for revenue substitution effect of grants, since an elasticity below this level will cause under-utilisation of grants, with the surplus grant giving some scope to lighten local tax burden or lower collection effort.

Greater than unitary elasticity, on the other hand, will induce public spending more than the amount of grant, made possible through enhanced taxation. This refers to equilibrium point 'K'. Such a revenue stimulative effect is rather unusual with general purpose grants, since it is not always possible to inflict extra tax burden particularly in the wake of grant disbursement to local government. Hence Bahl and Schroeder (1983) maintain that a lumpsum grant with no matching requirement or maintenance of effort clause provides no inducement for the local government to increase spending beyond the amount of the grant and ordinarily one would expect an extra grant to

be divided into between increased expenditures, tax relief and increased cash balances. A more plausible case is, therefore, a substitution of local revenues effected from underutilisation of grants in the case of under-unitary elasticity of demand for local services, such as demonstrated by the equilibrium point 'I'.

The matter of revenue substitution effect of general grants as expounded above are well-established in the theory of inter-governmental grants (Spahn, 1977). Applicability of this is, however, subject to a number of conditions some of which are cited below :-

- i) As already stated, income elasticity of demand for public goods has to be lower than unitary. Otherwise, a higher value of the same will induce local revenue generation rather than offsetting it.
- ii) It is assumed that revenue base remains the same, otherwise expansion in the base will neutralise the revenue substitution effect of grants.
- iii) Grant should constitute a sizable portion of total revenue, since changes in grants, if that be small in size, will not matter much for local revenue performance.
- iv) Greytak and Mendes (1986) argue that grant substitutes local revenues if the former can be used in place of the latter. Any restriction against inter-uses between these dual sources of revenues may obstruct revenue substitution by grants.
- v) There should not be any provision of minimum spending requirements for local bodies, as that will be an indirect inducement to strengthen their revenue capabilities.

- vi) Any form of pressure or incentive to defuse revenue substitutive effect is assumed to be absent.

If the above conditions do not hold good, revenue substitution effect may be partially or fully neutralised. (i) In case of strong substitution effect, increase in grants will be followed by a decrease in own revenues and the regression results will show significantly negative values (ii) Partially neutralised substitution effect, will also cause a decrease in local revenues, but at a slower pace, in response to increase in grants and in this case the regression analysis is not likely to show any significantly negative results (iii) Fully neutralised substitution effect will generate zero regression coefficient and in case the substitution effect is more than offset, the coefficient will assume positive value like that of stimulative effect.

Theoretical hints to above three-fold cases of grants effect may be found in the work of Break (1980). Given such revenue impact possibilities of general purpose grants (GPG), research investigation into the matter yields different regression results across countries. Spahn (1977), for example, reported a substitution effect of GPG upon state - local taxation in Australia. Similar effect was estimated by Greytak and Mendez (1986) in case of selected grants on local revenue effort in Ecuador. Schroeder (1983), on the contrary, did not find any definite relationship between the flow of intergovernmental grants and per capital revenues in case of Bangladesh. All these findings tend to indicate practicability of our theoretical exposition that general purpose grants tend to substitute local revenues under ideal conditions and exception to this may also occur when such conditions fail to apply.

### **Empirical Evidence**

In Bangladesh, most of the local grants bear characteristics of general grants. Quantitatively dominating, the development (Works Programme) grant

is often meant for non-specific development works and therefore it partakes the nature of GPG. Salary grant for local officials, effectively speaking, is more in the nature of general rather than specific grants. Because it is not only aims at a broad purpose but its targetless or general use is also often tolerated. Octroi grant for the Pourashava was introduced for compensating the loss from abolition of Octroi (tax on import of commercial goods into the city) in 1981-82 and it offers a good example of GPG. All these general grants --- comprising total grants of Kaultia U.P. and the most of total grants of Manikganj Pourashava (Annexure 2).

Given the preponderance of general grants in local grants structure of Bangladesh and the absence of any pre-condition for receiving them, there are at least necessary conditions for such grants to replace local revenues. We, therefore, attempted to statistically measure if there is such a substitutive relationship between the two sources of revenues. For this purpose the regression method based on time series data for Manikganj Pourashava and Kaultia Union Parishad was employed. Further the regression was estimated with the help of cross-section data of a number of Pourashavas. In both cases, the regression was based on the simple linear equation of  $y = a_1 + b_1 x$  where local revenue represents the dependent variable (Y) and general grant is the independent variable (X). We now put up the results of both regressions in the following manner.

