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An Empirical Study on Productivity Efficiency and Share Tenancy in Agriculture of Barak Valley in the State of Assam

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Abstract

Agriculture in Barak valley region of Assam, as it stands today, is predominated by small farms growing mainly rice. The region today stands far behind the all India standard in terms of use of improved agricultural productivity. The prospect of economic development of the region therefore depends critically on the growth of agriculture and allied activities. On the other hand, share tenancy has been fairly extensive in the region. In fact, as substantial debate has taken place on the question of share cropping efficiency, if the share cropping proves to be inefficient institution how could be it have continued over the wide areas of rural India in explain by some empirical studied. In view of this, an attempt has been made in this paper to provide explanation of empirical findings.

Keywords: Share Cropping, Efficiency, Rice, Monocropping, Barak Vally.

Introduction: - The economy of Barak Vally is predominantly agricultural with 70 percent of the work force being engaged in agriculture and other primary activities as per 2010-11 census. Though the region is not devoid of manufacturing units, its relative geographical isolation handicaps it for a programme of large-scale industrialization. The prospect of economic development of the region therefore depends critically on the growth of agriculture and allied activities. Agriculture in Barak Valley, as it stands today, is predominated by small farms growing mainly rice. As per 2010-2011 Agricultural Census, 53.09% of agricultural holdings in the Barak Valley, of which was in the size class of below one hectare. The average size of operational holding works out to be 1.62 hectors, which contains some amount of upward bias due to the large holdings of the tea estates. In 1998-99 rice crops constituted 92.5 percent of the gross cropped area (excluding the area under plantation and tree crops) of the region. The agriculture is almost entirely weather dependent, the irrigation cover being limited to only 2.43 percent of the gross cropped area till 1996-97. Not surprisingly therefore, the region today stands far behind the all India standard in terms of use of improved agricultural practices -and also in agricultural productivity (Roy and Bezbaruah, 2000). Despite the provision of different tenancy reforms in the state share cropping is practiced largely informally in Barak Valley. Though numerous studies have been carried out both at theoretical and empirical level on the issue

of sharecropping efficiency, no such empirical study has yet been under taken in the State of Assam as a whole and Barak Valley in particular.

Review Of Literature :

On the issue of land tenancy contract, there has always been controversies on a number of theoretical and empirical issues since the day of Adam Smith (1776). The major debates in this regard have been concentrated on share cropping efficiency, factor market interlinkages, modes of production, rationale for the persistence of share cropping along with other forms of tenancy, its implication for technological development and so on. The economist belonging to classical, neo-classical and Marxian tradition have contributed profoundly in these debates.

The decision made so far classical and neo-classical and Marxist tradition analysis, almost all economists have condemned share cropping as inefficient. If the share cropping proves to be inefficient institution how could it's continued over the wide areas of rural India be explained by some empirical studies. The empirical investigation on the issue of share cropping efficiency also gives puzzle picture. The available empirical evidence on the efficiency of alternative land tenure contract is mixed. Some studies do not find significant inefficiency of share tenancy and the distribution of case study results shows no significant evidence of Marshallian inefficiency of share cropping (Otsuka and Hayami, 1988). The studies that support Marshallian inefficient hypotheses are Bharadwaj (1974) in Maharastra, Chattopadhyay (1979) in West Bengal; Bell (1976) in Bihar and Shaban (1987) in Bangladesh. On the other hand, several studies document the fact that share cropping has not adverse effects on efficiency. These includes studies in Gujrat by Vyas (1970); in Andhra Pradesh by Rao (1971); in West Bengal by Dwivedi and Rudra (1973); Parthasarathy and Prasad (1974) in Andhra Pradesh; Bliss and Stern (1982) in Uttar Pradesh, Jabbar (1977), Hossain (1977) and Zaman (1973) in Bangladesh; Ahmed (1974) in West Pubjab in Pakistan; Kauri (2003) in Assam. However, no conclusive evidence has been provided by empirical research to prove inefficiency or efficiency of tenant farming and findings are mixed (Appu, 1975; Rudra, 1982; Bhalla 1977; Murty 1987; Srivastava, 1983). Difference in factor endowments, adoption levels of new technology, geographical location and many more factors have lead to believe that it is not necessary to believe in Marshallian inefficiency of share cropping as a proper result.

