



Migration in the Indian Bengal Delta and the Mahanadi Delta: a review of the literature



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Migration in the Bengal Delta and Mahanadi Delta in India

Theoretical framework of migration

Migration is the process by which individuals or whole households leave their usual place of residence for another geographic location, usually crossing an administrative or national border and remaining for at least six months, usually as a result of a change in the relative attractiveness, real or perceived, of the usual place of residence with respect to the destination. (Definition on Migration, DECCMA, 2015)

Migration over past several decades from Indian Bengal Delta and Mahanadi Delta have occurred due to better livelihood opportunities and earning better income. Such migrations however, are triggered by ability to have level of higher education or through acquisition of vocational skills. Many educated men and women from interior of Indian Bengal Delta have long migrated to urban centres, taking opportunities for better prospects of earning. While the skilled rural workers (like plumbers) from Odisha are known to have migrated to West Bengal, over many decades, but such migration is mostly limited to the migration of the male member, who leave the families behind, send monthly remittances through postal services and visit the family back in the village at least three to four times a year (Vasundhara, 2005; Spread, 2009; Bag, 2011; Centre for Migration and Labor Solutions, 2014). These migrations are not related to any climate induced phenomena but purely driven by economic needs and better job opportunities. However, after the recent cyclones and storm surges hitting Indian Bengal Delta, records of migration can directly be related to the climate induced phenomena. (CRS, 2010; CSE, 2012; Bera M. K., 2013; Ghosh, A.K. 2014 ;) The other form of migration can be termed as “Forced” as well as partially ‘planned’ migration, as can be witnessed in government guided resettlement programmes from the submerged islands of Ghoramara in ISD to the Sagar Island in the same region. [Ghosh, T, 2014; Mukherjee Baishali, 2014; Ghosh A.K. and Dutta Natasha J, (in press)].

The task of theory building and model development is not always easy because human phenomena are highly dynamic and which change in their spatial and temporal dimensions with unusual rapidness. Moreover, it may be difficult to subject the individual human behaviour to a well-defined set of laws. After a detailed review of literatures and theories on migration, the conceptual theoretical framework which provides basic concepts of human movement in the concerned deltas has been identified.

Most of the migrants of IBD and MD travel short distance and with increasing distance the number of migrants decreases [Ravenstein’s laws of migration (1875-89); Zipf’s inverse distance law (1949)]. In both the deltas, intra-state migration is common whereas inter-state migration is mostly found for labour migrants. Male migrants are more dominating than female migrants. Women take on the additional responsibility of looking after the household and the farms in the absence of male members

in the family (Sansristi, 2006/07; CRS, 2010; CSE, 2012; Prakash 2014; Mohanty, 2014; KARMI, 2014) Female migration received very little attention in the early migration theories, where women were either taken as dependent migrants or residuals. In early theory and literature female migrants were regarded as 'associational migrants', who moved along with their spouses or family (Mahapatro, 2010; Thadani&Todaro, 1984; N. Neetha, 2004). Ravenstien in one of his 'Laws of Migration' concludes that women migrate more than men but only to shorter distances for working in domestic sectors, manufacturing industries, workshop etc. Similar trend can be witnessed in the case of Indian Bengal Delta where the women migrate only to peri-urban areas of Kolkata, to work as domestic help (CRS, 2010; CSE, 2012; Prakash 2014) Thadani and Todaro (1979), in developing a framework on analyzing female migration in the developing countries, postulates that migration of women is subjected to economic as well as social factors but constrained by socio-cultural evaluation. Marriage as an important reason for migration of women, has been given prime focus in this framework, as evident in India (Singh, J.P, 1984; Lusive&Bhagat 2006; Mahapatro, 2010; Census of India, 2001; NSSO, 2010).

