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Potato Cultivation in West Bengal: A Case Study of Vertical Integration of Business

This micro-level study highlights one of the phenomena emerging in the area of credit in rural West Bengal. A new type of entrepreneur seems to have emerged in the potato areas of West Bengal with command over the farmer, his land, credit, produce and marketing network. A new gamut of 'vertical integration' is thus unleashed in the agrarian sector. It should be added that the long familiarity with the forces of commercialisation which the landed gentry of eastern India has had since the advent of British rule in that part of the country, creates the conditions by virtue of which segments of this gentry may exhibit symptoms of exploiting new opportunities, technological or commercial, to expand their grip over the rural economy and along the rural-urban continuum. The rise of the *jotdar* (a new category of substantial, permanent and transferable occupancy rightholds), particularly between the two world wars, characterised so succinctly in the memorandum of the Bengal Provincial Kisan Sabha to the Floud Commission (Government of Bengal, 1940-41) as someone 'vertically integrating his business', has prompted us to look for analogous developments in the recent period when certain new technology packages are emerging and certain forms of investment in agriculture and associated activities are becoming lucrative because of the generally favourable trend in relative agricultural prices in an overall inflationary context. In what follows, we focus our attention on an emerging entrepreneurial network in one of the potato growing districts of West Bengal. We shall also try to indicate how this emerging form may tilt the scale of bargaining power further against the primary labour force of small and marginal farmers and rural wage labourers.

West Bengal has emerged in recent years as a major potato producing state in the country. The combination of certain new seed varieties, fertilisers, pesticides and assured water supply has expanded the production frontier for potato in West Bengal significantly, because potato cultivation can be carried out intensively in small holdings.

The cultivation of potato in the *rabi* season is cost intensive, risky, but depending on the harvest and price, can be remunerative. Credit, timely availability of inputs, cold storage facility and marketing network play a crucial role in potato cultivation. A new type of entrepreneur seems to have emerged in the potato areas with command over the farmer, his land, credit, produce and marketing network. This study aims at identifying such an entrepreneurial network in Midnapur, one of the potato growing districts of West Bengal.

In terms of area under and the production of potato, Midnapur ranks third in West Bengal, preceded by Burdwan and Hooghly. In Midnapur, cultivation of potato is concentrated mainly in the police stations of Garhbeta and Chandrakona.

Of the two police stations, Garhbeta and Chandrakona, Garhbeta registered more area under potato and hence more production of the crop. The yield per acre is also higher in Garhbeta. There were four cold storages in Midnapur in 1963. In 1981 their number rose to 22. Of these, the police station of Garhbeta claims as many as 18 cold storages and all of these serve the growing potato cultivation of the two police stations, Garhbeta and Chandrakona.

Survey of Potato Cultivators

We have selected the police station of Garhbeta for a close understanding of the linkage among different participants in the cultivation of potato. It is pertinent to mention here that

the Centre for Regional, Ecological and Science Studies in Development Alternatives (CRESSIDA) conducted, as a part of its project on Food Systems and Society in Eastern India, a thorough survey relating to the socio-economic and health characteristics of the rural population for a full agricultural year in 1981-82 in Garhbeta. The present study is a special investigation on the pattern of financing of potato cultivation and is based on the data from the same sample households, spread over different sample villages of Garhbeta.

The survey was conducted in 39 sample villages of Garhbeta - the total number of households in these villages being 2,089. Of the 245 sample households of the parent survey, we have considered, for the present study, only those sample households which cultivated potato in the *rabi* season of 1981-82. There were 94 such sample households. These households are classified into five broad groups by the extent of land owned by them: (i) Twentyseven households belonged to the size-group of less than one acre each, (ii) another 27 households held land between one acre and 2.50 acres each, (iii) 22 belonged to the size-group of 2.50-5.00 acres each, (iv) 12 households held land between 5.00-7.50 acres each and (v) six households belonged to the size-group of 7.50 acres and above.

