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ARTICLES

Changes in the Distribution of Cultivated Land and Occupational Pattern in Rural West Bengal

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ABSTRACT

The paper discusses changes in the distribution of cultivated land in West Bengal using data from NSS Employment and Unemployment Surveys. It argues that there has been an increase in the proportion of households that did not cultivate land in rural West Bengal between 1987-88 and 2011-12. Agriculture, over the years, has become unremunerative and there was a shift of workforce to non-agricultural occupations. Rural poor, main beneficiaries of land reform in West Bengal were adversely affected with the loss of cultivated land. The paper argues that the shifting of workforce to non-agriculture has taken place primarily in unorganised sector which does not provide a decent level of living.

Keywords: Land reform, Occupational pattern, Employment

JEL: Q15, E24, J21

I

INTRODUCTION

Access to land is important because land is the fundamental means of production in an agrarian economy. There are differences in the nature and quality of land. Land can be used for income generation activities like crop production or it can be used as homesteads. The latter are categories of land that are not used directly for income generating activities and hence are non-productive land. My aim in this paper is to analyse changes in the distribution of productive land in West Bengal.

Data on landholdings of households is collected systematically in NSSO's quinquennial rounds of Employment and Unemployment Surveys. Household level data from four rounds of NSS Employment and Unemployment surveys-the 43rd round (1987-88), 55th round (1999-2000), 66th round (2009-10) and 68th round (2011-12) are used in this paper. A large sample survey of employment and unemployment was conducted by the NSSO in the 68th round, although it was not a quinquennial round.

The NSS Employment and Unemployment Surveys provide data on land owned, land possessed and land cultivated by rural households. According to the NSSO, land owned by the household includes a piece of land if there is permanent heritable possession with or without the right to transfer the title was vested in a member or

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members of the household. The definition includes homestead and non-agricultural land. Also, households that have no land for production are not treated as landless if they have ownership rights over homestead land.

Land possessed by households includes “land owned, leased in and land neither owned nor leased in (i.e., encroached) by the household but excluded land leased out”.¹ It includes agricultural land, homestead land and non-agricultural land. According to this definition, households that have no land for production are not treated as landless if they possess homestead and non-productive land.

Land cultivated includes cropland, orchards and plantations cultivated by the households. It considers “cultivation of land from the land owned, land leased in or from land neither owned nor leased in”. Households who own less than 0.01 hectare of cultivable land are treated as landless.

A significant change was made in the NSSO schedule in questions related to land since 2004-05. Until 1999-2000, the smallest landholding recorded was 0.01 hectare, and any household with less than 0.01 hectare was treated as not cultivating on land. Since the 61st Round (2004-05) of NSS survey, the smallest size of holding that was recorded became 0.001 hectare, and any household with less than 0.001 hectare was treated as not cultivating on land. In this paper, we consider a household to be not cultivating if the size of cultivated land is less than 0.01 hectare (and not 0.001 hectare). Thus, estimates from the 66th (2009-10) and 68th (2011-12) rounds become comparable with estimates from 43rd (1987-88) and 55th rounds (1999-2000) of NSS surveys.

The paper is organised as follows: the following section discusses distribution of cultivable land in West Bengal; Section III analyses occupational shifts in West Bengal; the findings and conclusions are given in Section IV.

II

DISTRIBUTION OF CULTIVABLE LAND IN WEST BENGAL

The results from the NSSO surveys on land distribution in West Bengal indicate increase in the proportion of households that did not cultivate land between 1987-88 and 2011-12. West Bengal cannot remain immune to the adverse impacts of neo-liberal reforms and agrarian crisis that had plagued the rural economy in India and this is a possible explanatory factor for rising proportion of households that did not cultivate land in the state.

Table 1 indicate data on proportion of households that did not cultivate land in rural West Bengal between 1987-88 and 2011-12. The Table shows that there has been a sharp increase in the proportion of households that did not cultivate land in the state between 1987-88 and 2011-12. The Table shows that in 2011-12, almost two-thirds of households in rural West Bengal did not cultivate any land. The proportion of households that did not cultivate land across districts in West Bengal is given in Appendix Table 1.

