
Land Dispossession and Livelihood Adaptation: Challenges, Opportunities and Strategies in Rajarhat and Singur

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1 Introduction

Land, one of the most critical ingredients for any project, has emerged as the most contentious element, its acquisition being a sensitive matter of concern for the policy makers. This is particularly true in the south Asian context where land is both a scarce resource and at the same time supports the livelihoods of majority of the population. The issue of land acquisition has assumed particular significance in the state of West Bengal as it is implicative of a substantial shift in the political principles of the Left Front Government (LFG) on the one hand and a drastic transformation of the role of state in the era of globalization on the other hand. This study is organized around the recent episode of agricultural land grab associated with the large scale land acquisition carried out by the West Bengal state government for Rajarhat New Town and the Tata Small Car Project at Singur that posits formidable questions over how the agricultural livelihoods would transform. This paper seeks to look into the various livelihoods strategies adopted and the outcomes experienced by the various factions of the rural population in response to a 'shock' i.e. the land acquisition (henceforth referred as LA) carried out during the last decade by the West Bengal state government in the process of developing a new town (Rajarhat) and industrialization (Singur) along the periphery of Kolkata.

The livelihood approach that evolved from studies on food security, environmental management and poverty analysis refers to "means to a living" and therefore directs attention to "the way in which a living is obtained" and "not just the net results in terms of income received or consumption attained" (Ellis 2000). While ownership of assets continues to remain the crucial precondition for designing livelihood strategies, the overarching prerequisite for the successful attainment of livelihoods are the institutions and social relations that in reality enable access and

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claims to resources. Conclusively, Chambers and Conway (1991) have referred to livelihoods as comprising of “the capabilities, assets (including both material and social resources) and activities required for a means of living”. This paper broadly deploys the Sustainable Rural Livelihood framework of DFID that draws heavily from the works of Chambers and Conway (1991), Scoones (1998) and Carney (1998). The main components of the sustainable livelihood framework are ‘livelihood assets’, ‘transforming structures and processes’ and ‘livelihood strategies and outcomes’ (Scoones 1998).

Livelihoods have been observed to be under continual flux and in the process of incessant adjustment to the stresses and shocks emanating from the dynamic socio-economic as well as environmental contexts. The specific manifestation of any livelihood may take the form of short term response in the “shape of safety mechanism called coping strategies” (de Haan 2000) or may “develop into more permanent adaptive strategies” (de Haan 2000, p. 348). In the long run, the adaptive strategies gradually evolve as a normal livelihood strategy till another perturbation disrupts the adjusted way of life.

Within this frame of analysis, this paper firstly tries to account for the various facets of challenges and opportunities that are invoked by the land dispossession episode, and secondly attempts to look into the various livelihoods strategies adopted and the outcomes experienced by the various factions of the rural population in response to a ‘shock’ i.e. the land acquisition (henceforth referred as LA) carried out during the last decade. The paper is divided into five sections: Sect. 1 discusses the background of the study, Sect. 2 highlights the concerns over data and methodology adopted; Sect. 3 analyses the vulnerability contexts and opportunities; Sect. 4 discusses the different modes of livelihood adjustment; and Sect. 5 concludes the discussion.

2 Data and Methodology

This study is based on the findings of field work in the selected villages in Rajarhat New Town and Singur Tata Motors near Kolkata during 2010–11. The case study is based on a sample of 253 farm households, among whom about 190 households have suffered land dispossession the rest being control group. Sample households are drawn randomly from the different land ownership categories. The chief criterion behind the selection of the sample household has been their substantial dependence upon agriculture during the pre-land acquisition period.

Three villages from among the villages that were demarcated by the West Bengal state government for the Rajarhat New Town Project and one from the Singur Small Car Factory have been selected combining the land acquisition data obtained from the District Collectorate and Census 2001 village directory based on two criteria: (a) where substantial amount of land has been acquired recently, and, (b) where the share of agricultural population has been relatively high in the 2001 Census enumeration from among the villages from where land has been acquired for the said project. Data pertaining to asset ownership and employment have been

collected using structured questionnaire at both the household level as well as individual level. The analysis uses mixed methods: questionnaire survey to collect quantitative data and semi-structured interviews for qualitative information that are combined for holistic understanding.

3 Vulnerability Contexts and Opportunities

Vulnerability refers to the “propensity to suffer some degree of loss from a hazardous event” (Etkin et al. 2004: cited in Berkes 2007). According to Ribot (1995; cited in Hesselberg and Yaro 2006), a vulnerability analysis “provides a basis for tracing social causality in addition to the processes and shows how they are interlinked”. It is necessary to ascertain the sources of vulnerabilities for a community and accordingly undertake planning in order to strengthen the resilience of any community. Hence, it is vital to arrive at inventory of the vulnerability contexts and then proceed to affirmative propositions supporting resilience building.

This section is based upon the semi-structured interviews and group discussions that have focused on the changes observable in the socio-political and economic condition in the study region and the status of the natural resource stock. This particular segment has been devoted in identifying the key issues relating to vulnerabilities in the study region (Fig. 1).