A 'Push-Pull Model' of Migration distinguishing between 'origin' and 'destination' areas and 'intervening obstacles' in between these two areas was proposed by Lee (1966). The positive and negative factors at both the origin and destination, push and pull the migrants to the decision of migration or non-migration, which is calculated on the basis of intervening obstacles, e.g. distance, migration laws, cost of transportation etc. Increase in the salinity of the soil due to climate change impacts, erosion of land, lack of alternative sources of livelihood, poor access to education and infrastructural facilities have led to people migrating to other parts of the state and too far away places, for refuge and sources of alternative livelihoods. The receiving areas include states of Kerala, Maharashtra, Chhattisgarh, Delhi, Gujarat, Karnataka, Andaman etc., and even to international destinations such as Dubai, where they get employed in construction sectors, brick kilns, factories etc. Intra-state migration was also prevalent where the migrants migrated to urban areas like Kolkata, Puri, Bhubaneswar etc. (Sansristi, 2006/07; CRS, 2010; Sulagna&Poyyamoli, 2011; CSE, 2012; Bera 2013; Prakash 2014; MohantyAliva., 2014; KARMI, 2014; Mukherjee, 2014; Ali & Amrita, 2014)

Lee pointed out that the migration process is selective because differentials such as age, gender, and social class affect how persons respond to push-pull factors, and these conditions also shape their ability to overcome intervening obstacles. The age-group of the migrants ranged from 15-40 in the case of male and 26-40 in the case of female migrants. The migrants mostly belong to 'Below Poverty line (BPL)' category, have low level of literacy, are small or marginal landowners and are usually unskilled. Rural residents are most likely to be migrants. The migration trend in the concerned deltas is from rural to rural and rural to urban areas, within the state or to other states and even to other countries (Sansristi, 2006/07; CRS, 2010; CSE, 2012; Bera 2013; Mistri, 2013; Prakash 2014; MohantyAliva., 2014; KARMI, 2014; Ali & Amrita, 2014).

Seasonal migration was a standard practice largely due to lack of opportunities in both the delta during dry seasons, (especially farming being dependent on monsoon rain) but the rate of migration from the region increased after Cyclone Aila in 2009 in case of ISD (CRS, 2010; CSE, 2012; Sarkar,

2012). Forced migration, the movement in which an element external impact dominates, including threats to life and livelihood, arising from natural or man-made causes, has been witnessed in ISD, such as movements from the vanishing islands of Ghoramara and Lohachara (Hazra and Bakshi, 2003). People have been forced to change their traditional livelihood and opt for available alternative. For eg. fisherman turning into a rickshaw puller in the receiving area. However environmental migrants are yet to be recognised even as a separate class of migrants in India, leaving aside the need to maintain a record, to regulate migration or to formulate appropriate adaptation or rehabilitation policies for them (Hazra and Bakshi, 2003).

Gender studies on migration emphasise that men and women differ in their responses to migration factors and that sex discrimination in the labour market has an important impact (Zlotnik, 2003). The number of female migrants is rising but they are yet to be considered as equal actors worthy of being accounted for (Sansristi, 2006/07). The situation is further complicated because of exploitative practices of moneylenders and recruitment agents/middle men leading to accentuation of vulnerability of female migrants and also obstructs social security, health, education and welfare benefits (Sansristi, 2006/07; Labour Directorate, Government of Odisha)

In the Basic Livelihood Framework formulated by Ellis (2003), migration is viewed as a central feature in the livelihood of poor people in low income countries and that the decision to migrate is not solely economic but also social. Migration here is seen to contribute to secure livelihoods or 'activities', through the utilization of the 'assets' or 'resources' distinguishable as human capital, social capital, financial capital, physical capital and natural capital, which would help in the minimization of 'risks' or 'vulnerabilities' and ultimately help in the reduction of poverty, but the potentiality is often curtailed by the 'Policy environment'. (McDowell Christopher et.al., 1997; Scoones Ian, 1998; Waddigton Clare, 2003)

There is a need for incorporation of new causes or determinants of migration into the theoretical perspectives of Migration like Climate Change, as the changing climate is also seen to be one of the causes that are directly or indirectly leading to migration of people from the above mentioned deltas. Thus reference can be made to a framework suggested by International Organization of Migration (IOM, 2008) which combines the Sustainable Livelihood Approach (SLA) model and New Economics of Labour Migration (NELM) model.