Thus, in order to test the significance of the Marshallian logic of 'inefficiency', a large number of case studies have been conducted in India. They compare the average output and inputs per unit of land between share tenancy and owner cultivation or fixed rent tenancy, mostly in the production of rice and wheat. In order to control the quality differences in land and the factor market imperfections, some efforts have been made to classify observations according to irrigation status and the size of cultivation. However, most of these works not only differ at the level of their methodologies that they adopt in selecting criterion variables, but also arrive at mixed and conflicting results regarding the efficiency theory of share cropping. While the majority of studies did not find the inefficiency hypothesis of share

cropping to be significant, there are some studies reporting inefficiency, hypothesis to be significant. In view of these conflicting findings it has been of interest to analyse in the context of industrially backward and agriculturally depended Barak Valley region of Assam.

Sampling & Data: In the field survey conducted in the six Agricultural Development Officer's (ADO) circles, namely, Fakira Bazar, R.K. Nagar, Narshingpur, Salchapra, Banskandi and Hailakandi, in the three districts of Barak Valley. A total number of 281 farm households have been selected at random from 24 villages were interviewed. From each circle, four villages were chosen at random subject to condition that at least in one village some amount of irrigation facilities must be available. The sample of 281 farm households comprised 39 from Fakira Bazar, 50 from R.K. Nagar, 47 from Narshingpur, 53 from Banskandi, 46 each from Salchapra and Hailakandi. It may be noted that, to draw the sample of farm households, the households in the selected village had to be first classified between farm household and others. The classification was done as per information provided by VLEWs concerned.

Results and Discussion:

Agrarian Characteristics of the Sample Locations: Agriculture is the dominant economic activity in all the villages of the ADO's circle. Of all the ADO's circles, Salchapra and Banskandi have better economic base with diversified occupations of the household members. Compared to agriculture, permanent job outside the villagers are generally considered as quite attractive in the sample survey area.

The dominant practice of agriculture in the sample villages is characterized by the institution of tenancy. Although paddy, pulse, rape and mustard, vegetables (both Kharif and Rabi) etc. are grown in the sample survey area, the tenancy contracts have been observed mainly in paddy cultivation. 'Ahu', 'Sali' and 'Boro' are the three important varieties of paddy. It is grown almost through out the year in three seasons, 'Ahu's harvested in autumn season (August/September), 'Sali' is harvested in the winter (December/January) and 'Boro' is harvested in summer season (April/May). The sample farms in all villages have been cultivating of all these crops. The types of seasonable variety of paddy to be planted depends manly upon the condition of the soil. Sali crop is suitable for soil where sufficient water is available. But Ahu is planted on the soil where there is scarcity of water. The cultivation period for Sali variety is slightly longer than that of the Ahu paddy.

Another important feature of the agriculture in the sample survey area is that most of the farmers follow single cropping pattern. Though insignificant, the incidence of double cropping is observed both in Salchapra and R.K. Nagar circles. The low incidence of double cropping is due to the fact that agricultural practices in the sample survey area are traditional in nature. It depends mainly upon rainfall and there is neither irrigation facilities nor flood control arrangements. The degree of mechanization is almost insignificant.

Area Cultivated and Cropping Pattern: The cultivated area and cropping pattern of the sample farm households in the six circles are shown in Table-I

