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Metropolitan Studies Program
Maxwell School of Citizenship and Public Affairs
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The Land Development Tax in Bangladesh

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FOREWORD

This paper, the seventh in a series of Interim Reports from the Zilla Roads/Local Finance Project, focuses on the single major land-based tax used in Bangladesh--the Land Development Tax. The tax, currently a relatively minor revenue source of the central government, is based on the size of land holdings with rates that differentiate among land use types and land location (urban vs. rural areas).

The analysis shows that the revenues from this tax have grown relatively slowly since it was implemented in 1976 and that the per capita burdens are low. While the area-based Land Development Tax has some favorable efficiency and equity effects, the low rates suggest that these effects are minor. From the analysis, several recommendations of both a short- and long-term nature are made regarding altering the base, rates, and administration of the tax.

The Local Finance Project is one component of the Bangladesh Zilla Roads Maintenance and Improvement Project (Project Number 388-0056) and is intended to increase the capacity of local governments in Bangladesh to mobilize and effectively administer financial resources. While a Final Report will be issued at the close of the project, these interim reports are being released as the analysis occurs. It must be emphasized that any findings and conclusions contained herein are provisional and may be altered by the time the integrated Final Report is issued (scheduled for November 1983). The work is supported by the United States Agency for International Development, Washington, D.C. under Cooperative Agreement (AID/DSAN-CA-0198). The views and interpretations in this publication are our own and should not be attributed to the United States Agency for International Development.

We would like to express our gratitude for the fine cooperation provided by numerous individuals who helped us to understand better the details of this tax and provided data for our use. Among those deserving special mention in this regard are Mr. Mustafa Anwar, Deputy Secretary, Ministry of Law and Land Reforms; Mr. Khaney Alam Khan, Chairman, Board of Land Administration; Mr. Abul Hoshan, Revenue Deputy Collector, Faridpur District; Dr. Mahabub Hossain, Bangladesh Institute of Development Studies; Tomasson Jannuzi, University of Texas - Austin, and James Peach, New Mexico State University. None of the above should, however, be held responsible for any errors made here nor for the opinions expressed.

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TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

THE LAND DEVELOPMENT TAX IN BANGLADESH

Taxes on property, especially land, are a major source of revenues for governments in developed and developing countries. The diversity of these property tax systems is striking. The tax is often based on the rental value of the land itself, whether expressed as annual value or as capital value. The tax is also sometimes imposed on the income generated by both the land and the other factors used on the land. Area-based taxes are common, particularly where administrative simplicity is important. Taxes that do not fit into a simple category--special assessments, capital gains taxes, property transfer taxes, and the like--are used in many countries. While the tax is typically administered by a local government, it is sometimes levied by central governments. Differences in the coverage, rate structures, and assessment practices of the tax administration also add much variation to property tax systems.[1]

The experience of Bangladesh is also diverse. Both paurashavas and union parishads impose a "holdings tax" on the annual value of land and buildings. Zilla parishads and paurashavas receive revenues from a tax on the transfer of immovable property.[2] Unlike these taxes, which are

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[1] For further discussion of property taxation with special reference to developing countries, see Haskell P. Wald, The Taxation of Agricultural Land in Underdeveloped Economies (Cambridge, MA: Harvard University Press, 1959); Richard M. Bird, Taxing Agricultural Land in Developing Countries (Cambridge, MA: Harvard University Press, 1974); and Roy W. Bahl (ed.), The Taxation of Urban Property in Less Developed Countries (Madison, WI: The University of Wisconsin Press, 1979).

[2] This tax is discussed in detail in James Alm, "The Immovable Property Transfer Tax in Bangladesh," Interim Report No. 3, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, April 1983).

local government revenue sources, the Ministry of Law and Land Reforms administers and collects a central government tax in rural and urban areas based on land area, the Land Development Tax (LDT). This paper analyzes the administration of the LDT, its effects on resource use and the distribution of income, and its revenue performance. The main purpose of this analysis is to suggest reforms in the structure and administration of the LDT that will improve its yield and distribute its tax burden more equitably.[1]

The next section describes the current administration of the LDT. The revenue performance of the tax is then discussed, with emphasis on the potential revenues under the current and alternative rate structures. The following sections analyze the economic and distributional effects of the LDT. Various reforms aimed both at improving the yield of LDT and at distributing the tax burden more equitably are discussed in the concluding section.

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[1]It should be noted that the government of Bangladesh has recently taken steps to decentralize government decision-making, with the upgraded thana parishad at the center of these efforts. True decentralization requires that local governments have the power to make expenditures and to levy taxes. In an attempt to find revenue sources for the upgraded thana, we have recommended that the LDT be turned over to this level of government. For a discussion of the motivation and the mechanics of this proposal, see Larry Schroeder, "Upgraded Thana Parishads: Their Structure and Revenues," Interim Report No. 9, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, June 1983). The analysis of the LDT in the current paper, as well as the recommendations for tax reform, are based on the assumption that the LDT remains a central government tax. However, the recommendations are equally relevant should the LDT actually become a thana parishad tax.

Administration of the Land Development Tax

Land taxation has been common in Bangladesh for more than two thousand years.[1] However, the LDT in its present form was created by the Land Development Tax Ordinance (Ordinance No. XLII of 1976). The original ordinance has been amended several times since then, most recently by the Land Development Tax (Amendment) Ordinance (Ordinance No. XV of 1982). Although these amendments have altered the tax rate structure, the basic administrative features of the LDT have remained unchanged.

Base of the Land Development Tax

Property taxes are typically based on some measure of the value of the property. This was the case for much of the history of land taxation on the subcontinent, with the tax base defined as some standardized measure of gross produce. However, the 1976 Ordinance changed the tax base in Bangladesh to one in which area, not produce, is taxed.

Area-based taxes are not uncommon, particularly in countries in which elaborate administrative machinery is lacking.[2] For example, some local governments in Bolivia, Brazil, India, Liberia, Nepal, and Uruguay

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[1]The history of land taxation in Bangladesh is discussed in Government of Bangladesh, Final Report of the Taxation Enquiry Commission (Dhaka, 1979) and F. Tomasson Jannuzi and James T. Peach, The Agrarian Structure of Bangladesh: An Impediment to Development (Boulder, Colorado: Westview Press, Inc., 1980).

[2]See Bird, Taxing Agricultural Land in Developing Countries, and Ursula K. Hicks, Development from Below (London: Oxford University Press, 1961), especially pp. 321-346, for a discussion of the experiences of various countries with area-based taxes.

use various forms of area-based taxes. Other countries impose land taxes that, due to administrative deficiencies, essentially reduce to a tax on area. The main advantage of a tax such as the LDT--and it is a significant one--is its overwhelming administrative simplicity. Many countries have attempted to institute elaborate property taxes based on, say, "presumptive agricultural income." However, without extensive administrative resources, the complexity of such taxes often has led to confusion, inefficiencies, and inequities. In contrast, an area-based tax requires knowledge of only three facts: the area of the property, its location, and the owner's name. If a finer classification of land is desired, then additional information is required. For example, a distinction between irrigated and nonirrigated lands is sometimes made.

Until recently, the LDT also required knowledge of an individual's or a family's total holdings of land. The tax on agricultural land was based on the total agricultural land held by a family or individual for more than six months, whether or not these holdings were located in different mauzas, thanas, or districts; that is, the combined holdings of each individual in all parts of the country were first determined and then, in the case of a family, the holdings of all family members were combined to yield total family holdings.[1] On May 15, 1983, however, the Board of Land Administration in the Ministry of Law and Land Reforms

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[1]Under the Bangladesh Land Holding (Limitation) Order (President's Order No. 98 of 1972), no family may own more than 100 standard bighas (33 acres). Violators are subject to a maximum of six months imprisonment, Tk. 10,000 fine, and forfeiture of undeclared land. However, numerous exemptions significantly reduce the force of the Order.

issued a new rule in which the amalgamation both of individual and of family holdings will cease. Under this rule, the tax will be based on an individual's holdings within a single khatian, which is the form in which the land ownership records are kept and which lists all details relating to each land interest. This change greatly simplifies administration of the tax. It also means that the tax base for agricultural land is much the same as the base for non-agricultural land, where aggregation of holdings was never required.[1] Note also that not all land is taxed. Land on which public graveyeards, cremation facilities, and religious structures are located is exempt.

While simple to administer, area-based taxes also have some major weaknesses. Because they are based on land area, not value, such taxes are unresponsive to increases in agricultural prices, output, or property values. Land taxes are also usually impersonal (or in rem) taxes, rather than personal taxes; that is, tax liability is not based on any specific characteristics of the taxpayer. As a result, land taxes may not be equitable. Finally, the LDT may introduce some undesirable incentive effects. These aspects of the LDT are discussed in more detail later.

Tax Rate Schedule of the Land Development Tax

The Land Development Tax Ordinance (Ordinance No. XLII of 1976), which combined the land revenue and other land taxes to form the LDT, also established the original rate schedule. Within five months this

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[1] Note that the tax rates differ for agricultural and non-agricultural land, as discussed later.

schedule was slightly altered by the Land Development Tax (Amendment) Ordinance (Ordinance No. XCV of 1976); these rates are given in Table 1. Since then the rates have been altered several times. The 1980 Finance Act (Act No. XXIII of 1980) slightly modified the tax rates on non-agricultural land. The present graduated rate structure (Table 2) was established by the Land Development Tax (Amendment) Ordinance (Ordinance No. XV of 1982).