Migration in the Indian Bengal Delta /West Bengal

The Indian Bengal Delta is inhabited by about 4.5 million people, in 54 islands out of a total of 102 islands. Early human settlement in the Indian Bengal Delta is very vague. Some historical findings have shown that the area had been populated even during 273-232 BC. JalaisAnnu (2010), in her book "Forests of Tigers", starts the historical account from AD 1200, when Sufi holy men cleared the forests in Northern and Eastern part of the Delta and introduced agriculture. The area was thriving with small wealthy kingdoms before the 13th century, with naval trade to South-East Asia and Middle East. The Portuguese traders were followed by the invasion of the area by the "Arakan" pirates in the 16th-18th century. The 17th-18th century, witnessed inhabitation of the area in semi-permanent ways by fishermen, woodcutters, pirates, paddy cultivators and salt makers who lived in

boats. However, large scale migration started after the middle of the 19th century, when British East India Company took over the administration of Bengal and converted the marshy/swampy lands of Sundarbans, especially the southern part of the region, into agricultural land, bringing in workers from places such as Chotanagpur, Hazaribagh, Manbhum now in Jharkhand, Balasore in Odisha, Arakan Coast in Myanmar, districts of Bankura, Birbhum, Midnapur, Nadia, Jessore in Bengal and also people from North 24 Parganas (JalaisAnnu, 2010). "By the 1870s, the colonial state was anxious for new revenues, and "the sight of potentially fertile land lying wild and idle was an affront to the progressive-minded revenue officers of the Bengal Civil Service." (Danda 2007). The islands of Satjelia, Gosaba and Rangabelia however was leased by Scottish businessman, Sir Daniel Hamilton in 1903, with the plan of starting a cooperative sector, where he brought in labourers to settle here. Danda (op.cit) has mentioned "how infrastructure was built and public services provisioned and paid for in the estate, through a consumer cooperative, the oldest of its kind in India."

The recent in-migration in the region was after the partition of Bengal which led to huge influx of refugees from East Pakistan (East Bengal), between 1951 to 1971. (GoWB, 2009). Next influx of refugees to West Bengal originated with the formation of Bangladesh in 1971, as an independent nation (Nandy, 2005; Ramachandran, 2005; Shamsad, 2008; Kumar, 2009). Datta (2004) conducted a qualitative survey in Kolkata and North & South 24 Parganas, taking a total of 50 respondents from different backgrounds like political leaders, administrators, economists, demographers, journalists, sociologists etc., to get their account of (undocumented) migration from Bangladesh to West Bengal, starting from the time of Partition in 1947 to the year 2002. Besides political, ethnic and religious reasons and even construction of Farakka barrage in the past which led to massive migration from East Bengal (Swain, 1996; Banerjee, 1999; Lamballe A, 2000; Opstal, 2006; Mukherjee, 2011). The new "Push" factors of migration, according to the respondents were, economic instability and depression, poverty, lack of employment opportunities, livelihood, loss of land and lack of industrialization. About 50% of the respondents also blame the high density of population in Bangladesh leading to migration. Amongst other "Pull" factors in the receiving areas (West Bengal) like economic opportunities, political stability etc., it was also noted that the regions (West Bengal and Bangladesh) share geographical proximity and similar cultural and linguistic similarities. But these immigrants in the receiving area, working in low skilled jobs, face numerous problems of poor nutrition, improper medical facilities, poverty and so on. The author based her study more so on the opinion of a "second party" rather than the actual migrants. However, such migration is very hard to document and one cannot be sure of the actual figures of such migrants.

Like anywhere else in India, Migration over past several decades from ISD have occurred for better livelihood opportunities and earning better income, acquiring higher education or skills. Such migration can be seen as seasonal in nature (CRS, 2010; CSE, 2012). But over the years, studies in Indian Bengal Delta are largely concentrating on migration resulting from natural disasters like cyclones, storm surges, erosion of land, breaching of embankments or submergence of islands. (Hazra Sugata et.al., 2002; CRS, 2010; CSE, 2012; Bera M., 2013; Ghosh A.K., 2014; GhoshTuhin, et.al., 2014; Mukherjee, 2014)

Analyzing the census data of 1961 and 1971, Singh, J.P (1984), made a comparative study of the states of Kerala and West Bengal to find out the existence of any correlation between migration and distance and found out that in the cities of West Bengal the percentage of migrants increased with the increase in distance from the cities, than compared to the state of Kerala (5.3 from the same

district; 22.4% from other districts and 72.3 from other states like Bihar and Odisha), for economic (in the case of male) as well as non-economic reasons like marriage (in the case of female), social connections, political change etc. Further the study supports the hypothesis of “shorter distances female migrants predominate over male migrants and at longer distances male migrants predominate over female migrants”. This has been attributed to development and growth of trade, commerce, industry and mines. The study only focuses on in-migration in West Bengal and not out-migration. Lusome and Bhagat (2006) on the basis of his analysis of the trends and patterns of internal migration in India based on the census data of 1971 and 2001, pointed out that short distance migration largely comprising of women is the predominant pattern, the reason primarily being marriage. It was seen that the proportion of short distance migrants has decreased while the proportion of medium and long distance migrants have increased in the last decade of the period under study. The authors have predicted that long distance rural to urban and urban to urban streams are likely to emerge as the dominant migration pattern in the future.