TABLE – I

AREA UNDER DIFFERENT CROPS, THEIR PERCENTAGE SHARE IN GCA IN TENANT AND OWNER CULTIVATED FARM

		AREA (IN HECTARE) TOTAL							
		PADDY				VEGETABLES			
1	2	3	4	5	6	7	8	9	10
Circles	Tenurial status	Autumn Paddy	Winter Paddy	Summer Paddy	Total	Winter	Summer	Total	Combined gross cropped area
Fakira Bazar	Tenant	6.30 (23.4)	8.25 (30.7)	3.30 (9.2)	17.85 (64.8)	5.50 (20.2)	3.50 (13.0)	9.0 (33.2)	26.85 (100.0)
	Owner	1.64 (23.6)	1.29 (18.5)	-	2.93 (42.1)	2.56 (36.8)	1.44 (20.6)	4.0 (57.4)	6.96 (100.0)
R.K. Nagar	Tenant	13.25 (24.7)	19.70 (36.7)	6.63 (12.3)	39.88 (73.7)	8.64 (16.2)	5.40 (10.1)	14.04 (26.3)	53.65 (100.0)
	Owner	5.34 (17.8)	6.40 (20.0)	3.67 (12.2)	15.05 (50.0)	13.6 (45.5)	2.34 (4.5)	16.0 (50.0)	30.05 (100.0)
Narsingpur	Tenant	12.36 (34.6)	17.11 (48.0)	-	29.57 (82.6)	5.27 (14.5)	1.49 (2.90)	6.76 (17.40)	36.33 (100.0)
	Owner	2.07 (18.7)	3.09 (27.9)	-	5.16 (46.6)	3.97 (35.9)	1.95 (17.5)	5.92 (53.4)	11.08 (100.0)
Salchhapra	Tenant	13.34 (30.4)	17.66 (40.3)	4.52 (10.3)	35.22 (81.0)	6.50 (16.0)	1.79 (4.0)	8.29 (20.0)	43.81 (100.0)
	Owner	.80 (13.5)	1.43 (24.1)	.50 (8.4)	2.73 (46.0)	2.0 (33.8)	1.19 (20.2)	3.19 (54.0)	5.92 (100.0)
Banskandi	Tenant	9.54 (26.5)	15.44 (42.9)	-	24.98 (69.4)	9.12 (25.3)	1.90 (5.2)	11.02 (30.5)	36.0 (100.0)
	Owner	1.39 (6.6)	7.67 (36.3)	-	9.06 (43.1)	9.19 (43.7)	2.74 (13.2)	11.93 (56.0)	20.99 (100.0)

Hail a- kand i	Tenan t	7.46 (25.7)	12.73 (43.8)	5.68 (19.6)	25.87 (89.1)	2.10 (7.2)	1.08 (3.7)	3.18 (10.9)	29.05 (100.0)
	Owne r	1.27 (8.0)	1.64 (23.0)	1.49 (15.8)	4.40 (46.8)	5.25 (33.2)	3.13 (19.8)	8.38 (53.2)	
TO TAL	Tenan t	62.35 (26.7)	90.89 (43.7)	20.13 (8.2)	173.3 7 (78.6)	37.1 3 (15.2)	15.16 (6.2)	52.29 (21.4)	225.66 (100.0)
	Owne r	12.51 (15.5)	21.16 (24.7)	5.66 (7.1)	39.33 (47.3)	36.6 3 (39.0)	12.79 (13.7)	49.42 (52.7)	88.75 (100.0)

Source: Field Survey

Note: Figures in the parentheses represent percentage of respective crop to gross cropped area.

The figures in the Table-I shows that of 78.6 percent of the combined area under rice cultivation in case of the tenant farms, only 47.3 percent of the combined are under rice cultivation in case of owner farms. Further area under vegetables (both winter and summer) cultivation, 21.4 percent of the combined area is in case of tenants farm and 52.7 percent of the combined area is under owner farms.

This empirical findings suggests that tenants are more attractive in the rice cultivation and less incentive in vegetables cultivation whereas, the owner farm’s have more interested in vegetables cultivation.

The agriculture for commercial purpose is, of course, based on the profit maximizing principles of the cultivators. The higher area under vegetables cultivation by owner farm, as has been found in our sample farm, is partly due to the commercial interest of the rich land owners. The market price of the vegetables has been found to be invariably higher than that of the rice cultivation. The rice land owners with their able financial strength cultivate the vegetables more intensively in order to obtain the maximum profit.

Decision Making, Incentive and Efficiency: Tenants in our sample farms enjoy considerable autonomy in making decision about cultivation. In many cases, we observed landlords involved in making decision in the use of inputs (specially where HYV crops are introduced). When landlords consider that tenants have adequate skills and assets for the technologies they use, the tendency is to leave them alone. In either case, the system seems to be flexible and capable of promoting efficiency. Table-2 has shown the adoption of HYVs paddy by tenant farms and owner farms.