In 1981, the total area under potato of the sample households was 37.10 acres and total production was reported to be about 291.2 tonnes - value of which, at the prevailing harvest price, was more than Rs. 2.5 lakhs.

Potato cultivation being cost intensive, most of these households have to borrow during the cultivation of the crop. Out of 94 households, as many as 64 households (about 68 per cent) reported that they had to borrow to meet different expenses of cultivation of the crop. More than 72 per cent of households having land below 5 acres and 50 per cent of households in the higher size classes of land holdings had to borrow from different sources for meeting the expenses of cultivation of potato. In terms of the area under potato of the sample households in 1981, cultivation of potato in 25.69 acres or 69 per cent of the area under potato was carried out with borrowed money.

Source of Borrowing

The total amount of money borrowed in the *rabi* season of 1981-82 by the households of different strata was reported to be Rs. 63,618.23. Of this, the cultivators in the third size class (2.50-5 acres) accounted for as much as 44.72 per cent (Rs. 28,450.00). They were followed by the cultivators in the second size class (1.00-2.50 acres) who had to borrow Rs. 14,600.00 (i.e., 22.95 per cent). The poorest section of the cultivators (with land holdings below one acre each) accounted for about 11 per cent (Rs. 6,968.23). Thus the share of the cultivators in the first and second size classes, taken together, in the total amount borrowed was about 34 per cent. A little more than 21 per cent was the share of the cultivators having land holdings of 5 acres and above - the households in the fourth and fifth size classes accounted for 13.99 per cent and 7.39 per cent respectively of the total borrowed money.

The main sources of credit are: bank, co-operative society, professional moneylender, agriculturist moneylender and trader moneylender. The three traditional sources have been defined by the major sources of income of the lender. Thus for an agriculturist moneylender, agriculture and allied activities are the major sources of income, moneylending being a secondary one. Similarly traders, in the main, derive income from trading activities - moneylending for them is the secondary sources of earning. Only the professional moneylender thrives mainly on lending.

On the total debt of cultivators amounting to Rs. 63,618.23, the share of the two

institutional sources jointly was of the order of Rs. 25,100. This constituted 39.46 per cent of the total credit - the bank's share being 12.42 per cent and the share of the co-operatives being 27.04 per cent. The rest, of the order of Rs. 38,518.23 (*i.e.*, about 61 per cent), was provided by the three moneylender types - trader moneylenders (48.28 per cent), professional moneylender (6.29 per cent) and agriculturist moneylender (5.97 per cent). Thus the trader moneylenders dominated the credit market vis-a-vis the production of potato in 1981 in Garhbeta.

Let us now look more closely at the dependence of cultivators of each of the land size-groups on the individual credit agencies. Of the total cash loan (from all sources) of the cultivator households in the first size-group (*i.e.*, less than one acre), the share of the trader moneylenders was more than 75 per cent, that of the agriculturist moneylenders was 17.22 per cent and the rest was provided by the bank (only 7.18 per cent). In the case of the second size-group (1.00-2.50 acres), the trader moneylenders accounted for 40.41 per cent of their total cash debt, 41.79 per cent was provided by the bank and the co-operative societies and the rest by the agriculturist moneylenders (17.80 per cent). The cultivator households in the third size-group (2.50-5 acres) were benefited much by the bank and the co-operatives. The shares of the bank and the co-operatives in the total cash requirements of the households of this group were 19.68 per cent and 33.39 per cent respectively. The remaining 46.93 per cent of the total money borrowed by these cultivators came from the trader moneylenders. The cultivators in the fourth size-group (5.00-7.50 acres) borrowed from three sources: co-operative societies (38.20 per cent), professional moneylenders (22.47 per cent) and trader moneylenders (39.33 per cent). Finally, the cultivators of the fifth size-group approached only two traditional sources of credit - professional moneylenders (42.55 per cent) and trader moneylenders (57.45 per cent).

Thus of the five agencies of credit, trader moneylenders were most active among the cultivators of all the strata. The bank and the co-operative societies were helpful particularly to the middle-rung of the cultivators. The professional moneylenders granted loans only to the big landowners, while the agriculturist moneylenders lent only to the marginal and small cultivators.