#### i) Time-Series Regression

Table 11 records regression results for own-source revenues of two local units regressed against their general purpose grant. As it appears, the results do not suggest any strong positive or negative relationship in any case. The only negative value is shown by 'other taxes' of Manikganj Pourashava, of course in the order of insignificance. This is even not a true indicator of

Table - 11A

**THE REGRESSION RESULTS FOR LOCAL REVENUES IN  
MANIKGANJ POURASHAVA**

$$\text{Model : Own Revenue (Y) = } a_1 + b_1 \cdot x \text{ (Grant)}$$

N = 15

Own Revenues (dependent variable)	Intercept $a_1$	Regression Coefficient $b_1$	T-Statistics	$R^2$
1. Holding tax	107.0	.07	.27	.45
2. Property Transfer Tax	34.0	.03	.12	.77
3. Professional Tax	10.0	.04	.16	.87
4. Other taxes	67.24	-.008	-.03	.06
5. Utility Rates	41.0	.03	.12	.37
6. Fees	24.0	.03	.12	.66
7. Property Income	10.50	.02	.08	.25
8. Miscellaneous	21.0	.04	.16	.62
9. Total Revenues	322.0	.24	.93	.72

**N.B. :** Local revenue and grant data in Annexure 1 & 2.

Table - 11B

**THE REGRESSION RESULTS FOR LOCAL REVENUES IN  
KAULTIA UNION PARISHAD**

**Model : Own Revenue (Y) = a<sub>1</sub> + b<sub>1</sub>.x (Grant)**

N = 11

Own Revenues (dependent variable)	Intercept a <sub>1</sub>	Regression Coefficient b <sub>1</sub>	T-Statistics	R <sup>2</sup>
1. Holding Tax	178.0	.02	.07	.11
2. Profession Tax	- .6	.02	.07	.67
3. Other taxes	11.0	.01	.03	.58
4. Fees	4.0	.02	.07	.37
5. Property Income	20.0	.009	.03	.03
6. Miscellaneous	6.0	.02	.07	.40
7. Total Revenues	213.0	.10	.33	1.10

**N.B. :** Local revenue and grant data in Annexure 1 & 2.

revenue substitution effect because earning from this revenue head registered a sharp fall due to abolition of its 'Octroi' component since 1981-82. Regression coefficients for all other revenue items as well as aggregate revenues demonstrate positive values but are not significant in any case. All these results indicate that revenue effect of grant is neither substitutive nor strongly stimulative but it represents a case of defused substitution effect of our analysis.

Our graphical exposition (Figure 8) based on time series data (Table 12) also points to above nature of effect, since local revenue tends to increase over the years, of course, at a clearly lower rate than grant.

## ii) Cross Section Data-Based Regression

In addition to regression findings based on time-series data of the two study units, regression based on cross-section data of eight to ten selected Paurashavas was also computed, in order to ensure greater representation of data. Since the data input was drawn from secondary sources and these sources could not furnish adequate necessary data, regression for 4 revenue items in the year of 1980-81 was only possible. Now the results are presented in Table 13.

The results of regression based on cross section data (Table 13) simply reinforce the findings of time-series regression (Table 11). Of the four sources of revenue, only 'fees' demonstrates a negative coefficient but that even does not bear any significance in statistical terms. For the remaining revenue instruments (i.e. holding tax, profession tax and property income) the co-efficients have positive signs but they are also not statistically significant. Such coefficient values intermediating between strong positive and negative values again indicate that the substitutive impact of grant on local revenues has been partially or fully neutralised. In this way, the results of cross-section data regression corroborate the findings of time series regression.

Table - 12A

GROWTH OF GRANTS AND LOCAL REVENUES IN MANIKGANJ POURASHAVA

Year	Grant		Local Revenue	
	Amount (Tk)	3 yearly moving averages	Amount (Tk)	3 yearly moving averages
1973-74	78050	-	65166	-
1974-75	86050	91654	154354	167060
1975-76	110863	92494	281660	220637
1976-77	80568	149144	225897	311257
1977-78	256000	235752	426213	334508
1978-79	370688	297016	351413	385002
1979-80	264360	684476	377381	410484
1980-81	1418380	696948	502658	474328
1981-82	408104	733802	542945	569803
1982-83	374922	689377	663806	534236
1983-84	1285105	915471	395957	562088
1984-85	1086385	1356666	626502	660280
1985-86	1698507	1954989	958382	834922
1986-87	3080075	2540340	919882	941508
1987-88	2842437	-	946259	-

- N.B.:**
- i) Figures of average are rounded off.
  - ii) Revenue and grant data in Annexure 1 & 2.

Table - 12B

**GROWTH OF GRANTS AND LOCAL REVENUES**  
**IN KAULTIA UNION PARISHAD (IN TAKA)**

Year	Grant		Local revenue	
	Amount	3-yearly moving averages	Amount	3-yearly moving averages
1977-78	25331	-	12123	-
1978-79	24953	22282	29518	21832
1979-80	16563	28520	23854	27535
1980-81	44044	38653	29233	27683
1981-82	55353	44918	29975	29072
1982-83	35356	95204	28009	29017
1983-84	194904	154960	29067	34085
1984-85	234620	223319	45179	39986
1985-86	240434	237664	45711	46455
1986-87	237939	225767	48474	46213
1987-88	198928	-	44454	-

- N.B.:**
- i. Figures of averages are rounded-off.
  - ii. Revenue and grant data in Annexure 1 & 2.