TABLE 1. PROPORTION OF HOUSEHOLDS THAT DID NOT CULTIVATE LAND IN RURAL WEST BENGAL, 1987-88 TO 2011-12

Year (1)	Proportion of households (2)
1987-88	39.6
1999-00	49.8
2009-10	62.2
2011-12	65

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

Note: Households with less than 0.01 hectare of land was treated as not cultivating land.

Increase in the proportion of households that did not cultivate land was a manifestation of agrarian distress that has engulfed substantial parts of India, and West Bengal has not been an exception to this overall scenario. According to UNDP (2004), "...the generalised agrarian distress that characterised much of rural India.....must have also been prevalent in West Bengal. This could have contributed to the growing phenomenon of landlessness."² In this context, it is relevant to analyse the performance of agriculture sector in West Bengal over three decades between 1980-81 and 2011-12. The performance of agriculture sector in West Bengal in terms of growth rate has been shown in Table 2.

TABLE 2. ANNUAL COMPOUND GROWTH RATE IN AGRICULTURE, WEST BENGAL

Year (1)	Growth rate (2)
1980-81 to 1991-92	5.6
1992-93 to 2002-03	2.3
2004-05 to 2011-12	2

Source: Bhattachaya and Bhattacharya (2008) and Economic Review, 2011-12, Government of West Bengal.

Table 2 shows that the performance of agriculture sector in West Bengal has not been satisfactory during the period under study. There has been a sharp decline in agricultural growth rate in West Bengal between 1980-81 and 2011-12. Growth rate of agriculture in West Bengal had declined from 5.6 per cent in 1980s to 2 per cent between 2004-05 and 2011-12. The decline in agricultural growth rate implies that within a period of three decades, income generation from agriculture had declined. Hence, the importance of agriculture as a source of livelihood security in rural West Bengal had diminished. Since, agriculture is a land based activity, declining importance of agriculture means that the importance of land as a source of income and employment in the rural areas had declined as well. Bhattacharya and Bhattacharya (2008) and Khasnabis (2008) had argued that the initiation of economic reforms in India under the guidance of IMF-World Bank meant that food and fertiliser subsidies were drastically slashed, provision for rural credit and priority sector lending was reduced. In addition, import liberalisation had resulted in the import of food grains from abroad as compared to domestically produced goods. Price support policies, too, were by and large dismantled. Thus, while on the one

hand, cost of production in agriculture had increased, on the other, peasantry was not getting remunerative prices from agricultural production. In other words, it was not possible for the peasantry to absorb price shocks in the output and input markets. As a result, the agrarian economy in West Bengal has been facing a deceleration and is in a crisis. Thus, with the economy opening up for the global market, the crisis of agrarian economy has deepened and the economy of small and marginal peasants has lost its viability. Bhattacharya and Bhattacharya (2008) had also argued that the high agricultural growth rate in the 1980s was largely dependent on the extraction of groundwater. They had argued that growth in agriculture in the 1980s was unsustainable and once the groundwater level started to deplete, a declining phase began. Also, fragmentation of land holdings into smaller sizes due to population pressure on land had made it uneconomic and unviable. Declining profitability in agriculture had led to changes in patterns of livelihood in rural West Bengal in which the importance of non-agricultural occupations had increased and it had replaced agriculture in this respect.

West Bengal is one of the few states in India where land reform was implemented on a large scale. Land reform implemented in West Bengal had three components, (a) *Operation Barga* involved registration of the names of the *bargadars* (sharecroppers) in land records, (b) redistribution of ceiling surplus land to the landless and marginal farmers and (c) distribution of homestead land.³ The major beneficiaries of land reform in West Bengal were Scheduled Castes (SC) and Scheduled Tribes (ST). Till 2008, of the total beneficiaries of agricultural land through land reform, 56 per cent was Scheduled Castes and Scheduled Tribes which was almost double the proportion of Scheduled Caste (SC) and Scheduled Tribe (ST) population in the state.⁴ Thus, the main beneficiaries of land reform were rural poor, primarily the small and marginal peasants and agricultural labourers. Land reform brought land to sections of the peasantry that were hitherto denied access to land. These are the sections of peasantry that are most vulnerable to price shocks in agriculture in the output and input markets. The erosion of profitability in agriculture with the initiation of structural adjustment programmes in the early 1990s had adversely affected the livelihood security of these sections of the peasantry. Whatever little gains were achieved by the agrarian economy of West Bengal in the 1980s were reversed with the initiation of market oriented reform programme. These policies had an adverse impact on all sections of the peasantry, except for a very few at the top. The sections of peasantry who had benefited from land reform, cultivated on small plots of land and usually belonged to the category of rural poor-Scheduled Caste, Scheduled Tribe and Muslims-were most adversely affected. Table 3 shows that almost two-third Scheduled Caste and Scheduled Tribe households and three-fourth Muslim households did not cultivate land in rural West Bengal in 2011-12. The corresponding figure for Hindu-others was high at 52.1 per cent but lower than the other three.