The original 1976 rate system distinguished between agricultural and non-agricultural land. For agricultural land a slightly graduated (two class) rate system was established, with larger holdings taxed at a higher rate. For non-agricultural land two distinctions were made: between land in rural areas and land in urban areas; and between land used for commercial and industrial purposes and land used for residential or other purposes. Urban and commercial/industrial properties were taxed more heavily than rural and residential properties.

The 1982 Amendment increased the tax rates on all types of land. It also established a more complex, graduated rate system for agricultural land (Table 3). Taxes per acre now rise as holdings increase for holdings above 1/3 acre; below 1/3 acre the minimum one taka tax leads to falling taxes per acre.[1] Under the original rate

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[1]The taxes due from any individual under the 1982 rate structure are closely approximated by the following equation:

$$T = -3.86 + .89H + 2.41H^2$$

where T is tax liability and H is land holdings. This formulation suggests that the marginal (per acre) tax rate equals .89 + 4.82H, so that the marginal tax rate increases with land holdings.

TABLE 1

1976 TAX RATE STRUCTURE FOR THE LAND DEVELOPMENT TAX

Description of Land	Rate of Tax
For Agricultural Land	3 paisa per decimal on holdings not exceeding 8.25 acres; 15 paisa per decimal on holdings greater than 8.25 acres.
For Non-agricultural Land	
Land located within the police stations mentioned in Ordinance No. XLII of 1976	Tk. 15 per decimal for land in commercial or industrial uses; Tk. 3 per decimal for land in residential or other uses; or such amount as is equal to the total amount of the rent or land revenue and land taxes payable on the land immediately before the Ordinance.
Land located in any other area	Tk. 3 per decimal for land in commercial or industrial uses; Tk. 1 per decimal for land in residential or other uses; or such amount as is equal to the total amount of the rent or land revenue and land taxes payable on the land immediately before the Ordinance.

SOURCE: Land Development Tax Ordinance of 1976.

TABLE 2

1982 TAX RATE STRUCTURE FOR THE LAND DEVELOPMENT TAX

Description of Land	Rate of Tax
For Agricultural Land	
Total area held by a family or body:	
Not more than 2.00 acres	3 paisa per decimal subject to a minimum of 1 taka.
More than 2.00 acres but less than 5.00 acres	Tk. 6.00 for 2.00 acres plus 15 paisa per decimal for the land in excess of 2.00 acres.
More than 5.00 acres but less than 10.00 acres	Tk. 51.00 for 5.00 acres plus 36 paisa per decimal for the land in excess of 5.00 acres.
More than 10.00 acres but less than 15.00 acres	Tk. 231.00 for 10.00 acres plus 60 paisa per decimal for the land in excess of 10.00 acres.
More than 15.00 acres but less than 25.00 acres	Tk. 531.00 for 15.00 acres plus 95 paisa per decimal for the land in excess of 15.00 acres.
More than 25.00 acres	Tk. 1481.00 for 25.00 acres plus Tk. 1.45 per decimal for the land in excess of 25.00 acres.
For Non-Agricultural Land	
Land located within the police stations mentioned in Ordinance No. XV of 1982	Tk. 60.00 per decimal for land in commercial or industrial uses; Tk. 12.00 per decimal for land in residential or other uses.
Land located within the municipal limits at District Headquarters	Tk. 10.00 per decimal for land in commercial or industrial uses; Tk. 4.00 per decimal for land in residential or other uses.
Land located in any other area not specified	Tk. 8.00 per decimal for land in commercial or industrial uses; Tk. 3.00 per decimal for land in residential or other uses.

SOURCE: Land Development Tax (Amendment) Ordinance of 1982.

TABLE 3

LAND DEVELOPMENT TAXES ON AGRICULTURAL LAND
1976 RATES AND 1982 RATES

Holdings (acres)	1976 Rates		1982	
	Total Taxes (takas)	Taxes Per Acre	Total Taxes (takas)	Taxes Per Acre
1/12	.25	3.00	1	12
1/6	.50	3.00	1	6
1/3	1.00	3.00	1	3
1/2	1.50	3.00	1.5	3
1	3.00	3.00	3	3
2	6.00	3.00	6	3
4	12.00	3.00	36	9
6	18.00	3.00	87	14.50
8	24.00	3.00	159	19.88
10	150.00	15.00	231	23.10
15	225.00	15.00	531	35.40
20	300.00	15.00	1006	50.30
25	375.00	15.00	1481	59.24
30	450.00	15.00	2206	73.53
33	495.00	15.00	2641	80.03

SOURCE: Computed by authors.

schedule, taxes per acre were constant up to holdings of 8.25 acres; for larger holdings, taxes per acre were also constant but at a higher level.

Records of Land Ownership

Because the LDT is based on the land holdings of an individual, accurate land ownership records are required for proper tax administration. This requirement has two dimensions: accurate records of existing ownership; and a method for altering records when ownership changes.

The first requirement is met by the preparation of a record of land ownership for each mauza in the country.[1,2] This record is prepared by the Land Records and Surveys Department of the Ministry of Law and Land Reforms. It consists of two parts: a "mauza map" in which each plot of land within the mauza is identified by number (see Figure 1 for the map of Nandanser mauza, Naria thana, Faridpur District); and Register I (Jamabandi Register or Rent Roll) in which information about each plot is recorded. This information includes the owner's name, the plot number, the khatian number, the land classification, the area of the plot, the permanent structures on the plot, the share of the owner, and the LDT liability. The record has one page for each khatian. If there

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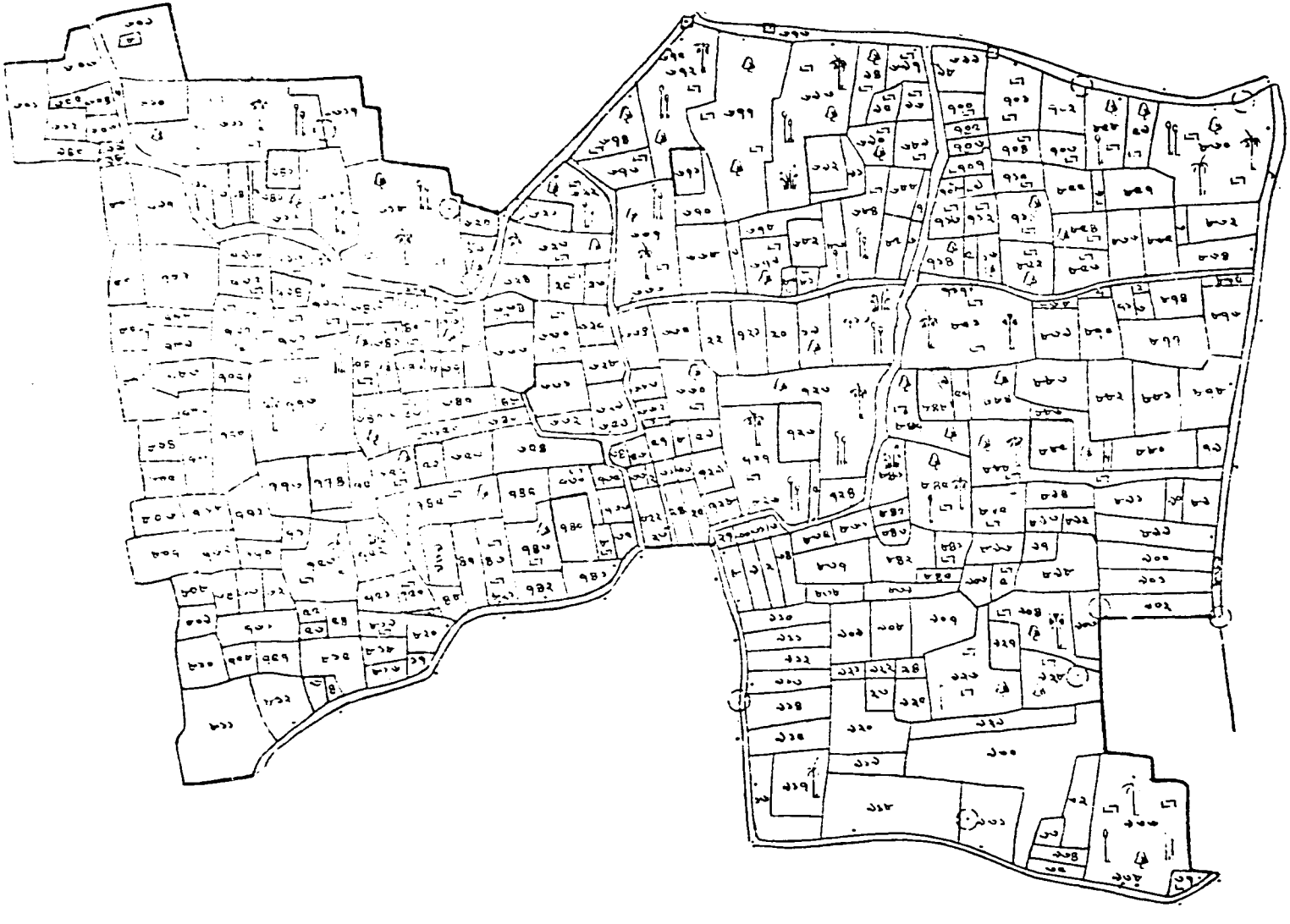
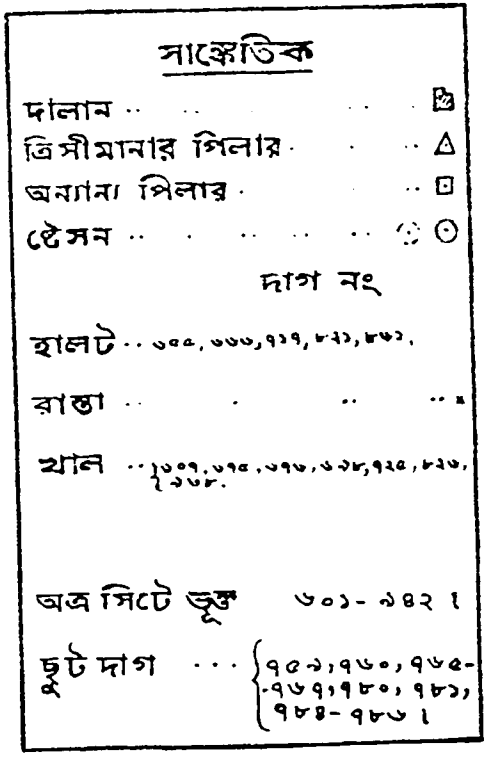
[1] A mauza consists of one or two villages. It was the land revenue unit under the British zamindar system, abolished in the 1950 by the East Bengal State Acquisition and Tenancy Act. There are approximately 60,000 mauzas in Bangladesh.