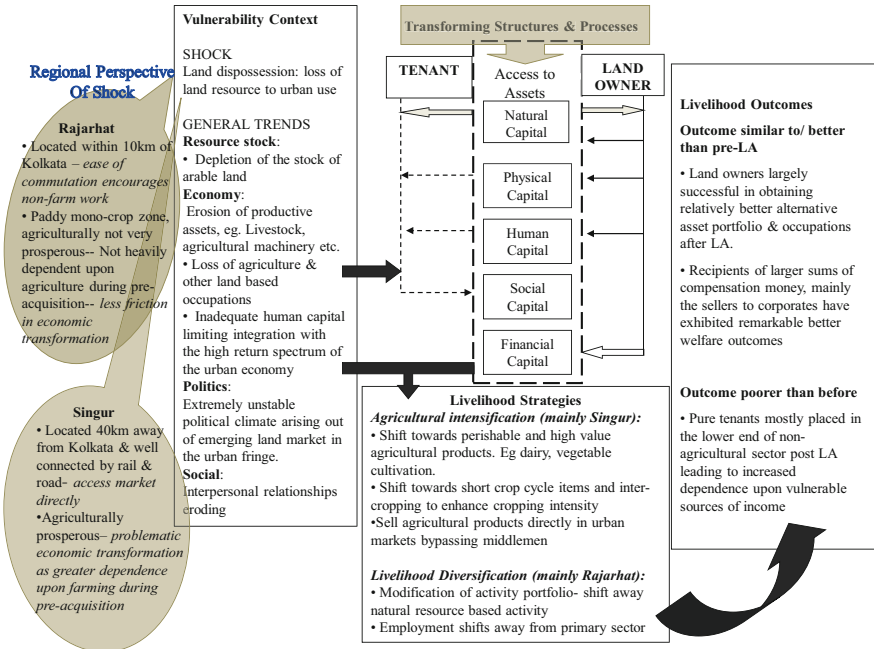


Fig. 1 Kolkata through the Sustainable Rural Livelihood Framework. Source: Modified by the author from SRL Key Guidance sheet

The shock has been in the form of the abrupt large scale land acquisition by the State government that has entailed massive displacement of the farming community from their means of subsistence. Notices had been issued in name of the owners whose plots lay within the project area in accordance with the demands of the RB's (Requiring Body) plan outlay. Though the respective households have the constitutional right to appeal to the high court, it had been only a *de jure* act and did not have much perceptible impact. Hence all those whose land had been notified for acquisition were acquired through HIDCO (2010) in a phased manner since 2003, roads and other infrastructure were developed and handed over to the private developers for initiating housing projects. Such a loss of natural resources to urban uses, besides being a process of alienating the means of production from the farmers, has also exuded a tremor of psychological shock to the land losers. To them such a phenomenon of land alienation symbolized extrication from their cultural ethos, long standing traditions, not to mention an erosion of robustness of livelihoods. The phenomenon of land acquisition has therefore transcended the boundaries of natural resource depletion to encompass the spheres of emotional as well as social life of the affected population.

The trends observed within the economy clearly have manifested decline in the agricultural enterprises in terms of both employment and agricultural capital. Understandably this has been the most direct fallout of land dispossession. However, the chief source of vulnerability amidst this grim scenario appears to be two pronged: firstly, a lack of replacement of agricultural capital by non-agricultural capital which means a dearth of creation of alternate non-agricultural income sources, and, secondly, a clear deficiency of human capital endowments that in effect fail to support successful integration into the emerging non-agricultural sectors of work.¹ This has come out clearly in the words of the respondents:

With all the compensation money we built big houses (mansions actually) like all others. The land that had been purchased using hard earned money simply got washed out in one go!

(A semi-large farmer in Patharghata, Rajarhat)

These sky- scrapers that are coming up in the New Town offer types of job that does not match our skill. Through generations we know how to plough land and not how to operate computers. So what type of jobs can we expect from this?

(A small farmer in Patharghata, Rajarhat)

The political climate has been another source of vulnerability in the study region. West Bengal, which had always been known for strong rural politics, the contentions in relation to land acquisition emerged as a singular platform that was capitalized by the Opposition party. The radical political bi-polarity within the rural political scenario, while favouring some sections of the farmers, endangered the

¹Both these issues have been elaborated in the earlier chapters and hence are not detailed here.

existence of the other sections the trajectory being defined by the virtue of their political alignment. Frequent violent strife between the two party's supporters associated with the rampages of party goons transpired as a prominent source of insecurity and threat to the common people's lives. Also, there has been a massive surge in the party affiliation trends among the land losers as they commonly perceived political party protection to be the sole way to protect them. One of the respondents has clearly stated:

Earlier, people used to meet in the local clubs to gossip, share tears and smiles alike and spend time together. Land dispossession has altered the very nature of the social relations such that even the familial relations have also deteriorated. First reason for such split is over the issue of sharing of compensation money among the siblings; secondly, with the inflow of massive cash in the hands of the hitherto poor farmers they have become arrogant; thirdly, demonstration effect of spending pattern of the compensation money has created rivalry among the members of the community. As a result reciprocity and community solidarity has eroded and none other than political party provide some security."