TABLE 3. PROPORTION OF HOUSEHOLDS THAT DID NOT CULTIVATE LAND, SOCIAL AND RELIGIOUS GROUPS, WEST BENGAL, 1987-88 TO 2011-12

Year (1)	Scheduled caste (2)	Scheduled tribe (3)	Muslim (4)	Hindu-others (5)
1987-88	46.5	32.2	41.9	33.3
1999-00	55.4	44	56.5	38.1
2009-10	65.3	74.6	69.6	51
2011-12	65.4	65.3	75.4	52.1

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

Note: Households with less than 0.01 hectare of land was treated as landless. Hindu-Others do not include Scheduled Caste, Scheduled Tribe and neo-Buddhist households in the 43rd round (1987-88) and Scheduled Caste, Scheduled Tribe and OBCs in 55th (1999-00), 66th (2009-10) and 68th (2011-12) rounds.

In this paper, Hindu caste households have been included since they were the traditional landed classes in rural West Bengal. This was done to analyse whether loss of cultivable land of rural poor in West Bengal, that comprises the Scheduled Caste, Scheduled Tribe and Muslims were accompanied by decline in access to land of others, particularly those sections that had a disproportionate share in land holdings prior to the initiation of land reform. The Table shows that there was increase in the proportion of households that did not cultivate land across all social groups between 1987-88 and 2011-12. The Table shows that almost two-thirds of SC and ST households did not cultivate land in 2011-12, while for Muslims this was higher at 75.4 per cent. It was the least for Hindu-Others, although more than half of these households (52.1 per cent) did not cultivate land in 2011-12. Of all social groups, increase in the proportion of households that did not cultivate land was highest for Muslims and Scheduled Tribe households. The proportion of households that did not cultivate land had increased by almost 33 percentage points for Muslims and STs. In fact, the proportion of Scheduled Tribe households that did not cultivate land had doubled between 1987-88 and 2011-12. Appendix Table A2 shows access index of cultivated land across social and religious groups in West Bengal.

Table 4 shows the share in total number of households and total area cultivated across size classes of cultivated land in rural West Bengal.

TABLE 4. PATTERN OF CULTIVATED LAND BY RURAL HOUSEHOLDS ACROSS SIZE CLASSES, WEST BENGAL, 1987-88 TO 2011-12

Size classes (in hectares) (1)	Per cent of rural households				Per cent of cultivated area			
	1987-88 (2)	1999-2000 (3)	2009-10 (4)	2011-12 (5)	1987-88 (6)	1999-2000 (7)	2009-10 (8)	2011-12 (9)
Landless	39.6	49.8	62.3	65	0	0	0	0
0.01-0.5	31.2	33.2	35.5	26	14.6	27.2	40.4	35.1
0.5-1	14.7	10.2	6.9	5.5	23.5	26.8	29.9	24.9
1-2	9.9	5	2.2	2.5	29.9	25.3	18.9	21.5
2-4	3.9	1.5	0.3	0.6	22.4	15.6	5.7	11.1
Above 4	0.9	0.2	0.14	0.2	9.6	5.1	5	7.3
Total	100	100	100	100	100	100	100	100