Purpose of Borrowing

In order to get a rough idea of the extent of penetration of different credit agencies in the cultivation of potato, let us have a cursory look at the distribution, by household group, of the amount borrowed according to purpose.

One of the borrowing households did not report the purpose of its loan, and another borrowed from two sources for two different purposes. It is revealed that of the 64 borrowing households, as many as 61 households borrowed loans for meeting current expenditure in potato cultivation - 41 of them for the purchase of fertilisers and pesticides only, the remaining 20 per cent households for miscellaneous purposes like payment to labour, purchase of seeds, etc.

Thus we see that the major problem of the potato cultivators is to obtain adequate finance for the purchase of fertilisers and pesticides. The pattern of expenditure out of borrowed money by the size-groups cultivators is as follows.

More than 61 per cent of the total borrowed money, taking all the borrowing households together, was meant for the purchase of fertilisers and pesticides. For the cultivators in the first size-group, more than 74 per cent of the total borrowed money was meant for the

purchase of fertilisers and pesticides and it was about 68 per cent of the total borrowed money for those in the second size-group. The cultivators in the third and fifth size-groups spent 63.44 per cent and 57.45 per cent respectively of the total borrowed money on fertilisers and pesticides; only the cultivators in the fourth size-group seemed to have spent on other purposes, like purchase of modern machinery and implements for agriculture and miscellaneous other expenses. Even these households, too, spent about 36 per cent of their total borrowed money on fertilisers and pesticides.

Now, from the side of the creditor, the picture is as follows: Table I gives the distribution of borrowed money by purpose of loan and by moneylending agencies. Seventyfive per cent of the total borrowed money that was used for the purchase of fertilisers and pesticides came from the trader moneylenders; the share of the co-operative societies was 22.9 per cent and the rest (1.9 per cent) from the agriculturist moneylenders.

TABLE I. AMOUNT BORROWED BY CULTIVATOR HOUSEHOLDS BY CREDIT AGENCY AND BY PURPOSE OF LOAN

Agency	Purpose of borrowings			Total
	Purchase of modern agricultural machinery and implements	Purchase of fertiliser and pesticides	Current expenditure on farm other than fertiliser and pesticides	
(1)	(2)	(3)	(4)	(5)
Bank	4,100.00 (41.40)	-	2,300.00 (16.20)	6,400.00 (10.30)
Co-operative societies	3,800.00 (38.40)	8,700.00 (22.90)	4,700.00 (33.10)	17,200.00 (27.69)
Professional money-lender	2,000.00 (20.20)	-	2,000.00 (14.10)	4,000.00 (6.44)
Agriculturist money-lender	-	700.00 (1.90)	3,100.00 (21.80)	3,800.00 (6.12)
Trader moneylender	-	28,618.23 (75.20)	2,100.00 (14.80)	30,718.23 (49.45)
Total	9,900.00 (100.00)	38,018.23 (100.00)	14,200.00 (100.00)	62,118.23*

* Excluding one household which borrowed Rs. 1,500 from bank, but did not report the purpose of loan.

Figures in parentheses are amounts borrowed from different agencies for each of the purposes as percentage of total amount borrowed for that purpose.

Let us now consolidate the findings regarding the role of the trader moneylenders in potato cultivation. About 50 per cent of the total borrowed money came from them. Of the total money borrowed from the trader moneylenders, 93 per cent was meant for the purchase of fertilisers and pesticides. In fact, of the total borrowed money used for purchasing fertilisers and pesticides by the cultivators, the share of the trader moneylenders was of the order of 75 per cent. These moneylenders in Garhbeta are traders in fertilisers and pesticides. They supply to the cultivators fertilisers and pesticides at the market rate (thereby fetch a margin as trader) on credit and get back from the cultivators money with interest, the rate of interest being generally 40 per cent per annum.