(A small tenant farmer from Patharghata)

As conveyed by the narrative above it has been very clear that inter-personal relations have also become strained and strewn with mistrust. The character of the social capital has been transformed into 'need-based deliberate creations' to insulate the well-being of the respective households contrary to the earlier horizontal linkages that resembled the traditional Indian village. The chief driver of such a trend has been the sudden flash-flow of liquid cash in the agrarian economy in the form of compensation money which created 'a notion of class consciousness defined by monetary endowment' among the people that segmented and factionalized the relatively homogeneous structure of the hitherto rural economy. The earlier class relations have also been not only disrupted but inverted in certain cases. This has happened particularly when a small farmer who had been a mere victim of the interlocking of agricultural market until land acquisition, has emerged 'rich' owing to receipt of compensation money. Most of the households who have been recipients of larger sums of money have carved out a different niche for their sphere of interaction and have refrained from interacting with their earlier peers. In this way monetary receipts have come to define the social relations and the norms of socialization. Some of the respondents have therefore reported:

There was homogeneity of economic status. With inflow of cash there has been a lot of disparity.

(A small owner cultivator, Akandakesari, Rajarhat)

Both family peace as well as neighbourhood peace has been disrupted. General credibility has been affected. We no longer visit the mosque together with our neighbours.all this have been triggered by land acquisition.

(Medium tenant cultivator, Chhapna, Rajarhat)

The other driver has been the mounting political unrest and factionalization that have increasingly rendered the lives insecure and vulnerable to the rapidly changing contexts. In the scenario of eroding safety nets in the form of familial and neighbourhood relations, the respondents perceive that political affiliation would in some way protect them from the intense instability that have come to characterize their villages.

Box 1: Transforming Structures and Processes

As mentioned earlier, transforming structures and processes refer to the rules, norms and layers of governance that render access to resources operational and enable the pursuance of any livelihood activity. In this study region, political links have been identified by the respondents as the sole means conditioning both access to assets (material or immaterial) and for the attainment of sustained livelihood. As one of the respondents have stated:

Government had promised that it would enable the land dispossessed households to incorporate themselves into some business enterprise. The building material supply syndicates that came up subsequent to land acquisition are the only officially offered opportunity for business enterprise. However, although initially promised that these syndicates would exclusively comprise of land dispossessed people, about 20% of each syndicate constitute of non- land acquisition households!! Further, allocation of business and distribution of syndicates per village are guided by political affiliation. When the Left was in power, specific group of syndicates usurped all the business and profits. Now, they are marginalized and Trinamool Congress affiliated ones dominate the business. There is no place for the commoners. . . (a small tenant farmer from Patharghata).

It has been very explicit that access to alternative sources of livelihood, irrespective of whether they have been offered by the government or otherwise, have deep roots in the political ethos.

There have been some opportunities for sustaining livelihoods in both the study regions. As they are located at varying distances from Kolkata besides their distinct attributes, the prospects have been also somewhat different. The villages in Singur had been already well connected to Kolkata through the Kona Expressway and local trains. The initiatives related to the Tata Motors Factory did very little to create additional connectivity or livelihood options. Whatever little alternative opening had arisen in the form of manual labouring work in the ensuing factory or construction work during the initial phases of the industrial development, had evaporated very soon firstly because the small scale of the enterprise and secondly its non-continuance owing to politically motivated uprising of the villagers. There had been some initiatives on the part of the Tatas to impart training which the respondents claim as 'irrelevant' and 'politically biased'. Hence, the Singur region did not have many opportunities for pursuing alternative livelihood options. The

only way they have been adjusting has been by modifying their agriculture in accordance to the demands of high value goods in Kolkata. Many have begun selling their agricultural products directly at the Kolkata whole sale market bypassing the middlemen that have ensured relatively higher returns.

The scenario in the Rajarhat villages has been quite different. The diminishing distance of the Rajarhat study villages from Kolkata by way of remarkable improvements in road and transport network facilitates access to some opportunities of livelihood as well as faster and easier commuting. Many respondents from the Rajarhat villages have started working as janitors and joined the security guard jobs created by the high rise estates in Kolkata, Salt Lake and the New Town. Although the respondents do not consider them as respectable jobs, there has been no ambivalence in the existence of livelihood prospect in these places. Also, there has been massive extension of electricity connection in the Rajarhat region adjoining the New Town. As a consequence, most parts of the affected villages have been electrified during the course of the past few years. It needs to be pointed out here that the unique feature of the Rajarhat new town plan is that it was targeted towards the creation of alternate livelihood opportunities. It has been outlined in the Jyoti Basu Nagar- Right to Information, Volume- I (2010):

- ‘Land losers’ cooperatives were encouraged to be formed and engaged in certain works of project construction.
- For the land losers special provision has been made in the allotment of land as well as shops built in the new town.
- A vocational training centre is under construction at the project cost where members of the land loser families will get special preference for training” (p. Ch- VI_P-21)

However the commitments made by the HIDCO regarding economic rehabilitation of the land losers have been thoroughly rampaged by the politically factionalized under-currents that have effectively de-barred opportunities for the political non-affiliates irrespective of any experience of land loss. Hence, the respondents do not perceive these schemes of the HIDCO as any fair livelihood possibility.

4 Livelihood Strategies and Outcomes

Scoones (1998) along with the other scholars have broadly identified three main clusters of livelihood strategies that are commonly available to the rural population:

- Agricultural intensification/extensification
- Livelihood diversification or change in the activity profile
- Migration²

²This study has not encountered any incidents of land dispossession induced migration of the land losers.