The Human Development Report of South 24 Parganas (GoWB, 2009) (to which 13 Blocks of ISD belong), analyzing the Rural Household Survey (RHS of 2007) observed that there is an increasing flow of out-migration of youth from the islands into different parts of India. The report however mentions that there is also a trend of “large scale” in-migration from the districts of Medinipur to the blocks of Sagar and Namkhana which has had a positive impact on the education of people.

Similar finding can be mentioned here of a comparative study conducted by Maharana Arup (2003) on the positive aspect of seasonal migration on the Santal tribe in the two districts of West Bengal namely, Birbhum and Bankura. Comparing the tribe in the above districts, the author points out that although the tribes share similar “socio-cultural moorings” and similar degree of female autonomy but have different outlook when it comes to “fertility transition”. The Santals of Bankura district (particularly the villages of Chitrihutu) have a trend of more migration than the Santals of Birbhum (who do not migrate at all) and as a result are more welcoming towards family planning measures than the latter who are more traditional.

The Human Development Report of North 24 Parganas (2010) (to which 06 Blocks of ISD belong) believes migration to be one of the coping mechanism resorted by people to escape the vulnerability with which the district is associated with- poverty, food insecurity, natural calamities such as flooding, cyclones, storm surges, erosion as evidenced in the post 2009 Cyclone Aila period- and insecurity in border areas, livelihood insecurity. The same report has analyzed the study of Rural Household Survey (2007) carried out by Department of Panchayat and Rural Development, Government of West Bengal, where it was seen that the Block of Sandeshkhali II (one of the block of ISD), had the highest percentage of temporal (31.32) and seasonal migrants (29.77). But the study did not provide clear details of the migrants.

The Human Development Report also analyzed another study by ORG-MARG, 2008 in North 24 Parganas, where it was seen that 76.75% cases of out migration were reported to be seasonal in nature, usually involving male migrants and the number of family migration was small. The migrants mostly belong to the age group of 18-34 and are illiterate or have attained only primary schooling. The percentage of female migrants was relatively small and only limited to the domestic sector in the city of Kolkata. The study also reveals that people mostly migrate outside the district but remain within the state of West Bengal (GoWB, 2010). But the report does not provide details in what work

are the migrants employed in the receiving areas. However, in later studies it can be observed that the migrants are moving to other states of India (CRS, 2010; TaralekarRadhaet.al., 2012; CSE, 2012; Bera M., 2013; Ghosh A.K., 2014). Analysis of census data (2001) by TaralekarRadhaet.al., (2012) have taken West Bengal and Odisha also as the states which contributed more than 10,000 emigrants to Mumbai for 'work' and 'education'.

Cyclone Aila in 2009, apart from the devastation that it brought about, majorly impacted the livelihood of the people especially those who were dependent on agriculture- the primary occupation of the people in the region. Increase in salinity of the soil and ingress of salt water into the ponds made cultivation as well as fishing extremely difficult. A reference can be made here of a study on the impact of cyclone Aila on public health, on arable land, the effectiveness of rescue operation, the rate of morbidity and mortality and other socio-economic problems by Mistry D, (2013). About 891471 people were affected in just one district of ISD- South 24 Parganas. It is however not clear as to what were the parameters that the author used in calculating the number of people who were affected.