[2] The procedures to be followed in the preparation of the Record-of-Rights are described in Sections 17 to 31 of the East Bengal State Acquisition and Tenancy Act of 1950 and Rules 17 to 38 of the State Acquisition Rules of 1951.

FIGURE 1

MAUZA MAP OF NANDANSER MAUZA, NARIA THANA, FARIDPUR DISTRICT





SOURCE: Revenue Office, Faridpur District.

is a single owner of an interest, then only that owner's name appears on the khatian; if there is joint ownership, then the names of all owners, as well as their shares, appear on the khatian.[1] When completed, the mauza map and Register I are sent to the Deputy Commissioner of the appropriate zilla parishad, who gives them to the Circle Officer (CO)-Revenue or, in the case of an upgraded thana, the Thana Revenue Office (TRO) of the thana in which the land is located. Preparation of these records is continually undertaken. Approximately two months are required for each mauza to be mapped and recorded, and the entire country is mapped and recorded every 40 to 50 years.[2]

When ownership changes, the record of ownership must also be changed. The process by which Register I is updated is as follows. To establish legal claim to a property, the buyer of a property must register the deed of ownership at an office of the Ministry of Law and Land Reforms located at the district or thana level.[3] The recording officer--the District Registrar at the district or the Sub-registrar at the thana--sends a Land Transfer Notice to the CO-Revenue or TRO of the thana in which the property is located. This notice contains the names of the buyer and the seller, the value, size, and date of the

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[1]Much of this information is also recorded in Register II, or the Tenants' Ledger. It is Register II that contains the annual record of the LDT payment.

[2]The Land Records and Surveys Department of the Ministry of Law and Land Reforms is currently working in six districts, and the most recent district to be mapped is Rajshahi District.

[3]It is at the time of registration that the Immovable Property Transfer Tax is collected. For a detailed analysis of this tax, see Alm, "The Immovable Property Transfer Tax in Bangladesh."

transaction, and the location of the transferred property by thana, mauza, and plot number. The CO-Revenue or TRO gives the notice to an employee called a tahsildar, who is the LDT collector. The tahsildar verifies that the transfer has occurred, at which point he alters Register I.

The number of land transfers within each thana is often substantial, and the updating of Register I may take some time to be completed. A recent study found that there were 5675 land transfers in Sherpur thana, Bogra District in the 1976-77 fiscal year;[2] in Beani Bazar thana, Sylhet District, local officials reported three to four thousand land transfers in fiscal year 1980-81; in Nagarkanda thana, Faridpur District, there were more than 1400 transfers in the same period; and for the Sylhet and Faridpur Districts, there were 260,000 and 150,000 deeds registered, respectively, in 1979. The process of altering ownership records takes some time; one CO-Revenue estimated that the 15 tahsildars under his supervision can handle only two thousand transfers each year. This maximum of about 130 transfers per tahsildar annually seems unreasonably low given that most of the tahsildar's collection efforts occur during only three months (February to April) and that recording transfers requires entering new land ownership information in only two Registers (I and II). Nevertheless,

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[1] The procedures to be followed in altering the Record-of-Rights are described in detail in the Government Estates Manual.

[2] M.M. Sultan, Land Transfer: A Survey of Sherpur Thana in Bogra District (Bogra: Rural Development Academy, 1982).

to the extent that there are backlogs of transfers to be recorded, Register I will not accurately reflect current ownership.

It should be emphasized that the existence of the mauza map and Register I is an essential element in the administration of the LDT. Indeed, an official record of the size, location, and ownership of each plot of land is an absolute necessity for the proper administration of any property tax. The existence of these records for all Bangladesh improves the feasibility of an eventual change from an area-based tax to a value-based tax. Such a change is desirable on several grounds, as is discussed in more detail later.

Collection of the Land Development Tax

The LDT is administered and collected by employees of the Ministry of Law and Land Reforms. At the district level, the Assistant Deputy Commissioner (ADC)-Revenue and, under him, the Revenue Deputy Collector (RDC) supervise the administration of the LDT. However, the actual tax collection process occurs at the thana. The LDT is collected by the tahsildar under the supervision of the CO-Revenue or the TRO. The tahsildar collects the tax directly from the owner of the land, basing his assessment on information in Register I. Upon receiving payment, the tahsildar issues a receipt to the owner and records the payment in Registers II, III, and IV. (Payments are recorded in chronological order in Register III, while Register IV is the cash book of the tahsil office.) The tahsildar deposits tax collections at a local bank in a Ministry account.[1]

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[1]Again, the details of the collection process are described in the Government Estates Manual.

Like the mauza, the tahsildar is a remnant of the British zamindar system. The tahsildar is appointed by the Deputy Commissioner. To be eligible for appointment, an individual must have matriculated; upon appointment, each tahsildar receives some training at district headquarters, although interviews with several tahsildars indicated that the specific features of this training vary widely. The duties of a tahsildar include collection of the LDT, verification of property transfers, and collection of loans for the Bangladesh Agriculture Development Corporation. He is paid on a salaried, not a commission, basis.

Land owners may pay the LDT in two installments without penalty. Indeed, proceedings against a delinquent taxpayer are not started until the landowner has not paid taxes for three years, as proscribed by the Public Demands Recovery Act of 1913. After that period, the tahsildar informs the CO-Revenue or TRO, who then issues a Certificate stating that the tax payment is due. The delinquent taxpayer then has 30 days to appeal the Certificate or to pay all back taxes plus an interest penalty of 6.25 percent on unpaid taxes plus the costs of serving the Certificate. (The interest penalty is not compounded.) If neither of these occurs, the CO-Revenue or TRO may then execute the Certificate by sale of any movable or immovable property necessary to satisfy the Certificate, by attachment (or the issuance of a Distress Warrant)[1] and sale, and/or by arrest of the delinquent taxpayer.

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[1]The issuance of Distress Warrants has been at least temporarily banned.

It is difficult to assess the LDT collection efficiency. Thana officials interviewed in the course of this study generally believed that at least 75 percent of the LDT is collected. They attribute this relatively high percentage to the use of penalties against delinquent taxpayers. For example, in fiscal year 1980-81 there were over 600 Certificates issued in Beani Bazar thana, Sylhet District, and 1094 issued in Bhanga thana, Faridpur District. Officials stated that at this point most individuals pay all back taxes. Possibly as a result, the use of Distress Warrants and auctions is much less common, and thana variation in the use of these penalties is very wide. There were no Distress Warrants issued in Beani Bazar thana in 1980-81, and no auctions have ever been held there. On the other hand, the CO-Revenue in Bhanga thana issued 1727 Distress Warrants in that year, and the CO-Revenue in Nagarkanda thana, Faridpur District issued 273 Distress Warrants and held 50 auctions. However, without detailed thana information on penalties and on tax collections, both current and arrears, the performance of the LDT collection officials is difficult to judge.

Some information on collection efficiency at the district and thana levels is shown in Tables 4 and 5. Collection efficiency is calculated by dividing total collections, arrears and current, by total assessments (or demand), also arrears and current. Table 4 gives the collection efficiency of the circles in Faridpur District for 1981-82. Efficiency for the entire district was 70.2 percent; however, there was substantial variation by circle, ranging from 45.1 percent in Kasiani to 97.3 percent in Pangsa. District level collection efficiency for 1980-81 is

TABLE 4

LAND DEVELOPMENT TAX COLLECTION EFFICIENCY FOR CIRCLES IN FARIDPUR DISTRICT 1981-82

Circle	Collection Efficiency
Bhanga	79.8%
Boalmari	68.7
Kotwali	93.0
Nagarkanda	58.1
Sadarpur	74.8
Baliakandi	94.7
Pangsa	97.3
Rajbari	92.7
Gopalganj	55.7
Kasiani	45.1
Kotwalipara	50.6
Moksudpur	73.5
Kalkini	60.7
Madaripur	74.3
Shibchar	48.1
Damudia	64.4
Naria	77.8
Palong	82.4
Zanjira	77.5
TOTAL	70.2%

SOURCE: Revenue Office, Faridpur District.