The relative significance of each varies contingent upon the context. Scoones (1998) have also suggested a schema for the assessment of livelihood outcomes in terms of creation of additional working days, poverty reduction, enhanced well-being and capabilities, livelihood adaptation-vulnerability and resilience and finally in terms of natural resource base sustainability. These indicators of sustainable livelihoods have been remarkably diverse in scope and method and hence the author has suggested that “no neat, simple algorithm for objectively measuring sustainable livelihoods emerges from this definition. . .” (p. 7).

This section is directed to the accounting of the various livelihood strategies adopted by the farmers after land dispossession and an evaluation of the livelihood outcomes in terms of their monthly per capita expenditure.

4.1 Agricultural Transformation: Intensification and Transformation of Cropping Pattern

Agriculture related adaptations may be manifested in the form of either intensification or extensification of agriculture such that a household aims at larger gains from agriculture. Intensification may be manifested in the form of “more output per unit area through capital investment or increases in labour inputs” (Scoones 1998). On the other hand, processes of agricultural extensification entails bringing of “more land under cultivation” (Scoones 1998). According to Scoones (1998), it is important to identify the nature of transformation that the agriculture has been experiencing by distinguishing between ways that are “capital-led (supported often by external inputs and policy-led) and labour-led (based on own labour and social resources and a more autonomous process) intensification” (p. 9) as it furnishes useful insights relating to the underlying processes as well as the macro structures that induce the observed nature of transformation.

This section attempts to look into the nature of changes observable in the practice of agriculture that has survived in spite of massive land acquisition in both the study areas. The objective is to unearth whether or not land scarcity have induced the farmers to adopt intensified land utilization and strategies to modify cropping pattern to achieve positive livelihood outcomes. Analysis pertaining to this section concerns all those land dispossessed farmers who have been continuing with agriculture in the remnant farmlands even after land loss. However, this section suffers from the major drawback of non-reporting of detailed agricultural data and hence the number of observations has been extremely skewed thereby limiting the breadth of analysis. Also, the analysis concerning changes in the nature of agricultural enterprise have been executed within the “with-without framework”, i.e., a comparison between the land lost farmers and control samples in order to offset the influence of forces that have naturally modified agriculture.

Access to irrigation, the most important input to agriculture has been significantly reduced following land acquisition such that the mean share of the

Table 1 Difference of mean area of operational holding irrigated before and after LA

Share of operational holding irrigated	Land lost to NTP (N = 82)		Land sold to corporate house directly (N = 50)		Land lost to TATA project (N = 60)	
	Mean	Mean diff.	Mean	Mean diff.	Mean	Mean diff.
Before LA	100.00	Significant	84.64	Significant	82.07	Significant
After LA	23.17	at 1%	36.72	at 1%	50.17	at 1%

Source: Field work 2010–11

Table 2 Change in cropping intensity

Category of cultivators		N	Mean	Mean diff.	
Partially lost land	Before LA	69	159	Significant at 1%	
	After LA		205		
Current cropping intensity	SINGUR				
	Never lost land	30	206	Significant at 1%	
	Partially lost land	37	257		
	RAJARHAT				
	Never lost land	31	172	Not significant	
	Partially lost land	39	171		

Source: Field work 2010–11

operational holding irrigated have also reduced significantly (Table 1). The decline in the share of irrigated holdings has been primarily due to the withdrawal of the public irrigation systems: the River Lift Irrigation (RLI) scheme in the Rajarhat region and the deep tube-wells in the Singur region. Much of this withdrawal of public irrigation system has been a political play. The communist party then in power had deliberately rampaged the RLI pump houses and deep tube-wells to render agriculture unviable. Where ever private investments in irrigation occurred, farming continued. The trend itself has been self-exclusionary as it pushes the small and marginal farmers either out of agriculture owing to higher costs of farming or forces them towards rain-fed agriculture only. At this point it must be noted that the two study regions reviewed in this study correspond to two different agricultural zones. While the Rajarhat region had been dominated by paddy, the Singur region had been traditionally part of the paddy-potato-jute belt of West Bengal. Hence, the analysis of the strategies related to agricultural enterprise have been dealt separately for both the regions as aggregates have been found to conceal critical regional trends.

The land lost households who are currently continuing with agriculture have been noted with significantly higher cropping intensity compared to their pre-land acquisition levels (Table 2). However, compared to the control samples, their

cropping intensity have not been significantly high and therefore may be interpreted as part of the larger regional pattern. There have been regional differences in the pattern of cropping intensity. While in the Rajarhat region the land lost households do not differ from their control sample counterparts, in Singur the land-lost households have been noted with significantly higher cropping intensity compared to their control sample counterparts.