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

The pattern of cultivated landholdings in West Bengal was characterised by the preponderance of small sized holdings (Table 4). The Table shows that the proportion of households with less than 1 hectare of cultivated land had increased from 85.5 per cent in 1987-88 to 96.5 per cent in 2011-12. In other words, a large proportion of rural households in West Bengal were either landless or cultivated on tiny plots of land. The share of these households in total cultivated area was almost 40 per cent in 1987-88; this had increased to 60 per cent in 2011-12. However, there was sharp decline in the share of total households and total area cultivated for middle size groups (between 1 and 4 hectares of land). Also, there was decline in the proportion of households with more than 4 hectares of cultivated land from 0.9 per cent in 1987-88 to 0.2 per cent in 2011-12. The reason for small number of households with more than 4 hectares of cultivated land can be attributed to successful acquisition of ceiling surplus land by the State that had reduced the extent of land held by landholders in higher size classes. Also, the pressure of population on land was a contributory factor for fragmentation of land holdings into smaller sizes.

III

OCCUPATIONAL SHIFTS IN WEST BENGAL

Table 5 shows proportion of households in different primary occupations in rural West Bengal between 1987-88 and 2011-12. The Table shows that there has been a perceptible decline in the proportion of households that are self-employed in agriculture. Also, there has been an increase in the proportion of households that were dependent on non-agricultural activities such as self-employment activities and wage labour. It can be concluded that the loss of cultivable land had resulted in a decline in the proportion of households that were involved in cultivation of agricultural crops. Loss of cultivable land had resulted in an increase in the proportion of households that were employed as agricultural labour, especially between 1987-88 and 2009-10. However, there was a marked shift towards non-agricultural occupations between 1987-88 and 2011-12.

TABLE 5. PROPORTION OF HOUSEHOLDS IN DIFFERENT PRIMARY OCCUPATIONS, RURAL WEST BENGAL, 1987-88 TO 2011-12

Year (1)	<i>(per cent)</i>				
	Agricultural labour (2)	Non agricultural labour (3)	Self employed in agriculture (4)	Self employed in non-agriculture (5)	Others (6)
1987-88	36	7.7	29.5	16	10.7
1999-00	38	5.5	21.4	22.3	12.4
2009-10	39	11.3	18	22.7	9.2
2011-12	34	13.2	19	22.1	4.2

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

Since agriculture is becoming unremunerative in the state, the livelihood pattern in rural West Bengal has been changing. For a substantial percentage of rural

workforce, agriculture is no longer the mainstay of living. As Tables 6 and 7 shows, between 1987-88 and 2011-12, agriculture as a source of livelihood has been declining for male and female workers in rural areas. The proportion of rural males employed in agriculture and allied activities had declined from 72.2 per cent in 1987-88 to almost 57 per cent in 2011-12 (Table 6); corresponding figures for females were 70.8 and 41.7 per cent (Table 7). Within non-agriculture, construction industry had registered the sharpest increase in employment for rural males from 1.8 per cent in 1987-88 to 10.2 per cent in 2011-12. Employment in manufacturing had also registered a 3 percentage point increase during this period (Table 6). For rural females in West Bengal, manufacturing had surpassed agriculture and was the main source of employment in 2011-12. In 2011-12, about 42.2 per cent of rural females were employed in manufacturing and 41.7 per cent in agriculture and allied activities (Table 7). Table 7 shows that about 19.6 per cent of rural females were employed in manufacturing in 1987-88; it had increased to 42.2 per cent in 2011-12.

TABLE 6. PROPORTION OF RURAL MALES USUALLY EMPLOYED IN PS+SS (ALL) BY INDUSTRY SECTION IN WEST BENGAL, 1987-88 TO 2011-12

Industry (1)	Year			
	1987-88 (2)	1999-00 (3)	2009-10 (4)	2011-12 (5)
Agriculture and allied	72.2	66.4	59.4	56.9
Mining and quarrying	0.5	0.4	0.5	4
Manufacturing	9.1	10.9	12	12.3
Electricity, water and gas	0.1	0.1	0	2.2
Construction	1.8	2.7	7	10.2
Trade, hotels and restaurants	7.1	10.2	10.5	7.7
Transport, storage and communication	3.1	4.2	5.2	4.6
Financial services, real estate and other services	6	5	5.5	2.1

Source: NSSO Reports on Employment and Unemployment, various issues.

