

Comparative Study of Marginal Farms in India *vis-a-vis* West Bengal; Evidences from Last Decade

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Abstract

Agriculture is the backbone of overall growth for the majority of the countries where the primary occupation of rural population is predominantly agriculture. The growth of agriculture is essential for poverty reduction and food security for these countries. The present study deals with the current situation of holdings, operated area and average size of land holding by marginal farms at the national level as well as West Bengal. The data has been collected from Agricultural Census, Government of India and West Bengal. It is found that 67.10% marginal farms cultivate only 22.50% of area in 2010-11 which has increased from 62.88% and 18.70% respectively from 2000-01 at national level. In case of West Bengal, 82.16% of marginal farms operate 52.47% of land which has increased from 80.44% and 49.74% from 2000-01 respectively. On the other hand, the average size of land holding has been decreased during this time frame both at national level and in case of West Bengal. Thus, the concentration of marginal farms is much more significant in the context of West Bengal for sustainable agriculture and maintain food security and to reduce poverty.

Keywords: Agriculture, rural population, marginal farms, number of holdings, area operated, average size of land holding

Agriculture is the backbone of overall growth for the majority of the countries where the primary occupation of rural population is predominantly agriculture. The growth of agriculture is essential for poverty reduction and food security for these countries. World Development Report, 2008 argues that agriculture must become competitive for small scale farming to succeed in addressing poverty and food insecurity in these countries. Small agricultural holdings constitute a vast majority of farms in many developing countries (FAO, 2010). The studies based on World Programme of Census of Agriculture 2000 indicate that the Asia and Pacific region has the smallest size of holdings in the world. It is estimated that out of 500 million small farms 87% are from Asia and the Pacific region (Hazell *et al.*, 2007). Agriculture in Asia is characterized by smallholder cultivators. India and China is accounted for 93 and 193 million small farms respectively. Three other Asian countries with large number of small farms

viz. Indonesia and Bangladesh with 17 million small farms and Vietnam with 10 million small farms. In Nepal 93% of operational holdings are operated by small farmers covering 69% of the cultivated area. In Bangladesh, small farms account for 96% of operational holdings with a share of 69% of cultivated area. However, Pakistan is a relatively high concentration of large landholdings which shows that 58% of farms are of less than 2 hectare but they operate only 16% of the farm area (Thapa and Gaiha, 2011). About 81% of farms in India have land holdings of less than 2 hectare, whereas their share in total cultivated area is about 44%. The overall trend in Asia has been declining in terms of average size over time. Fan and Chan-Kang (2003) also showed that in China farm size has decreased from 0.56 hectare in 1980 to 0.40 hectare in 1999; in Pakistan it has declined from 5.30 hectare in 1971-73 to 3.10 hectare in 2000; in Philippines the average farm size fell from 3.60 hectare in 1971 to 2 hectare

in 1991 and in India it declined from 2.20 hectare in 1950 to 1.80 hectare in 1980, to 1.44 hectare in 1995-96 and to 1.33 hectare in 2000-01 which further decreased to 1.15 hectare in 2010-11.

Given the importance of small and marginal farmers in the agricultural sector of developing world, the present study deals with the number of holdings, operated area and average size of marginal farms in Indian states and also compare and contrast basic features of marginal farms of West Bengal with that in other states or with the national level.

Sources of Data

We have attempted to make a comparative study of marginal farms at the inter-state level and compared it with the all India level. We have compared West Bengal and India as in West Bengal more than 80% farms are marginal. We have also undertaken similar study in the intra-state level for West Bengal. The data on land holdings, operated area and average size of land holding of marginal farms across 19 major Indian states have been collected from Agricultural Census, Agriculture Census Division, Department of Agriculture, Cooperation & Farmers Welfare, Government of India, 2000-01, 2005-06 and 2010-11. On the other hand, district-wise data on land holdings, operated area and average size of land holding of marginal farms have been collected from Land and Land Reforms Department and Evaluation Wing, Directorate of Agriculture, Government of West Bengal.

Marginal farms: All India Scenarios

The number of marginal farms has been continuously increasing over the time due to natural growth of population and subdivision of existing holdings for demographic reason¹. At the national level, there has been a significant increase in number of holdings during 2000-01 to 2010-11. The number of holdings was 119.93 million in 2000-01 which increased to 138.35 million in 2010-11. In 2000-01, out of 119.93 million holdings 75.40 million holdings were marginal which increased to 92.82 million holdings out of 138.35 million holdings in 2010-11. On the other hand, operated area by all size classes were 159.43 million hectare in 2000-01 which increased marginally to 159.59 million hectare in 2010-11.

¹Rural Population increased from 74.3 crores to 83.3 crores during 2001-2011 (Provisional Population totals, Census of India, 2011).

The operated area by marginal farms increased from 29.81 million hectare to 35.90 million hectare during 2000-01 to 2010-11. It is also revealed that the average size of holding of all classes have been decreased during this time. The average sizes of all size classes was 1.33 hectare in 2000-01 which decreased to 1.22 hectare in 2005-06 and further it decreased to 1.15 hectare in 2010-11. Similarly, the average size of land holding of marginal farms decreased during this time period. The average size of land holding of marginal farms was 0.40 hectare in 2000-01 which decreased to 0.39 hectare in 2010-11. The 59th and 70th round data of National Sample Survey (Situational Assessment Survey of Farmer) have also showed similar results. It is found that the percentage of holdings have increased from 89.96% to 92.60% during 2002-03 to 2012-13 for all size classes. It is observed that during 2002-03 to 2012-13, the percentage of marginal holdings and operated area by marginal holdings have also increased. The number of holdings of marginal farms has increased from 69.63% to 75.42% while operated area has increased from 23.00% to 29.74% during 2003 to 2013.