Post-Aila scenario witnessed large scale migration of people in search of alternative livelihoods. Collaborative research by Association of Bengal Collaborators for Development, Regional Forum- West Bengal, Catholic Relief Services, WWF-I and PalliUnnayanSamiti, Baruipur, demonstrated that 50% of migrant households, from a sample of 501 households in three Gram Panchayats- Bali I & Bali II (Gosaba block) and Nafarganj (Basanti Block) migrated to places like the states of, Assam, Andhra Pradesh, Chhattisgarh, Chennai, Gujarat, Jharkhand (Ranchi), Karnataka (Bangalore), Kerala, Madhya Pradesh, Maharashtra (Mumbai), Orissa, Rajasthan, Tamil Nadu (Kanyakumari), Uttar Pradesh, Uttaranchal (Nainital), West Bengal (Burdwan, and Kolkata) and Delhi and Andaman. The male migrants, within the age group of 20-40, mostly belong to the 'Below Poverty Line' (BPL) category (usually belonging to Scheduled Tribes & Scheduled Castes), are semi-skilled or unskilled or uneducated. Family and female migration would take place within the state- to nearby peri-urban areas of Kolkata- while men migrated outside the state. (CRS, 2010). The trapped population included, women, children and the elderly, who survived on the remittances sent by the migrant member of the family or through loans or alternative options.

Similarly, a study undertaken by civil society organization, Centre for Science and Environment (CSE, 2012) witnessed migration of especially able bodied male from Mousuni (Namkhana Block), Satjelia, Rangabelia and Lahiripur (Gosaba Block), Rajaballavpur (Patharpratima block) to other states within the country and even international destinations like Singapore and Saudi Arabia. But such choice of destination was dependent on the nature of work and the resources available at the households level, social capital and skills that the migrant has. The CSE study (2012) found that being unskilled the migrants lacked bargaining power. Women and family migrated only within the state, as was observed in the above study. However such migration has proved to be rewarding, as mentioned by the people and was taken as an autonomous form of adaptation. Sarkar (2012) also revealed nearly 50% male from 4371 families, residing in four villages from just only one Gram Panchayat- Lahiripur in Gosaba block migrated to other states of India from, after Aila. (Ghosh A.K., 2014).

Another factor that has led to migration of people from this region is the decline of natural resources, as has been shown by Mistry A, (2013) in his study in Satjelia island, where 74% of the respondents (out of 200) reported migration, 89% male and 11% female. Migrants being usually

unskilled or semi-skilled were forced to work in sectors such as construction, manufacturing, service sector, agriculture and female migrants as maid servants, starkly different from their earlier occupation. Inter-state migration was predominant- to states such as Gujarat, Andaman, Karnataka, Maharashtra and Tamil Nadu- rather than inter-district or intra-district. Within the state the migrants were restricted to Hooghly, Howrah, Burdwan, West Medinipur, Nadia and even North 24 Parganas. Thus, in-migration within the delta district can also be witnessed.

Such in-migration in Titagarh Municipality of North 24 Parganas of Bihari migrants was witnessed in the study of Neogi and Dutta (2013). Existence of jute and paper mills in this area attracts migrants, who are usually within the age group of 20-50 and from low socio-economic households of the rural districts of Bihar, Uttar Pradesh and Andhra Pradesh and Odisha. This study on female migrants observed that marriage was the primary reason for them followed by lack of livelihood, while men migrated for employment and loss of land in the sending area. Their decision to migrate, however, rests with the husband and also household expenses. In this receiving area the women often turn into “camouflaged migrants” and made to work as casual labourers. However, the migrants are now re-migrating to other states like Kerala and Karnataka where the wage structure is reportedly higher. This has led to male migrating to far away states while the women are being left behind in Titagarh. Das and Saha (2013) in their analysis on trend of Migration in India, noted that female migration rate was higher than male migration, attributing the cause to marriage in case of female and work in case of men. The study however, opines that the rate of in-migration of West Bengal has stagnated over the past few years due to the decline in industrialization and job industries.

Land erosion and breaching of embankments also have proven to be one of the factor for migration in this deltaic region. Bera M., (2013) in his study of G-Plot of Patharpratima and Ghoramara GP and Dhablat GP of Sagar block, observed that the impact of adverse effect of breaching of embankments, in a community, whether due to natural or anthropogenic factors, depends on the resources and livelihood of the families. Migration-decision was also dependent on social status and land holding status. Landless people bought land which is cheaply available at the flooded villages while the landowners tend to move towards the interior parts of the islands but to places which are closer to their earlier source of livelihood or their community. Cases of men asking for land in a safer location, as dowry have been observed. The construction of ring bunds which occupied more land space along the river side led to displacement of people where they were resettled in ‘Colony (ies)’, resulting in people adopting alternative sources of livelihood like for example, a fisherman has turned into a rickshaw puller because of the lack of source to catch fishes. However, the study does not give any empirical data on the migrants from the sending area or their status in the receiving area. The author has not taken into account the poverty levels of the respondents and no quantified data on the number of migrants has been provided. In this study, the cause (push factor) of migration seems to be rooted to economic deprivation resulting from gradual environmental degradation.

