



Government of Bangladesh



Chars Livelihoods Programme

Economic Impact of Char Leases Purchased during the CLP's Asset Transfer Programme

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1 Executive Summary

As part of its asset transfer strategy to help lift upwards of 50,000 extreme poor char households out of extreme poverty, the CLP experimented in early 2006 with the option of allowing beneficiaries to use money provided by the CLP to purchase leases on small areas of chars land. A total of 474 households, all based in the District of Gaibandha, selected this option during the period from early 2006. Given that an average of 18 months has now passed since the land was obtained, the CLP carried out a survey of the economic impact of land leases as an asset class using a sample of 200 households. Further, to increase our understanding of leases as an asset class, 20 landlords drawn from the 200 households were also interviewed. While beneficiary households were sampled at random, landlords were obtained on an ad hoc basis from those easily available and ready to respond to the CLP questionnaire.

The statistics for individual leaseholders vary enormously but by way of indication, the mean area of land leased is 21 decimals (or about 800 M²), obtained at an average down payment cost of approximately 8,500 Tk plus an annual “ground rent” (not always payable) of 70 Tk. The average period of rental up to the time of the survey was 18 months but this varies from a maximum of 21 months to a minimum of only 4 months where the lease was withdrawn. By the end of 2007, 14 of the original leaseholders no longer had their leases either having been forced to give back the land or had done so voluntarily (in all cases the down payment was returned in full). One individual had her land totally eroded by the river and so lost the investment.

Cultivating leased land is very much a part-time occupation with the average time spent on the land by the leaseholder being less than 2 days per week supplemented by a member of the close family for a further day per week. This labour is non-cash labour and so represents an opportunity cost. Some additional labour is hired locally, as required. During the average 18 months that households have had their leases, most cultivated three or four crops (some only two others up to six) with half of all crops grown being rice; one quarter jute and the remainder made up of a host of crops with none comprising 5% or more of crops cultivated. More than 60% of households lost at least one crop (rice or jute) during the floods of August and September 2007 and this impacted negatively on income generated from the land. With the average loss of one crop (from the four cultivated), it would be logical to assume in a non-flood year (three years in four on average) that net income would be approximately 25% higher than the figure produced below.

Each household spends, on average, 2,370 Tk per annum (with opportunity costs included this rises to about 3,000 Tk per annum); predominantly on ploughing, processing, inputs and hired labour. Rice requires a higher spend on inputs while the major expense of jute lies in processing and marketing. In contrast, total mean value of crops (sold or consumed) is just under 4,500 Tk per annum but to this must be added the value of crop residues and harvested grasses and other fodder that is estimated at about 700 Tk per household per annum; giving a mean annual income of in excess of 5,000 Tk in comparison to an expenditure of 2,370 Tk. From this must be deducted the average “ground rent” charged of 70 Tk and thus an apparent net gain of 2,560 Tk per annum or about 215 Tk/month¹ from the original and returnable down payment of a mean of 8,500 Tk.

It is to be clearly understood that this monthly income is not a value that would be obtained during strict economic analysis. For example, no impact of inflation on the original down payment is included but neither is any potential increase in the value of the land being leased as it becomes more fertile and competition for available land increases. Further, as with the calculation of economic returns for cattle and physical assets, opportunity costs are not included in the equation as most time spent by households in cultivating (or indeed looking after cattle) is considered “free time”. This is

¹ A caveat must be applied to the figure: The value in a normal year without floods is likely to be 25% higher given an approximately monthly return of about 270 Tk/month on average.

opinion is open to debate. Balancing this is the fact that land leases throws up considerable intangible advantages. Without being exhaustive can be cited: improved nutrition for the family; employment opportunities for other poor neighbours; synergies gained from having livestock (manure) and land (crop residue/grasses for cattle fattening), improvements in family cohesion as husbands are less obliged to migrate for work.

2 Introduction and background

A cornerstone of the Chars Livelihoods Programme is the transfer of productive assets to extreme poor households living on island chars in the Northern Jamuna. The asset transfer programme (ATP) began in 2005-06 with the transfer of 3,174 sets of assets to qualifying households (HH), was followed in 2006-07 by transfers to an additional 8,246 households and in the current year (2007-08) 19,000 additional households are being targeted for assistance.

The value of the asset package in 2005-06 and 2006-07 was 13,000 Taka (or about £100), raised in 2007-08 to 15,000 Tk; in-line with inflation. In the first year (or Phase 1) of transfer the full amount was transferred in two equal sums of 6,500 Tk. Taking the form of an experiment, households received either 13,000 Tk in cash or 13,000 Tk of livestock or alternatively 13,000 Tk of assets selected from a menu. In 2006-07 (or Phase 2) and 2007-08 (Phase 3) the menu option was retained for all households.

The most popular asset has consistently been cattle with more than 90% of households selecting beef or diary cattle as one of their main assets during phase 1 and even more in phase 2. Also relatively popular are “char land leases²” with 474 land leases purchased as a primary asset in the first year and many more purchased as secondary assets in the following year after the sale of fattened cattle and goats/sheep³. Due to the design of the asset transfer programme, char land leases were only purchased as primary assets in the first phase and it is only such primary assets that are considered in the current document. A complementary document looking at char leases as secondary assets will be published by the CLP in the future.

Defining Char Leases

Although the majority of island char lands are categorised as “khash” lands and thus *de jure* property of the Bangladesh State, land is *de facto* “owned” by individuals and ownership has community recognition. Reasons for community recognition are plethoric. For example, the land may have been historically cultivated by the owner or family, the owner may be wealthy, he may use scare tactics on the local population or he may be a local leader, or a combination of these.

It appears that large tracts of land are available for lease on the chars although anecdotally it is said that the available land is generally less fertile. A common leasing method encountered involves the payment of a lump sum. The land can then be cultivated until such time as the lump sum is repaid (if ever) or apparently (a new fact for IML) that the lessee asks for the return of the down payment. A nominal, annual ground rent is frequently charged and deducted from the lump sum. Land cannot be reclaimed before crops are harvested.

A further small but significant number of beneficiaries selected physical assets such as rickshaws or sewing machines as primary assets. An economic impact assessment of such physical assets was

² The system of “leases” found on the chars closely resembles pawning. Details of char leases, found during 3 case studies are presented elsewhere and formed the basis of the current survey and results. The description of leases in the current report does not necessarily cover all lease types existing on the Chars,

³ CLP distinguishes between “primary assets” purchased with cash made available by the CLP and “secondary assets” purchased by beneficiaries with the proceeds of the sale of primary assets. A precise figure of the number of beneficiaries that have purchased leases as secondary assets is unknown but is highly popular.

undertaken in 2007 and has been reported elsewhere (Marks, July 2007)⁴.

Relevant Phase 1 beneficiaries have now been in receipt of their char leases for between 15 and 21 months and, in the light of the experience gained from the three case studies, it was considered an appropriate time to investigate the economic impacts of this asset class on the household economies of the extreme poor families being assisted⁵.

The current report provides information and analysis of a survey of 200 randomly selected households that purchased char leases as one of their primary assets during Phase 1. This report seeks to complement two previous documents that looked at the economic impacts of cattle transfers over time over time (Marks, 2007)⁶ and of physical assets such as rickshaws (see footnote 3).

As an add-on to the beneficiary survey, a complementary survey sought out and interviewed 20 “landlords” in an effort to discern the benefits that accrue to them from the leasing process and also to determine how they came to “possess” land on the relevant chars.

The twin-study was designed and managed by the core team of the Innovation, Monitoring & Learning (IML) Division of the CLP with key technical input and advice from the Livelihoods Unit of the CLP. Field work and survey data collection was carried out by a team from GBF, Bogra constituted and led by Mr Nasir Uddin. The support and rigour of Livelihoods and of GBF during the survey phase, carried out during a very busy period in December, is much appreciated by IML.

3 Methodology and survey design

3.1 Information Required

The CLP planned and carried out the char lease economic impact survey in order to discover the levels of economic impact of leases on recipient beneficiary households over time. Key factors to be determined by the survey were the following:

- Costs associated with char leases;
- Details of the land leased (area, original soil fertility, retention of lease, etc.);
- Details of crops planted and production/yields;
- Levels of income/expenditure associated with the land;
- Labour inputs (labour, food and veterinary treatment);
- Estimations of opportunity costs (as far as possible);
- Changes (financial, nutritional, attitude and future plans) brought about by the leases.

Furthermore, IML was also interested to determine details concerning the landlords who lease out “their” land, especially:

- Personal details of the landlords (residence, occupation, legality of the lease);
- Details of the lease including the reasons for leasing, perceived quality of the land, length of the lease;
- Income and costs related to land leasing and the perceived value of the land;
- Future plans for the land.

⁴ Malcolm Marks (July 2007): The economic impact of rickshaw and sewing machine transfers during the CLP’s Asset Transfer Programme (Ref. No. IML/007/008)

⁵ Malcolm Marks & Lucy Scott (June 2007): Char leases: three preliminary case studies (Ref. No. IML/007/006)

⁶ Malcolm Marks (July 2007): The economic impact of cattle transfers during the CLP’s asset transfer programme (Ref. No. IML/007/007)

A structured questionnaire was selected as the best medium for collecting the information required from the 200 random beneficiary households and the 20 voluntary land owners.

3.2 Beneficiary household selection

During Phase 1 (2005-06) asset transfer occurred in three districts of north-eastern Bangladesh (Gaibandha, Kurigram and Sirajgonj). The districts of Bogra and Jamalpur were added in Phase 2 (2006-07). However, as part of the original ATP experiment, only in the district of Gaibandha were land leases freely available for selection as an asset class for investment by the 777 beneficiary households. Of these households, 474 selected to purchase land leases and 200 of the total were randomly selected for inclusion in the survey.

3.3 Landlord selection

This aspect of the survey was perceived as being more difficult to accomplish than the beneficiary selection for a number of reasons. First, and of primary importance, is the fact that the majority of char land is classified as “khash” land and therefore owned by the state. Official private ownership of char land is relatively rare while, in contrast, community recognition is widespread but not legally binding. Thus the CLP was concerned that landlords might be reticent to be identified and to answer the survey questions. Thus the survey team were given *carte blanche* to identify landowners of CLP beneficiaries and to request their voluntary inclusion in the survey. Second, during survey design it was unclear where landowners would reside (on the chars, on the near-mainland or in distant localities) and thus it was equally unclear how many landowners could be easily contacted.

3.4 Data collection process

The questionnaire was developed by IML with technical input from the Livelihoods unit and then field tested by the survey team before data collection started in the latter half of November 2007. Data collection from beneficiaries and landowners occurred during an approximate one month period and databases presented to the CLP in early January 2008. The final version of the beneficiaries' questionnaire contains 6 sections, as follows:

1. Baseline and identification data;
2. Basic information on the lease (lease date, annual rent, area, land quality, retention of lease, land owner);
3. Land use, including crops grown, input/marketing costs as well as crop production/values;
4. Related labour activities;
5. Estimations of opportunity costs;
6. Household activity and attitudinal changes brought about by the land lease together with plans for the future.