The cropping pattern for the sample aggregates display remarkable departure from trends noted before LA among those households who have been continuing with agriculture. Share of area under total food-grains have declined significantly while the share of area under vegetables and horticultural crops have registered significant increases. The share of area under total non-food crops has remained un-altered. A disaggregated analysis reveal that the partially land dispossessed farmers in the Rajarhat region have exhibited the tendency to shift to rice mono-crop system and have allocated more than 90% of their cropped area to it. This has been an attempt to ensure the minimum subsistence needs by way of provisioning of food-grain requirements of the household. The cash crop cultivation has been observed to have declined and instances of diversification towards high value crops have not taken place. The share of completely land lost households being larger in Rajarhat region coupled with its location within a distance of about 10 km from Kolkata have rather discouraged the pursuance of agricultural enterprises. The respondents have stated three major reasons behind such withdrawal from agriculture: firstly, the soil does not suit any other crop except paddy and jute; secondly, the construction activity in the New Town has spoilt the fertility of the soils along with ground water depletion owing to water reservoirs constructed for the New Town; thirdly, being exposed to the consumerist urban culture the current generation do not want to continue with agriculture as it cannot support luxurious living on one hand and that agriculture entails drudgery.

Box 2: Modification of Agricultural Strategy Including Crop Combinations and Labour Arrangements: The Singur Region

It has come as a surprise that in-spite of reduction in access to irrigation, the Singur farmers have been noted with significant increase in cropping intensity after land dispossession. Therefore, it calls for a reconciliation of the anti-theoretical pattern of discordance between declining irrigation access and increasing cropping intensity in the Singur region.

The farmers have manifested two related modifications in the agricultural system in an explicit attempt to maintain pre-land dispossession levels of agricultural incomes. There has been a clear transformation of the crops raised: a shift away from the traditional paddy-potato-jute cropping cycle to the rearing of additional vegetables with shorter crop cycles and profuse inter-cropping. This strategy of vegetable based agricultural system has led to the second related modification of dependence upon family labour rather

(continued)

Box 2 (continued)

than hired labour thereby both reducing the cost of cultivation and also ensuring a continuous stream of income and output through regular marketing of vegetables. Not that vegetable cultivation had been non-existent and that land dispossession triggered the new agricultural system. It has been that farmers who had been earlier satisfied with their paddy-potato-jute crop combinations felt the urge to intensify their remnant farm enterprise in order to maintain a decent living. Commonly, ladies finger, bottle gourd and brinjal, potato and cauliflower/cabbage, cauliflower and pumpkin have emerged as common inter-crop combinations where no additional fertilizer, pesticide or irrigation is required for the second crop which ripens subsequent to the first crop. Often, several varieties of spinach and other leafy vegetables have been raised without additional fertilizer input and the crop thrives on the remnant fertilizer and moisture of the previous crop. Also, vegetable cultivation has been traditionally labour intensive and households generally depend upon family labour. Thus, through a judicious management of the crop cycles and crop combinations the inputs used have been optimized.

Before LA	After LA
Major Crops: Paddy (monsoon & summer), Potato, Jute.	Major Crops: Paddy (only monsoon and hence no irrigation required), Potato + cauliflower + cabbage + gourd, Jute, ladies finger + jhinga, bottle gourd + brinjal, spinach, beans, cucumber (no fertilizer/pesticide required)
Minor Crops: Brinjal, beans, bittergourd, chilli, tomato, onion, cabbage, cauliflower, gourd, ladies finger etc.	Minor crops: beans, bitter-gourd, chili, tomato, onion, turmeric, groundnut etc.

Source: Field work 2010–11

The other related fallout of the transformed cropping system has been the labour relations. Traditionally, in West Bengal, the cultivation of paddy-potato-jute has been heavily dependent upon hired labour. The Singur region had been the destination for large scale seasonal in-migrant agricultural labour from Bihar prior to land acquisition in order to cater to the needs of the paddy-potato-jute cultivation. A shift in the cropping pattern (Table 3) following land acquisition entailed a massive reduction in the demand for hired labour that perceptibly reduced the inflow of seasonal in-migrant rural labour. Also, local contracted agricultural labour syndicates emerged post LA replacing the migrant labour.

Table 3 Change in the cropping pattern

Item		Rajarhat land lost		Rajarhat control		Singur control		Singur land- lost	
		N	%	N	%	N	%	N	%
Total food- grain	Before LA	77	79.7	0	–	0		39	74.3
	Currently	14	90.4	31	97.1	30	53.0	37	41.7
Total non- food crops	Before LA	77	17.1	0	–	0		39	10.3
	Currently	14	8.6	31	2.7	30	14.4	37	18.9
Vegetables and horticultural crops	Before LA	77	3.2	0	–	0		39	16.2
	Currently	14	1.0	31	0.2	30	32.5	37	39.4

Source: Field work 2010–11

Box 3: Singur: Case Study of Adapting Agriculture After Land Dispossession

Joydev Baag, a medium farmer in the village Beraberi of Singur had owned 3.4 Bighas of multi- cropped land and leased in another 4.3 Bighas to cultivate total 7.7 Bighas. He used to cultivate two paddy crops and four to five vegetable crops in an agricultural year. He used to sell his vegetables regularly in the wholesale market in Kolkata and had constructed a pucca house from the profits. Although himself unmarried, he supported the family of his brother who was married and also had two kids. In 2007, 6.75 Bigha from his operational holding had been acquired and he was ultimately left with access to only 0.9 bighas of land which he owned. He was an active member of the Trinamool Congress Party and refused to accept compensation money as a token of non- acceptance of the Tata Small car project related land acquisition. The basis of livelihood being truncated, the experienced and skilled agriculturalist devised strategies to modify his approach to agriculture and intensified cultivation to match the previous level of income. Presently he raises six to seven types of vegetables, potato and the monsoon paddy dividing his plot into small parcels. He has explained:

“To increase income from the remaining plot of land I have done the following: firstly, increased intensity of farming through profuse intercropping, secondly, have planned crops in such a manner in the intercropping that while one crop is in the process of ripening, the other is ready for harvest thereby ensuring continued output, and thirdly, have planned the crop mix in such a way that the fertilizer and water requirements of the crops have been optimized.”