In “Sea level rise and associated changes in the Sundarbans”, Hazra Sugata et.al., (2002) have shown that the sea level rise in Sundarbans (3.14 mm per year) is higher than the average global sea level rise and that it has significant impact on erosion-accretion process and subsequent land use changes. This “rapid onset of environmental disaster” has over the last two decades have led to submergence of islands and its villages, have damaged crop and forest property worth 950 million rupees, affected 0.4 million people and migration of around 600 families. Research conducted by GhoshTuhin, et.al., (2014) of how the submergence of the villages of Khasimara, Khasimara Char,

lakshmiNarayanpur, Bagpara and Baishnabpara of Ghoramara island, has led to people migrating to neighbouring Sagar island. The estimation of total migration has been analysed from the difference between the slow growth rate of population of Ghoramaraisland and the higher actual growth rate of Sagar island that the expected population, based on census data. A questionnaire survey was also conducted to ascertain the finding, where majority of the local people perceive that around 4000 people migrated from Ghoramaraisland. However, the validity of the projection used in the study, based on the census data- a method which was used by Homer-Dixon, to predict migration from Bangladesh to India, was criticized by Black Richard (2001). It was also seen in the study of GhoshTuhin., op.cit), that the tracking of migrants from the sending areas and from the receiving areas is a critical task. It has been observed that as there are no or little efforts for policy formulation to combat such disastrous situations , it has dramatically changed the mindset of the community. It was revealed from the survey that 56.25 % of the inhabitants of Ghoramara have faith on local deity rather than on the management strategies (43.75%). Attitudes such as these, would in turn affect the implementation of preparedness efforts and as such the community becomes more vulnerable. However, the study concludes by pointing out that besides environmental factors that have led to migration from these areas, there could be other reasons for migration too.

The Government of West Bengal took proactive measures to resettle the people from the submerged villages of Ghoramara and two islands of Lohachhara and Suparibhanga to the neighboring island of Sagar- an example of "Planned Migration". Settlement Records of the Government of West Bengal (1995) showed that 327 families were displaced out of which only 192 families were rehabilitated. The rehabilitation programme in the Jibantala Colony started from the year 1992 and continued till 2006 (Mukherjee, 2014). The number of such resettled people would be relatively much higher than what the records show, as was shown in the survey by GhoshTuhinet.al., (op.cit), where the local people perceived that around 4000 people migrated from Ghoramara island. Mukherjee (2014) in her study evaluated the Rehabilitation programme of such "migrants" to "Jibantala" Colony in Sagar (an island which is itself vulnerable and unstable) and shows how improper planning led to the programme being disastrous rather than beneficial. A 1.5 bigha land (21,600 sq.ft) was supposed to be given to each of the family, which was divided into three portions, for construction of house (built by the government), pond and the remaining area being kept for cultivation. Migration of people to these Colonies led to change in their occupation. Flood inundation, salinization of land, waterlogging, poor transportation, lack of proper medical facilities and education, poor sanitary conditions, lack of electricity and drinking water and lack of adequate living space are some of the problems the people face in the rehabilitated areas. Constraint in resources led to conflict between the early settlers and the new migrants. Analysis has also been made on the type of hazard alleviating measures taken up by the government. Afforestation shows a high ranking, followed by construction of earthen embankments, brick and paved embankments, storm shelters, flood water control by sluices, relief distribution, but it was pointed out that there was hardly any effort to provide access to drinking water (Mukherjee, 2014). Dutta Natasha J and Ghosh A.K, (in press, pers. comm..), in their study in the resettled Colonies of Sagar island- Ganga Sagar and Jibantala Colony, observed a high index of deprivation in major areas viz., housing, sanitation, health, drinking water and communication, for the people who have been resettled from Ghoramara Island. Even in 2011, about 44% of the resettled people still remained landless.