From the above, we may argue that marginal holdings play a crucial role in Indian agriculture. They also play significant role in maintaining sustainability of agriculture and food security. In this background, we will now examine the percentage of holdings, operated area and average size of holding of marginal farms in major Indian states in the following sub-sections.

Marginal Farms in Major States in India

We have explored state wise percentage share of holdings, operated area and average size of holding of marginal farms during last decade across the 19 major Indian states. It is observed that at the national level maximum marginal farms reside in Uttar Pradesh in 2010-11. Out of a total of 138.35 million of holdings, Uttar Pradesh accounts for a highest number of holdings (23.33 million) followed by Bihar (16.19 million) in 2010-11.

However, the percentage share of holdings in Uttar Pradesh has declined from 20.92% to 19.96% while there has been an increasing (from 15.70% to 15.88%) in percentage share of holdings in Bihar during 2005-06 to 2010-11 (Fig. 1). Further, the percentage share of minimum marginal farms states or the

bottom states are Arunachal Pradesh and Punjab with 0.02%, 0.18% marginal farms respectively in 2010-11. It is observed that there have been a decrease in the percentage share of holdings in Arunachal Pradesh while there have been slight increase in the percentage share of holdings in Punjab during 2005-06 to 2010-11.

It is interesting to note that the percentage share of holdings of marginal farms has decreased in 11 states out of 19 major states in India. The 11 states in where the percentage of holdings have declined during 2005-06 to 2010-11 are- Assam (from 2.09% to 1.97%), Arunachal Pradesh (from 0.03% to 0.02%), Haryana (from 0.91% to 0.84%), Himachal Pradesh (from 0.76 to 0.72%), Jammu & Kashmir (from 1.34 to 1.30%), Karnataka (from 4.37 to 4.15%), Kerala (from 7.89 to 7.09%), Maharashtra (from 7.31% to 7.23%), Tamil Nadu (from 7.44% to 6.75%), Uttar Pradesh (from 20.92% to 19.96%) and West Bengal (6.78% to 6.31%). Other 8 states where the percentage share of

holdings have increased are- Andhra Pradesh (from 8.86% to 9.08%), Bihar (from 15.70% to 15.88%), Chhattisgarh (from 2.29% to 2.35%), Gujarat (from 1.89% to 1.96%), Madhya Pradesh (from 3.82% to 4.19%), Orissa (from 3.10% to 6.63%), Punjab (from 0.16% to 0.18%) and Rajasthan (from 2.48% to 2.71%). The causes of declining share of marginal farms in some major states mostly reflect higher level of urbanisations in those states (Bhagat, 2011).

Now, we will present state wise percentage share of operational area in Fig. 2.

It is found that Uttar Pradesh ranks first in terms of percentage share of operated area by marginal farms followed by Andhra Pradesh and Bihar in 2010-11. The percentage share of operated area by Uttar Pradesh, Andhra Pradesh and Bihar are 19.97%, 10.38% and 10.22% respectively in 2010-11. The bottom states for the percentage share of operated area by marginal farmers in 2010-11 are Arunachal Pradesh (0.04%) and Punjab (0.28%).

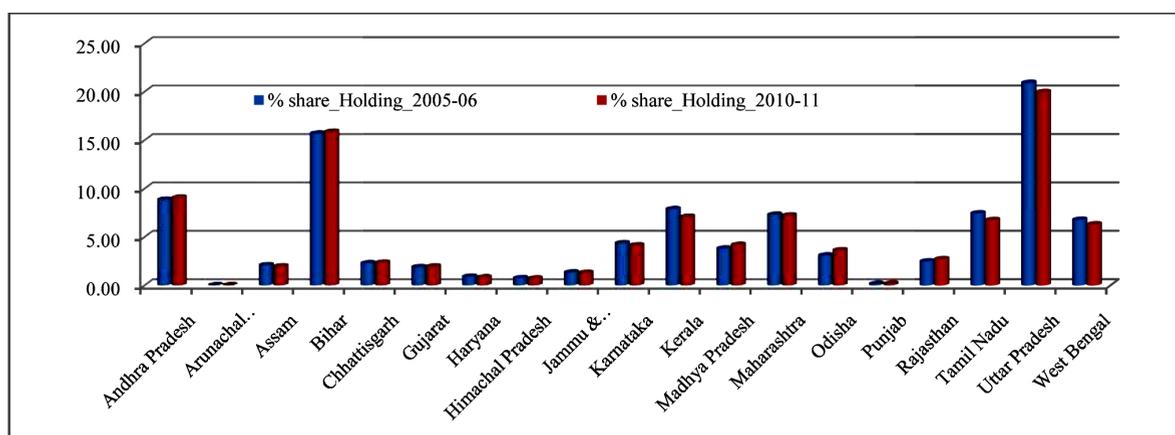


Fig. 1: State-wise percentage share of holdings of Marginal Farms during 2005-06 to 2010-11

Source: Agricultural Census of India 2005-06 & 2010-11, Ministry of Agriculture and Cooperation, Government of India