FIGURE - 8A

GROWTH OF GRANTS AND LOCAL REVENUES  
IN MANIKGANJ POURASHAVA

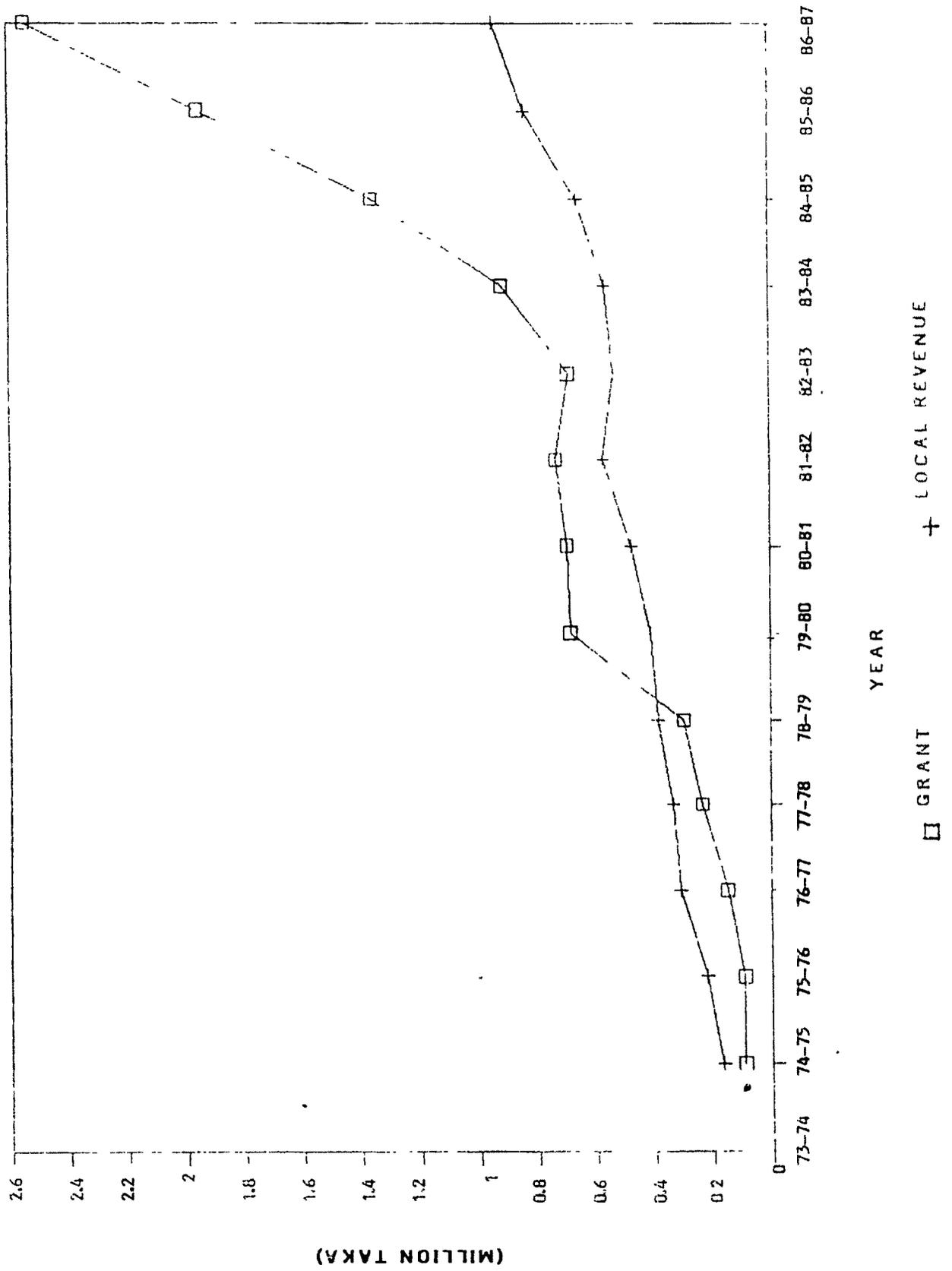


FIGURE - B B

GROWTH OF GRANTS AND LOCAL REVENUES IN KAULTIA UNION PARISHAD

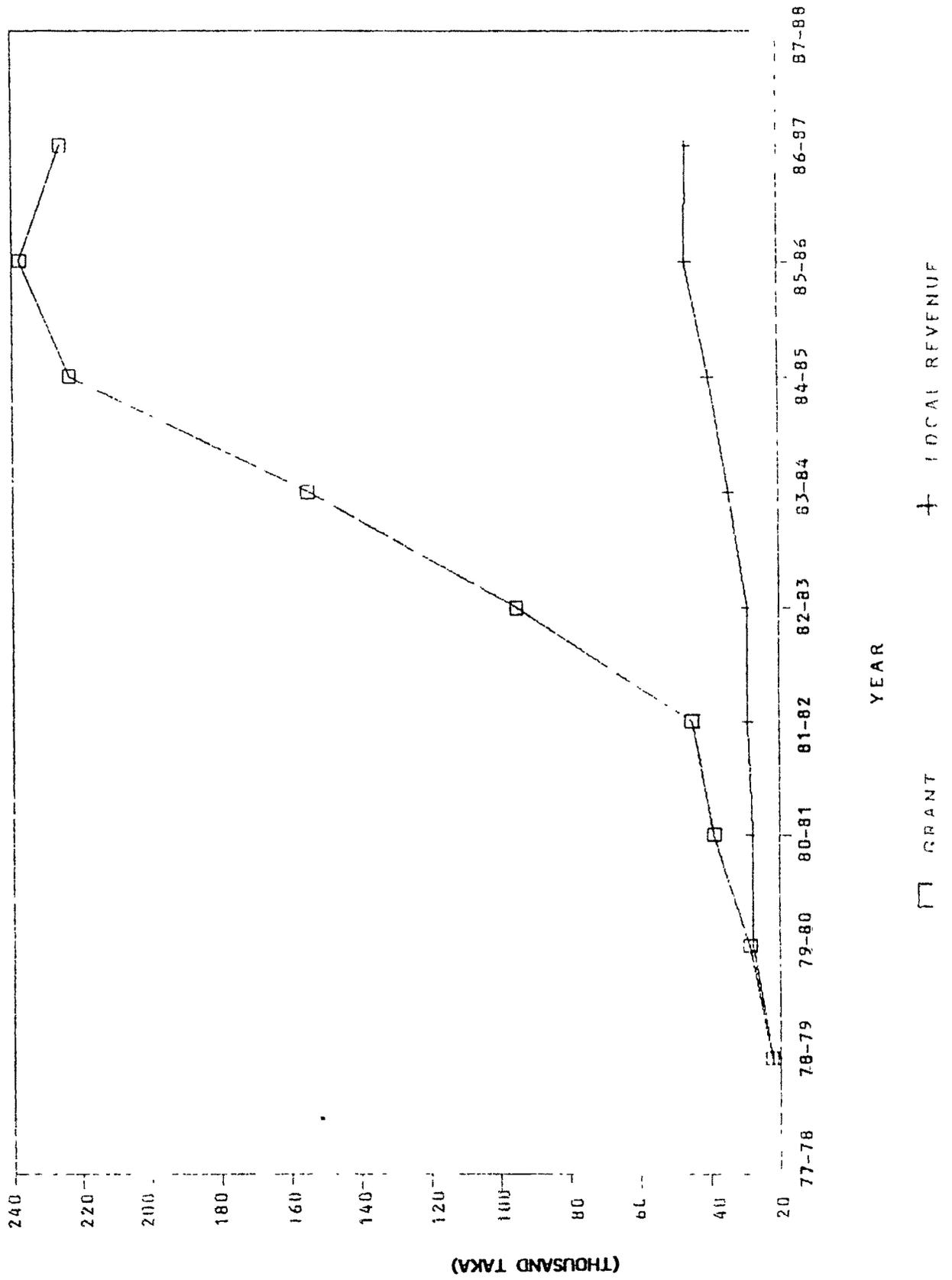


Table - 13

**CROSS SECTION DATA REGRESSION RESULTS FOR LOCAL REVENUES  
(1980-81) OF SELECTED POURASHAVAS**

**Model : Own Revenues (Y) = a<sub>1</sub> + b<sub>1</sub>.x (Grant)**

Own Revenues (Dependent variable) (Y)	Intercept a <sub>1</sub>	Regression coefficient b <sub>1</sub>	T-Statistics	R <sup>2</sup>	N
1. Holding Tax	213.0	.15	.47	.04	10
2. Profession Tax	29.0	.04	.11	.04	8
3. Fees	27.34	- .001	- .003	.0002	10
4. Property Income	27.0	.02	.06	.24	9

**N.B.:** Necessary data for regression are shown in Annexure 11.

The reasons behind above nature of findings are not far to seek. While many other conditions were operative in the direction of revenue substitution, there were at least following factors which played roles to the contrary.

- i) We have already observed (Figure-3) how occasionally major pressure or incentive events improve local revenue effort, leading to peak collections in the two local units studied. Such events, therefore, acted as negative forces against revenue substitutive role of grants.
- ii) Another factor that played a crucial role against revenue substitution effect of grants is the expansion in the local revenue base. In the wake of population and income growth (Table 1), bases of revenues in general increased considerably, one prominent manifestation thereof being an upward revision of holding tax assessment (Table 1). Such growth in revenue bases made some compensation for any lower revenue effort associated with revenue substitutive effect of grants.
- iii) One explanation of counter-revenue substitution force lies with the higher necessity or stronger pressure to utilise grant. With a tradition of lower level of service delivery particularly during grant-scarce initial years, there was the necessity for maximum spending of grants to cope with the demand for such services. In addition to such higher necessity to utilise grant, there had also been a stronger pressure to do so from the higher government that looks upon fuller utilisation of grant monies as a mark of efficiency without any reference to the merit of such spending. In this background, most of the grant fund was absorbed in expenditure functions, with too little left for facilitating tax relief.

The factors delineated above played a corporate role in counteracting substitutive effect of grant and thereby succeeded to neutralise it. The above regression results should not, therefore, mislead one to be sceptical about the reality of revenue substitutive effect of general grants under ideal conditions.

For the revenue-starved local government of the Third World, there is a special significance for revenue stimulative grants or at least there is a need for ensuring that extra dose of grant does not in any way reduce the prevailing level of revenue collection on which the development potentials of local economy largely depends. A World Bank report by Cochrane (1983) rightly stressed that central government grant should not simply be a substitute for money that the local government might otherwise have raised from its own sources.