Pakrashi (2014) undertook a quantitative and a qualitative study of five villages namely Beguakhali (Sagar block), Rangabelia, Gosaba and Pakhiralaya (Gosaba block) and Masjidbari (Basanti block) of

South 24 Parganas of the Indian Bengal Delta, in order to understand the problems of development and planning in the Indian Bengal Delta and analyzed the phenomenon of outmigration from the said villages. The study found that the increasingly the youth are migrating from the islands in search of better opportunities in the cities and that such migration has increased after Aila. The volume of such migration from the interviewed households (158 in total) was found to be highest in Rangabelia, followed by Beguakhali, Pakhiralay, Gosaba and Masjidbari. But apart from 'climate change' the study has also attributed the reason for outmigration also to lack of industrialization and development. However, it was seen that the savings of such migrants lasts only for a short term and do not build capital.

Neetha N., (2004) in the study on Migrated Women domestic workers in Delhi found out that the highest number of 'live-out' domestics (workers who perform specific tasks in various households but return to their own homes) is from West Bengal (36.56%), migrating from Murshidabad, Malda, South-Dinajpur and Shahgunj, between the age group of 20-40. The 'Live-in' domestics is comparatively much lower, only 1.82%, are usually unmarried and between the age of 15-20. Apart from reasons for migration such as poverty, unemployment, family disturbances, natural calamity like repetitive flood and river-bank erosion, has also been pointed out by live-out domestics. Interestingly the study here found out that women have a substantial role in the decision to migrate (33.2% among live-outs; 64% among live-ins) and also contribute to familial income. Such an observation is contrary to the above findings where the decision to migrate in the case of women rests with the family. Social networking was also found to influence decision making of the women migrants and reiterated that the "migration of women domestics needs to be understood as a collective endeavour that represents the experience within a set of family relationships, as opposed to the commonly perceived notion of male migration, which is autonomous and individualistic."

Studies on Migration in Indian Bengal Delta which have focused on women (CRS, 2010; CSE, 2012; Prakash 2014) have been divided into two categories, women migrants who migrate within the state to work as domestic maids or helpers and as non-migrants who are left-behind, taking on the additional role of looking after the household as well as the farm. These women run the household depending on the remittances sent by the men who have migrated. But such remittances are either meagre or untimely and as a result these women are further burdened with loans taken from the moneylenders.

The studies reviewed so far on Migration in/from India are largely based on the secondary information from the Census data, which fails to capture adequately, factors like seasonal migration or migration due to natural disasters. Female Migration figures are higher in the census data of India, with marriage stated as the primary reason, but the reviewed literature on Migration point towards largely male migrants. The concept of "Planned Migration" like that from the island of Ghoramara to Sagarisland due to submergence of the island, is unique in the case of IBD. On the other hand, the Cyclone Aila of 2009, can be seen as a point that instigated large scale migration of people from the Indian Bengal Delta due to salinization of farm land, large scale death of livestock, collapse of mud houses and thereby leading to loss of livelihood and heavy debt burden. Migration in India is largely attributed to economic reasons but in the Indian Bengal Delta apart from this, the submergence of islands due to erosion and high intensity cyclones and storm surges also act as drivers of migration.

Migration in the Mahanadi Delta/Odisha

The literature on empirical studies of migration in Odisha can be divided into studies in the western districts and the coastal districts. It is seen from the studies that the western part of Odisha is afflicted by droughts while the coastal districts by cyclones, coastal inundation and erosion. Over the years the problem seems to have been aggravating.

A study was conducted by Sulagna Swati, et.al., 2011, on the coastal communities of Magarkanda, Balisahi, Satabhaya, Barahipur and Kahnapur in Satabhaya Gram Panchayat of Kendrapara district, Odisha, in the Mahanadi Delta. The author traced brief historical account of the Satabhaya Gram Panchayat, beginning with the early settlement in the area which started around the 19th century, during the reign of the Kanika King, where the mangrove forests were cut down for settlements. The area also witnessed settlers from neighbouring state of Bengal and even from Bangladesh. The opening of the Paradip Port in 1966 and also because of coastline erosion, large number of displacement of people took place from Gobindhpur village to surrounding villages of Baghpatia, Okilapala and Mahakalapada. Cyclone of 1971, resulted in almost completely washing away the village of Gobindhpur (out of 07 villages, only 04 remains between 1970-2010). Cyclone induced saline floods in 1986 resulted in uncultivable land. Super Cyclone in 1999 led to families from Satabhaya moving to Balisahi and Barahipur and people from Kanhapur to Okilapal and Magarkanda. Adaptation activities that the community have carried out is on short term basis. The author however remarks that migration here can both be an adaptation strategy or a failure of adaptation. The paper does not provide any details on whether migration for work has proved beneficial for the people or not. Data on the total of migrants is also not given. There are also no details given on their conditions in the receiving areas.