TABLE – 2
COMBINED AREA (IN PERCENTAGE) OF SAMPLE FARMS UNDER HYVS
IN TENANT AND OWNER CULTIVATORS

CIRCLES	TENANTS / OWNER	‘SALI’ (HYV) AREA IN TOTAL PADDY AREA (IN PERCENTAGE)	‘AHU’ (HYV) AREA IN TOTAL PADDY AREA (IN PERCENTAGE)	PERCENTAGE OF HYV AREA TO TOTAL PADDY AREA
1	2	3	4	5
Fakira Bazar	Tenant	26.86	34.13	61.04
	Owner	24.69	31.52	56.21
R.K. Nagar	Tenant	24.19	17.05	41.24
	Owner	22.56	19.78	42.34
Narshingpur	Tenant	20.24	30.22	50.46
	Owner	18.23	27.47	45.70
Salchapra	Tenant	16.20	10.34	26.54
	Owner	14.12	12.86	26.98
Banskandi	Tenant	19.67	22.92	42.59
	Owner	18.02	21.40	39.42
Hailakandi	Tenant	16.73	23.08	39.81
	Owner	14.23	22.79	37.02
Total	Tenant	23.89	18.21	42.10
	Owner	22.97	18.96	41.93

Source: Field Survey

The figures in the Table-2 shows in our sample farms, 42.1 percent of the tenant farms of their combined are under HYV paddy and 41.93 percent of the owner farms of their combined are under paddy. But there is a considerable variation among the six circles. The highest percentage of both the tenants farm and owner farms of 61.04 percent and 56.21 percent respectively was recorded in Fakira Bazar circle. In Salchapra circle where the percentage was the lowest, the same was low as 26.54 percent and 26.98 percent respectively the tenants farms and owner farms. The farmers in Fakira Bazar might have been helped in using HYVs more extensively by their relative locational advantage. The Fakira Bazar circles is situated just 5 km away from the district headquarter town of Karimganj. The farmers in this circle therefore being benefited by better contract with the district agriculture authority and easy access to various agricultural tenants.

From the above discussion, it indicates that there is no significant difference in the adoption of HYVs by the tenants farms and the owner farms in our sample villages. The only the differences that can exist among the inter-circle variations may due to other constraints.

Cropping Intensity and Productive Efficiency: Higher cropping intensity implies larger cultivated area under the crops. Cropping intensity is sometimes used to explain the relative

efficiency of owner cultivation and share cropping. However, in our sample villages, almost all the farmers follow single cropping system and there is little differences in cropping intensity of owner operated and share cropped farm. The cropping intensity of the sample farms in the six circles is shown in Table-3

TABLE – 3
PERCENTAGE OF IRRIGATED AREA, LOWLAND AND CROPPING
INTENSITY OF SAMPLE FARMS

CIRCLES	STATUS OF FARMER	PERCENTAGE OF LOWLAND OF GCA	PERCENTAGE OF IRRIGATED AREA OF GCA	CROPPING INTENSITY
1	2	3	4	5
Fakira Bazar	Tenant	37.9	42.5	120.7
	Owner	19.1	24.1	116.0
R.K. Nagar	Tenant	50.2	40.5	159.5
	Owner	47.8	45.8	160.0
Narshingpur	Tenant	32.0	45.0	108.9
	Owner	19.7	39.3	105.2
Salchapra	Tenant	54.5	61.9	132.0
	Owner	29.1	36.9	133.6
Banskandi	Tenant	24.9	59.8	112.3
	Owner	29.2	37.5	105.6
Hailakandi	Tenant	34.9	27.2	101.4
	Owner	27.4	29.0	103.4
Overall	Tenant	39.1	46.2	122.6
	Owner	28.7	35.4	123.0

Source: Field Survey

The figures in Table-3 shows that in case of the tenant farm cropping intensity is 122.6 percent and in case of the owner farm it is 123.0 percent. Thus there is little differences in cropping intensity of owner operated and share cropped farm. But any given cropped area can yield more output per bigha with greater effort. This effort is translated into agricultural activities such as deeper ploughing, careful weeding and hoeing, etc. Our empirical result of equal productivity in owner cultivation and share cropping indicates that landowners were able to get their share croppers to cultivate as intensively as owner cultivations.