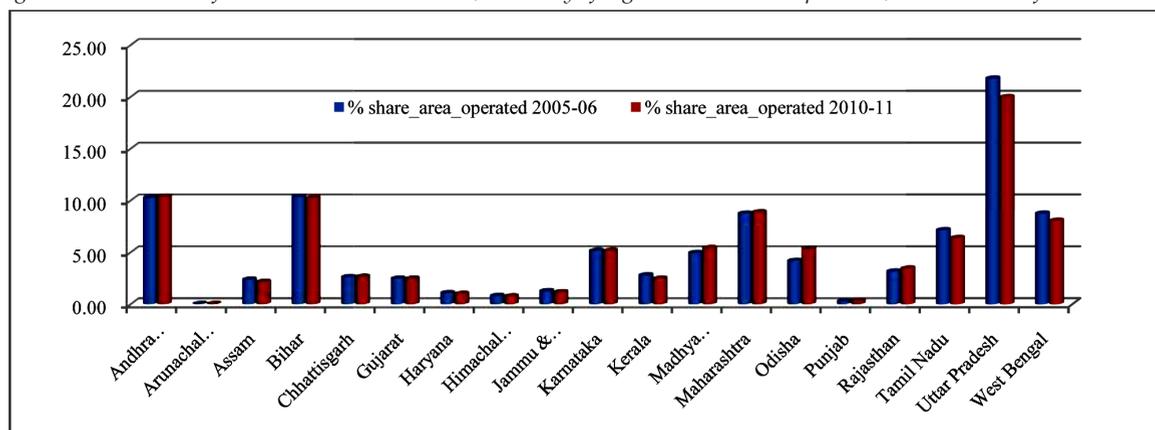


Fig. 2 State-wise percentage share of operated area of Marginal Farms from 2005-06 to 2010-11

Source: Agricultural Census of India 2005-06 & 2010-11, Ministry of Agriculture and Cooperation, Government of India

It is found that the percentage share of operated area have been declined in 12 states out of 19 major states during 2005-06 to 2010-11. The 12 major states where the percentage share of operated area by marginal farms has decreased are- Arunachal Pradesh (from 0.04% to 0.03%) Assam (from 3.16% to 2.37%), Bihar (from 10.34% to 10.22%), Gujarat (from 2.47% to 2.46%), Haryana (from 1.08% to 1.00%), Himachal Pradesh (from 0.81% to 0.76%), Jammu & Kashmir (from 1.27% to 1.16%), Karnataka (from 5.16% to 5.15%), Kerala (from 2.80% to 2.47%), Tamil Nadu (from 7.14% to 6.38%), Uttar Pradesh (from 21.77% to 19.97%) and West Bengal (from 8.74% to 8.05%). The increasing states in terms of operated area are- Andhra Pradesh (from 10.26% to 10.38%), Chhattisgarh (from 2.62% to 2.65%), Madhya Pradesh (from 4.96% to 5.43%), Orissa (from 4.19% to 5.35%), Punjab (from 0.26% to 0.28%) and Rajasthan (from 3.17% to 3.45%). Uttar Pradesh was the highest in percentage share of holding along with the highest cultivated area in 2005-06; further it declined in 2010-11 both in terms of percentage of holdings and operated area.

Now we will analyse the average size of land holding across 19 major states which is portrayed in Fig. 3. It is found that at national level the average size of land holding of marginal farms declined from 0.40 hectare to 0.38 hectare `during 2000-01 to 2010-11.

It is observed from the above figure that the highest average size holding for marginal farms exists

in Punjab (0.61 hectare) followed by Orissa (0.57 hectare) and Arunachal Pradesh (0.55 hectare) while the lowest average size of holding for marginal farms exists in Kerala (0.13 hectare) followed by Bihar (0.25 hectare) and Jammu & Kashmir (0.35 hectare) in 2010-11. It is revealed from secondary data that there has been no significant variation in average size of land holding for marginal farms across the states during this time frame. Out of 19 major states, only 5 states, the average land holding have increased while in 7 states each, the average land holding remain constant and decreased respectively during 2005-06 to 2010-11. The average size of land holding has increased in - Arunachal Pradesh (from 0.51 hectare to 0.55 hectare), Haryana (from 0.45 hectare to 0.46 hectare), Karnataka (from 0.45 hectare to 0.48 hectare), Maharashtra (from 0.46 hectare to 0.47 hectare) and Orissa (from 0.52 hectare to 0.57 hectare). The average size of land holding has decreased during this time are- Assam (from 0.43 hectare to 0.42 hectare), Gujarat (from 0.50 hectare to 0.49 hectare), Jammu & Kashmir (from 0.36 hectare to 0.35 hectare), Kerala (from 0.14 hectare to 0.13 hectare), Madhya Pradesh (from 0.50 hectare to 0.49 hectare), Punjab (from 0.62 hectare to 0.61 hectare) and Uttar Pradesh (from 0.40 hectare to 0.39 hectare). Seven states where the average size of land holding remain constant are Andhra Pradesh (0.44 hectare), Bihar (0.25 hectare), Chhattisgarh (0.44 hectare), Himachal Pradesh (0.41 hectare), Rajasthan (0.49 hectare), Tamil Nadu (0.37 hectare)