TABLE 5

LAND DEVELOPMENT TAX COLLECTION
EFFICIENCY FOR DISTRICTS
1980-81

District	Collection Efficiency
Chittagong	97.5%
Comilla	89.6
Noakhali	94.1
Sylhet	71.5
Dhaka	91.5
Faridpur	85.0
Jamalpur	88.4
Mymensingh	91.2
Tangail	96.8
Barisal	82.7
Jessore	92.1
Khulna	86.6
Kushtia	68.8
Patuakhali	91.9
Bogra	92.8
Dinajpur	98.5
Pabna	77.9
Rajshahi	94.7
Rangpur	96.0
TOTAL	88.3%

SOURCE: Ministry of Law and Land Reforms.

given in Table 5. The efficiency there is on average higher, and there is much less variation.

Attempts to explain collection efficiency by linear regression analysis met with little success. One might expect that collection efficiency would be affected by such factors as population density and urbanization, although each of these variables may work in several dimensions. For example, a larger number of acres per capita may mean that on average each tahsildar has jurisdiction over a larger area, making scrutiny of each owner more difficult. It also means that the average ownership size is larger, although the implication of this for collection efficiency is unclear. On the one hand, this may mean fewer owners from which taxes are to be collected, thereby easing the tahsildars' work load. On the other hand, larger land owners may also be politically more powerful and, therefore, less willing to comply with the tax. Similarly, a greater proportion of total population in urban areas may improve collection efficiency to a point; however, as urbanization increases, effective monitoring of taxpayers may become more difficult. Other variables, such as those representing administrative efficiency, should be included but are not amenable to empirical measurement.

Table 6 shows cross-section regression results for district collection efficiency in 1980-81. In each case the dependent variable is the proportion of total assessments (arrears and current) that is actually collected; several specifications of independent variables are used, but the choices are limited by the available data. In no case is there a statistically significant relationship between an independent

TABLE 6

REGRESSION RESULTS FOR DISTRICT COLLECTION EFFICIENCY[a]

Independent Variable					
Income Per Capita[b]	Urban Population[c]	Acres Per Capita[d]	F	R^2	n[e]
.08 (1.13)			1.271	.070	19
	.11 (.51)		.255	.015	19
		- 69.74 (-.56)	.309	.018	19
.08 (.98)	-.04 (-.15)		.610	.071	19
.10 (1.35)		-120.48 (-.94)	1.073	.118	19
.17 (1.57)	-.30 (-.89)	-206.95 (-1.28)	.973	.163	19

[a]The dependent variable is district collection efficiency.

[b]Gross district product per capita.

[c]Proportion of the district population in urban areas.

[d]Acres (excluding rivers) per capita.

[e]Number of observations.

SOURCE: Computed by authors.

variable and district collection efficiency, although the coefficient sign on acres per capita has a plausible (negative) sign. The failure to find a relationship between collection efficiency and the various independent variables is most likely due to the difficulty of quantifying administrative efficiency. Data availability difficulties are even more severe at the thana level. Only acres per capita and a crude measure of agricultural production per capita could be calculated for Faridpur thanas.[1] Neither of these variables was significantly related to circle collection efficiency.

It should be noted that even high collection efficiency does not guarantee that the LDT makes a large net contribution to central government revenues because the collection process itself may be costly. For example, the Ministry of Finance estimates that the cost of collection of land revenues for each fiscal year from 1970-71 to 1974-75 was more than the taxes actually collected! However, this is mainly due to the dramatic decline in land revenues during this period following the War of Liberation and the 1972 Presidential Order that exempted all owners of less than 25 bighas (8.25 acres) from paying the land tax. Land revenue fell from Tk. 134.9 million in 1969-70 to a low of Tk. 25.4 million in 1972-73 while there was no large increase in collection costs. In more recent years collection costs have been less than LDT collections, although costs are still high and have averaged over 85

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[1]The gross value of the major crops produced in Faridpur in 1979-80--aman, aus, boro, jute, and wheat--is calculated from data in Thana Statistics, Volume II, Major Crops (Dhaka: Bangladesh Bureau of Statistics, 1982).

percent of collections in the last three years. Still, the process by which collection costs were calculated overstates the actual cost of LDT collection per se. LDT collection officials perform duties unrelated to the LDT; because their entire salaries, as well as the cost of their offices, are attributed entirely to the LDT, the costs allocated to the LDT are greater than the costs actually incurred for the LDT. It is still likely, however, that the relative collection costs of the LDT exceed those of other taxes, as noted by the Ministry of Finance.[1] High collection costs are typical for property taxes. Structural changes designed to simplify the administrative process are outlined in the concluding section.

The Revenue Performance of the Land Development Tax

The ability of a tax to generate revenues is an important consideration in its design. In this section the revenue performance of the LDT is examined at the national, district, and thana levels. Emphasis is placed on two aspects of this performance: the level of LDT revenues, and the growth in these revenues over time.

The official assessments (or demand) and total LDT collections for all of Bangladesh between 1976-77 and 1980-81 are given in Table 7. Collections during the initial year of the tax were low relative to the subsequent years, due to the newness of this levy and the need to educate both taxpayers and collectors of its details. Since 1977-78

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[1] Information on the collection and the collection cost of the major central government taxes is given in the 1981 Statistical Yearbook of Bangladesh (Dhaka: Bangladesh Bureau of Statistics, 1981), p. 332.

TABLE 7

OFFICIAL ASSESSMENTS AND TOTAL COLLECTIONS OF LAND DEVELOPMENT TAX FOR ALL BANGLADESH

	1976-77	1977-78		1978-79	
	Nominal and Real	Nominal	Real	Nominal	Real
Official Assessments					
Arrears		69,066,238	59,953,332	56,873,911	44,782,607
Current	157,787,069	152,879,281	132,707,709	138,990,381	109,441,245
Total	157,787,069	221,945,519	192,661,041	195,864,292	154,223,852
Total Collections	90,141,230	151,421,666	131,442,418	157,702,000	124,174,803

	1979-80		1980-81		Average Annual Percentage Change, 1976-77 to 1980-81	
	Nominal	Real	Nominal	Real	Nominal	Real
Official Assessments						
Arrears	81,195,559	55,348,029	57,776,762	35,165,406	-5.5	-13.8
Current	144,624,910	98,585,487	159,995,436	97,380,058	.3	- 9.6
Total	225,820,469	153,933,517	217,772,198	132,545,464	9.5	- 4.0
Total Collections	178,200,413	121,472,674	192,305,264	117,045,200	28.3	7.5

SOURCE: Ministry of Law and Land Reforms.

nominal total collections have risen by only 27.0 percent. Nominal current demand also fell during the first three years of the tax, most likely in response to appeals by taxpayers of the amounts assessed; only by 1980-81 had current demand returned to its original level in nominal terms. Slow growth in assessments highlights one of the problems associated with an area-based tax whereby discretionary rate changes and alteration in the composition of holdings constitute the only factors promoting growth.

Because prices have risen by 60 percent since 1976-77, real (1976-77 = 100) assessments have declined by 16 percent since 1976-77; over the period 1977-78 to 1980-81, the decline is 31.2 percent. Although real collections increased at an average annual rate of 7 percent since 1976-77, this was due primarily to the poor collection performance in the first year of the tax. Since 1977-78 real collections have fallen by 10.0 percent.

District level assessments and collections for 1980-81 are shown in Table 8, and those for Faridpur District circles for 1981-82 are given in Table 9. Because these jurisdictions differ in total area, in land ownership patterns, and in industrial and residential development, official assessments vary considerably across both thanas and districts.[1] Current annual district demand in 1980-81 varied from Tk. 2.4 million in Tangail to Tk. 23.8 million in Dhaka, due largely to the concentration of commercial/industrial property in Dhaka. There was

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[1]Note, too, that since circles may include more than a single thana, the data in Table 9 may exaggerate thana-wise variability.

TABLE 8

DISTRICT LEVEL ASSESSMENTS AND COLLECTIONS FROM THE LAND DEVELOPMENT TAX, 1980-81

District	Assessments			Collections		
	Arrears	Current	Total	Arrears	Current	Total
Chittagong	2,980,485	10,093,151	13,073,636	2,911,805	9,830,939	12,742,744
Commilla	2,283,174	6,172,700	8,455,874	1,799,545	5,780,585	7,580,130
Noakhali	1,613,441	4,297,365	5,910,806	1,708,191	3,851,041	5,559,232
Sylhet	6,466,529	12,999,073	19,465,602	3,313,641	10,595,036	13,908,677
Dhaka	11,153,757	23,847,736	35,001,493	11,686,937	20,338,512	32,025,449
Faridpur	3,628,053	6,556,094	10,184,147	4,038,120	4,621,736	8,659,856
Jamalpur	878,161	3,680,883	4,559,044	795,179	3,235,914	4,031,093
Mymensingh	3,252,928	10,303,054	13,555,982	2,992,796	9,366,500	12,359,296
Tangail	1,150,595	2,428,187	3,578,782	1,214,907	2,249,039	3,463,946
Barisal	2,739,343	8,133,326	10,872,669	2,049,690	6,937,414	8,987,104
Jessore	2,866,918	8,021,721	10,888,639	2,550,343	7,482,117	10,032,460
Khulna	6,534,881	11,557,322	18,092,203	5,000,707	10,661,243	15,661,950
Kushtia	4,256,641	5,063,989	9,320,630	2,743,907	3,671,802	6,415,709
Patuakhali	1,168,932	4,830,241	5,999,173	1,478,483	4,036,898	5,515,381
Bogra	809,022	4,588,207	5,397,229	705,646	4,303,745	5,009,391
Dinajpur	1,011,448	8,676,407	9,687,855	1,086,912	8,452,808	9,539,720
Pabna	1,756,173	5,866,700	7,622,873	1,547,694	4,386,758	5,934,452
Rajshahi	2,219,469	11,769,905	13,989,374	2,188,345	11,060,877	13,249,222
Rangpur	1,006,812	11,109,375	12,116,187	1,018,916	10,610,536	11,629,452
TOTAL	57,776,762	159,995,436	217,772,198	50,831,764	141,473,500	192,305,264

SOURCE: Ministry of Law and Land Reforms.