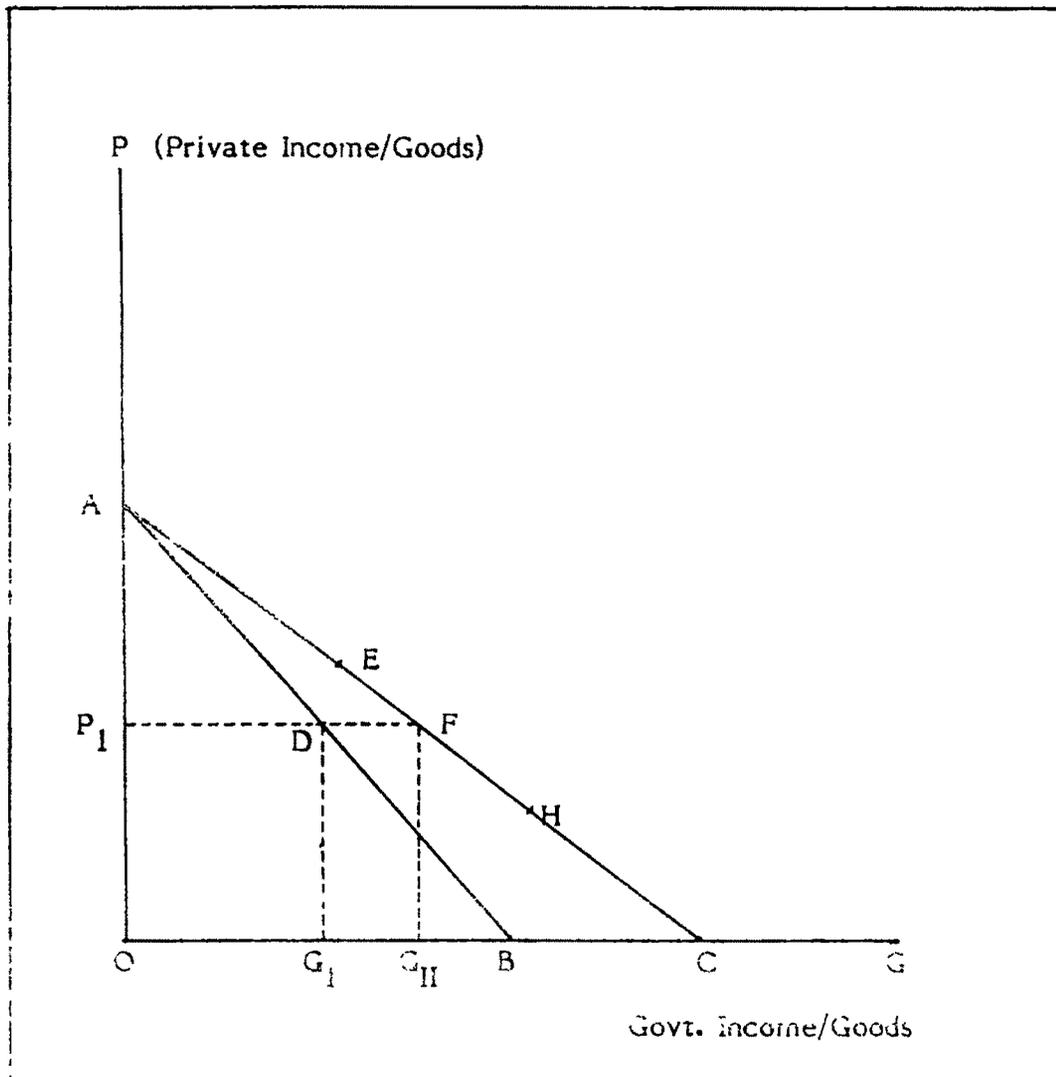
Ironically, revenue stimulative provisions of grants, as we have noted in Figure 2, in most cases do not exist in natural condition like the revenue substitutive elements of grants and therefore positive actions are needed to characterise grants with revenue stimulative properties. For example, if the policy makers rest on automatic role of grant hoping that it will boost up local revenues via expansion in revenue bases due to grant related expenditure, then it may not be sufficiently stimulative. If, otherwise, they purposively design a grant programme to finance a local revenue generating enterprise, then it will be highly stimulative. In fact, there are two major approaches to revenue stimulation in grants, namely (i) matching (or percentage) grant (ii) revenue effort based grant i.e. inserting revenue effort criteria in distribution formula. Grant also may induce a growth in local revenues in case of its strong elasticity of local expenditure i.e. a grant based road project requiring increased taxation to maintain it. Since the latter case, pertaining to the equilibrium point 'K' in the Figure 7, has already been covered by our previous analysis, we shall now deal with the other two --- first beginning with matching grant.

1) **Matching Grant** : One common variety of revenue stimulative grant is the matching or percentage grant allocated for specific activity. It is based on partial cost reimbursement requiring local revenues to match with grants at a predetermined ratio i.e. 50 : 50, 40 : 60, 30 : 70, and so on. Under such

provision, local bodies naturally feel tempted to augment own revenues in order to earn grant portion of revenues. Success of matching grant as a revenue stimulative mechanism will, however, depend on the nature of income and price elasticities of demand for public goods and also the degree of complementarity between public and private goods. This is now theoretically interpreted in Figure 9 which has some resemblance with the one used by Spahn (1977).