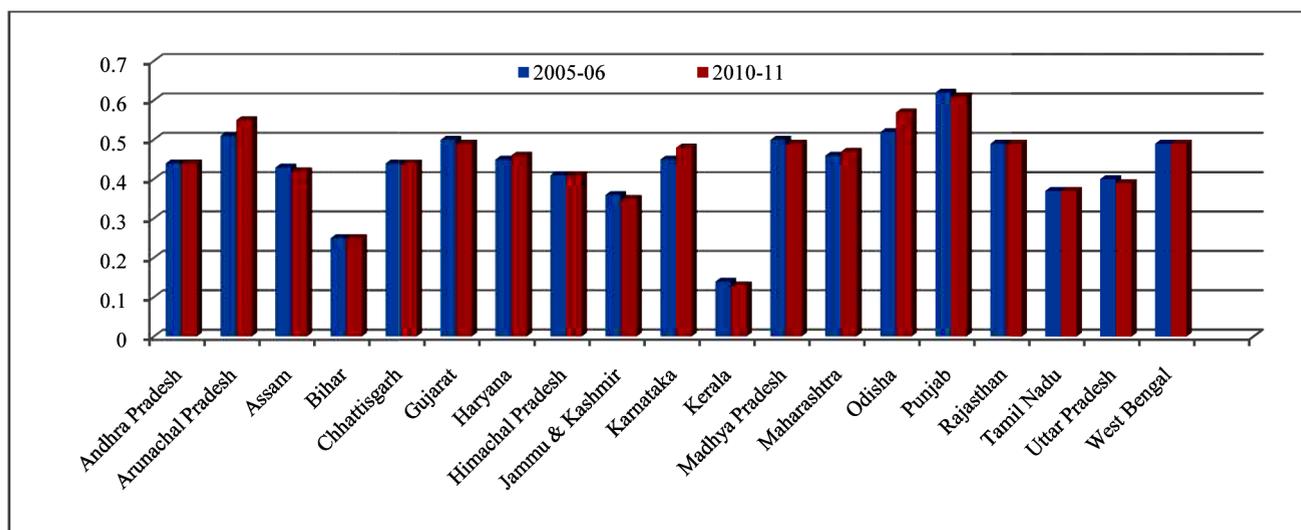


Fig. 3: State-wise average size of land of Marginal Farms during 2005-06 to 2010-11

Source: Agricultural Census of India, Ministry of Agriculture and Cooperation, Government of India

and West Bengal (0.49 hectare). It is also noted that the average size of land holding in West Bengal (0.49 hectare) is higher compared to the average size of land holding at national (0.38 hectare) level in 2010-11.

However, it may be observed from the above discussion that Uttar Pradesh ranks first in terms of percentage of holdings and percentage of operated area by marginal farms in 2010-11 followed by Bihar and Andhra Pradesh. In case of average land holding, Punjab ranks first followed by Orissa and Arunachal Pradesh. So, we may argue that Punjab accounts lowest in area operated but there exists highest average size land holder by marginal farms in 2005-06 as well as in 2010-11.

Marginal Farms in West Bengal: A District Level Analysis

In this sub-section we discuss district wise percentage share of holdings, operated area and average size of land holding for marginal farms during 2005-06 to 2010-11 across the districts of West Bengal. It is found that like at the all India level, the number of holdings has also increased in West Bengal during last decade. The number of holdings was 6.78 million in 2000-01 which increased to 6.99 million in 2005-06 which further increased to 7.12 million in 2010-11 for all size class. On the other hand, the number of marginal holdings was 5.46 million in 200-01 (80.44%) which increased to 5.67 million in 2005-06 (81.17%) which further increased to 5.85 million in 2010-11 (82.16%). It is found that

the operated area has decreased during this time period for all size classes but area operated by marginal farms has increased. The operated area by all size classes were 5.54 million hectare in 2000-01 which declined to 5.52 million hectare in 2005-06 which further decreased to 5.50 million hectare in 2010-11. The operated area by marginal farms has increased from 2.75 million hectare in 2000-01 to 2.79 million hectare in 2005-06 and to 2.89 million hectare in 2010-11.

However, the average size of holding has also been declined during 2000-01 to 2010-11 not only for all size classes but also for marginal farms in West Bengal. The average size holding for all classes were 0.82 hectare in 2000-01 which decreased to 0.79 hectare in 2005-06 which further decreased to 0.77 hectare in 2010-11. On the other hand, the average size of holding of marginal farms was 0.51 hectare in 200-01 which declined to 0.49 hectare in 2010-11. Now we will discuss the percentage share of holdings, operated area and average size of holding across 18 districts of West Bengal.

It is found that West Medinipur ranks first with 0.63 million of holdings (10.77%) of marginal farms out of 5.50 million holdings in 2010-11 followed by East Medinipur with 0.55 million holdings (9.41%) and South 24 Paraganas with 0.53 million holdings (9.19%). On the other hand, the bottom districts are Darjeeling with 0.08 million holdings (1.49%), South Dinajpur with 0.15 million holdings (2.89%) and Howrah with 0.21 million holdings (3.58%) in 2010-11. It is also observed that out of 18 districts,

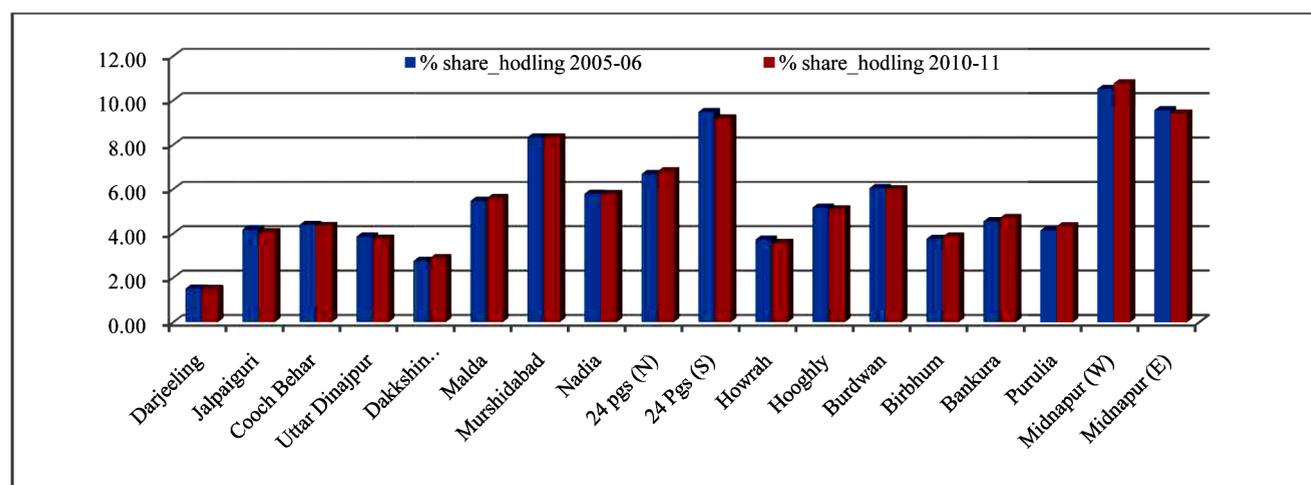


Fig. 4: District-wise percentage share of holding of Marginal Farms during 2005-06 to 2010-11