And that for landowners has three sections:

1. Baseline and identification data;
2. Landowner and land details;
3. Details relating to specific leases taken by CLP beneficiaries.

4 Beneficiary Survey: Results and Analysis

4.1 Baseline and identification data

Each core beneficiary has a unique identification code based on the location where each lives (district, upazila, union and village) plus an identification number within their village. Therefore each

household interviewed can be identified within the survey database by its code and an analysis of the code provides the geographic location of the household. The distribution of beneficiaries included in the survey is displayed in Table 1.

Table 1: The locations of the 200 beneficiary households included in the survey (numbers in parenthesis are “numbers of households”)

Number of households (total = 200)			
District	Upazila	Union	Village
Gaibandha (200)	Fulchari (200)	Erendabari (41)	Dakatia (41)
		Fazlupur (53)	Purbo Khatiamari (53)
		Gazaria (47)	Vajondangga (47)
		Uria (59)	Kalasona (59)

All beneficiaries that took land leases as a primary asset during Phase 1 ATP are resident in Gaibandha district and were assisted by GUK-Gaibandha.

4.2 Basic information on leases

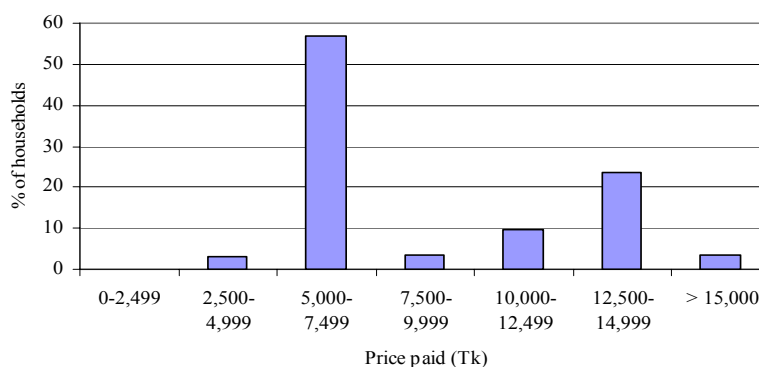
4.2.1 Date of purchase

All beneficiaries purchased their leases during calendar year 2006 with the majority having leased by end-June (92%) although 5 households waited until November and December to conclude their lease. The average time of lease retention (up to the survey date) was almost exactly 18 months but this varied between a maximum of 21 months and a minimum of 4. The shorter time periods were almost always due to leases being taken back (by the landowner) or given back (by the leaseholder). Most households (96%) leased a single plot of land but 8 households or 4% leased two separate plots.

4.2.2 Lease costs

As mentioned previously, there are generally two costs associated with a land lease. The first is the (reimbursable) preliminary, lump sum payment and the second is a nominal annual charge (or ground rent). The average lump sum payment was just under 8,500 Tk although this figure hides considerable variation (Figure 1). Clearly two peaks are evident.

Figure 1: Indication of ranges of lump sum payments made by households included in the survey.



The first and largest peak is the 5,000 – 7,500 Tk category representing 57% of households (114 of 200) of which 93 households (or more than 45% of the sample) purchased leases for precisely 6,500 Tk. This sum is equal to one of the two allocations of ATP funds in 2006. The second peak lies within the 12,500 – 15,000 Tk grouping and contains almost a quarter of the sample. Within this group, 42 beneficiaries used their entire ATP allocation (13,000 Tk) to take land leases. Another interesting point is that 9 households paid more than 13,000 Tk for leases (i.e. they contributed some of their own money too) with the most expensive lease, actually representing two plots of land, being 19,000 Tk. For the sake of comparison, the least expensive lease was 4,000 Tk.

The annual “ground rent”, usually deducted from the lump sum payment, varies between nothing and 200 Tk per annum with no obvious logic based on area or initial down payment. The average payment is approximately 70 Tk per year with the most frequent charges being 50 Tk (45% of households), 100 Tk (32%) and zero (10%).

4.2.3 Area of land leased

The area leased by the 200-household sample is variable and appears to bear little relation to the price (down payment) paid (Figure 2). This graph plots individual down payments against land area leased and returns an R^2 value of only 0.268 indicating little correlation between individual prices and area leased. However, when average price is compared against the bands of area leased (as used in Figure 3) the level of down payments begins to obey a clearer logic (Table 2); showing that as land area increases, so does the down payment required.

Figure 2: Relationship between land area leased and the original down payment made to the land “owner”

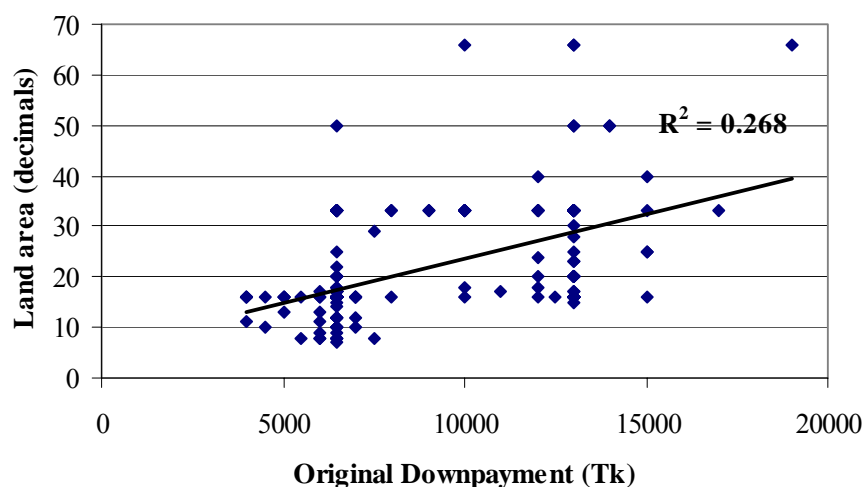


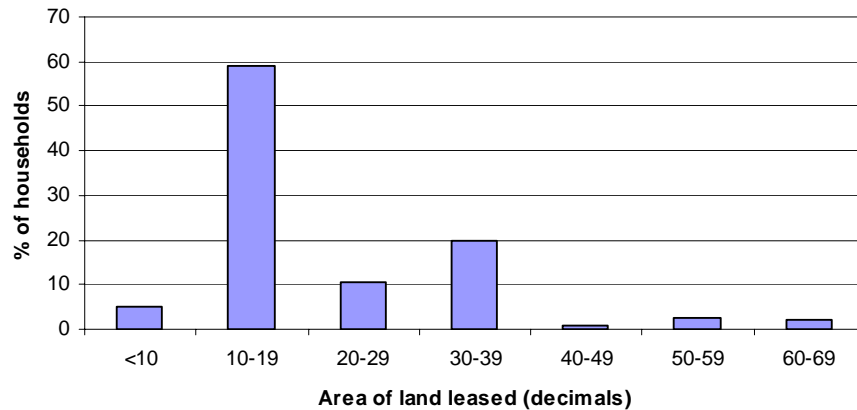
Table 2: Mean down payments (Tk) for char leases against area (decimals) of land leased.

Area of land (decimals)	Number of samples	Mean down payment
< 10	10	6,350
10 – 19	118	7,478
20 – 29	21	11,285
30 – 39	40	10,525
40 – 49	2	13,500
50 – 59	5	12,100
60 – 69	4	13,750

There is little relationship between the level of annual rent and land area ($R^2 = 0.138$) and between down payment price and annual rent ($R^2 = 0.058$).

The average area leased by the 200-strong sample was slightly over 21 “decimals”⁷ or about 800 M² with maxima and minima of 66 (about 0.25 ha) and 7 decimals (or about 280 M²). Figure 3 shows clearly that the most common area leased lies between 10 – 19 decimals followed by 30 – 39 decimals. These include respectively 1/8 and 1/3 acre – standard areas of land that are frequently leased on the chars.

Figure 3: Area of land leased by households against percentage of households concerned.



4.2.4 Perceived quality of leased land

Beneficiaries were asked to rate the quality of their leased land using a three point scale (very fertile, moderately fertile and poorly fertile). Results show that the majority of households consider that their leased land is moderately fertile (78%) with 17% considering it very fertile and the remainder saying that it is only poorly fertile.

Using the leaseholders’ qualitative estimates of the fertility of their land, it was found (not surprisingly) that land perceived to be of higher fertility commanded a higher down payment price. Presented as cost per unit area (Taka per decimal), low fertility land required an average down payment of 306 Tk/decimal; moderately fertile was 455 Tk/decimal while very fertile necessitated the payment of a premium of 512 Tk/decimal.

4.2.5 Lease retention/cancellation

During the development of a few case studies concerning char leases (mentioned elsewhere in this report), it was found that land owners appeared to take back their leased land relatively frequently. A similar trend was found in the current study in that 14% (28 households from the 200 surveyed) were required to return their leased land to the owner. The land of a single household was eroded while in excess of 85% still retained their leased land at the time of the survey.

Land was retrieved by owners on average after only 8 month’s occupancy by the lessee; with 12 months being a frequent time interval. The relatively high level of land retrieval might suggest that, at least, certain land owners use land leases as a means of tiding over during periods of cash shortages.

⁷ **For information:** there are 100 decimals in an acre (4,840 yards² or approximately 4,000 M²). Thus one decimal is equivalent to approximately 40 M²

The CLP has also heard anecdotally that some land owners lease their land when infertile and claim it back when the lessee has raised its fertility.

Looking more closely at lease cancellations in relation to location, it was surprising to find that out of the 41 leases sold in the village of Dakatia (Table 1) during asset transfer in 2006, 20 of them (almost 50%) were retrieved by the land owner by the start of the current survey. Land retrieval also occurred in three other villages surveyed: Kalasona, Purbo Khatiamari and Vajondangga but with far lower retrieval rates; respectively 7%, 6% and 2%. Overall 28 households or 14% of the total were no longer cultivating the land originally leased by the end of 2007.

As anticipated, lessee received in compensation all or the majority of their original down payments. The difference between down payment and compensation received was never more than the stated annual ground rent. Thus in all cases, down payment reimbursements would appear to have occurred honestly.

Four distinct reasons were provided by lessees for losing / returning the lease:

- The land owner reclaimed the land and reimbursed the down payment (4 cases)
- The land owner demanded more money from the lessees which they refused and so the down payment was reimbursed;
- The lessee decided to return the lease and receive reimbursement of the down payment (4 cases). The money was needed either to purchase a cow (2 cases) or to pay for medical treatment (2 cases);
- The lessee considered that the land fertility was too low and so she/he was reimbursed the down payment (3 cases).

Two points in particular stand out from this list: first that many land owners do not respect the “contract” they enter into when leases are made. Of the 28 cases of leases being returned (for whatever reason), 17 instances were recorded of the land owners demanding additional payments. The situation is particularly acute for households in the village of Dakatia where 14 cases of additional demands were recorded. This apparent and infectious non respect of verbal agreements in Dakatia is serious and should be investigated and condemned by the relevant IMO (GUK-Gaibandha). Second, there are 7 apparent cases where, for differing reasons, the lessee needed money and so rescinded his lease agreement (three were because of poor soil fertility; two were in need of money to purchase cows and sadly two needed money to pay for medical treatment).