In Figure 9, AB budget line represents local preference function for different combinations of private goods (P) and public goods (G) attainable within pre-grant local income. At equilibrium point D, the community will consume  $OP_1$  amount of private goods by spending the same  $OP_1$  size of disposable (post-tax) private income in combination with  $OG_1$  volume of public goods produced by local government with  $AP_1$  amount of tax revenues. Now we suppose that grantor government provides matching fund to be spent at pre-fixed percentage (say 50 : 50) on local public goods. As the higher government contributes a share of the cost, the aided local public goods will become cheaper relative to private goods, causing a shift of the budget line to a new position AC, with its slope depending on the percentage of cost reimbursed. If the new equilibrium point is F, there will be no change in the level of local taxation and consumption of private goods but delivery of public goods will increase from  $OG_1$  to  $OG_{11}$ . If any new equilibrium changes the level of local tax burden or not, that will depend on income and price elasticity of demand for local public services. While income effect of grants is supposed to push up the consumption of both P & G goods (i.e. at point E) through reducing tax burden to a partial amount of grant, the price effect (due to lower tax price of G goods) is likely to induce a substitution of P in favour of G leading to a new equilibrium point H. The force of this substitution effect will depend on price elasticity of demand for G as well as on the degree of substitutability and complementarity between two goods -- P & G. Since income effect is likely to treat both goods equally and price effect tends to favour G, the overall possibility is in the direction of revenue stimulative solution at H rather than at E or F. It is for this reason, matching grant is

Figure - 9

REVENUE EFFECT OF MATCHING GRANT

generally conceived to be a revenue stimulative grant from theoretical stand-point.

Revenue stimulative role of matching grants is however subject to the following setbacks :-

a) Revenue stimulation will not be effective if, local revenues counterpart of matching grant is met through diversion of monies from other uses rather than generating new funds (Greytak and Mendes, 1986). This is more often the case when there is no official embargo against this practice and raising of new revenues is constrained by public resistance or the limit of revenue authorisation.

b) One fundamental objection to matching grants is the creation of so-called "budget distortion effect" (Osman, 1966). We noted in Figure 9 how under strong price elasticity of demand for aided public goods (G), people consume more of G in substitution of P only for reaping price concession and therefore resources are diverted from production of P to G. Such distortions of pre-grant consumption or production equilibrium are seldom in the better interest of local people or economy.

c) Matching grant is non-equitable because it is allocated more to the jurisdiction with a better capacity of raising local revenues for matching purpose and thus rich areas benefit more than poor (Davey, 1983).

In this study there is hardly any scope to provide an empirical analysis of matching grant because there is no grant in Bangladesh which strictly bears characteristics of such grant. The only similitude of matching grant is the honorarium component of salary grant for the local bodies which is even far different from such grant, since it is mere subsidy towards meeting a certain percentage of the honorarium for elected officials and is not subjected to pre-conditions of raising counterpart local fund.

## II) Revenue Effort Based Grant

Another variety of revenue stimulative grant is the revenue effort based grant. Theoretically, such grant is an improvement over matching grant at least on the following counts :-

(a) Revenue stimulation purpose is better served under such grant. Matching grant stands for partial revenue stimulation since its influence is confined within matching portion of local revenues and that does not cover total revenues. Aggregate revenue effort-based grant, by contrast, exerts a complete stimulative effect. Because such grant is allocated on the basis of success in the collection of entire legal revenue liability i.e. the higher the revenue collection as a whole, the more the grants.

(b) Under revenue effort-based grants (REG), the purpose of revenue stimulation is not likely to be defeated such as through diversion of fund from other uses rather than generating extra revenues to meet local revenue requirement of matching grants.

(c) There is no risk of budget distortion effect in case of REG. Because such grant, very much like general grants, makes equal treatment of both private goods (P) and public goods (G) for which post-grant equilibrium on new budget line is to be determined by only income effect and not substitution effect.

In this way, solutions to some of the problems of a typical matching grants are inherent in the aggregate revenue effort based grants (REG). Given such relative superiority of REG, many a theoreticians pleaded for introducing revenue effort into grant distribution formula of the countries they studied such as Schroeder (1987) in Bangladesh, Bahl (1983 b) in the Philippines. A World Bank report by Cochrane (1983) also felt importance of grants system in the Third World having a stimulative effect on the local revenue effort. There is, therefore,

a growing awareness about the need for a type of grant that is some how related with local revenue effort (i.e. REG). Despite its importance, REG does not have wider application throughout the world, mainly because of the conceptual and empirical problems of measuring local revenue effort. We, therefore, make an attempt in Section-C, to consider how a Third World polity like Bangladesh may proceed to reshape its grants structure on the basis of built-in revenue effort criteria, if the national policy so requires.

### **C) A Practical Framework of Revenue Effort Based Grants (REG)**

The proposed framework of REG is so designed that it ensures growth of over-all revenues by stimulating local revenues and at the same time protects some equity interest by evolving an appropriate revenue effort criterion. For introducing REG grant in the case of Bangladesh, adoption of the following steps may be considered necessary :-

(i) Revenue stimulation objective requires that the whole of local grants comes under the purview of REG. If, otherwise, sizable volume of grant is left beyond, along with the scope to use that in substitution of local revenues, then its stimulative effect will lose some potential force. If, however, there is national level urgency to undertake special local projects out of grant, that can be done with strict adherence to the target.