Source: Agricultural Census 2005-06 & 2010-11, Directorate of Agriculture, Government of West Bengal

10 districts have shown decreasing trend in holdings while 7 districts have shown an increasing pattern in holdings during 2005-06 to 2010-11 which is graphically given in Fig 4.

It is found that the percentage share of holdings of marginal farms has decreased in 10 districts out of 18 districts during 2005-06 to 2010-11. These districts are – Darjeeling (from 1.52% to 1.49%), Jalpaiguri (from 4.18% to 4.06%), Cooch Behar (from 4.40% to 4.35%), North Dinajpur (from 3.86% to 3.78%), Nadia (from 5.80% to 5.78%), South 24 Paraganas (from 9.49% to 9.19%), Howrah (from 3.73% to 3.58%), Hooghly (from 5.17% to 5.09%), Burdwan (from 6.05% to 5.99%), East Midnapur (from 9.56% to 9.41%). In seven districts where percentage of holdings have shown an increase are – South Dinajpur (from 2.77% to 2.89%), Malda (from 5.48% to 5.59%), North 24 Paraganas (from 6.69% to 6.81%), Birbhum (from 3.76% to 3.86%), Bankura (from 4.55% to 4.70%), Purulia (from 4.14% to 4.32%) and West Midnapur (from 10.52% to 10.77%). Only Murshidabad district remain unchanged during this period in terms of percentage change in holdings. It is found that the rural population has decreased during 2001 to 2011 in West Bengal. The percentage of rural population was 72.02% in 2001 which decreased to 68.12% in 2011 while the percentage of urban population has increased significantly and it rose from 27.97% to 31.87% during this period. It is also found that the percentages of rural population of the above districts have also been decreased during this decade (District Census Handbook,

Census of India, 2011). It has also been revealed that the economy of West Bengal has experienced a significant structural change from farm activities to non-farm activities after economic reforms. It is found that the rural self and regular employment has decreased while casual employment has increased (State Development Report, 2004, Government of West Bengal). It is also found in NSS data based on principal and subsidiary status that the proportion of rural male workforce employed more on a casual basis and it is increasing over the time period in West Bengal economy which ultimately leads to informalisation and casualisation of labour. NSS data also revealed that the engagement of rural labour force has increased in rural manufacturing and rural service sectors mostly in small retail trading (more than 39%), manufacturing (26%) and in other non-agricultural activities (12%) (NSSO, 2001). It is also noted that the highest rural non-farm employment exists in Kerala (57%) followed by West Bengal (36.4%) and Assam (32.5%) in 2004-05 (NSSO, 2001). Thus we may argue that due to shrinkage of employment opportunities in formal or farm sector rural population shifted their occupation from traditional or farm sector to informal occupation in rural West Bengal which may be one of the reasons of decreased number of marginal holdings in the concerned districts.

Let us now focus on the area under operation by marginal farms across the districts (Fig. 5). It is found that the percentage share of operated area by marginal farms is highest in West Midnapur

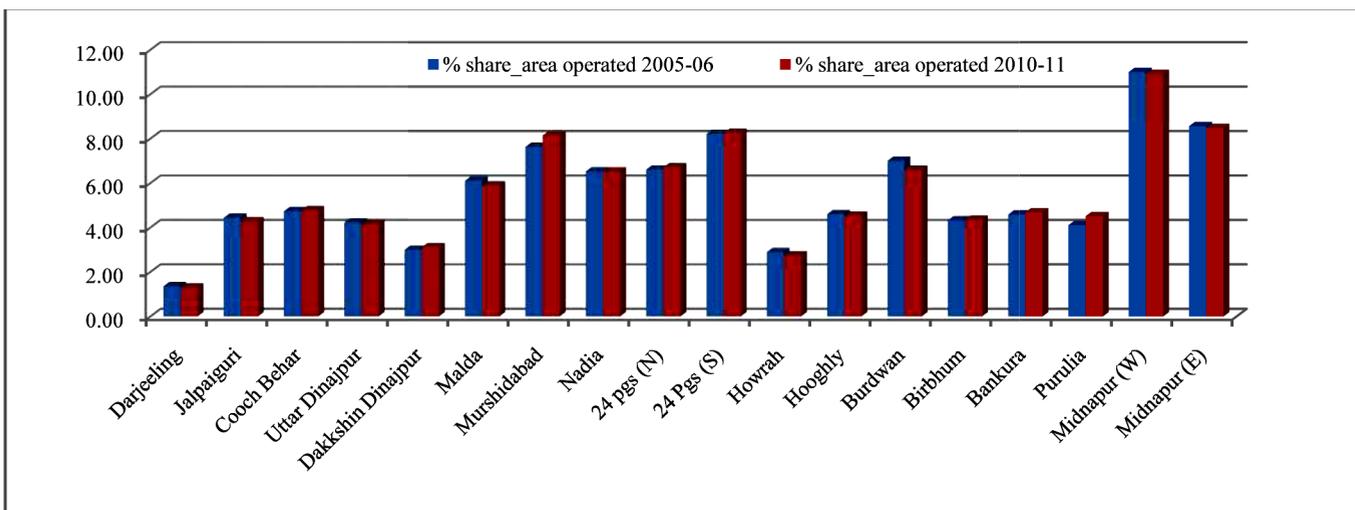


Fig. 5: District-wise percentage share of operated area from 2005-06 to 2010-11

Source: Agricultural Census, Directorate of Agriculture, Government of West Bengal