Repayment of Loan

We have noted three different terms of repayment of loan. Except one borrowing

household, who was bound by the obligation to supply labour at call by its employer-moneylender, for the majority of the households the obligation was to repay the borrowed amount in cash with interest. However, there were households who were bound by the obligation of repaying loan with interest in crop. It is to be noted that out of 20 borrowing households in the first size-group, 5 were obliged to repay in crop with interest; one household from the second size-group, 2 households from the third size-group and one from the fifth size-group were also obliged to repay the principal plus interest in crop. Thus it was found that nine cultivating households, as per terms of repayment, sold their product to the moneylender - seven households to the trader moneylender and two households to the agriculturist moneylender. However, for as many as 54 households the terms of repayment was usual, i.e., repayment in cash with interest. We will, however, see below that the trader moneylenders are much more organised in procuring the crop.

Sale of Produce

About 60 per cent of the produce was meant for the market (this percentage for the non-borrowing households was even more - more than 68). From Table II, it may be noted that of the total quantity of produce sold, 64 per cent was sold to the trader moneylenders. The producers in the size-groups of land holdings of less than 2.5 acres (Groups I and II taken together) sold about 70 per cent and those in the size-group of 2.5 acres to 5 acres (Group III) sold 84 per cent of their total marketed quantity to the trader moneylenders. However, the middle and big landowners (in the size-group of 5 acres and above) sold largely to the agents of wholesalers, small itinerant traders and others. Of course, a significant number among the small itinerant traders and others (like *faria*) work for the trader moneylenders in this area.

TABLE II. QUANTITY OF POTATOES SOLD BY PRODUCERS OF DIFFERENT SIZE CLASSES OF LAND OWNED BY PURCHASER TYPE

Size-group of land owned (1)	Quantity of potatoes sold to			Total (5)
	Trader moneylender (2)	Agriculturist money-lender (3)	Others (4)	
I. Below one acre	11,950 (69.18)	1,550 (8.97)	3,775 (21.85)	17,275 (100.00)
II. 1.00 - 2.50 acres	23,600 (70.24)	800 (2.38)	9,200 (27.38)	33,600 (100.00)
III. 2.50 - 5.00 acres	58,500 (84.17)	-	11,000 (15.83)	69,500 (100.00)
IV. 5 acres and above	18,500 (33.70)	-	36,400 (66.30)	54,900 (100.00)
Total	1,12,550 (64.21)	2,350 (1.34)	60,375 (34.45)	1,75,275 (100.00)

Notes:- 1. Figures in parentheses are quantities sold to agency as percentage of total quantity sold by producers of different size-groups of land holdings.

2. 'Others' include agents of the potato merchants, itinerant traders, etc.

Let us, once again, summarise the role of the trader moneylender in the production of potato in Garhbeta. He is a trader of fertilisers and pesticides. Cultivators purchase these largely on credit. He is thus a moneylender too. He earns profit from selling fertilisers and pesticides; and, on the other hand, he earns interest against the deferred payments by the cultivators. Moreover, he purchases, at low harvest prices, the produce from the cultivators,

sometimes against specific terms of repayment of loan. He stores the entire quantity in the cold storages for selling it at future dates when prices are more favourable.

Of the total quantity retained, producers keep a part of it in the cold storages primarily for use as seed in the next season and, if possible, for domestic consumption in the later months. Some of these producers, however, sell their produce when prices are favourable, though the total quantity thus sold by all these producers is insignificant compared to the total release by the merchants during the lean months.

Concluding Remarks

The potato growers in the size-group of land owning less than one acre were, in 1981-82, in a vast majority, agricultural labour households - 24 out of 27. The rest were rural workers - chowkidar and bidi worker (tobacco product maker), etc. Under the size class of land holdings of one acre to 2.50 acres, they were mainly cultivating households. Of the small cultivating households (22 in number), 15 households reported their major source of earning being self-employment in agriculture without any non-agricultural source of income. There were, however, five households in this group who had secondary sources of earning other than cultivation; and two households had major occupation other than cultivation (teaching) - cultivation being their secondary source of earning. Of the middle and big landowners (owning 5 acres and above), six households out of 18 had secondary sources of earning other than cultivation.