(ii) The only basis of grant distribution will be the previous year's record of local revenue collection. For this purpose, multi-variable formula approach is discarded, because different constituent criteria of such formula may be wedded to different objectives some of which may even be conflicting with revenue stimulation objective. This aspect is highlighted in Chapter 8.

(iii) Selection of an appropriate indicator of revenue effort is perhaps the most crucial step in designing a REG. Amidst wide controversy as to what

an ideal revenue effort indicator is, we now review some of the important ones. Bahl (1983) proposes per capita revenues and revenue growth percentage over the penultimate year as joint indicators. But (a) per capita revenue criterion, because of regional disparities of revenue bases, does not exactly reflect the revenue effort and grant disbursement on this basis will only be regressive and will further add to regional imbalance. Similarly, (b) Revenue growth percentage over the previous year is also not a true indicator of revenue effort as it is not related with local tax base or taxable capacity. Moreover, it penalises efficiency, for an efficient locality which hitherto collected so much so that there is little scope left to enhance revenues will be getting lower grants. Similarly, it is also inequitable in the sense that a poor locality with an undeveloped revenue base will find its revenues less elastic with increasing years and therefore be entitled to smaller grants. (c) Collection as a percentage of prefixed minimum is also treated as a revenue effort criterion in some countries (i.e. Korea). This normally supposes a lucrative rate of grants for above minimum and lower or no grants for the below minimum level of collection. Though collection incentive is the main thrust of this criterion, such incentive is likely to be defused after the minimum target is reached. (d) Collection ratio to local tax-paying capacity (local income) is proposed by Schroeder (1987). This is a better indicator of revenue effort but the problem is that all local incomes are not amenable to revenue authorisation. (e) Collection as percentage of authorised tax-paying capacity, therefore, seems to be the best of all revenue effort indicators so far discussed. It not only reflects what the local tax payers are able to pay but also what the local governments are empowered to collect. Regional disparities in effective taxable capacity are duly weighted, with no scope left for bias for or against any localities. In this way, it promises an ideal compromise between fiscal growth and equity principles.

(iv) After selection of an appropriate revenue effort criterion by the grantor government, another national level step is to adopt a policy decision

regarding formation of grants pool. It is widely felt that adhoc determination of lumpsum grants will leave the decision of sizing up grants to the mercy of politics, for which grants pool may be an upwardly inelastic and unstable source of local income. Fixation of grants as definite percentage of national revenues is, therefore, considered to be a clearly better alternative. This system is working out well in the Philippines (Schroeder, 1987) and we do not foresee any problem with replicating the same in our proposed REG framework.

(v) The next step will be to conduct a country-wide survey in order to assess the taxable capacity of all individual local units. Such capacity may be calculated by fitting statutory tax schedule and their standard rates into local income and economic activities available in a particular local unit. This process may be repeated, preferably as a part of national census programme. In addition, interim survey in particular cases may also be conducted to accommodate any changes in taxable capacity.

(vi) On the basis of taxable capacity, each type of local government will be grouped under different grades i.e. per capital taxable capacity from Tk. 30 to 39 representing A group, Tk. 20-29=B and Tk. 10-19=C and so on. Actual collection of individual units as a percentage of such taxable capacity (which is also the collection target) of their respective grade will be the basis for grant distribution i.e. at the proportional rate of Tk. 5.00 for 1-10% collection, Tk. 10.00 for 11-20%, Tk. 15.00 for 21-30% collection and so on. This may also be expressed in gross terms such as Tk. 50.00 grant per 100% revenue effort as shown P in Figure 10. Obviously, such grants are not related with the grades of local governments or their absolute collection but with the collection ratio to collection target. This implies that same-graded local units may derive different size of grants or units of different grades may receive same volume of grants, depending upon their revenue performance. Rate of grants may vary among the local governments by types (i.e. rural and urban) or tiers (within

each type) according to their importance and it may be revised yearly depending on the size of grants pool.

(vii) Both collection target for each grades of local government and the rate of grants should be publicised in the beginning of year so as to allow such governments enough time to react to grants incentive. Revenue collection is to be concluded within first half of financial year in order that the second half may open with grants disbursement, of course in single dose and at quick pace, allowing sufficient scope to use grants within current financial year. Actual local collection will be first ascertained through verification of bank statement regarding collection deposits and delinquency in over-reporting should be severely dealt with penalties provided within the grants system. Hence grant will depend on collection of local revenue and local revenue will be stimulated by grants incentive --- thus both variables reinforcing each other towards growth of aggregate revenues. In the same token, inefficiency in tax collection will also be under severe threat, with the lower collection leading to still lower total revenues. Now the proposed REG is explained through Figure 10.