(10.92%) followed by East Midnapur (8.48%) and South 24 Paraganas (8.26%) in 2010-11. The bottom district for the percentage share of operated area by marginal farms are- Darjeeling (1.30%) followed by Howrah (2.75%) and South Dinajpur (3.12%) in 2010-11.

It is seen that 10 districts out of 18 districts have shown a decreasing trend in the percentage share of operated area by marginal farms. These are- Darjeeling (from 1.36% to 1.30%), Jalpaiguri (from 4.44% to 4.29%), North Dinajpur (from 4.23% to 4.15%), Malda (from 6.11% to 5.89%), Nadia (from 6.53% to 6.52%), Howrah (from 2.90% to 2.75%), Hooghly (from 4.61% to 4.53%), Burdwan (from 7.01% to 6.60%), West Midnapur (from 11.00% to 10.92%) and East Midnapur (from 8.56% to 8.48%). The districts where percentage share of operated area by marginal farms has increased during this time are- Cooch Behar (from 4.74% to 4.78%), South Dinajpur (from 3.00% to 3.12%), Murshidabad (from 7.63% to 8.15%), North 24 Paraganas (from 6.61% to 6.71%), South 24 Paraganas (from 8.22% to 8.26%), Birbhum (from 4.33% to 4.35%), Bankura (from 4.59% to 4.69%) and Purulia (from 4.11% to 4.51%). It is found that the percentage of cultivable land has decreased over this time period. It decreased from 66.91% in 2000-01 to 65.30% in 2010-11 (Government of West Bengal, 2005, 2008 and 2012). We have assumed here that the decrease in cultivable land and increase in urban population leads to the decrease in the agricultural or cultivable land in rural sector which has affected largely the marginal farmers and their aggregate area under cultivation.

It is also found that the high rate of urban towns and cities have increased after 2000-01. It is also noted that the proportion of increase of urban town² was higher in West Bengal compared to national average. The decadal growth rate of urban population has increased more in West Bengal compared to national average (Census of India, 2001 & 2011). On the other hand, urban agricultural activities have declined (from 4.4% to 2.7% during 1993-94 to 2004-05) while urban manufacturing and service sector have increased during this time (State Development Report, 2004). We can argue that due to population pressure in urban areas (which may be attributed from the migration of rural sector) created land squeeze across the districts of West Bengal. The district-wise average size of land holding by marginal farms are shown in Fig. 6. It is already been stated that the average size of holding is decreased during this time period, instead of that there exists district wise variation in average size of holding.

The average size of land holding for marginal farm was 0.51 hectare in 2000-01 which decreased to 0.49 hectare in 2010-11. It is found that during 2005-06 to 2010-11; in 5 districts the average size of land holding has been increased out of 18 districts while 7 districts remain constant. On the other hand, six districts have shown decreasing trend. The average size of land holding has increased are- Cooch Behar (from 0.53 hectare to 0.54 hectare), Murshidabad

²Malda district has shown highest decadal growth rate in terms of urban area while Howrah district has shown minimum decadal growth rate of urban areas (Census of India, 2001 & 2011)

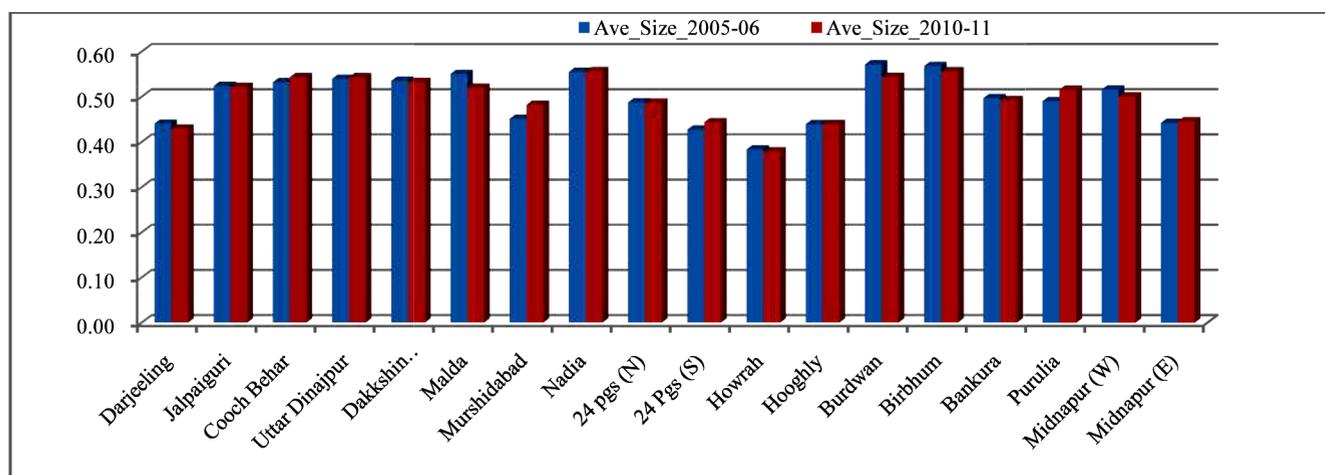


Fig. 6: District-wise Average Size of Holding of Marginal Farms during 2005-06 to 2010-11