On the other hand, the Singur region has revealed instances of intensification of farming as attempts to maintain the pre-land acquisition income levels. The share of

land devoted to vegetables and horticultural crops have been more than doubled and that devoted to non-food cash crops have also been doubled. Their crop cycles have also been modified in order to optimize the cost of cultivation and maximize profits. There have been profuse inter-cropping, shift towards crops with shorter cycles to enable enhancement of cropping intensity, greater shift towards vegetable cultivation that enable a shift from dependence upon hired labour to family labour and transformation of crop cycles to optimize input use (Boxes 2 and 3).

The adaptations related to agriculture have therefore displayed two diverging trends in the two study regions. On one hand there have been significant agricultural intensification in case of the land lost households in Singur although there have not been any significant change in cropping pattern. On the other hand in Rajarhat, agriculture has been reduced to a truncated subsistence activity the source of livelihood shifting away from natural resource base. Perhaps the differences in their respective distance from Kolkata coupled with their pre-existing differences in cropping pattern have led to the adoption of different agricultural strategies following land dispossession. It succinctly indicates the significance of the pre-existing regional character in determining the array of strategies adopted by any community to tide-over stress. The well-being of the Singur economy traditionally being deeply rooted in the agricultural ethos prior to land acquisition, manifested tendencies to re-entrench itself within the agrarian economy following the land dispossession shock. The Rajarhat land dispossessed farmers who already had sustained paddy mono-cropping prior to land acquisition shifted further away from agriculture in their attempts to get integrated into the emergent urban economy. Here, the distinctive physical distance of the two regions has also impacted the pattern of strategies adopted by the land dispossessed farmers of the two regions. It points out tersely the enormous relevance of land as a factor of production to those who heavily depend upon farming enterprise for their livelihood (besides subsistence needs) and rightly justifies the new clause in the LARR 2011 proclaiming restriction upon the acquisition of multi-cropped land.

4.2 Dynamics of the Activity Profile and Related Outcomes

This section attempts to look into two things: firstly, the emerging patterns of activity portfolio apart from the principal and subsidiary occupations of the land lost households,³ and secondly, the livelihood outcomes related to the nature of occupational changes that have been experienced by the land lost households.

4.2.1 Additional Sources of Income/Livelihood

Within a typical village setting often crop farming has been found to coexist with animal rearing and poultry where the residue of one feeds into the other system.

³The change in employment structure with respect to principal and subsidiary occupations is discussed in Chinmoyee (2014).

Table 4 Mean number of total activities pursued currently and MPCE

MPCE quartiles	Control	Land lost
Very low MPCE	1.85	1.12
Low MPCE	2.00	1.86
Medium MPCE	3.50	2.45
High MPCE	3.30	2.56

Source: Field work 2010–11

Most commonly the animals sustain upon the crop residue and their waste products serve as fertilizer in the farming system. Further, the farm machineries have been found to fetch rental income. Recently, selling water from the private boring has also emerged as an additional source of income within the rural economy that contributes to the total household income. Therefore, there have been a multitude of income sources that in essence impart resilience through risk spreading by way of complementarity. In consonance with the observation regarding any typical rural household, the study region had been dominated by a multiplicity of activities both related and unrelated to agriculture prior to land dispossession. This section attempts to analyse the dynamics of the multiplicity of income earning activities undertaken by the different categories of households and any transformation of the same owing to land dispossession and its implications for livelihoods.

The relationship between the total number of livelihood activities pursued and its implication has been a somewhat baffling issue. Deshingkar et al. (2006) have outlined the broad livelihood strategies that range from a correspondence between specializations in single high return activity as a strategy to accumulate adopted by the rich on one hand to dependence upon diverse activity portfolio of the poor as an attempt to spread risk and control vulnerability on the other hand. In this study area the correspondence between larger number of livelihood activities pursued and higher quartile class of the MPCE⁴ may be interpreted as reflection of a positive relation between the two (Table 4).

From Table 5 it may be observed that the mean of total number of livelihood activities for the government acquisition sample (both land owning and the landless) have declined significantly after land dispossession from that recorded before land loss. Comparing the land lost households with their respective control samples it may be observed that the former has significantly lower mean values in case of both the land owning as well as the pure tenant cultivator households. Intriguing has been the fact that the pure tenant households from among those losing land to government acquisition have been noted with significantly lower number of activities compared to their land owning counterpart. Such a trend may be suggestive of eroding livelihood security of the households who have lost land to Government acquisition, more so in case of the pure tenants.

The internal dynamics of the activity profile revealed the following. Firstly, agriculture and allied activities broadly comprising of dairy, poultry, fishing and goat rearing that was undertaken by most of the farm households prior to land loss,

⁴Monthly per capita consumption expenditure.