For our purpose let us re-classify the sample households into three broad categories (Table III).

TABLE III. AREA, PRODUCTION, SALE AND QUANTITY RETAINED BY POTATO GROWERS BY HOUSEHOLD STATUS

Household status	Number of households	Area under potato per household (0.00)	Percentage share in		Sale as percentage of production	Quantity retained per household (quintals)
			Total area under potato	Total production of potato		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Group I	27	0.14	10.4	8.6	69.1	2.9
Group II	42	0.40	45.7	45.2	59.9	12.6
Group III	25	0.65	43.9	46.2	58.9	22.1
Total	94	0.39	100.0	100.0	60.2	12.3

Group I = Agricultural labour and other workers having land less than one acre.

Group II = Cultivator households and other workers having land between one acre and 5 acres.

Group III = Cultivator households having land over 5 acres without any non-agricultural source of earning plus cultivator households having land 2.50 acres and above with non-agricultural source of earning plus households having major source of earning other than cultivation and having land one acre and above.

I. Cultivating households and other workers having land less than one acre.

II. Cultivating households and other workers having land between 1 acre and 5 acres.

III. Cultivating households having land over 5 acres without any non-agricultural sources of earning *plus* cultivating households having land 2.50 acres and above *with* non-agricultural source of earning *plus* households having major source of earning other than cultivation (cultivation being their secondary source of earning).

Group I is the set of agricultural labourers and other workers. They operated in the *rabi* season of 1981-82, on tiny plots - the area under potato being only 0.14 acre per household. The area cultivated by them was only 10 per cent of the total area under potato by all the sample households in 1981-82. Their contribution to the total production was only about 9 per cent. The majority of them, 20 out of 27 households, borrowed for carrying out cultivation, trader moneylenders being their main source. A number of these cultivators, again, were bound by the terms of repaying the loan (with interest) in crop. They had to sell about 70 per cent of the produce to different agents immediately after harvest. The remaining quantity of the produce - only about 3 quintals per household - is generally meant for home consumption and/or for sale in the local markets (hats) at a low harvest price. For each of these households, the value of produce after deducting cost of production was, it has been estimated, not more than the total wage bill for 30 man-days at the rate of Rs. 7 per day. He thus trades off between the status of being unemployed and the status of 'bonded' producer, however short the period of employment be.

Group II includes small and marginal cultivating households. They accounted for about 46 per cent of the total area under potato in the *rabi* season of 1981-82, the area per household, however, being only 0.40 acre. This group of cultivators sold about 60 per cent of their produce after harvest. The rest was retained - about 12.6 quintals per household. After deducting the amount for immediate home consumption, this was meant for storing, in the majority of the cases, against the bonds issued by the Panchayats. A major part of the stored potato would be used as seed in the next season, the rest for home consumption during the lean months. This was a group of constrained producers: 31 out of 42 were borrowing households, a number of them were bound by repaying loans in crop after harvest. The non-borrowing households (11 in number) in this group operated on still smaller plots, 0.35 acre per household and they sold 70 per cent of their produce immediately after harvest. The contribution of this group of cultivators (Group II) in the total production was 45 per cent.

Group III includes landowners *with and without* non-agricultural income. In 1981-82 they jointly operated about 44 per cent of the total area under the cultivation of potato (by all the sample households taken together). There were 25 such households in this group; thus the area under potato was 0.65 acre per household. However, their contribution to total production was a little higher, being 46 per cent. They, on an average, sold about 59 per cent of their total produce immediately after harvest. The rest, 22 quintals per household, were retained for seed (about 20 per cent of total production), home consumption and sale during lean months. The trader moneylender belongs to this category. He, however, purchases from all categories including his own category of landowners. Group III thus represents the new gamut of 'vertical integration' of investing in land, cultivation, trading,

trucking, moneylending and even education (teaching!) unleashed by a clever segment of the rural gentry, out to quickly maximise their gross returns using the new technological-commercial opportunities in agriculture. They are managing a portfolio.

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