Source: Agricultural Census, Directorate of Agriculture, Government of West Bengal

(from 0.45 hectare to 0.48 hectare), South 24 paraganas (from 0.43 hectare to 0.44 hectare), Purulia (from 0.49 hectare to 0.52 hectare) and East Medinipur (from 0.44 hectare to 0.45 hectare). The average size of land holding has increased are- Darjeeling (from 0.44 hectare to 0.43 hectare), South Dinajpur (from 0.54 hectare to 0.53 hectare), Malda (from 0.55 hectare to 0.52 hectare), Burdwan (from 0.57 hectare to 0.54 hectare), Birbhum (from 0.57 hectare to 0.56 hectare) and Bankura (from 0.50 hectare to 0.49 hectare).

A Comparative Analysis between West Bengal and India

In this section we will compare the percentage of holdings (in Fig. 7), operated area (in Fig. 8) and average size of land holding (in Fig. 9) of different

size classes as well as marginal farms in India vis-a-vis West Bengal during 2000-01 to 2010-11.

The percentage of holdings for marginal farms were 62.88 in 2000-01 which have increased to 64.77% in 2005-06 which further increased to 67.10% in 2010-11 at national level. On the other hand, the percentage of holdings in regard to small, semi-medium and medium farms has been declined during this time period. The percentage of small farms in 2000-01 was 18.92 which have decreased to 18.52% and 17.91% during 2005-06 and 2010-11 respectively. The percentages of semi-medium and medium farms were 11.69% and 5.48% in 2000-01 which have decreased to 10.04% and 4.25% in 2010-11 respectively. We may argue that due to population pressure number of holdings of marginal farm have been increased at the national level.