Table 5 Mean number of livelihood activities (excluding principal and subsidiary occupations)

Category of cultivator		N	Mean	Mean diff.
Total government acquisition	Before LA	142	2.394	Significant at 1%
	After LA		1.697	
	After LA		2.760	
Land owner	Before LA	97	2.588	Significant at 1%
	After LA		1.948	
Pure tenants	Before LA	45	1.98	Significant at 1%
	After LA		1.16	
Total government acquisition	Control	61	2.738	Significant at 1%
	Land lost	142	1.697	
Farmers owning some land (government acquisition)	Control	46	2.957	Significant at 1%
	Land lost	97	1.948	
Pure Tenant Cultivators (government acquisition)	Control	15	2.067	Significant at 5%
	Land lost	45	1.156	
Total government acquisition	Households owning some land	97	1.948	Significant at 1%
	Pure tenant cultivators	45	1.156	
Government acquisition in Rajarhat		67	1.925	Significant at 1%

Source: Field work 2010–11

reduced considerably following land dispossession primarily owing to inability to provide feed to the livestock. Secondly, activities that have not been directly related to agriculture comprising of hiring out agricultural implements (e.g. thresher, water lifting pumps, power tillers, etc.), selling water and selling excess agricultural output declined considerably as such implements were sold off following land loss. Thirdly, income comprising of house rent, interest earning from money lending and land rent along with interest returns from monetary investments came to existence only after LA when considerable investments went into housing stock. Additionally demands for rented housing developed in the study regions to meet the shelter needs of the migratory labourers who arrived to work in the construction sites. The increase in the share of non-cultivating land owning households who leased-out their land and themselves depended on other sources of livelihood emerged as a prominent phenomenon. Lastly, policy investments in the form of monthly income scheme, Alchemist policy⁵ and investment in the construction material supply syndicates emerged in the study region after LA. However, the landless households are entirely excluded from the ambit of this means of sustenance owing to their pre-existing resource constraints re-enforced by land alienation. The general decline in the total number of livelihood activities and

⁵Local investment policy akin to LIC.

Table 6 Difference of mean MPCE between those continuing with agriculture and those shifting sector of work

Nature of sectoral change	Government acquisition		
	N	Mean	Mean diff.
Continuing with primary sector work	56	1193	–
Shifted from primary sector work to secondary sector work	64	1211	18
Shifted from primary sector work to tertiary sector work	65	1397	204**

Source: Field work 2010–11

**Significant at 1%

the transitory nature of these professed by the respondents through informal discussions do convey the rising vulnerability of the livelihoods.

4.3 Change in Employment and the Outcomes

4.3.1 Sectoral Change and Livelihood Outcome

This section specifically attempts to look into the welfare outcomes related to the nature of occupational shifts (with respect to the principal occupations) experienced by the various categories of the study population.

Persons shifting from primary sector to secondary sector have revealed marginally higher MPCE compared to those who are continuing with agriculture although the difference has not been statistically significant (Table 6). However, persons who have shifted into the tertiary sector have exhibited significantly higher MPCE compared to those who have been continuing with agriculture as principal occupation. Those who have shifted in favour of the tertiary sector have been largely better placed compared to those who have shifted to either secondary sector or have been continuing with previous agricultural work.

4.3.2 Nature of Current Work and Livelihood Outcome

Papola and Alakh (1997) has argued that increasing casualization may not necessarily imply a deterioration of work and livelihood. According to him, if shift takes place from the low return subsistence agriculture to relatively better remunerated casual work, it does not represent a case of deterioration. That is to say, within the rural economy, a switch over from self-employed to casual work may entail movement to relatively higher return work and therefore may not be labelled as deterioration without qualification. This section seeks to look into the livelihood implications that have been associated with the transformation of nature of work undertaken following land dispossession and related outcomes.

It may be noted that the self-employed workers have revealed significantly higher levels of MPCE compared to the casual labourers in case of both land owning as well as the pure tenant households. Again, within the casual as well as the self-employed categories, the pure tenant households have exhibited significantly lower MPCE compared to the land owning counterparts (Table 7). Also,

Table 7 MPCE and current nature of work

Nature of worker		N	Mean	Mean diff.
All casual workers		192	1144	Significant at 1%
All self-employed workers		229	1676	
Households owning some land	Casual labourer	121	1227	Significant at 1%
	Self employed	184	1767	
Pure tenant cultivators	Casual labourer	71	1002	Significant at 1%
	Self employed	45	1304	
Self employed				
Households owning some land		184	1767	Significant at 1%
Pure tenant cultivators		45	1304	
Casual workers				
Households owning some land		121	1227	Significant at 1%
Pure tenant cultivators		71	1002	
Primary sector		28	1084	Not significant
Secondary sector		113	1130	
Secondary sector		113	1130	Not significant
Tertiary sector		51	1209	
Primary sector		28	1084	Not significant
Tertiary sector		51	1209	

Source: Field work 2010–11

there has not been any significant difference in the mean MPCE among those casual workers currently located in any of the primary, secondary or tertiary sectors of work. Such a phenomenon has been clearly indicative of two elements: firstly, the casual workers have been placed worse-off compared to the self-employed workers irrespective of the employment sector; and secondly, even after working as casual labourers the land owners enjoy a slightly better life condition compared to the landless casual workers even after suffering land dispossession. The fact that the households depending primarily upon casual labour are placed worse-off compared to the self-employed workers irrespective of the sector of work suggests that the type of casual employment that has been profusely replacing self-employed agriculture have been far from being capable of ensuring robust livelihoods. Unmistakably, it points to a worsening labour market situation marked by increasing job insecurity and vulnerability. Nonetheless, the nature of access to land prior to LA, which has also been positively associated with the overall asset position of the households, have professed some tacit influence upon the current status of well-being even in case of the casual workers such that the land owning households have been relatively better placed.