TABLE 9

ASSESSMENTS AND COLLECTIONS FROM THE LAND DEVELOPMENT TAX
IN FARIDPUR DISTRICT CIRCLES, 1981-82

Circle	Assessments			Collections		
	Arrears	Current	Total	Arrears	Current	Total
Bhanga	142,863	213,342	356,205	117,843	166,383	284,226
Boalmari	212,930	496,546	709,476	169,577	317,549	487,126
Kotwali	106,689	497,829	604,518	89,604	472,878	562,482
Nagarkanda	270,265	311,611	581,876	181,752	156,502	338,254
Sadarpur	102,058	202,606	304,664	110,435	117,438	227,873
Baliakandi	93,858	328,428	422,286	157,770	242,170	399,940
Pangsa	93,943	471,129	565,072	138,331	411,654	549,985
Rajbari	121,992	541,415	663,407	123,622	491,117	614,739
Gopalganj	96,673	422,115	518,788	88,024	201,127	289,151
Kasiani	119,061	257,615	376,676	68,767	101,201	169,968
Kotwalipara	168,400	259,992	428,392	94,969	121,812	216,781
Moksudpur	192,778	252,135	444,913	144,739	196,979	341,718
Kalkini	181,061	219,092	400,153	155,629	87,159	242,788
Madaripur	327,661	401,078	728,739	360,782	180,763	541,545
Shibchar	308,534	302,941	611,475	179,604	114,679	294,283
Damudia	162,684	410,072	572,756	166,906	202,068	368,974
Naria	67,782	155,937	223,719	56,512	117,483	173,995
Palong	84,536	165,521	250,257	96,477	109,665	206,142
Zanjira	101,284	172,859	274,143	118,069	94,348	212,417
TOTAL	2,955,052	6,082,263	9,037,315	2,619,412	3,902,975	6,522,387

SOURCE: Revenue Office, Faridpur District.

also much variation in current annual demand in the circles of Faridpur in 1981-82. The official assessments in Naria totaled only Tk. 155,937, while the assessments in Rajbari were nearly 3½ times as large. The thanas are also likely to differ widely in administrative capabilities, adding another source of variation to actual collections. District-level total collections were again smallest in Tangail and largest in Dhaka; thana-level total collections were smallest for Kasiani (Tk. 169,968) and largest for Rajbari (Tk. 614,739).

Some indication of the level of taxation may be found in Tables 10 and 11. Table 10 expresses the current demand and total collections by district in 1980-81 in per capita and per acre terms; Table 11 does the same for the circles of Faridpur District in 1981-82. These tables illustrate the great variation in assessments and collections across thanas and districts. Of perhaps more importance, they also illustrate the extremely low level of taxation. The district most successful in per capita total collections of the LDT--Khulna--collected only Tk. 3.42 per person.[1] The least successful district here was Comilla, which collected about one taka per person. There is even more variation in per capita collections at the circle level, as shown in Table 11. Only Damudia collected more than four taka per person, and two circles--Kasiani and Naria--collected less than one taka per person. Per acre assessments and collections demonstrate the same variation and low level of taxation.

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[1]These are, of course, per capita data based on total district populations. Tax payments per land owner would be considerably larger.

TABLE 10

DISTRICT LEVEL CURRENT ASSESSMENTS AND TOTAL COLLECTIONS FROM THE LAND DEVELOPMENT TAX, 1980-81

District	Current Assessments		Total Collections (Arrears and Current)	
	Per Capita	Per Acre	Per Capita	Per Acre
Chittagong	1.75	6.22	2.21	7.85
Comilla	.87	3.92	1.07	4.82
Noakhali	1.09	4.38	1.41	5.66
Sylhet	2.22	4.29	2.38	4.59
Dhaka	2.38	13.81	3.20	18.55
Faridpur	1.34	4.18	1.78	5.53
Jamalpur	1.49	4.37	1.64	4.79
Mymensingh	1.11	4.43	1.33	5.32
Tangail	.95	2.99	1.36	4.27
Barisal	1.73	5.91	1.92	6.53
Jessore	1.88	4.94	2.35	6.18
Khulna	2.53	4.49	3.42	6.08
Kushtia	2.07	6.06	2.62	7.68
Patuakhali	2.65	5.50	3.03	6.28
Bogra	1.65	4.89	1.80	5.34
Dinajpur	2.65	5.23	2.91	5.75
Pabna	1.66	5.30	1.66	5.36
Rajshahi	2.16	5.11	2.43	5.75
Rangpur	1.63	4.96	1.70	5.19
TOTAL	1.80	5.33	2.16	6.41

SOURCE: Ministry of Law and Land Reforms.

TABLE 11

CURRENT ASSESSMENTS AND TOTAL COLLECTIONS FROM THE LAND DEVELOPMENT TAX IN FARIDPUR DISTRICT CIRCLES, 1981-82

	Current Assessments		Total Collections (Arrears and Current)	
	Per Capita	Per Acre	Per Capita	Per Acre
Bhanga	1.09	3.97	1.46	5.29
Boalmari	1.80	4.43	1.77	4.35
Kotwali	1.79	4.99	2.02	5.63
Nagarkanda	1.34	3.33	1.45	3.62
Sadarpur	1.31	3.26	1.48	3.67
Baliakandi	1.72	3.98	2.09	4.84
Pangsa	1.80	4.11	2.10	4.80
Rajbari	2.70	7.98	3.07	9.06
Gopalganj	1.52	4.58	1.04	3.14
Kasiani	1.26	3.44	.83	2.27
Kotwalipara	1.45	2.66	1.21	2.21
Moksudpur	1.02	3.28	1.38	4.45
Kalkini	.93	3.17	1.03	3.51
Madaripur	1.49	5.80	2.02	7.83
Shibchar	1.14	3.79	1.10	3.68
Damudia	4.47	18.31	4.02	16.47
Naria	.82	2.87	.92	3.20
Palong	1.13	3.92	1.41	4.88
Zanjira	1.07	2.90	1.32	3.57

SOURCE: Revenue Office, Faridpur District.

It must be emphasized that the level of LDT revenues, however measured, is quite low. Even if all current assessed taxes at the district level were collected, per capita assessments would average less than two taka per person, and per acre assessments would average Tk. 5.33 per acre (see Table 10). Expressed in a different way, assessed taxes were less than .2 percent of total agricultural income in 1980-81. Finally, taxes as a percent of land value are also very small. One acre of land may easily be valued at taka 20 thousand.[1] Even the highest per acre assessment--Tk. 80.03 per acre for total holdings of 33 acres--yields taxes of only .3 percent of value. Using these as measures of the tax burden on agriculture, it is apparent that such burden is minimal.[2]

It is important to understand the reasons for different per capita LDT collections. Some reasons are readily apparent. Those districts with larger urban centers will have more land in the higher tax

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[1] In Beani Bazar thana, Sylhet District, 30 decimals (about 1/3 acre) of farm land close to a road sell for 30 to 50 thousand taka, according to local officials. Officials in Rajoir thana, Faridpur District estimate that 52 decimal (slightly more than ½ acre) sells for 10 to 20 thousand taka, depending on irrigation. There are also many agricultural studies that estimate the net return per acre from various crops or crop patterns. A net return as low as Tk. 2000 per acre, discounted at a 10 percent interest rate, gives a per acre land price of 20 thousand. See various publications of the Bangladesh Agricultural Research Institute, the Bangladesh Rice Research Institute, and the Ministry of Agriculture and Forests.

[2] Hossain, Rahman, and Akash estimate that, when the benefits of public expenditure on agriculture are also considered, the net burden on agriculture in 1975-76 is actually negative; that is, the agricultural sector received more from government than it paid to government. See Mahabub Hossain, Atuir Rahman, and M.M. Akash, "Agricultural Taxation in Bangladesh," Bangladesh Institute of Development Studies (Dhaka: March 1978).

categories (commercial/industrial classification). More acres per capita should also generate greater revenues per capita because average landholdings may be larger. The impact of income per capita is less evident. On the one hand, greater per capita income may be attributable to greater urbanization (and, possibly, greater collection efficiency: see Table 6). On the other hand, greater per capita income may be associated with lower per capita collections if smaller, less heavily taxed landholdings are more efficient, thereby generating larger per capita income. Other variables, especially measures of administrative efficiency, are also likely to be important but are limited in availability.