Aside the two households who needed money to pay for medical treatment, the remaining 26 households all used the sums received to purchase cattle.

4.2.6 Identity of land owners

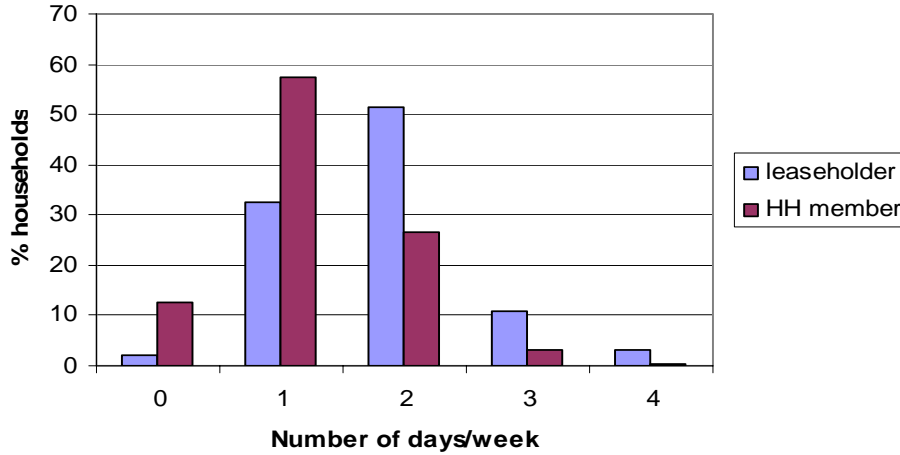
The list of individuals stated as being the land owners clearly shows that no single person dominates land leasing in any of the villages surveyed. More than half (54%) of land owners are related to the lessee with 38% of related land owners residing on the same char and the remainder (16%) on the mainland. Of the 46% of land owners not related to the lessees, approximately two-thirds reside on the same char and the remainder on the mainland. There was only a single case of a UP chair/member being the land owner; contrary to some anticipation.

4.3 Household labour for char leases

The average time spent by the leaseholder (usually male) in agriculture work on the leased land is 1.8 days per week. 88.5% of leaseholders state that at least one other member of the household also works on their land and this assistance, calculated for all households, averages an additional 1.2 days per

week. The ranges of time spent on agricultural activities per week for the leaseholders and family members are presented in Figure 4.

Figure 4: Number of days per week spent cultivating char lease land by the leaseholder and other members of the leaseholder’s family.

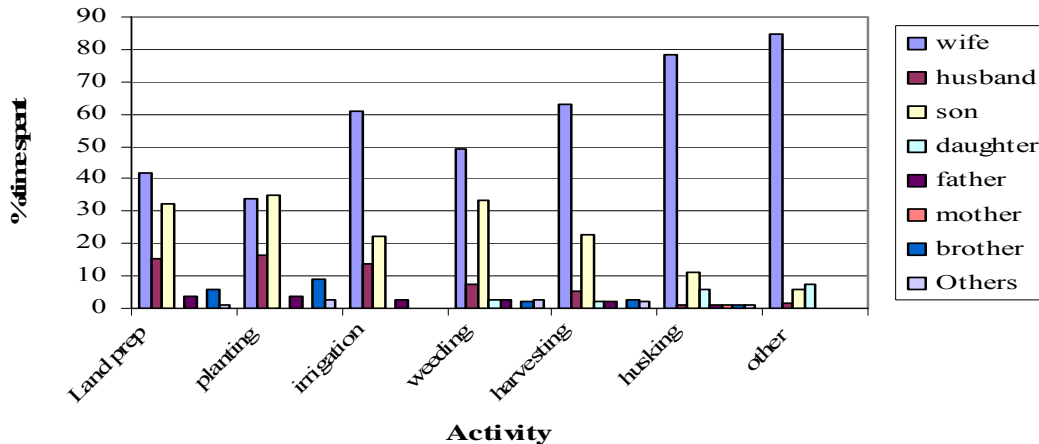


Clearly the results show that 2 days per week is a common level of input for leaseholders and only one day for other family members and thus equally clearly the agricultural activities involved in cultivating a chore lease are rarely, if ever, a fulltime occupation, leaving most of the week available for other labouring activities.

When the identity of the other household members that provide assistance in cultivating the leasehold land is investigated (Figure 5), it is apparent that the leaseholders’ direct families and especially wives followed by sons and husbands (in the case of female leaseholders) are particularly involved.

Wives are far and away the most involved in assisting the leaseholder. Figure 5 shows that they are the most involved in categories of labour but particularly in irrigation, husking (processing) and harvesting. They also dominate “other” activities. Wives are frequently assisted by their sons; particularly in land preparation, planting and weeding while husbands play an important role in the more onerous tasks of land preparation, planting and irrigation.

Figure 5: % of time spent by different household members on specific cultivation, harvesting and processing activities



4.4 Economics of char leases

4.4.1 Crops and seasonality

During the time that beneficiaries have held their leases (an average of 18 months) most have cultivated between 3 and 4 crops with a minimum of one and a maximum of six. The average number of crops cultivated is reduced somewhat by the 8 households that grow sugar cane (a crop that requires a relatively long period of maturation) and the 28 households who were obliged to give back their leases (section 4.2.5). Nonetheless, the possibility that even small areas of land can be cultivated on a more or less continuous basis is clear and the potential impact on extreme poor households is potentially highly significant both in terms of income and improved nutrition.

The 200 households that took part in the survey have reported a total of 672 harvests with only a few crop types dominating (Table 3); specifically rice and jute. Very few farmers reported intercropping the main crop with other species.

Table 3: The main crops cultivated by char lease holders and the proportion of harvests represented by each crops.

Crop	% of households cultivating at least once	% cultivation
Rice	80.0	45.2
Jute	62.5	26.5
Black gram	13.5	3.7
Maize	10.0	3.0
Chillies	9.5	2.8
Sugar cane	4.0	2.4
Groundnut	1.0	<1.0
Others	34.5	12.8

4.4.2 Overall costs and income

Data on expenditure for all crops has been aggregated and presented by category in Table 4 showing that during the approximate average of 18 months tenure of char leases, each household has spent about 4,580 Taka. This, of course, varies significantly between individual households depending on area cultivated, number of crops produced and the type of crop. The sum of 4,580 Tk equates to approximately 1,350 Taka per crop (see the previous sub-section); all crops combined and cultivation area ignored. When calculated on a “per acre per annum” basis, expenditure comes out at approximately 14,230 Tk/acre/annum. Although hiding considerable variation, the figures do serve to provide an initial picture of costs for small area cultivation in the chars.

The table shows that the greatest “expense” is manual labour – representing 1,540 Tk per household or almost exactly one-third of total expenditure. However, manual labour costs disguise the fact that the majority of field work is carried out by the leaseholders or by members of the immediate family and that little if any money changes hand for the work. The total labour figure represents about 1,000 Tk of household manual labour and slightly in excess of 500 Tk of hired labour. The cash cost to cultivate on the chars is therefore considerably lower than the highlight figure of 4,580 Tk but when a household uses its own unpaid labour to cultivate, there is an element of opportunity costs associated; thus the household labour “cost” represents a figure that should not be automatically excluded. More realistic levels of opportunity costs are explored in greater detail in section 4.5.

Other major expenditures (in declining order) over the average period of 18 months relate to soil tilling (756 Tk/household), fertilizer – predominantly inorganic (640 Tk), processing (589 Tk), and

seeds/seedlings – predominantly improved varieties (570 Tk). Smaller amounts were spent on the other components such as irrigation and marketing costs.

Table 4: Expenditure on crop cultivation by households that took char leases as primary assets. Nine expenditure categories were monitored but there was no expenditure for “crop storage”; hence the category is omitted. Household labour is presented as a value estimated by the leaseholder. In reality no money actually changed hands.

Cost Item		# households	Expenditure (Taka)
Ploughing		195	756
Seeds/seedlings	Local	87	79
	Improved	179	491
Fertiliser	Chemical	196	555
	Organic (manure)	116	85
Irrigation		152	327
Pesticides		121	96
Labour	Household (estimated value)	187	(1,030)
	Hired	142	510
Processing costs		187	589
Marketing	Local market	17	6
	Mainland market	132	55
Total costs (Tk) per HH			4,579 Tk

In contrast, total mean value of the crops produced (either sold or consumed by the household) during the average 18-month period and per household was reported as being about 6,700 Tk. Subtracting stated costs of 4,580 Tk means that households are reporting an approximate net gain per household from cultivation of about 2,120 Tk since obtaining their land; a seemingly low return on investment and effort. However, an additional and rewarding aspect also has to be taken into account: that of the harvesting of grasses and the use of crop residues. Grazing and fodder are high value commodities in Bangladesh where common lands are few and any plant suitable for grazing together with crop residue has real value and must be considered when determining economic returns. 97.5% of leaseholders reported additional income from the sale of grasses and crop residues with an average income of 1,034 Tk per household thus raising the income returns to 3,154 Tk per household. In any economic analysis, this sum must be compared to the down payments made for leases (averaging about 8,500 Tk) and the small annual “rent” of only 70 Tk or so.

4.4.3 Crop specific costs and income

Information presented in Table 3 has shown that the most widely cultivated crops by the char leaseholders are, in descending order, paddy rice, jute, black gram, maize, chillies and sugar cane. Data for individual crops concerning input and opportunity costs are presented in Table 5 and levels of production, crop values and comparisons of costs (from Table 5) against income are shown in Table 6. Input costs vary between crop types; as would be expected. Overall, more is spent per household on rice cultivation than any of the other major crops but this is anticipated given the frequency of rice cultivation in Bangladesh (two or more crops per annum) in comparison with all other crops where only one crop is generally cultivated each year (with the exception of sugar cane).

Rice cultivation

Figures show that rice requires significant expenditure for ploughing and inputs, especially seeds and fertiliser and to a lesser extent for hired labour. As mentioned previously, the majority of labour inputs are made by unpaid household members and thus their costs are opportunity costs rather than cash outputs. Aggregating costs into the three major categories of labour (including ploughing), inputs and processing/marketing provides the following figures per household: 727 Tk (or 1,245 Tk if opportunity costs are added), 1,205 Tk and 176 Tk respectively.

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Table 5: Cash and opportunity (household labour) costs expended on lease land for the major crop types since the start of cultivation through to the end of November 2008; an approximate average period of 18 months. The number of households (from a sample of 200) and the average area cultivated (in acres) are also shown.