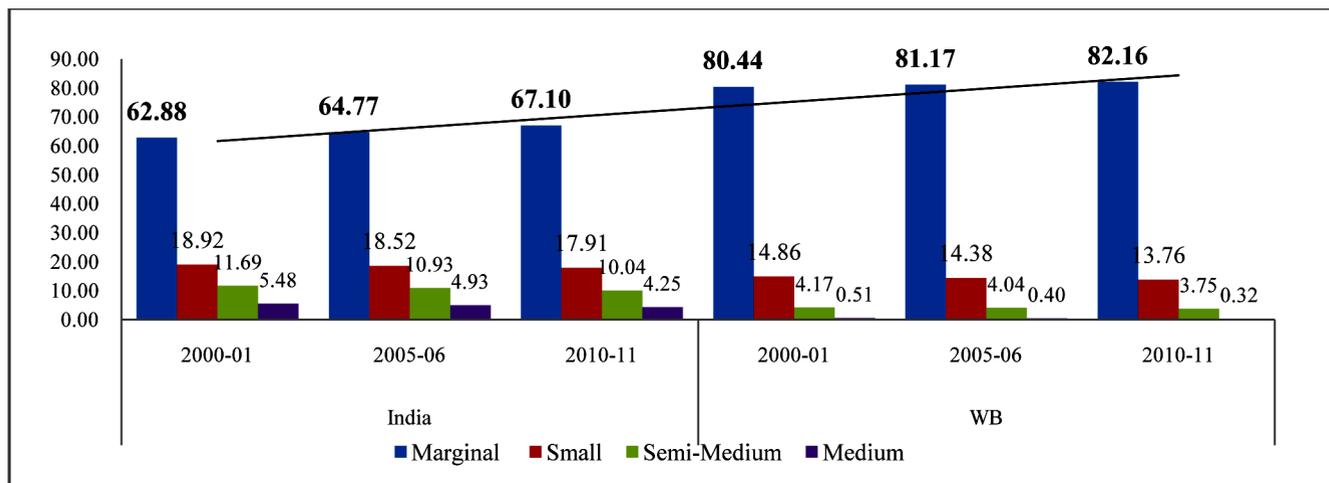


Fig. 7: Percentages of holdings in India and West Bengal during in last decade

Source: Agricultural Census of India and West Bengal

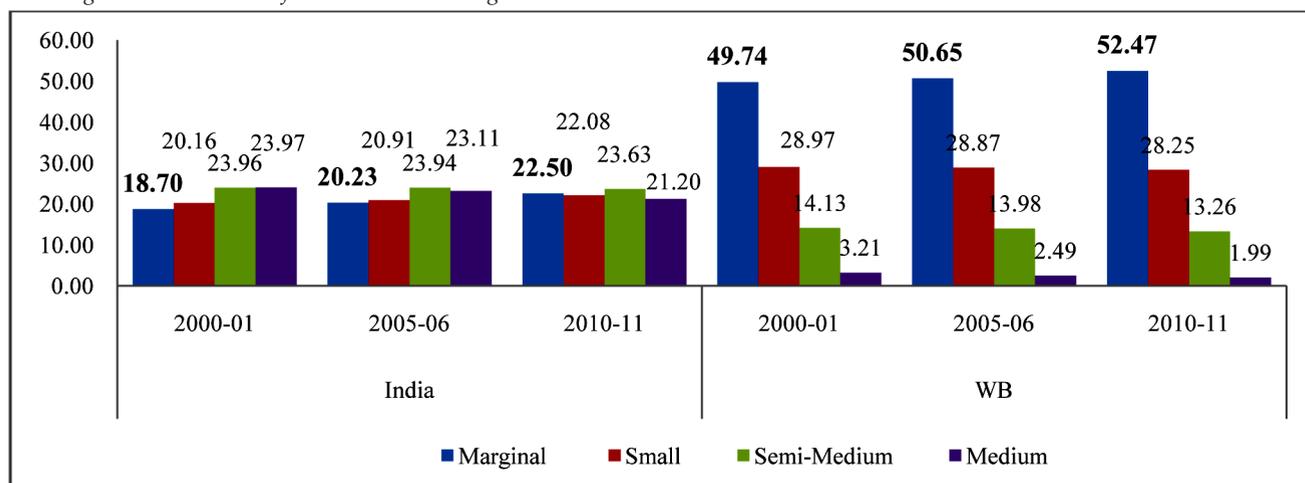


Fig. 8: Percentages of operated area in India and West Bengal in last decade

Source: Agricultural Census of India and West Bengal

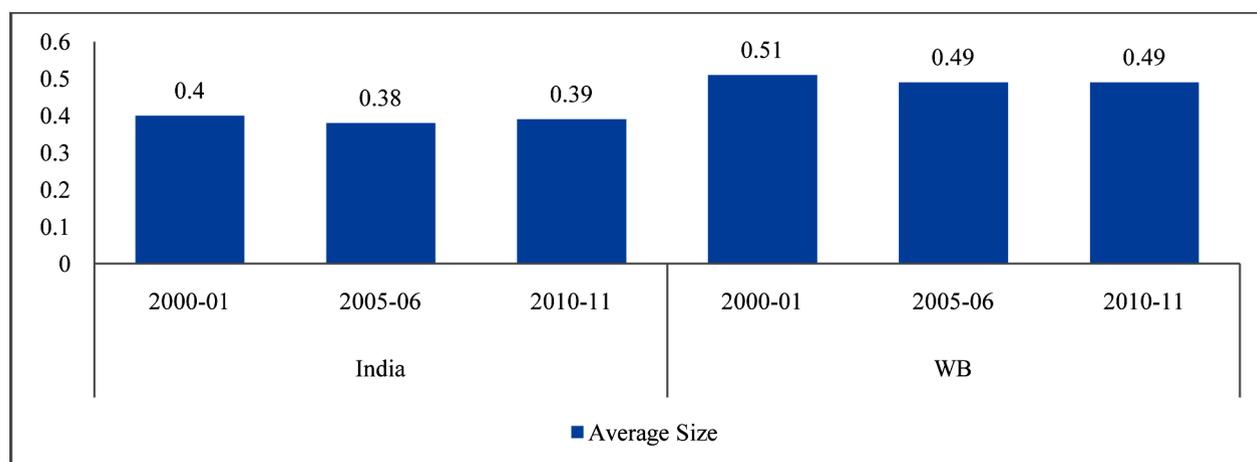


Fig. 9: Average Size of Land Holding in India and West Bengal in last decade

Source: Agricultural Census of India and West Bengal

However, in West Bengal, the percentage of marginal farms was 80.44% in 2000-01 which have increased to 81.17% and 82.16% during 2005-06 and 2010-11 respectively. On the other hand, the other size classes have shown a declining trend. The percentage of small farms was 14.86 in 2000-01 which have decreased to 14.38% in 2005-06 which have further decreased to 13.76% in 2010-11. The percentages of semi-medium and medium farms were 4.17% and 0.51% in 2000-01 which have declined to 3.75% and 0.32% in 2010-11 respectively. The existence of large farms is very insignificant in West Bengal. Thus, we may argue that there was a significant increase in marginal farms while other size class have shown a decreasing trend. This may be due to the increase in population and fragmentation of households during this period.

The percentages of operated area by different size classes in India and West Bengal have been shown in Fig. 8. At the national level, the percentages of operated area by marginal and small farms were 18.70% and 20.16% in 2000-01 which have increased to 22.50% and 22.08% in 2010-11. But the other size class have shown a decreasing trend in operated area during this decade. The percentages of semi-medium, medium and large farms of operated area in 2000-01 were 23.96%, 23.97% and 13.22% which have decreased to 23.63%, 21.20% and 10.59% respectively at the national level.

However, in West Bengal, the percentage of operated area by marginal farms has been increased during 2000-01 to 2010-11. It increased from 49.74% in 2000-01 to 50.65% in 2005-06 which further have

increased to 52.47% in 2010-11. On the other hand, for all other size classes the percentages of operated area have been decreased during this time. The percentages of small, semi-medium and medium farms were 28.97%, 14.13% and 3.21% respectively in 2000-01 which have decreased to 28.87%, 13.98% and 2.49% in 2005-06 which further have decreased to 28.25%, 13.26% and 1.99% in 2010-11 respectively.

It is found that 67.10% of holdings cultivated only 22.50% of area at national level while 82.16% of holding operates 52.47% of land in West Bengal in 2010-11. So, the concentration of marginal farms is much more significant in West Bengal.

The average size of land holding has been portrayed in Fig. 3.12. It is found that the average size of land holding has been decreased during 2000-01 to 2010-11 at national level as well as in West Bengal. At the national level, the average size of holding has been decreased from 0.40 hectare in 2000-01 to 0.39 hectare in 2010-11. In West Bengal, it has decreased from 0.51 hectare to 0.49 hectare during this time period.

Thus, it is found that 67.10% holdings cultivates only 22.50% of area in 2010-11 at national level which increased from 62.88% and 18.70% from 2000-01 respectively. In case of West Bengal, 82.16% of holding operates 52.47% of land which increased from 80.44% and 49.74% respectively. On the other hand, the average size of land holding decreased during this time period both at national level and in West Bengal. So, the concentration of marginal farms is much more significant in West Bengal and

the present study of marginal farms seems to be pertinent in the context of West Bengal agriculture.

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