Note: ps+ss imply principal and subsidiary status. ps+ss taken together is termed as usual status.

TABLE 7: PROPORTION OF RURAL FEMALES USUALLY EMPLOYED IN PS+SS (ALL) BY INDUSTRY SECTION IN WEST BENGAL, 1987-88 TO 2011-12

Industry (1)	Year			
	1987-88 (2)	1999-00 (3)	2009-10 (4)	2011-12 (5)
Agriculture and allied	70.8	54.1	42.4	41.7
Mining and quarrying	0.2	0	1.4	0
Manufacturing	19.6	36.1	37.3	42.2
Electricity, water and gas	0	0	0	0.1
Construction	0.6	0.4	1	2.9
Trade, hotels and restaurants	2.6	2.8	4.6	2.3
Transport, storage and communication	0.1	0	0.4	1.5
Financial services, real estate and other services	6.1	6.7	13	9.3

Source: NSSO Reports on Employment and Unemployment, various issues.

Note: ps+ss imply principal and subsidiary status. ps+ss taken together is termed as usual status.

Economic development in the developed countries of the world was usually associated with shifts of workforce to organised industry and modern tertiary

activities. In West Bengal, however, the shifting of the workforce from agriculture to non-agricultural sectors is largely associated with the growth of activities in the unorganised sector which hardly provides a decent livelihood to the people. According to Planning Commission (2010), “total employment in the unorganised sector is estimated at 119.57 lakhs in the farm sector and 151.32 lakhs in the non-farm sector in 2007.”

According to NSSO 68th round (2011-12) data on informal sector and conditions of employment in India, about 83.2 per cent of rural males employed in non-agricultural occupations belonged to the unorganised sector. Across industries, about 92 per cent of rural males employed in manufacturing sector and almost 74 per cent in construction sector are unorganised workers. For rural females, almost 81 per cent of workers in the non-agricultural sector are unorganised workers. Almost the entire workforce (97.7 per cent) employed in manufacturing, the biggest source of female employment in rural West Bengal in 2011-12, were in the unorganised sector. The Report mentions that there was no social security benefit for 85 per cent of rural males and 86 per cent of females employed in the unorganised sector.

IV

CONCLUSIONS

The analysis of data shows that there has been a sharp increase in the proportion of rural households in West Bengal that did not cultivate land. It had increased from 39.6 per cent in 1987-88 to 65 per cent in 2011-12. The paper argues that the onset of market oriented economic reforms in the 1990s has led to erosion of profitability from cultivation of agricultural crops. As a result, the importance of land as a source of livelihood security had gone down. The sharp increase in the proportion of households that did not cultivate land in rural West Bengal needs to be examined in this context.

The decline in agricultural growth in the 1990s had undermined the gains of land reform in West Bengal. The beneficiaries of land reform, i.e., Scheduled Caste, Scheduled Tribe and minorities were worst affected. The proportion of households that did not cultivate land had registered a sharp increase for these social and minority groups.

Decline in viability of agriculture had led to changes in patterns of livelihood in rural West Bengal. There was shift of rural workforce from agriculture to non-agricultural activities. Unlike the developed countries, the shifting of the workforce from agriculture to non-agriculture is largely associated with the growth of activities in the unorganised sector which hardly provides a decent livelihood to the people. Within non-agriculture, construction industry had registered the sharpest increase in employment for rural males; for rural females in West Bengal, manufacturing had surpassed agriculture and was the main source of employment in 2011-12. According

to official sources of data, there was no social security benefit for 85 per cent of rural males and 86 per cent of females employed in the unorganised sector.