Crop types	# HH	Area (acres)	Total cash costs (Tk)								HH Labour costs (Tk)	
			ploughing	seeds	fertiliser	irrigation	pesticide	Hired labour	processing	marketing		Total
Rice	160	0.22	442	443	408	263	91	285	166	10	2,107	518
Jute	125	0.23	359	176	272	36	6	330	512	54	1,745	628
Black gram	27	0.23	100	131	13	4	0	27	95	11	381	132
Maize	20	0.27	250	164	244	204	7	112	233	65	1,277	281
Chillies	19	0.23	276	226	396	297	140	132	233	55	1,756	507
Sugar cane	8	0.20	314	325	279	0	0	275	381	16	1,589	269

Per household production (Table 6) from the average of just over one-fifth of an acre (22 decimals) cultivated with an average of two crops since the leases were obtained is 326 kg and this equates to a yield per crop per acre yield of 814 kg rice. Income figures presented in Table 6 should be treated as minimum values as several households reported unharvested crops that will soon be transformed into income (cash or in-kind). On a per household basis, 326 kg were produced and the stated value per kg is 11 Tk. This figure has recently increased considerably as Bangladesh has witnessed significant food price inflation in the last few months. The value of the rice produced per household is almost 3,700 Tk and thus the income (cash and in-kind) from the crop once cash costs have been excluded is 1,576 Tk; reducing to 1,058 Tk per household if opportunity costs of household labour are also subtracted.

Table 6: A comparison of total costs (from Table 5), production and value of crop are presented together with calculations of net income (gross income less cash costs) and net income less opportunity costs related to household labour.

Crop	# HH	Area (acres)	Total costs (Tk) – cash & opportunity			Production (kg) & income (Tk)			Net income	Net income less opportunity costs
			Total cash	HH Labour	Total costs	Production (Kg)	Value Tk/Kg	Gross income		
Rice	160	0.22	2,107	518	2,625	326	11	3,683	1,576	1,058
Jute	125	0.23	1,745	628	2,373	235	14	3,308	1,563	925
Black gram	27	0.23	381	132	513	58	32	1,744	1,231	1,099
Maize	20	0.27	1,277	281	1,558	288	11	3,023	1,746	1,465
Chillies	19	0.23	1,756	507	2,263	94	83	7,853	6,097	5,590
Sugar cane	8	0.20	1,589	269	1,858	263	14	3,564	1,975	1,706

Jute cultivation

After rice, jute is the only other crop regularly cultivated by a significant percentage of households that have taken char leases. 62.5% have grown jute at least once since obtaining their leases. Similar amounts are spent on jute as with rice for labour inputs: 689 Tk per household (or 1,317 Tk if opportunity costs are included), significantly less on inputs to jute (490 Tk against 1,205 Tk for rice) but significantly more on processing/marketing (566 Tk for jute and 176 Tk for rice). Each household produced about 235 kg jute and this sells for an average of 14 Tk per kg providing a gross revenue of 3,308 Tk, a net cash revenue of just under 1,600 Tk and a “real” income of 925 Tk when opportunity costs are taken into consideration.

Black gram, maize and chilli cultivation

Black gram was cultivated by 13.5% of households; maize by 10% and chillies by 9.5 % thus they can all be considered as minor crops. Nonetheless, the costs and incomes associated with them are frequently quite significant. Chillies require a greater expenditure than the other two crops, predominantly due to higher input costs (for fertiliser, pesticides, seeds and irrigation) of 1,063 Tk per household in comparison to 619 Tk for maize and only 148 Tk for black gram. Cash labour costs and processing / marketing are both very similar for chillies and maize at around 400 Tk and 300 Tk respectively while they are negligible at less than 100 Tk each for black gram.

In contrast, economic returns are very significantly higher for chillies than for any other crop type. Although only 19 households cultivated chillies and the production only averaged 94 kg per household, with a value of over 80 Tk/kg, the average gross income was almost 8,000 Tk. This reduced to approximately 6,100 Tk per household as net income and about 5,600 Tk when opportunity costs were also considered.

In contrast, although maize production levels are much higher, even than rice, at in excess of one tonne per acre, the relatively low value of grain (only 11 Tk per kg) means that gross and net incomes per household are only slightly in excess of 3,000 Tk and 1,750 Tk respectively (similar to rice and jute). Black gram falls approximately in between chillies and maize providing a gross income per household of 1,744 Tk, net income of 1,231 Tk and 1,465 Tk when opportunity costs of household labour are taken into consideration.

Sugar cane cultivation

Only 8 households have cultivated sugar cane since obtaining their leases. Relatively equal amounts are spent on land tilling, seedlings, fertiliser, hired labour and processing and these total almost 1,600 Tk per household. Each household has produced around 260 kg of molasses and this sells for 14 Tk per kg providing a gross income of 3,564 (similar to rice), a net income of 1,975 Tk and an income after opportunity costs of 1,700 Tk.

Other crops cultivated

Char islanders cultivate a number of other minor crops: various vegetables including tomatoes, aubergines, gourds, beans, cabbages, etc. plus some traditional grain varieties (“*china kaon*” a semi-domesticated species of *Milium*). Too few examples of each were collected during the survey to allow a more detailed analysis.

4.4.4 Additional income

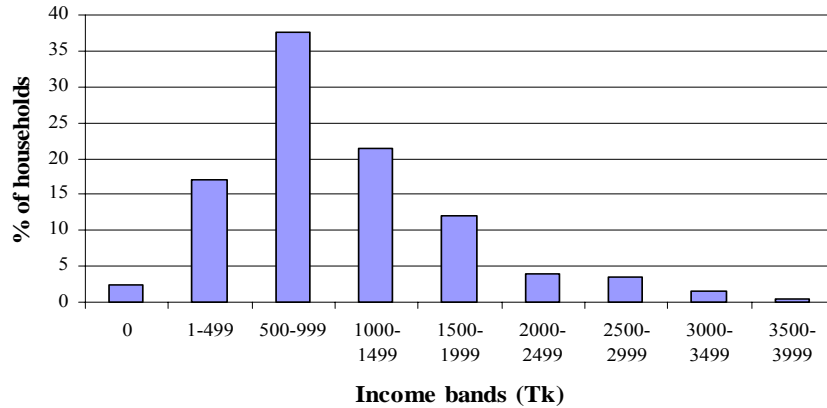
Leaseholders earn relatively significant amounts from the sale of crop residues and grasses/weeds harvested in their fields for cattle feed (Figure 6). Among the residues that are most valued are jute sticks for fencing and house walls or as domestic combustible, straw from rice and other cereal crops for animal fodder, etc.

Stated income from residue and grasses vary from zero (in 2.5% of households) to 4,000 Tk, with an average per household income of 1,034 Tk; all crops and seasons combined. Figure 4 shows the ranges of incomes reported and clearly the majority of households have received from a few hundred Taka to 2,000 Tk. Only a few households generated income in excess of 2,000 Tk.

Households who cultivated at least one crop of rice (a total of 80% of those surveyed) reported receiving an average of 577 Tk from the crop residue – mostly straw. Jute provided each of the households that cultivated at least one crop with an average return on residue – predominantly jute

sticks – of 601 Tk while the 125 households who grew at least one other crop (maize, vegetables, sugar cane, etc.) received on average a total 304 Tk from the crop residue.

Figure 6: Range of incomes produced by leaseholders from the sale of their crop residues and grasses; all crop types and seasons combined.

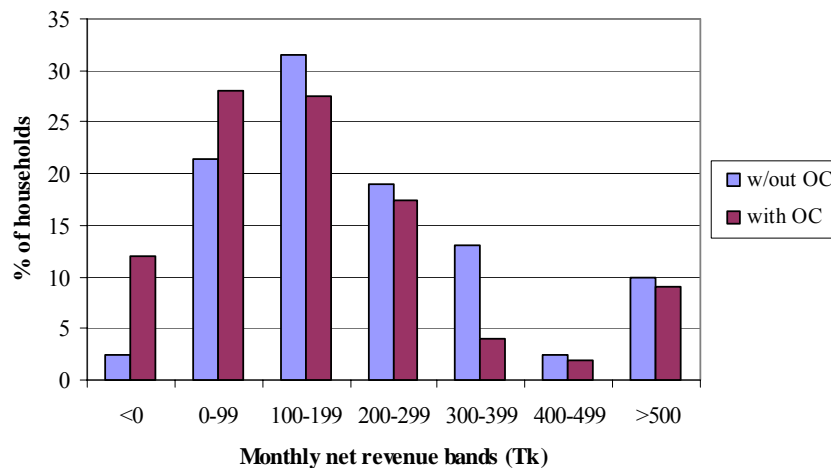


4.5 Income from land

4.5.1 Economic gains

Financial returns from char leases must always represent the “bottom line” when determining the impact of access to such assets for extreme poor households on the chars and, since they will likely form the basis of future policy decisions, it is important to understand their implications. Figure 7 therefore presents two sets of highly important data. The first (blue column) shows net economic gains from leasehold land calculated as the difference between cash and in-kind income from crops and crop residues less actual (cash) input costs. The second (red column) further subtracts household estimates of the value of their own labour (“opportunity costs”) from this net figure.

Figure 7: Monthly net economic gains from the cultivation of char lease land. Data is presented as percentage of households falling in a range of income bands when opportunity costs of household labour are ignored (blue column) or included (red column).



It is important to make the distinction between the two different columns shown in Figure 7 and especially in the light of the fact that data presented in Section 4 show that leasehold cultivation is very much a part-time (or even spare time) occupation for beneficiary households. Reference to net

income without including the opportunity costs of household labour inputs shows that just over half of households are earning less than 200 Tk per month net. A further one-third earn between 200 and approximately 500 Tk per month while 2 or 3% have lost small amounts of money on their cultivation (although these include some households who were obliged to return their leases). The remaining 10% receive monthly incomes since obtaining their leases of in excess of 500 Tk. with an average monthly net income of 900 Tk. The overall average net returns from char leases are approximately 250 Tk per household; about half the total returns obtained from char cattle-rearing (Marks, July 2007).

In defining economic returns from char leases a decision should be reached whether or not to include some measure of opportunity costs in the cost and return calculations; the same debate was necessary when determining the economic impacts of cattle transfer during the CLP asset transfer programme (Marks, July 2007). The general opinion obtained after internal discussions is that labour inputs to cattle rearing and also to char lease cultivation is for the majority a spare time occupation during which cash generating work would not normally be carried out. Thus the CLP feels that time spent cultivating leased land should not accrue opportunity costs.

Certain intrinsic benefits also accrue from the cultivation of char leases and these should not be overlooked. First, the production of food crops (particularly rice but also a range of other cereals, green vegetables, spices and foods such as aubergines, beans and tomatoes can augment the household kitchen and increase the family nutritional and calorific intake. The true nutritional impact is under study by the CLP. Furthermore, by having access to their own crop residue and grasses, those households with cattle or sheep have a ready source of fodder and feed. There is also some limited work opportunities being generated that can benefit other poor households.

A final point to remember is that 2007 was an unusual year in that char residents were subjected to two flood incidents (August/September) that impacted negatively on crop production and thus on profit and loss calculations. The severity of such crop losses are presented in the next section.