In Figure 10, OR axis measures percentage of revenue effort for different units and OG the per capita rates of grants. The grant curve (i.e. OP, OP<sub>1</sub>, OP<sub>2</sub> etc.) shows the rate at which grant will match with different percentages of revenue effort. The steepness of its positive slope will be determined by the rate of grants --- the higher the rate, the more the steepness. When Tk. 50.00 is the grant rate for 100% revenue effort, the grant curve will be OP. When the rate is higher at Tk. 60.00, the curve will be steeper like OP<sub>1</sub> and when it is lower (Tk. 40.00) the curve will be flatter like OP<sub>2</sub>. For mathematical computation of grant entitlements of individual units, a suitable formula is

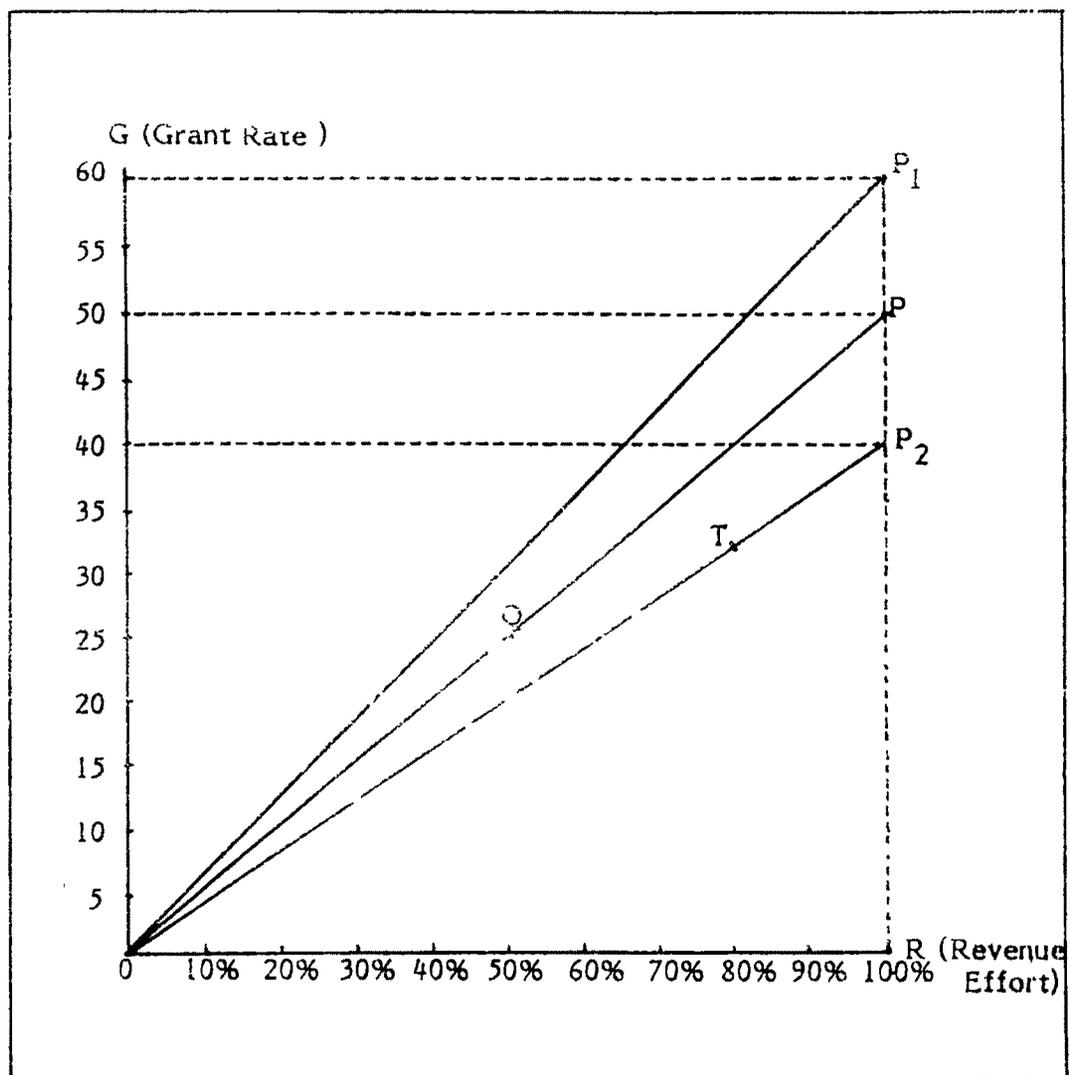
$$G = \frac{y}{x} \times r$$

Where G = grant, x = collection target, y = actual collection and r = grant rate.

In an example of 50% revenue effort and 50.00 grant rate basis for 100% revenue

Figure - 10

**A FRAMEWORK OF  
REVENUE EFFORT BASED GRANT**



effort, the estimated grant will be  $\frac{50}{100} \times 50 = 25.00$  (point Q in Figure 10).

Similarly, for an 80% revenue effort, the grant at the rate of Tk. 40 will be  $\frac{80}{100} \times 40 = 32.00$  (point T in Figure 10). In this way grant entitlements of different local units may be calculated both graphically and mathematically.

The findings of this chapter suggest that it is revenue stimulative grant rather than unconditional general grant which encourages local revenue effort and thereby help improving local financial viability. Apart from its revenue impact, grant may also affect expenditure or utilisation of local fund in a way that has an important bearing upon local financial condition. This aspect is treated in Chapter 7.