Table 12 reports linear regression results for total district per capita LDT collections for 1980-81. Various specifications are presented. As expected, the coefficients on urbanization and acres per capita are positive. When used alone or in conjunction with only one of the other variables, per capita GDP is positively correlated with tax collections and probably reflects industrialization of the district. The final specification is, however, most interesting and explains over 80 percent of the variation in per capita LDT collections. Again urbanization and per capita land holdings are positive as anticipated. One possible explanation of the negative but significant coefficient on the income variable is that the other two variables reflect the important attributes of the tax rate structure, while larger land holdings are less productive and, therefore, yield lower GDP levels even though they are taxed more heavily.

TABLE 12

REGRESSION RESULTS FOR TOTAL DISTRICT LDT COLLECTIONS PER CAPITA[a]

Independent Variables				
Income Per Capita[b]	Urban Population[c]	Acres Per Capita[d]	F	R^2
1.05 (2.10)*			4.397	.206
	3.55 (2.24)**		5.007	.228
		2279.86 (2.74)**	7.483	.306
.62 (1.03)	2.41 (1.24)		3.042	.276
.74 (1.57)		1894.53 (2.27)**	5.297	.398
- .95 (-2.57)**	7.50 (6.27)**	4028.09 (7.10)**	25.083	.834

*Significant at .10 level in 2-tail test.

**Significant at .05 level in 2-tail test.

[a]The dependent variable is total district collections per capita in 1980-81 for the 19 districts shown in Table 8.

[b]Gross district product per capita in 1980-81.

[c]Proportion of the 1980-81 district population in urban areas.

[d]Acres (excluding rivers) per capita.

SOURCE: Computed by authors.

A similar equation may be used to explain total district collections per acre. However, attempts to explain per capita and per acre collections at the circle level were not successful (and are not reported here). Although the coefficient signs are often the same as in the above formulations, the coefficients are not statistically significant.

In sum, it is apparent that both the level of collections and their growth over time are inadequate. Of these two problems, the inelastic nature of the LDT is probably its most severe limitation. Unfortunately, the ability of the LDT, indeed any property tax, to generate automatic growth in revenues over time is limited. LDT demand will rise only if agricultural land ownership becomes more concentrated (due to the graduated rate structure for agricultural land), if non-agricultural land is switched from residential to commercial/industrial uses, or if the rate schedule is altered. Actual tax collections will rise only if, in addition to the above factors, collection efficiency improves. None of these sources of growth is automatic because each requires some change in the administration of the LDT. In short, "automaticity" may not be a useful concept by which to evaluate the revenue growth of any property tax, such as the LDT.[1] Of greater importance are administrative adjustments that might be made.

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[1]This point is emphasized by Oliver Oldman and Ching-mai Wu, "The Elasticity of Property Taxes on Site Value and Improved Value," in Bahl (ed.), The Taxation of Urban Property in Less Developed Countries. See also Roy Bahl and Larry Schroeder, "Forecasting Local Government Budgets," Occasional Paper No. 38, Metropolitan Studies Program, The Maxwell School (Syracuse, New York: Syracuse University, December 1979).

The Effects of the Land Development Tax on the Use of Resources

Property taxes are often thought to have positive effects on the efficiency of resource use. Of course, these effects depend on the specific features of the tax. This section analyzes the effects of the LDT. Of particular importance are its effects on the level and composition of production, work effort, marketing, factor mix, and land use. The conclusion is that on balance the effects are beneficial but very small.

As emphasized by Wald and Bird, the marginal tax rate, or the rate at which the last increment to income or production is taxed, is an important element in determining the economic effects of a tax.[1] A higher marginal tax rate reduces the rewards to work and investment and so makes such activities less attractive to an individual; a lower marginal tax rate has the opposite effects. Because the LDT on agricultural land is a fixed assessment that depends only on the holdings of an individual, its marginal tax rate against income is zero; for non-agricultural land the LDT is also a fixed amount per acre, and its marginal tax rate is also zero.[2] In short, the LDT does not tax increments to income or production.

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[1] See Wald, The Taxation of Agricultural Land in Underdeveloped Economies, and Bird, Taxing Agricultural Land in Developing Countries.

[2] Note, however, that non-agricultural land is further classified into either commercial/industrial property or residential property, with the latter being taxed less heavily. If land is easily switched between uses, the different tax rates will act the same as a higher marginal tax rate on commercial/industrial property. However, such switching is unlikely, due to the low tax rates.

A zero marginal tax rate has several implications. Because the LDT must be paid from income, it is likely to encourage efforts to increase income. Individuals will work harder in order to increase production. They will also increase the efficiency of land use. For example, idle land will be cultivated or sold, and land will be used to grow those crops or produce those goods that are most profitable. The LDT may also increase the amount of output--agricultural or otherwise--that is marketed because the LDT must be paid in cash. Finally, the LDT increases the cost of land relative to other factors and so may encourage more labor-intensive techniques of production. In a country in which a large and growing population makes employment difficult to find, this effect is desirable. Of course, the actual magnitude of these effects is an empirical question. It is very unlikely that these forces are very strong, given the low level of land taxation. Nevertheless, to the extent that these forces are present, they are favorable.

The graduated rate structure on agricultural land may affect land productivity. There is some evidence that per acre yields for most agricultural commodities are higher on small farms than on large farms.[1] Because higher per acre assessments on a larger holding may encourage a landowner to divide his property into smaller parcels, or to sell part of his holding, the LDT may work to raise per acre yields.

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[1] R.A. Berry and William C Ine review the empirical evidence for a wide range of developing countries in Agrarian Structure and Productivity in Developing Countries (Baltimore and London: Johns Hopkins University Press, 1979), especially Chapter 3 and Appendix B. For a study of Bangladesh agriculture that reaches the same conclusion, see Mahabub Hossain, "Farm Size, Tenancy, and Land Productivity: An Analysis of Farm Level Data in Bangladesh Agriculture," The Bangladesh Development Studies, Vol. 5, No 3 (July 1977), pp. 285-348.

Not all effects are positive. The higher tax rates on non-agricultural land than on agricultural land may decrease the incentive for switching land to non-agricultural uses, and thereby slow industrial development. A similar disincentive may exist because of higher tax rates on commercial/industrial land than on residential land.

The magnitudes of these effects are uncertain; they are likely to be negligible. For example, the 1976 LDT rate schedule imposed a considerably higher per acre tax rate on holdings above 8.25 acres than on holdings below that level. This tax rate differential might be expected to generate a cluster of families with holdings slightly less than 8.25 acres. However, Jannuzi and Peach found no evidence of such a high concentration of ownership in their study of rural land ownership.[1]

On balance, the effects of the LDT on the efficiency of resource use are favorable. However, the extremely low level of taxation also means that the effects are likely to be minimal. The LDT at current levels is therefore unlikely to have any appreciable effect--positive or a negative--on resource use. Indeed, because the level of taxation is so low, even rates of taxation that are much greater than current levels may have little impact.

The Distributional and Equity Effects of the Land Development Tax

The LDT is a tax on a factor that is fixed in supply. Economic theory is clear on the incidence of such a tax: the burden of the LDT

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[1] Jannuzi and Peach, The Agrarian Structure of Bangladesh: An Impediment to Development.

is on the owners of the land, and the result of the tax is that the price of land falls by the capitalized value of the future tax liabilities. As noted by Bird, "the incidence is independent of whether the land is rented or owner cultivated, or whether the landlord or tenant is the statutory taxpayer...[Moreover,] landlords cannot shift the tax to farm laborers or to suppliers of inputs."[1] If the landowner is extracting from tenants as much rent as possible before the imposition of the tax, and if he is likewise paying to input suppliers as low an initial price or wage as possible, then the LDT per se does not give him any extra ability to improve his position by raising rent or lowering factor payments. If the landowner was in fact able to do these things, he would already have done so. In short, theory concludes that it is the landowner who pays the LDT.

This conclusion depends, however, on several assumptions that may not always hold, especially in a developing country like Bangladesh. First, the landowner may not be receiving the maximum rent or be paying the minimum input prices before the imposition of the LDT. Market imperfections, government intervention, tradition, paternalism--all these factors may explain prices that are not competitively determined. In this environment the LDT may be shifted in part to tenants, input suppliers, and/or consumers. Second, while the total supply of land to all uses is essentially fixed, the supply to specific uses is variable, at least over a period of time. If the amount of land in cultivation

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[1]Bird, Taxing Agricultural Land in Developing Countries, pp. 163-164.

declines over time due to taxation, the initial tax-induced fall in land value will be partially offset. Both channels lead to partial shifting of the LDT from landowners, but the second channel does not appear important because land utilization statistics vary little over time.[1]

The LDT is therefore likely to fall almost entirely on landowners. Because the distribution of land ownership has been found to be closely linked to the distribution of income, the LDT is borne largely by the wealthy, and so its incidence is progressive.[2] It should be remembered, however, that the LDT is imposed at a very low level. Its ability to redistribute income to any significant degree is limited.

The existence of survey data on land ownership in rural areas allows a more precise description of the incidence of the LDT. Evidence on the distribution of land ownership and potential LDT liabilities in rural areas is presented in Tables 13 and 14, which reproduce, in part, Tables 4 and 5 of Miller and Wozny.[3] Table 13 illustrates the extreme

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[1]See the data on land utilization in the 1981 Statistical Yearbook of Bangladesh (Dhaka: Bangladesh Bureau of Statistics, 1981), pp. 140-142.