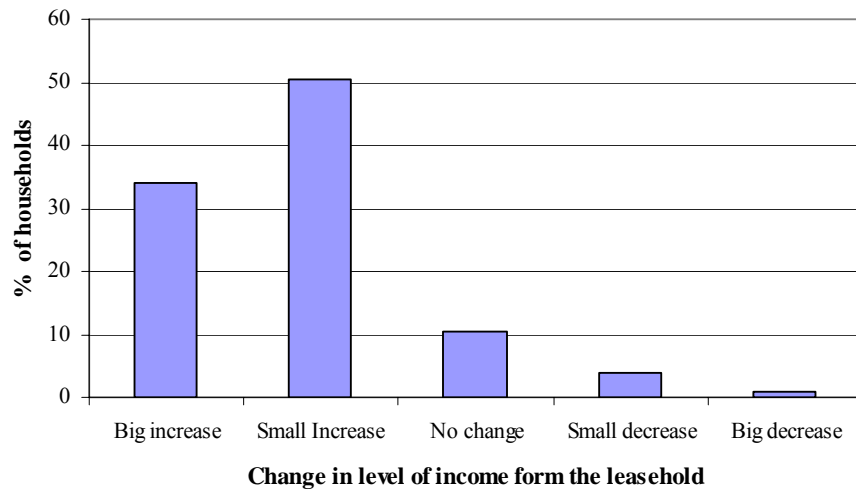
Profit-loss calculations for individual households along with other key data are presented in Annex 1. Overall land leases in a normal (no flood) year are estimated to return approximately 45% on the original investment (or down payment). This would appear to compare less favourably with cattle where values of 75% to 95% have been calculated elsewhere (Marks, July 2007). However, the major difference between the two asset types is that most of the return from land leases is in terms of cash income while for cattle it is mostly represented by increases in asset value and cannot be realised without selling the asset. Thus both types of asset have sound places in char household economies.

4.5.2 Change in income over time

The CLP is concerned about the levels of income being produced by char leaseholders and thus they were asked whether the income they are receiving from their land is changing over time and, if so, in what manner: large/small increase, no change or small/large decrease. The results are summarised in Figure 8 and a clear trend towards increasing income can be witnessed with 85% of households. Currently a small majority are only obtaining small increases in income but a significant minority (35%) are witnessing “large” increases. 5% of households are reporting decreases, some of whom have given up their leases as reported earlier in this document. About 10% are not currently seeing a change in income over time.

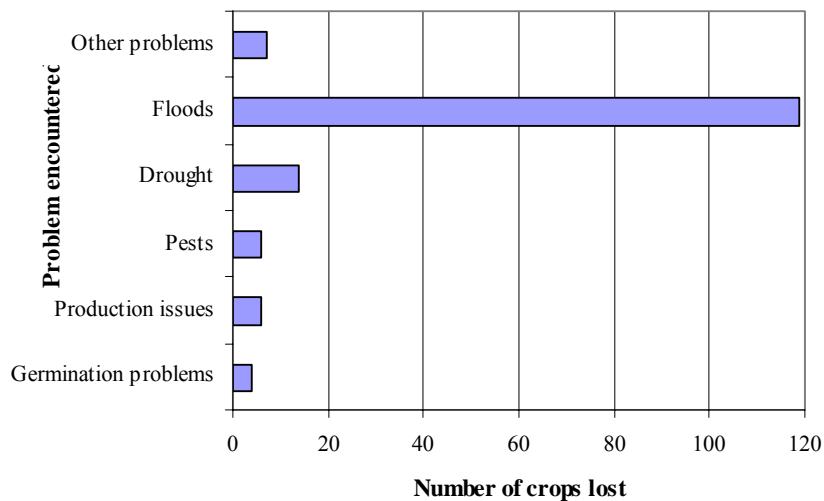
The two households reported a big decrease in income suffered from erosion of their fields or from severe flood damage to their crops. In contrast, those 70 or so households who reported large increases in income said that this was due to one of four factors: intense care of the land to ensure that weeding was carried out diligently; continuous cultivation of the land allowing up to four crops per year; importance of receiving help from other family members, and careful selection of the right cash crops, predominantly sugar cane, jute and chillies. Thus the figures presented in the previous section should be seen as minimum and likely to increase.

Figure 8: % of households reporting a change in income level from their leases.



Despite the fact that 85% of households reported that their income from the land is increasing over time, slightly more than 60% of all households reported that they had either lost at least one crop or that production had been severely effected since taking obtaining the lease. The major cause of crop loss was flooding (Figure 9) and it should be noted that Bangladesh suffered two particularly severe episodes of flooding in 2007.

Figure 9: Problems encountered by char lease holders in which their crops were totally lost or the production severally reduced.



The floods affected two crops in particularly: rice (69% of losses) and jute (a further 18% of losses). Both are generally associated with the monsoon season. Ironically 14 crops were also either lost or production drastically reduced due to drought. Again, paddy rice and jute were the most affected. Finally, four households reported crops lost due to a failure of seeds to germinate – jute, rice and maize being affected.

4.6 Other household occupations

As shown in section 4.5, agricultural activities on leasehold land are very much a part-time or spare time occupation. Thus not surprisingly almost all households (193 out of 200 or 96.5%) have other fulltime occupations.

By far the most common occupation as has been shown in several early reports is daily wage labour (either in agriculture or in the brick or building trades). 84% of households with a job rely on this form of unpredictable income. Other occupations, all less than 5% of the total, are housemaids, handicraft, fishermen and poultry workers). Char leaseholders spend on average 3.3 days per week at this main occupation and earn on average 80 Tk per day.

During the survey an attempt was made to determine whether tending to leased lands was causing chars families to give up their earlier occupation or to reduce the number of days that they dedicated to it. As far as the first point is concerned, very few leaseholders have given up their previous occupations (4 out of 200) and few others have changed their occupations. However, many have reduced the number of days of work carried out per week, from an average of 4.5 to the 3.3 mentioned in the previous paragraph.

Furthermore when the same type of study is carried out on the other family members that help in lease land cultivation (section 4.3), exactly 25% say that the helpers would be in paid employment receiving a weekly wage of marginally less than 120 Tk per week. Taking the 1.2 days per week that they spend on average cultivating, the opportunity costs of this segment of the population represent only 20 Tk per week for the relevant families or 5 Tk per week if calculated across all households.

Thus if opportunity costs are to be included in the economic impact calculation for char leases, they should be calculated with two separate components:

- For the leaseholder: an average rate of 1.2 days per week and a daily wage of 80, opportunity costs equal to 96 Tk per week;
- For other family members: opportunity costs are nominal at only 5 Tk per household per week.

However, these calculations are complicated by two facts, first that carry out wage labour has costs associated with it (for example travel costs) and secondly that during periods of intense floods as experienced in August and September 2007, little or no work is available to char dwellers (see Marks & Islam, October 2007). Thus the real level of opportunity costs is certainly lower than the total of 100 Tk per household per week calculated here.

4.7 Loans in relation to leases

Only eight households took loans to help with land cultivation and most were during or just after the two flood episodes and the rest were at the start of cultivation following purchase of the lease. The average loan was for 800 Tk with a loan period averaging a little less than 3 months. Repayment was for an average of 1,000 Tk showing an interest rate of 25% for a three month period.

4.8 Reactions to land leases

4.8.1 Contentment with their usual employment

Almost 85% of households said that they were not or are not happy with their current daily work. Perhaps not surprisingly proportionally more day labourers are discontent than in other occupations.

95% of households with an occupation in addition to cultivating leased land said that earning a living from that occupation was considerably harder than from cultivating land. Only 5% said that it was not. Here then is further intrinsic value in land lease cultivation. Finally, the seven households who had no paid employment prior to obtaining the lease had all relied on other relations, mostly sons, to provide their food.

4.8.2 Non-monetary impacts of char leases

Changes in coping strategies

Following the purchase of land leases, households have changed in a relatively dramatic fashion their use of traditional coping strategies. The survey asked whether households' use of five traditional coping strategies had increased, decreased or stayed the same since purchasing their leases. The results are presented in Table 7 and show of all strategies has decreased enormously, especially the need to sell household goods during difficult periods (flooding or *monga*), the need to migrate in search of work or to sell labour in advance (which results in a lower daily pay rate) or to take out loans.

Almost all households – as would be anticipated – consider the reduction in use of these strategies to be beneficial to the household. Although there does appear to be one or two households that do not appreciate having their husbands around so much! This is likely due to a reduction in anticipated income.

The few individual households that were obliged to beg, no longer have signalling a significant gain in confidence and status within the community (see below for more details).

Table 7: Changes in the use of traditional coping strategies by leaseholder households and their opinion on whether such changes are considered beneficial to them.

Coping strategy	Change in strategy (%)			Impact on household (%)	
	increase	same	decrease	Better	Worse
Sell household goods	0	0	43.0	43.0	0
Migrate for work	0	1.0	68.5	62.0	7.5
Sell labour in advance	1.0	1.5	38.0	37.5	3.0
Take out loans	0.5	0.5	49.5	48.5	1.5
Begging	0	0	2.0	2.0	0

Happiness of leaseholders' families

All but one of the 200 households surveyed say that they are happier now that they possess leased land. Despite this being an obvious response, the almost 100% positive response is pleasing to record. The one household that is not happier is the one whose land was eroded during the floods.

The reasons for happiness of the households are multiple, as might be imagined, but generally they fall into three large categories. The most important is the "Increase in Income" (64% of households) that is variably interpreted by comments such as we can afford food during crisis periods (39%), we have increased our income (22.5%) and we can now buy cattle (2.5%). This is followed by "the

benefits of owning their own land” (34.5%), especially the pride of being a land owner (12%), of cultivating their own land (9.5%), of being able to work during leisure time (9.5%) and of being less reliant on daily wage labour (3.5%) and finally the resulting “increase in status” (1%) that is represented by better treatment by the husband (1 case) and being able to marry off a daughter (1 case).

Happiness of the leaseholders

Leaseholders were asked two direct questions: first, since receiving your lease is your work and income now better guaranteed? (98% yes; 2% no) and have you thought about investing in other assets (chicken, livestock, land, etc.)? (94% yes; 6% no).