Table 8 Monthly per capita expenditure (Rs)

Type of cultivators		N	Mean	Mean diff.
Government acquisition	Control	61	1646	Significant at 1%
	Land lost	142	1332	
Households owning some land	Control	46	1803	Not Significant
	Land lost	97	1436	
Pure tenant cultivators	Control	15	1163	Not Significant
	Land lost	45	1109	
Small land owning cultivators	Control	25	1535	Not Significant
	Land lost	38	1374	
Semi-large and medium land owners combined	Control	21	2123	Significant at 5%
	Land lost	59	1476	
Households owning some land		97	1436	Significant at 1%
Pure tenant cultivators		45	1109	

Source: Field work 2010–11

4.4 Livelihood Outcome

Attempting to summarize the livelihood outcomes, it may be observed that MPCE has been higher for all control samples compared to the land lost counterparts irrespective of land owned or not owned. However, the differences of means have been statistically significant only in case of the Government acquisition samples taken together. Again, from among those households who have lost land to Government acquisition, the mean MPCE of the land owners has been significantly higher than that of the pure tenant households (Table 8). Interestingly, the mean MPCE of the land-lost households of the semi-large and medium land owners combined has been significantly lower compared to their control sample counterparts.

5 Conclusion

The study has indicated that the implications of vulnerability contexts, the effective livelihood options and the connotation of asset ownership have come to be defined through the emergent political climate. There has also been a clustering of capitals including political capital and hence a correspondence between land owning households and better livelihood outcomes relative to the landless (pure tenant cultivator) counterparts.

Table 9 summarizes the livelihood outcomes and the major correlates. There have been, on the outset, some fallouts of land acquisition which have affected all resident population and have been largely non-negotiable. Elements like withdrawal of public

Table 9 Summary of livelihood outcomes and the correlates

Non-negotiable outcome	
Affected all sections irrespective of resilience of household	<i>Decline in the mean no. of livelihood activities leading to eroding of livelihood security accelerated through attrition of assets: Cultivators under government acquisition, especially the pure tenants worst hit and the households selling land to private players relatively un-affected.</i>
Partly-negotiable outcomes	
Correlates	Outcome
Regional context	
<i>Economy prior to LA:</i>	<i>Pattern of adjustment following LA</i>
Rajarhat: Location near Kolkata and paddy mono-cropping and therefore less dependence on agriculture	Rajarhat: agriculture reduced to merely a subsistence activity post LA—the basis of livelihood shifting away from natural resource base
Singur: Very well connected to Kolkata and agriculturally developed—heavily dependent on agriculture	Singur: significant agricultural intensification in case of the land lost households—tendencies to re-entrench itself within the agrarian economy following the land dispossession shock
Access to Assets	<i>MPCE outcome:</i>
<i>Size of asset pentagon:</i>	
(a) Control samples > land lost	Control samples have been better placed compared to the land- lost households irrespective of whether they own land or not;
(b) Land owning cultivators > pure tenant	Within the relatively larger land owners (semi-large & medium combined), control samples have better livelihood outcomes compared to land-lost counterparts;
(c) Semi-large & Medium land owners combined: control > land-lost	In-spite of losing access to land, the land owners have been better placed compared to their landless tenant cultivator counterparts;

Source: Compiled by author from this study

irrigation schemes and loss of additional livelihood activities that had been indirectly related to agricultural enterprise have been the major outcomes. The conspicuous loss of livelihood security of the land dispossessed households in the form of decreasing number of livelihood activities and their increasing dependence upon vulnerable sources of income have been evident. There is another set of livelihood outcomes that have been partly negotiable depending upon the regional context, asset endowment of the households and the extent of compensation receipt. The specificities of the regional context have created diverging adjustment paths between the Rajarhat and Singur regions. The Singur region, that already had been deeply rooted into the agriculture-based economic order, manifested tendencies to re-entrench itself within the agrarian economy following land dispossession shock through intensified farming

practices. Although there had been some diversification of the Singur economy prior to LA, it was heavily agriculture-led and agriculture dependent. On the other hand, the Rajarhat land dispossessed farmers who already had sustained paddy mono-cropping prior to land acquisition shifted further away from agriculture in their attempts to get integrated into the emergent urban economy owing to firstly, its pre-existing inclination towards partial dependence on agriculture, and, secondly, its proximity and decreasing physical exclusion encouraging the adoption of urban-related activities.

The preceding analysis has clearly indicated the following: firstly, the control households have been better placed compared to the land lost households irrespective of whether they own land or not; secondly, within the relatively larger land owners (semi-large and medium combined), control samples have better livelihood outcomes compared to land-lost counterparts; thirdly, in spite of losing access to land, the land owners have been better placed compared to their landless tenant cultivator counterparts.

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