[2]Mohiuddin Alamgir and Sadiq Ahmad conclude that "unequal distribution of landholding has been found to be highly correlated with unequal distribution of income and high incidence of poverty." See Alamgir and Ahmad, "Poverty and Income Distribution in Bangladesh: Evidence and Policies," Development Discussion Paper No. 119, Harvard Institute for International Development (Cambridge, MA: Harvard University, 1981), p. 21.

[3]Barbara D. Miller and James Wozny, "The Land Development Tax in Bangladesh: Insights From the 1978 Land Occupancy Survey," Interim Report No. 4, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, April 1983). Miller and Wozny use land occupancy survey data compiled by Jannuzi and Peach, The Agrarian Structure of Bangladesh: An Impediment to Reform.

TABLE 13

DISTRIBUTION OF POPULATION, LANDHOLDINGS, AND POTENTIAL TAX REVENUE

Decile of Households With Plot-Size Range (acres)	Percent of Sample Population Within Each Decile[a]	Percent of Total Landholdings Within Each Decile	Percentage of Total Revenue Potential 1976	Percentage of Total Revenue Potential 1982
1st (0)	15.5 (15.5)[b]	0 (0)	0 (0)	0 (0)
2nd (0- .03)		.1 (.1)	.03 (0)	.2 (.2)
3rd (.04- .10)	8.7 (24.2)	.4 (.5)	.2 (.2)	.3 (.5)
4th (.11- .29)	8.9 (33.1)	1.1 (1.6)	.5 (.7)	.3 (.8)
5th (.30- .60)	9.4 (42.5)	2.6 (4.2)	1.2 (1.9)	.4 (1.2)
6th (.61- 1.04)	9.3 (51.8)	4.6 (8.8)	2.0 (3.9)	.7 (1.9)
7th (1.05- 1.63)	10.1 (61.9)	7.6 (16.4)	3.4 (7.3)	1.2 (3.1)
8th (1.64- 2.53)	10.7 (72.6)	11.9 (28.3)	5.3 (12.6)	2.4 (5.5)
9th (2.54- 4.42)	12.1 (84.7)	19.3 (47.6)	8.6 (21.2)	8.0 (13.5)
10th (4.43-76.27)	15.3 (100.0)	52.4 (100.0)	78.9 (100.0)	86.5 (100.0)

[a] Cumulative percentages are provided in parentheses.

[b] Because more than 10 percent of the households own no land, there is no way to define precisely the upper bound of the first decile. These numbers, therefore, refer to the first and second deciles combined.

SOURCES: For 1976 rate schedule: computations by authors from the Land Occupancy Survey; for distribution of population and landholdings and 1982 rate schedule: Barbara D. Miller and James Wozny, "The Land Development Tax in Bangladesh: Insights from the 1978 Land Occupancy Survey," Interim Report No. 4, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, April 1983), p. 26.

TABLE 14

DISTRIBUTION OF LAND DEVELOPMENT TAX UNDER
THE 1976 AND 1982 RATE STRUCTURES
(in takas)

Decile of Households	Total Liability		Per Household Liability		Per Capita Liability		Per Acre Liability	
	1976	1982	1976	1982	1976	1982	1976	1982
1st	0	0	0	0	0	0	0	0
2nd	121	1,786	.04	.50	.01	.23	3.0	44.1
3rd	715	3,553	.21	1.02	.04	.20	3.0	14.9
4th	1,912	3,482	.55	1.00	.11	.19	3.0	5.5
5th	4,691	4,726	1.35	1.36	.25	.25	3.0	3.0
6th	8,322	8,322	2.40	2.40	.44	.44	3.0	3.0
7th	13,801	13,801	3.97	3.97	.67	.68	3.0	3.0
8th	21,453	27,294	6.17	7.86	.99	1.26	3.0	3.8
9th	34,861	91,240	10.03	26.26	1.40	3.73	3.0	7.9
10th	321,632	985,917	92.57	283.76	10.40	31.94	10.2	31.2
TOTAL	407,508	1,140,121						

SOURCES: For 1976 rate schedule: computations by authors from the Land Occupancy Survey; for 1982 rate schedule: Barbara D. Miller and James Wozny, "The Land Development Tax in Bangladesh: Insights from the 1978 Land Occupancy Survey," Interim Report No. 4, Local Revenue Administration Project, Metropolitan Studies Program, The Maxwell School (Syracuse, NY: Syracuse University, April 1983), p. 27.

inequality in the distribution of land holdings. The bottom half of the households (the first five deciles of households, representing 42.5 percent of the sample population) own only 4.2 percent of the land, while the top decile owns 52.4 percent of the land. There is also a substantial number of landless individuals: 14.7 percent of all households, which comprise 11.6 percent of the sample population, own no land. The extreme inequality in land holdings means that the distribution of potential LDT liabilities on rural land is borne most heavily by the larger owners. Under the 1976 agricultural rate schedule, 78.9 percent of the total potential tax revenues is paid by the largest 10 percent of all landowners; under the more graduated 1982 rate schedule, this same group pays 86.5 percent of the total potential tax revenues. Again, however, it should be emphasized that a progressive tax imposed at a low level has only a marginal effect on income distribution.[1]

Table 14 presents some additional information from the Land Occupancy Survey on potential LDT liabilities under the 1976 and 1982 schedules. The per household and per capita potential tax liabilities increase as land holdings increase under both schedules. Because the 1982 revision increased potential LDT revenues by 179.8 percent, these

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[1]Using land ownership as a measure of ability to pay, the Suits Indices are .382 and .516 for the 1976 and 1982 rate schedules, respectively. A Suits Index of +1 indicates maximum progressivity; values of 0 and -1 indicate proportionality and maximum regressivity, respectively. The calculated values therefore suggest that both rate schedules are, at the least, moderately progressive. The Gini Indices for the two schedules--.612 for original rates and .859 for the new ones--indicate the same conclusion.

liabilities are also substantially higher under the new rate schedule. It is interesting to note, however, that per acre liabilities under the 1982 rates are highest for the smallest landowners because of the 1982 provision that establishes a minimum LDT of one taka. On a per acre basis, the existing agricultural rate structure is therefore regressive for small landowners (holdings less than 1/3 acre) and progressive for large landowners (holdings more than 2 acres). The fact that per capita LDT liabilities are quite small for the small landowners, however, reduces the importance of this feature.

The progressive incidence of the LDT does not mean that it is an entirely equitable tax. Indeed, property taxes in general may not be equitable if they are cast in an impersonal or in rem mold. The commonly accepted criterion for interpersonal equity in tax administration requires that a tax be tailored to the individual circumstances of the taxpayer, such as a tax based on personal income.[1] A tax based solely on land area is not personalized. For example, two individuals with holdings of equal size but unequal value will pay the same tax; two individuals with holdings of equal value but unequal size will pay a different tax; and two individuals with holdings of equal size and value but with unequal income will pay in tax a different fraction of income. These examples suggest that the LDT may not always satisfy a society's notions of horizonal and vertical equity. However, no tax can always

[1] For further discussion of equity in taxation, see Richard M. Musgrave, The Theory of Public Finance (New York, NY: McGraw-Hill, Inc., 1959), pp. 61-115.

meet these standards, and the LDT is likely on balance to improve the equity of the Bangladesh tax system.

Summary and Recommendations

The LDT has positive effects on the efficiency of resource use and on the distribution of income. However, these effects are minimal, given the low levels of tax collections. Increased LDT revenues would strengthen the force of these beneficial effects. Increased revenues would also mobilize more resources for public sector use. The following recommendations address this goal.

These recommendations outline changes in the existing administration of the LDT as a central government tax. However, they are equally relevant should the LDT become a thana parishad tax.[1]

Tax Base

Until May 1983, the base of the LDT on agricultural land was the total holdings of a family or an individual. Each individual's holdings were, in theory, summed, the individual's holdings were aggregated by family, and the LDT was based on the family's total acreage. This process was to apply to family land holdings located throughout Bangladesh. If this procedure were actually practiced nd the progressive rates applied, then the LDT would be redistributive in nature, and the tax could even be used as an instrument to promote land reform.

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[1] The motivation for decentralization of the LDT, as well as the mechanics of such a change, are discussed by Schroeder, "Upgraded Thana Parishads: Their Structure and Revenues."

Unfortunately, difficulties of record-keeping make it unlikely that total acreage was ever taxed. Interviews with local officials indicated that ownership in different mauzas within the same thana--and therefore under the jurisdiction of a single CO-Revenue or TRO--was seldom checked. Furthermore, the ability to discern ownership in different thanas or in different districts was even more limited. To the extent that the proper procedures were applied in some instances but not in others, inequities were introduced.

Recognition of the difficulties of aggregation was largely responsible for the recent change in the base to an individual's holdings within a single khatian. While this change is likely to reduce the dramatically effective progressivity of LDT rates, we feel that the administrative difficulties in carrying out the aggregation process in an equitable manner are sufficiently burdensome to concur with this change. Thus:

1. The LDT on agricultural land should be based only on the size of each ownership plot within a khatian.

The LDT is an area-based tax. It has long been recognized that a tax based on value is better able to promote an efficient use of resources, an equitable distribution of the tax burden, and a rising amount of tax revenues.[1] Development of a value-based tax tied to

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[1]The favorable effects of a value-based property tax were first stressed by Ricardo. See Carl S. Shoup, Ricardo on Taxation (New York, NY: Columbia University Press, 1960). For more recent discussions, see Wald, The Taxation of Agricultural Land in Underdeveloped Areas and Bird, Taxing Agricultural Land in Developing Countries. In the context of Bangladesh, Hossain, Rahman, and Akash recommend a value-based tax. See "Agricultural Taxation in Bangladesh."

specific characteristics of each parcel of land is a diffficult task. However, in the longer run it should be possible to develop a value-based LDT which has considerably more desirable economic effects than the current tax.