From these results the survey went on to determine whether any investments had actually been made into both productive and non-productive assets. The results are as follows:

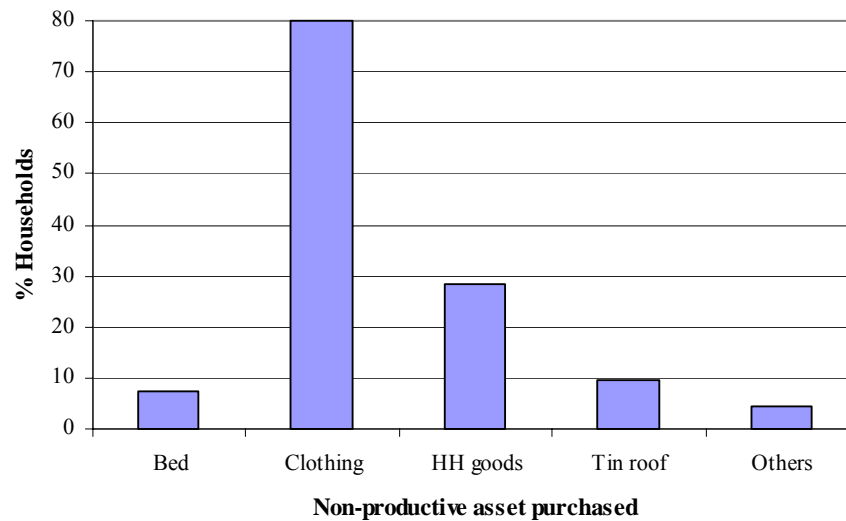
Productive assets

To date 11 households (5.5%) have invested in 12 sets of productive assets. The most common purchase has been goats (6 households spending approximately 1,000 Tk each); followed by chicken (4 households spending 400 k each). Two further households have invested in a shop (for 2,000 Tk) and in an agricultural machine (2,000 Tk). Six of the households have already begun to generate income from these purchases with three selling goats (total of 2,600 Tk received), two selling chicken (240 Tk) and the shop generating 600 Tk. The multiplier effect of leases must not be overlooked when carrying out cost-benefit analyses.

Non-productive assets

It can be clearly seen (Figure 10) that the majority of households have taken the opportunity of their increasing incomes to purchase clothes while a good number of households have also purchased tin roofs (many would have possessed tin roofs before acquiring their leases), household goods and furniture.

Figure 10: The type and frequency of purchases of non-productive assets by leaseholder households.



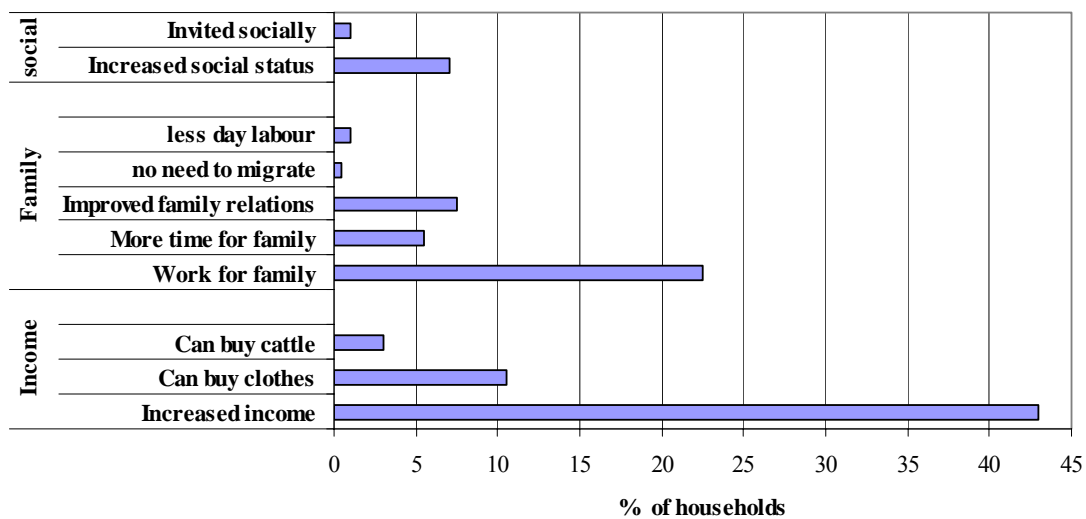
Impact of the leases on the household

The households were asked three direct questions concerning changes in access to food, health care and schooling as a result of the char leases.

The results show that leaseholders consider (85%) that they can purchase better food and in greater quantities (97%). A similar proportion (97%) said that they can now afford better health treatment while 79% considered that they could afford to send their children to school, if easily available. The remaining 21% do not have children of school age. Little value should be placed on these data as the CLP considers that the replies provided are likely to be those that the leaseholder considered that we would anticipate.

However, following the directed questions, they were asked an open question in which they were asked to name the one change that the land lease had influenced the households the most. The answers have been rearranged into three categories of social, family and financial impacts. Clearly increased income comes out in first place and in the same category an important minority consider that the leases have enabled the family to purchase more clothes, as seen earlier, as well as cattle.

Figure 11: In the opinion of the leaseholder, the major impact on the household since the lease was obtained.



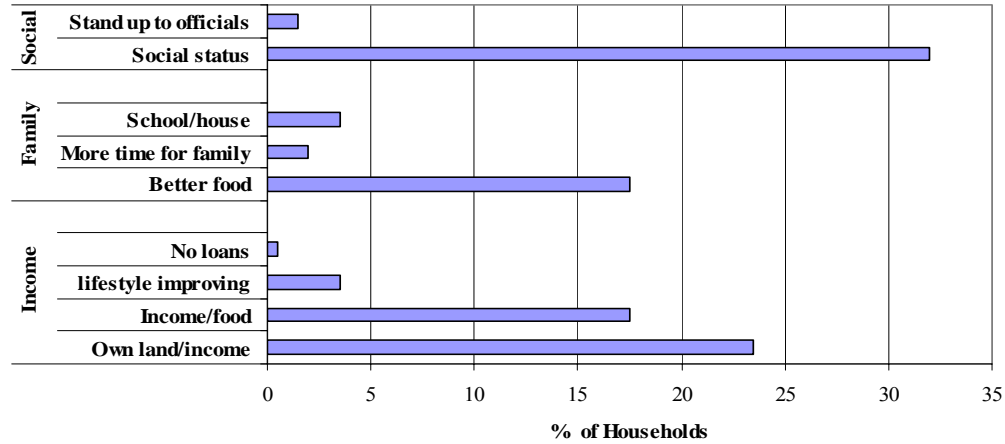
Also important is that the leases are seen as giving greater opportunity for other members of the family to work; the importance of wives, sons and daughters in providing labour for leased land was clearly shown earlier in this report. Finally, the improvement in social status must not be ignored. Being extremely poor has a social stigma attached and moving out of poverty is being rewarded by increased social acceptance. Such a change in social standing has also been shown as highly important to CLP beneficiaries that received sewing machines and rickshaws (Marks, July 2007).

Impact of the leases on the leaseholder

When leaseholders were asked what the greatest impact on them as individuals was, the results bore some resemblance to those presented in the figure 11. Figure 12 shows leaseholders responses and responses are again subdivided into replies relevant to social status, family and income. However, on this occasion leaseholders are far more concerned with the increase in their social status with more than 30% considering this as the most important result of holding a land lease. This even exceeded the 23.5% who considered that increased income was the most important aspect although when this is combined with those considering increased income and food (23.5 plus 17.5%), the role of income

becomes more important. Also considered highly important by the leaseholder was the ability to provide the family with improved food (17.5%).

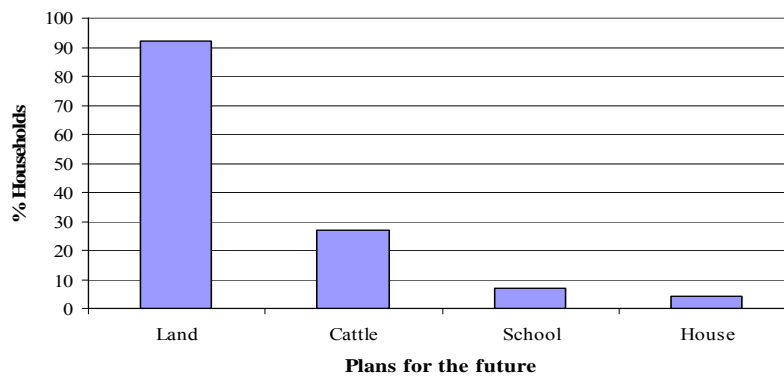
Figure 12: In the opinion of the leaseholder, the major impact on him personally that the leasehold has contributed



4.9 Plans for the future

As a final question, leaseholders were asked what their plans were for the future. Obviously answers were variable and often covered more than a single area (Figure 13). Therefore they have been regrouped into the four categories mentioned: purchase of more land, cattle and a house, and sending children to school. Almost all leaseholders (92%) state that they wish to purchase more land; 27% want to invest in cattle; 7% wish to be able to send their children to school and 4% would like to build a new house on their own land.

Figure 13: Leaseholders future plans for investment.



The observation that leaseholders wish to invest particularly in more of their principle asset (in this case land) is a trend discerned in economic impact studies of cattle owners, who wanted more cattle, and rickshaw owners who wanted more rickshaws.

5 Landowner Survey: Results and Analysis

5.1 First remarks

The 20 landlords included in this complementary survey were drawn from owners of land leased to 20 of the beneficiaries that took part in the leaseholder questionnaire. Such landowners were not obtained at random (and so cannot be considered as a representative sample) but rather they were individuals who were willing to talk to our field survey team and answer questions posed in a short questionnaire. This small survey was designed to provide the CLP with insights to the “whys” of land leasing (after all land is leased for very small sums), the advantages anticipated by the landlords and their overall perceptions of the logic of leasing char land.

The 20 landlords included in the survey were approached by the survey team and asked to reply to questions voluntarily. During the survey design stage, IML did not know what level of response would be obtained and whether or not sufficient landlords would be prepared to be interviewed. That GBF-Bogra managed to locate and persuade 20 landlords of 20 CLP beneficiaries to take part in the survey is credit to them.

5.2 Questionnaire contents

The landlord questionnaire contains questions relative to 4 areas of interest:

1. Personal details of the landlords (name, location, social status, occupation);
2. Details of the landowners land (area, how obtained, legality of title, criteria for selecting lessees);
3. Details of specific lease(s) – this provides a crosscheck with details provided by relevant ATP beneficiaries;
4. Some “what if” scenarios (land is eroded; want the land back, etc.).

5.3 Personal details of landlords

5.3.1 Place of residence

All landlords interviewed lived in the district of Gaibandha (Table 8) and were resident in the same four villages as the households covered by the beneficiary survey but did not necessarily lease to occupants of the same village: 17 lived on the same char; 2 on other island chars and one in the Upazila headquarters.

Table 8: The location of the 20 landowners included in the landowner survey (numbers in parenthesis represent the number of landowners interviewed)

Number of landowners (total = 20)			
District	Upazila	Union	Village
Gaibandha (20)	Fulchari (20)	Erendabari (6)	Dakatia (6)
		Fazlupur (5)	Purbo Khatiamari (5)
		Gazaria (4)	Vajondangga (4)
		Uria (5)	Kalasona (5)

5.3.2 Social status of land owners

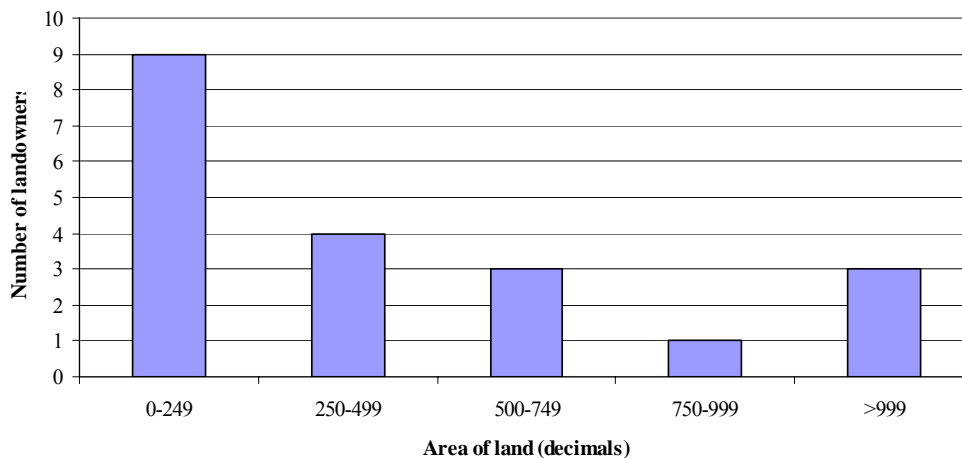
From the 20 landowners interviewed, 13 provide their social status as farmers, three as community leaders, two as businessmen and two as teachers (one is now retired) while their current occupations are given as 16 in agriculture, three in business and one teacher.