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NOTES

1. See Report number 515 of the NSSO.
2. See UNDP (2004) for a detailed discussion (page 41)
3. See De Roy (2013).
4. See Ramachandran (2008)
5. See Bakshi (2008)

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APPENDIX I TABLE A1. PROPORTION OF HOUSEHOLDS THAT DID NOT CULTIVATE LAND ACROSS DISTRICTS IN RURAL WEST BENGAL, 1987-88 TO 2011-12 (IN PER CENT)

District (1)	87-88 (2)	99-00 (3)	09-10 (4)	11-12 (5)
Koch Behar	23	52.2	51.1	59.6
Jalpaiguri	35.6	63.8	76.3	74.7
Darjeeling	35	71.1	88.9	74.6
West Dinajpur	27.9	47.3	na	na
Uttar Dinajpur	na	Na	57.7	52.9
Dakshin Dinajpur	na	Na	35.8	43.5
Maldah	41.5	61.4	59.5	73.5
Murshidabad	47.8	54.5	91.4	79.9
Nadia	45.3	52.8	59.1	62.6
24 Parganas (N)	44.9	49.5	84.3	78.4
Howrah	54.2	65.6	57.9	74.7
Hoogly	47.9	65.6	67.5	67.1
Medinipur	28.4	27.6	na	na
East Medinipur	na	Na	38.7	37.4
West Medinipur	na	Na	48.3	43.7
Bankura	34.3	28.9	37.7	56.7
Purulia	18.7	24.7	36.8	72.4
Bardhaman	50	70.2	67.6	70.3
Birbhum	44.7	42.8	84.3	78.4
24 Parganas (S)	43.8	49	73.6	66.9

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

Note: Households with less than 0.01 hectare of land was treated as landless.

Uttar and Dakshin Dinajpur were created from West Dinajpur; West and East Medinipur were created from Medinipur. Data for these districts, i.e. Uttar and Dakshin Dinajpur and East and West Medinipur were estimated from 2009-10 in this paper.

The Table shows that there has been a large increase in proportion of households that did not cultivate land across districts in West Bengal. The Table shows that about 60 per cent of households did not cultivate land in 13 (out of 18) districts in West Bengal in 2011-12. Of all districts, proportion of households that did not cultivate land was lowest in East Medinipur-37.4 per cent-which was well below the state figure (65 per cent) in 2011-12. Households with no cultivated land was very high in Darjeeling, Murshidabad, Birbhum and 24 Parganas (North) in 2009-10. Table 2 shows that almost 91 per cent of households in rural areas did not cultivate land in Murshidabad; corresponding figures for Darjeeling, Birbhum and 24 Parganas (North) were 89 per cent and 84 per cent respectively. The Table shows that there has been a massive increase in the proportion of households in Purulia between 2009-10 and 2011-12. It had almost doubled from 36.8 per cent in 2009-10 to 72.4 per cent in 2011-12. This calls for further research at the district level to analyse the reasons for increase in proportions of households without any cultivated land in such a short span of time.

APPENDIX TABLE II

Table A2 shows access index of cultivated land across social and religious groups in West Bengal. Access index of a social group *i* is defined as the share of total land owned by the social group *i* to the share of this economic category in the total number of households.⁵

Table A2 shows that there has been a steep decline in access index for Scheduled Tribe households in West Bengal between 1999-00 and 2009-10. Access index for these households had declined from 1.23 to 0.56 during this period which is a decline of more than 50 per cent in a decade. Again, it had increased to 0.74 in 2011-12. The Table shows that access index of cultivated land of Hindu-Others and Scheduled Caste households had increased in West Bengal between 1987-88 and 2011-12. However, for the former access index increased from 1.15 to 1.39 between 1987-88 and 2009-10 and then declined to 1.25 in 2011-12.

APPENDIX TABLE A2. ACCESS INDEX OF CULTIVATED LAND ACROSS SOCIAL AND RELIGIOUS GROUPS, WEST BENGAL, 1987-88 TO 2011-12

Social group (1)	Access index			
	87-88 (2)	99-00 (3)	09-10 (4)	11-12 (5)
Scheduled Tribe (ST)	1.15	1.23	0.56	0.74
Scheduled Caste (SC)	0.76	0.78	0.77	0.85
Muslims	1.02	0.85	0.98	0.99
Hindu-others	1.15	1.35	1.39	1.25

Source: Based on unit level data from different rounds of Employment and Unemployment Surveys.

Note: Hindu-Others do not include Scheduled Caste, Scheduled Tribe and neo-Buddhist households in the 43rd round (1987-88) and Scheduled Caste, Scheduled Tribe and OBCs in 55th (1999-00), 66th (2009-10) and 68th (2011-12) rounds.