Productivity Comparison In Tenant's Farm And Owner's Farm

The average productivity measured in terms of yield per hectare in the case of tenants and owner cultivators are presented in Table-4

TABLE – 4
Circle Wise Comparison of Yield of Rice (Kg/Hectare) Of Tenant And Owner Cultivators

CIRCLES	STATUS OF FARM	AUTUM RICE	WINTER RICE	SUMMER RICE	OVERALL YIELD
1	2	3	4	5	6
Fakira Bazar	Tenant	1730.55	2976.63	1539.13	2094.55
	Owner	2175.30	3253.48	-	2683.71
R.K. Nagar	Tenant	2650.54	2397.76	1898.54	2321.84
	Owner	2205.79	2513.25	2126.86	2694.87
Narshingpur	Tenant	3016.14	3854.82	-	3417.76
	Owner	2872.74	4235.98	-	3886.14
Salchapra	Tenant	2624.53	1759.04	2142.40	2158.40
	Owner	2481.13	2805.74	2423.70	2987.75
Banskandi	Tenant	2723.45	3998.52	-	3376.92
	Owner	3496.48	4012.52	-	3853.65
Hailakandi	Tenant	3875.82	3412.32	2584.56	3304.82
	Owner	2854.95	3592.06	3385.64	2984.56
Overall	Tenant	2667.52	2265.96	2705.89	2518.17
	Owner	2670.52	2268.74	2701.92	2507.92

Source: Field Survey

The figures in Table-4 shows that the average productivity of land of Autumn Rice (Ahu) is 2667.52 kg and 2670.52 kg per hectares respectively in tenant's farm and owner's farm. The corresponding figures for winter rice (Sali) is 2265.96 and 2268.74 kg per hectare for in tenant farm and owner farm respectively. For summer rice (Boro), the corresponding figures are 2705.83 and 2701.92 kgs per hectare respectively the tenant and owner operators. The overall yield rate of 2,518.17 and 2,507.92 kg per hectare in tenant farms and owner farms.

The main point to emerge from the Table-4 is that there is no significant differences in the productivity between the tenants operated farms and self operated farms. Of course, there is little inter-village deviations to these results and thus, it would not be wise to treat the whole, community of share croppers as efficient or inefficient in the use of land under cultivation.

Thus, the empirical results, in general, suggests that there is no significant difference of productivity levels between the tenant operated farms and the owner operated farms. It has been found that share croppers use more labour and bullock power per hectares operated land compared to owner cultivations. This clearly contradicts Marshallian hypothesis of distinctive effect and smaller work efforts under share cropping. Thus the empirical evidence and economic reasoning suggests that Marshallian and related disincentive effects of share cropping are of limited importance in our sample villages. Since the share cropping *per se* has not hurt the productivity in our sample farms, it cannot be interpreted as detrimental to development.

Our data also support partly the findings of Vyas (1970) and clearly indicate that tenants cultivate the land more intensively than the owner cultivators but the results of our survey do not provide any conclusive proof of significant yield differences in the owner operated and share cropped land. According to our data, sharecropping does not indicate significant inefficiency in the use of land. This result is again consistent with the findings of Rao (1971) and Rudra and Dwivedi (1973).

CONCLUSION : The dominant practice of agricultural in the Barak Vally of Assam is characterized by the institution of tenancy. A very high percentage of equal share cropping in mostly done on the principle of equal share (may be equal cost sharing or with cost sharing). Although in the some cases, the land owners made arbitrary deduction even before the produce is shared. Also the share cropping contracts led to some kind dependency relationship between the share cropper and the landlord. under the circumstances, the landless poor small and marginal farmers are in capable of taking any risk of agricultural modernization. More over, in the absence of security, the tenants have no incentives for higher productivity. As a result, the agricultural scenario in the region is still highly under developed. On other hand, the tenurial conditions by no means is universally perfect in the background of agriculture. The uneasy feudal relationship and unequal economic power in some cases have resulted in ‘oppressive’ tenurial conditions in the region. In order to pave for a healthy and vigorous development of agriculture as well as protection of tenants in Barak Valley of Assam, the following policy measures have been suggested,

(i) Institutional credit facilities are to be extended to the tenant cultivator and small farmers. This will reduce their dependence on informal source of credit with orbitant rate of interest.

(ii) It should however, be feasible to eliminate the interlocking of the process of social networks and infrastructure of agriculture. The economic status of the tenants cultivators can be improved by providing them adequate irrigation or flood control facilities with regulated tenancy operation.

(iii) Provision of input cost need to be shared by the lessor on the basis of cost of production in proportion of the area rented in by the tenant. This will encourage the modernization of agricultural practice.

(iv) The lessor should not impose any additional responsibilities to the tenant other than works and operations in the tenant operated land. The tenancy legislation must be made effective in rural Assam.

(v) The oppressive tenancy contracts must be made under control by introducing a new reform package including a massive drive of the recording of rights to the tenants.

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