5.4 Land details

5.4.1 Area of land owned

The amount of land owned is highly variable ranging from as little as 33 decimals (one-third of an acre or approximately 1,300 M²) to a maximum of 3,300 decimals (thirty three acres or approximately 13 hectares) with an average land ownership of about 530 decimals (5.3 acres).

Figure 14: Ranges of areas (decimals) of land owned plotted against the number of landowners included in the survey



5.4.2 Location of the land

The landlords each own variable numbers of plots of land with a total of 39 plots shared between the twenty landlords with most owning a single or two blocks and just three owning three or four plots. The plots of land are mostly sited on the same island char as the owner resides (29 of 39) with a further seven based on other island chars. Of the remaining three plots, one is on a mainland char and two are elsewhere. There is no clear relationship between the size of plots and the location of those plots although there is some evidence that area of land owned on other island chars are relatively larger than those owned on the char of residence.

5.4.3 Means of obtaining land ownership

Two of the 20 landowners have obtained legal title of the land from the government while the remaining 18 (or 90%) obtained their “khash” land by inheritance; showing how strongly community recognition of land ownership remains in the chars, despite the *de jure* ownership by the State.

Thirteen of the twenty stated that their land is legally registered and the remaining seven said that it is not. Eleven say that they possess a legal agreement from the government and a further three have a lease agreement from the District Commissioner and one possesses some other form of (unknown) agreement. The remaining five say that they have no documentation. The author of this report is

unsure how valid are the different responses to this question. Only two landlords have any particular criteria for the selection of a potential leaseholder.

5.4.4 Specific details of the leases to CLP beneficiaries

All details concerning date of acquisition, area leased and leasing costs corresponded exactly with the details provided by the 20 relevant beneficiaries. There were two minor variations between landowner and leaseholder in respect of the fertility of the land with both landowners considering that their land was more fertile than the opinion of the leaseholders.

Interestingly, 17 of the 20 leaseholders said that the land they leased to CLP beneficiaries was previously being cultivated.

5.5 Leasing logic and details

5.5.1 Logic for leasing

The primary reason for leasing the land, provided by 16 of the 20 landlords, was that they needed money for investment. One other saw a good investment opportunity in leasing the land. The three remaining said that the land was too distant to cultivate or that the land was not considered sufficiently fertile.

5.5.2 Other costs associating with the lease

Thirteen of the 20 landlords are obliged to pay small, usually symbolic (5Tk) annual payments for the right of ownership recognition. Six pass these charges to the leaseholders while the others say that they do not. Nonetheless, eleven of them do charge annual rates to their leaseholders.

All stated that the initial down payment is a one-off and no further lump sum charges or demanded. 18 of the leases are in perpetuity and two are for a single year; there are no other conditions relating to the land lease. None are considering ending the lease early.

5.5.3 Value of the land

The landowners were asked to state their opinion of the value of the leased land in Tk/decimal. Most replied in the region of 1,000 Tk/decimal but four or five quoted high amounts and so we consider that this is likely to be data collector error. With the majority opinion at 1,000 Tk/decimal, we do nonetheless have a quite sound notion of the price of land on the relevant Gaibandha chars. 14 of the 20 landowners would be prepared to sell the land to the leaseholders if they made the necessary request.

5.5.4 Other leasing agreements

Eight of the 20 landlords rent 14 other plots of land on the same chars with mean area leased of 27.5 decimals (or 16 decimals per plot leased) and with a down payment received of 13,125Tk, equivalent to 7,500 Tk per plot of leased land.

5.5.5 Other details

One point for which the CLP was seeking clarification was the fate of the initial down payment made by the leaseholder in the event of the land being totally eroded by the river. Each of the 20 landlords stated clearly that leaseholders would not be reimbursed; hence erosion is major asset risk that should be factored into any cost-benefit-risk analysis. Also, IMOs must ensure that erosion risk is as minimal as possible when helping beneficiaries to select land as an important asset class.

Annex 1
Spreadsheet of individual household financial returns

Breakdown of key figures from survey households. The **Household identifier** is an internal and unique CLP code number; **sum paid** is the returnable payment made for access to the land; **area (decimals)** is the area of land leased and can be converted to metres square by multiplying by 40; **Year taken back** is only for those leaseholders where land was given back or taken back; **# crops** is the number of crops planted (some were lost); **crop costs** are the total of cash inputs to all crops; **crop income** is gross value of all crops combined; **residue income** is income from harvested grasses and residue; **total income** is net income in Taka (crop + residue income less crop costs); **months cultivated** represents the number of months that the lease has been held; **mean monthly income** is “total income” divided by “months cultivated”.

Household identifier	sum paid	area (decimals)	year taken back	# crops	crop costs	crop income	residue income	total income	months cultivated	mean monthly income
532214711118	12,000	40		4	8,030	33,500	3,990	29,460	21	1,403
532212301151	10,000	66		2	7,720	20,050	2,600	14,930	11	1,357
532218301060	6,500	9	2006	4	3,052	7,165	1,300	5,413	5	1,083
532212301022	13,000	33		4	4,750	25,360	1,020	21,630	20	1,082
532212301036	6,500	16		5	2,880	21,000	1,270	19,390	19	1,021
532212301034	5,000	16		4	3,688	21,535	1,400	19,247	19	1,013
532214711023	13,000	33		5	7,835	24,846	3,200	20,211	20	1,011
532214711189	13,000	33		4	3,670	22,390	600	19,320	20	966
532214711058	15,000	40		5	9,300	23,900	2,840	17,440	19	918
532211119164	6,500	16	2006	2	2,166	5,800	700	4,334	5	867
532212301149	6,500	12		4	3,585	19,600	1,050	17,065	20	853
532214711029	13,000	33		6	5,302	19,815	2,000	16,513	21	786
532212301010	9,000	33		4	5,940	19,000	2,500	15,560	20	778
532212301135	10,000	33		4	5,050	18,800	2,300	16,050	21	764
532212301014	12,000	33		4	6,700	20,700	1,250	15,250	20	763
532214711052	13,000	33		5	5,630	15,950	2,600	12,920	18	718
532212301011	13,000	33		4	9,980	20,920	2,850	13,790	20	690
532212301075	6,500	33		6	9,505	20,730	3,050	14,275	21	680
532214711011	13,000	33		5	5,550	17,240	1,750	13,440	21	640
532214711142	6,500	33		5	8,825	17,300	1,835	10,310	18	573
532214711003	6,500	20	2006	3	2,170	9,300	300	7,430	15	495
532218301103	13,000	33		3	3,175	10,800	1,250	8,875	18	493
532212301029	10,000	33		2	3,780	10,800	1,700	8,720	20	436
532212301249	10,000	33		3	6,300	12,880	1,700	8,280	19	436
532214711178	13,000	66		5	9,780	16,500	2,300	9,020	21	430
532214711086	6,500	16		3	3,550	8,850	3,000	8,300	20	415
532211119057	6,500	20		4	3,845	10,220	1,300	7,675	20	384
532212301013	9,000	33		3	2,490	9,000	620	7,130	19	375
532218301211	6,500	16		4	4,610	10,400	1,600	7,390	20	370
532214711184	13,000	28		3	4,910	11,150	330	6,570	18	365
532212301204	6,500	50		3	5,000	10,680	1,900	7,580	21	361
532218301100	13,000	16		3	2,855	8,600	1,100	6,845	19	360
532218301134	13,000	16		4	4,190	9,380	1,250	6,440	18	358
532211119012	15,000	25		4	4,665	7,800	2,500	5,635	16	352
532218301067	6,000	9		4	2,575	7,400	1,700	6,525	19	343
532212301040	6,500	33		3	5,180	9,910	2,050	6,780	20	339
532214711008	15,000	33		2	6,010	8,680	1,050	3,720	11	338
532218301026	13,000	23		3	3,360	9,200	850	6,690	20	335

Innovation, Monitoring & Learning

Household identifier	sum paid	area (decimals)	year taken back	# crops	crop costs	crop income	residue income	total income	months cultivated	mean monthly income
532218301021	6,500	16		4	4,200	10,260	500	6,560	20	328
532218301036	10,000	33		3	4,300	9,030	1,500	6,230	19	328
532218301099	13,000	33		3	6,600	12,200	300	5,900	18	328
532211119040	13,000	16	2007	2	2,195	4,880	900	3,585	11	326
532214711139	17,000	33		3	3,950	6,855	1,000	3,905	12	325
532211119037	12,000	16	2007	3	1,520	4,160	1,200	3,840	12	320
532212301097	6,500	16		6	4,640	8,505	2,200	6,065	19	319
532218301116	6,500	16		4	2,810	8,220	850	6,260	20	313
532212301205	14,000	50		3	9,650	11,700	1,700	3,750	12	313
532211119047	6,500	16	2007	3	1,680	3,900	900	3,120	10	312
532212301008	5,000	16		2	3,370	8,620	1,300	6,550	21	312
532218301038	13,000	66		4	9,465	13,340	2,300	6,175	20	309
532214711002	7,000	16		4	3,570	9,200	850	6,480	21	309
532212301117	6,500	17		3	3,940	7,400	1,900	5,360	18	298
532214711053	6,500	16		4	2,800	7,300	1,300	5,800	20	290
532218301022	6,500	33		2	1,000	6,240	550	5,790	20	290
532214711133	7,000	12		5	4,110	8,640	1,250	5,780	20	289
532218301077	6,500	16		4	4,120	8,525	1,300	5,705	20	285
532214711146	13,000	50		4	6,530	9,900	1,400	4,770	17	281
532218301127	6,500	16		4	2,375	6,120	1,500	5,245	19	276
532214711135	6,500	33		4	4,092	8,340	1,500	5,748	21	274
532218301031	15,000	16		4	3,540	8,060	950	5,470	20	274
532212301089	6,500	22		4	4,335	7,580	1,950	5,195	19	273
532218301007	8,000	33		3	5,830	9,520	1,500	5,190	19	273
532218301104	13,000	16		3	3,201	7,170	800	4,769	18	265
532218301145	13,000	17		4	575	5,325	0	4,750	18	264
532218301129	13,000	20		3	2,750	6,680	800	4,730	18	263
532214711075	12,000	33		4	5,440	9,320	1,100	4,980	19	262
532214711026	7,000	16		5	3,657	7,613	950	4,906	19	258
532214711080	6,500	18		6	4,335	8,085	1,410	5,160	20	258
532211119116	5,500	8		4	790	4,815	790	4,815	19	253
532211119055	10,000	18		4	3,625	7,860	1,000	5,235	21	249
532218301006	6,000	8		4	1,670	6,080	550	4,960	20	248
532218301089	13,000	50		4	3,200	7,500	850	5,150	21	245
532218301051	6,500	16	2007	2	1,490	3,480	850	2,840	12	237
532211119189	6,500	10		4	260	4,620	600	4,960	21	236
532212301215	6,500	16	2007	3	3,250	6,390	1,100	4,240	18	236
532212301208	6,500	17		4	3,567	7,950	550	4,933	21	235
532211119035	13,000	16	2007	2	1,280	3,340	700	2,760	12	230
532214711005	12,000	33		4	6,140	9,500	1,200	4,560	20	228
532212301039	10,000	33		3	8,130	11,650	780	4,300	19	226
532218301011	13,000	16		2	2,900	6,200	900	4,200	19	221
532218301084	6,500	16		3	3,100	6,320	1,200	4,420	20	221
532218301020	4,000	16		2	1,610	5,680	200	4,270	20	214
532212301077	4,500	16		5	5,090	8,010	1,550	4,470	21	213
532212301166	6,500	16		4	4,170	6,200	2,200	4,230	20	212
532211119064	13,000	20	2007	3	2,200	3,590	1,350	2,740	13	211
532211119181	6,500	20	2006	2	1,050	2,640	500	2,090	10	209
532211119109	6,000	17		5	3,381	6,800	950	4,369	21	208
532214711099	6,500	17		4	3,035	5,500	1,450	3,915	19	206