Similarly situated properties within a thana are likely to have quite similar values, with factors such as soil quality, nearness to roads, and access to water playing dominant roles in the determination of land prices. While not as accurate as a parcel-by-parcel occular survey of each plot, reasonably accurate approximations can be made of average land values per decimal in a thana using these characteristics as the primary determinants of land prices. The values would be based on a survey of transaction prices of land together with information collected from those knowledgable of local land prices.[1] This information can be arrayed in tabular form with the LDT levied as the acreage of a khatian times the average value per acre for that land type times the tax rate. Ideally, the land values would be updated annually; however, because this involves considerable administrative costs, it is more reasonable to reestimate periodically, for example every three to five years.

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[1] A similar procedure is used to reassess property values in the Philippines. See Roy Bahl and Larry Schroeder, "The Real Property Tax," in Local Government Finance in the Third World: A Case Study of the Philippines, Roy W. Bahl and Barbara D. Miller, eds. (New York: Praeger Publishers, 1982), pp. 53-57. It should be noted that the Land Transfer Notice contains information on the value of the immovable property that is exchanged. This information may also be useful in determining property values. See Alm, "The Immovable Property Transfer Tax in Bangladesh."

Thus, in the longer run, we recommend:

2. A schedule of average land values broken down by major land characteristics should be developed and updated every 3-5 years in all thanas. The base of the LDT would be the value of land, equal to the size of the plot times the average value per decimal.

Tax Rate

Officials at all levels of the LDT administration have expressed dissatisfaction with the graduated rate structure for agricultural land implemented in 1982. The complexity of the six-slab structure has created considerable confusion among collection officials, leading to a reduction in collection efficiency. Some simplification of the rate schedule would aide the collection process. Thus:

3. The current tax rate schedule for agricultural land should be simplified. For example, a one- or two-slab system should be instituted.

A proportional tax rate could easily be designed to generate revenues equal to those of the existing schedule. A tax rate of Tk. 20 per acre will generate potential tax revenues from agricultural land slightly greater than those attainable under the 1982 schedule; a rate of Tk. 7 per acre has a revenue potential approximately the same as the 1976 schedule. Based on the conservative estimate of Tk. 20,000 per acre land value, a Tk. 20 per acre LDT results in a tax rate of only 0.1 percent of value, certainly not one that could be judged expropriative. The main advantage of a proportional system--and, to a lesser extent, a two-slab system such as the original 1976 schedule--is its simplicity. Its primary disadvantage is its distributional effects; nevertheless, a proportional schedule in Bangladesh will be modestly redistributive given the extreme concentration of land ownership. The estimated

distributional effects of a proportional rate system are shown in Table 15. The per household and per capita tax liabilities here are higher for small landowners than under the 1982 schedule, and the liabilities of a large landowner under a proportional system are likewise lower than before. Nevertheless, the liabilities still rise markedly with ownership. The Gini Index is also high.

Under a single or two-slab rate structure, progressivity of the LDT could be improved greatly with little effect on revenues by exempting the smallest landowners from the tax. According to the Land Occupancy Survey, an exemption of any plot of 1/10 acre or smaller in size would remove 24.2 percent of the sample population owning 0.5 percent of the total land sample from LDT tax rolls. Under the previously recommended proportional rate of Tk. 20 per acre, this would decrease revenues by only 0.5 percent while improving the progressivity of the levy. An exemption has the added advantage of simplifying the tax collection process.[1] While the exemption introduces an incentive to divide one's holdings, a 1/10 acre exemption level should effectively eliminate this option for all but the very smallest landowners. Thus:

4. Owners of agricultural plots less than 1/10 acre should be exempt from the LDT.

The level of real LDT collections is very low, whether measured in per capita, per acre, or per land value terms. The beneficial effects of land taxation depend on the existence of substantive, though not prohibitive, rates. Thus:

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[1] Note, however, that ownership records of exempt landowners must still be maintained.

TABLE 15

DISTRIBUTIONAL EFFECTS OF A PROPORTIONAL TAX RATE ON AGRICULTURAL LAND

Decile of Households	Total Liability	Percentage of Total Liability	Per Household Liability	Per Capita Liability	Per Acre Liability
1st	0	0	0	0	20
2nd	810	.07	.23	.03	20
3rd	4,767	.39	1.37	.27	20
4th	12,744	1.06	3.67	.71	20
5th	31,271	2.60	9.00	1.66	20
6th	55,481	4.61	15.97	2.96	20
7th	92,009	7.64	26.48	4.50	20
8th	143,020	11.88	41.16	6.63	20
9th	232,406	19.30	66.89	9.51	20
10th	631,485	52.45	181.75	20.46	20
Total	1,203,993	100.00	34.65	5.96	20
Suits Index	0				
Gini Index	.612				

SOURCE: Computed by authors from the Land Occupancy Survey.

5. The tax rates on agricultural and non-agricultural land should be increased.

With the recommended proportional tax rate and an exemption level of 1/10 acre for agricultural land, an increase in the tax rate on agricultural land from Tk. 20 per acre to Tk. 25 per acre would increase potential agricultural land tax revenues by 25 percent. Since even these rates are quite low, collection efficiency should not be effected in which case actual revenues would rise by the same proportion.

The level of real LDT collections has fallen over time as prices have increased. In order to maintain or increase revenues, administrative adjustments in the tax base, the tax rate, or the collection efficiency are necessary. In the absence of a change to a value-based tax, the simplest of these is a rate change. Given a simplified tax rate structure based on, at most, two slabs, proportional increases in rates are easy to administer, therefore avoiding the problems associated with the 1982 rate structure changes. Moreover, some regularity should be introduced into the changes in order to prevent declines in real LDT collections. Thus:

6. The tax rates on agricultural and non-agricultural land should be adjusted every 2 years. The adjustment should be tied to an appropriately chosen price index such as the national income deflator.

Effective decentralization of governmental powers requires an increase in the decision-making role of local officials. If the LDT were to be transferred to the upgraded thana parishads, these local bodies should be given some discretion in the choice of the LDT tax rate schedule. Thus:

7. Thana parishads should be given the power to set the tax rates of the LDT within some stated bounds. For example, if the tax rate on agricultural land equals Tk. 20 per acre on average, then the range may be set from Tk. 15 to Tk. 25 per acre.

Tying grant allocations to the thana parishad's success in raising LDT revenues will also create greater incentives for the locality to carry out such revenue mobilization efforts.

Penalties

Despite reasonable success in collecting the LDT, it is likely that collection efficiency can be further improved. One way to do so is to strengthen the penalty process. At present the penalty for delinquent taxes is small and slow to be enforced. Thus:

8. The interest penalty on delinquent taxes should be increased at compounded rates. In addition, the penalty should be imposed if taxes are not paid within one year.

Other features of the penalty process should not be changed. However, the timing of these procedures should be altered to reflect the one-year grace period.

Tahsildars

The key to successful administration of any tax is in its collection. In the case of the LDT this means that the tahsildar must perform effectively. At least some of the tahsildars with whom we have spoken have been in this position for 20 years or more. Several admitted that they have received only minimal training throughout their tenure in office despite substantial changes over the years in the tax

that they are to administer.[1] Some short course training should be implemented for tahsildars, especially those in that position prior to the institution of the LDT in 1976. The training sessions can also be used to learn from these experienced personnel the major problems associated with tax collections and the procedures they have used to overcome these difficulties. Similarly, these experienced personnel may have suggestions whereby the currently cumbersome record-keeping procedures might be streamlined while maintaining accounting integrity.

Evaluation of tahsildars' efforts should also be systematic. While, on average, reasonable tax collection efficiency was observed, there is considerable variation in ratios of collections to demand. Part of this variability may be due to poor record-keeping and slow recording of land transfers by the tahsildars. Although training may improve job performance, it is also necessary that evaluations of this performance be made and subsequently used in transfer and promotion decisions. Thus:

> 9. A nationwide training and evaluation program of tahsildars should be implemented. Training sessions of 2 to 3 days in length could be held at thana headquarters during September-December when work loads of tahsildars are lighter. These training sessions would focus on record-keeping procedures and would instruct tahsildars in any changes that had been made in the LDT. Annual evaluation of tahsildars by CO-Revenues or TROs would emphasize collection efficiency and record-keeping, especially the rate at which transfers of ownership had been recorded.

[1] One person who has been a tahsildar for less than one year said that he had received three months training in procedures at the district level prior to being posted.

If the recommended value-based tax were to be implemented in the longer run, this last recommendation would be even more crucial.

The Land Development Tax as currently imposed in Bangladesh cannot be faulted greatly on the usual grounds of economic efficiency, equity and collectability; however, improvements can be made even in the short-run. Similarly, short-term changes in the rate structure with regular updates therein would result in a tax that is easier to administer while producing revenue growth. In the longer run, it is desirable that the base of the tax be changed to reflect the productivity of the land rather than simply the size of the holding. Furthermore, the tax lends itself well to conversion to a local levy that could provide significant revenues to the upgraded thana parishads.