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Household identifier	sum paid	area (decimals)	year taken back	# crops	crop costs	crop income	residue income	total income	months cultivated	mean monthly income
532218301086	11,000	17		3	4,670	7,400	900	3,630	18	202
532218301094	13,000	23		3	5,600	8,500	700	3,600	18	200
532218301101	13,000	17		3	3,110	6,000	700	3,590	18	199
532211119046	19,000	66		3	5,470	7,200	2,200	3,930	20	197
532212301147	6,500	25		3	2,510	5,600	900	3,990	21	190
532214711081	6,500	16		4	6,190	9,000	800	3,610	19	190
5322147111179	6,500	16		5	2,585	5,450	900	3,765	20	188
532218301048	13,000	16		3	3,230	5,440	800	3,010	16	188
532214711001	13,000	33		3	5,095	7,950	900	3,755	20	188
532211119186	6,500	14	2006	2	780	2,300	350	1,870	10	187
532212301086	6,500	16		4	3,725	5,500	1,600	3,375	19	178
532214711031	6,500	15		4	2,921	5,320	1,100	3,499	20	175
532211119080	13,000	20		3	3,021	5,215	1,120	3,314	19	174
532211119171	13,000	20		4	2,580	5,600	600	3,620	21	172
532218301098	10,000	33		1	1,370	3,600	330	2,560	15	171
532212301102	6,500	17		3	2,530	4,570	1,200	3,240	19	171
532211119077	13,000	20		3	1,568	4,200	650	3,282	20	164
532218301027	5,000	16		2	1,980	4,920	450	3,390	21	161
532212301109	6,500	17		4	3,470	4,900	1,300	2,730	17	161
532214711010	6,500	16		4	3,080	5,640	650	3,210	20	161
532218301071	6,500	33		4	7,775	8,520	2,600	3,345	21	159
532218301148	13,000	15		3	2,610	4,800	500	2,690	17	158
532211119041	13,000	16		4	2,240	3,350	1,100	2,210	14	158
532212301121	6,500	17		3	2,820	4,725	1,250	3,155	20	158
532212301028	14,000	50		2	1,150	2,700	630	2,180	14	156
532214711112	6,500	17		4	3,510	4,980	1,450	2,920	19	154
532212301163	6,500	17	2007	2	1,240	2,475	450	1,685	11	153
532212301133	6,500	16		2	1,685	3,880	700	2,895	19	152
532212301127	6,500	16	2006	1	845	1,300	150	605	4	151
532212301140	6,500	16		4	3,210	4,810	1,400	3,000	20	150
532211119122	13,000	25	2006	1	1,720	2,400	200	880	6	147
532212301007	6,500	16		3	1,205	3,860	410	3,065	21	146
532212301157	6,500	16		3	1,930	4,000	700	2,770	19	146
532218301124	6,500	12		2	1,755	4,250	550	3,045	21	145
532218301028	8,000	33		3	3,975	6,440	400	2,865	20	143
532214711092	6,500	16		4	4,395	5,600	1,620	2,825	20	141
532218301117	6,500	16		5	3,875	5,100	1,300	2,525	18	140
532218301141	13,000	33		4	4,350	5,230	1,600	2,480	18	138
532214711077	6,500	17		4	9,110	10,160	1,400	2,450	18	136
532214711019	7,000	16		3	2,680	3,540	1,450	2,310	17	136
532214711172	6,500	16		4	3,980	5,800	900	2,720	21	130
532211119033	13,000	16	2007	2	1,020	1,960	600	1,540	12	128
532212301023	6,000	16		4	1,840	3,700	550	2,410	19	127
532212301190	6,500	33		3	3,070	4,980	750	2,660	21	127
532212301193	6,500	16		4	10	2,650	0	2,640	21	126
532212301177	6,500	16		4	2,370	4,075	850	2,555	21	122
532218301123	13,000	33		3	5,270	6,600	850	2,180	18	121
532218301212	15,000	25		3	5,370	6,050	1,500	2,180	18	121
532211119107	5,000	13	2006	1	825	1,200	100	475	4	119
532218301150	6,500	16	2007	1	90	1,500	0	1,410	12	118

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Household identifier	sum paid	area (decimals)	year taken back	# crops	crop costs	crop income	residue income	total income	months cultivated	mean monthly income
532211119082	6,000	8		4	2,440	3,740	900	2,200	19	116
532211119038	6,500	12	2007	2	1,140	2,000	400	1,260	11	115
532212301145	5,500	16		3	705	2,720	150	2,165	19	114
532212301153	4,500	10		3	2,562	4,600	350	2,388	21	114
532214711176	6,500	16		3	2,200	3,925	660	2,385	21	114
532214711186	6,500	16		4	2,845	4,275	950	2,380	21	113
532218301121	6,500	16		3	3,415	4,800	500	1,885	17	111
532214711009	6,500	16		4	4,431	5,640	1,100	2,309	21	110
532211119084	13,000	20	2007	2	1,170	2,080	400	1,310	12	109
532211119133	6,500	12		4	0	2,255	0	2,255	21	107
532212301070	12,000	18		3	2,110	3,040	1,000	1,930	18	107
532212301245	6,500	17		3	3,645	5,150	500	2,005	19	106
532218301073	7,000	16		2	1,620	3,210	400	1,990	19	105
532214711138	6,500	16		3	2,335	3,750	460	1,875	18	104
532214711064	6,000	16		5	5,515	6,100	1,350	1,935	19	102
532218301196	6,500	16		4	3,810	5,380	300	1,870	19	98
532211119078	6,500	10	2007	2	1,474	2,360	700	1,586	17	93
532211119079	13,000	20	2007	2	2,350	2,940	900	1,490	16	93
532211119060	12,000	20	2006	2	2,705	2,700	900	895	10	90
532218301065	6,500	16		2	1,210	2,560	420	1,770	20	89
532218301207	6,000	11		5	2,765	3,750	750	1,735	20	87
532218301106	6,500	16		3	3,760	4,800	600	1,640	20	82
532218301004	13,000	16		3	4,850	5,600	780	1,530	19	81
532218301091	6,500	8		3	2,420	3,500	350	1,430	18	79
532218301108	10,000	16		4	3,044	3,750	870	1,576	20	79
532212301175	6,500	17		4	2,170	3,150	500	1,480	19	78
532214711162	6,500	16		4	3,025	3,795	560	1,330	18	74
532211119106	4,000	16	2006	1	840	1,080	50	290	4	73
532218301122	7,500	29		6	7,145	6,550	1,900	1,305	18	73
532211119091	6,500	18		3	2,375	3,570	250	1,445	20	72
532211119030	7,000	10		4	5,976	5,890	1,600	1,514	21	72
5322147111070	13,000	30		4	5,512	5,400	1,610	1,498	21	71
532211119076	12,000	24	2007	2	1,660	1,620	1,100	1,060	15	71
532212301139	6,500	16		3	2,100	2,640	800	1,340	20	67
532211119026	6,500	7		4	743	1,830	250	1,337	21	64
532218301023	6,500	33		3	2,260	3,000	500	1,240	21	59
532211119006	13,000	16		2	2,970	3,520	500	1,050	18	58
532218301139	6,500	10		3	1,708	2,562	300	1,154	21	55
532212301004	12,000	33		4	9,190	8,480	1,760	1,050	20	53
532212301161	6,500	16		3	1,100	1,688	200	788	16	49
532212301187	8,000	16		4	2,875	2,640	1,200	965	20	48
532218301042	4,000	16		2	1,560	1,860	600	900	19	47
532214711152	6,500	16		4	4,160	4,150	860	850	18	47
532212301005	6,500	33		3	3,895	4,000	830	935	20	47
532214711041	13,000	33		4	5,895	5,350	1,500	955	21	45
532211119013	6,500	8		2	2,220	2,200	750	730	19	38
532218301047	12,500	16		4	3,800	3,720	800	720	20	36
532218301080	4,000	11		3	2,790	2,950	250	410	20	21
532218301205	6,500	16		3	1,847	1,750	400	303	19	16
532211119099	6,500	17		4	2,510	2,650	180	320	21	15

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Household identifier	sum paid	area (decimals)	year taken back	# crops	crop costs	crop income	residue income	total income	months cultivated	mean monthly income
532218301057	6,500	33	2006	1	700	0	800	100	7	14
532214711036	6,500	10		3	1,456	1,500	140	184	18	10
532214711109	6,500	16		3	3,300	2,580	900	180	19	9
532211119136	6,500	8	2006	1	555	525	60	30	4	8
532211119004	7,500	8	2007	1	1,860	1,540	350	30	6	5
532212301184	6,500	16		4	2,480	2,030	500	50	21	2
532218301115	6,500	16		5	4,040	3,250	800	10	21	0
532214711128	6,500	16		6	9,040	7,700	1,000	-340	19	-18
532211119175	6,000	13		1	665	0	0	-665	20	-33
532211119002	13,000	16		2	3,090	1,760	700	-630	18	-35
532212301168	6,500	16		3	2,060	470	500	-1,090	20	-55
532214711158	6,500	16		4	5,270	3,700	450	-1,120	18	-62