However, Mishra Diptimayee et.al., (2014) in their study in the same district (Kendrapara) has seen migration as one of the forms of adaptation apart from six other measures like double seeding, irrigation, changed crop practice (using different varieties of seeds, crop diversification, and different planting dates) and shifting of land use pattern. But the kind of adaptation activities undertaken is dependent on the socio-economic, demographic and institutional factors. It was seen that education and large family size had positive influence on migration, as also land size and wealth index. Ownership of land was found to influence all the adaptation choices positively and significantly except migration, the landless people being the worst victim are likely to migrate first in adverse conditions. However, Mohanty Aliva's (2014) survey of 100 women respondents in a block in Balasore district in the Delta and also analyzing secondary data from Directorate of Economics and Statistics, Block and local level functionaries, viewed migration more from a negative aspect and more of a survival strategy.

A comparative study was undertaken by Ali Zaineb et.al., (2014) on migration trends in eastern coastal and western districts of Odisha, taking Nayagarh, Khorda, Puri and Kendrapara in the former region, all in the Mahanadi Delta, and the districts of Kalahandi, Nuapada and Balangir in the latter,

taking a sample size of 99,523 households spread over 103 Panchayats. The high rate of unemployment and inadequate vocational training, in addition to the poor state of farm land, have resulted in large scale migration from the two zones. While some differences can be witnessed between the two regions, it is said that the western districts have records of more migration than the coastal districts, (with more migrant families from socially backward communities and more unskilled migrants than from the coastal districts,) leading to differences in the level of income between the two regions. But migration from the coastal districts is dominated by male migrants, while the percentage of female migrants is higher in the western districts. The rate of inter-state migration is more than intra-state migration in both the zones (Coastal: 65.7%; Western 87.9%) where the migrants move to near about 21 destinations to the states of Chattisgarh, Kerela, Gujarat, Tamil Nadu, Maharashtra, Andhra Pradesh, West Bengal, Punjab, Delhi, Karnataka etc., cutting across the north, east, west and south of India and work as labourers in construction sites, factories, brick kilns, garment factories, transportation sector etc. The intra-state destinations include the districts of Khorda, Cuttack, Puri, Sambalpur, Baragarh, Sonapur, to work as labourers and masons or as helpers in the domestic sector. It can be noticed that the intra-state destinations also include the districts of Puri, Cuttack, Khorda- all within the Mahanadi Delta, where opportunities to work in the emerging urban expansion may be acting as the major pull factor.

Studies and media reports from Western Districts of Odisha, (PradeepBaisakh, 2011; Singh MahimPratap, 2010; AmbastaPramathesh, 2014; KARMI, 2014), indicate that, due to agricultural failure as a result of droughts, poor irrigation facilities, low technological input etc, in the districts of Balasore, Bolangir, Kalahandi, Koraput and Nuapada, the farmers are forced to migrate to other states/cities especially to Chattisgarh (Raipur and Durg districts), Maharashtra, (Mumbai, Thane, Navi Mumbai), Uttar Pradesh (Ambedkar Nagar, SultanpurBasti, Faizabad and Pratapgarh districts), Gujarat (Rajkot), Kerala, Andhra Pradesh (Hyderabad, Ranga Reddy and Vishakhapatnam districts), Tamil Nadu, Rajasthan, Punjab, Goa, West Bengal etc, to work in the brick kilns, construction sector, transport and as agricultural helpers. Intra-state migration is recorded within the districts of Cuttack, where the migrants work in brick kilns, Sambalpur along with parts of Bargarh, Sonapur (Subarnpur) and Balangir, where the migrants are employed as agricultural labourers and in Nuapada to work in the stone crushing units there. Trend of seasonal migration can be witnessed, belonging to lower strata of the society and members being unskilled and uneducated. Mention can be made here of the analysis by Das and Saha (2010) of Inter-state migration and regional disparities, who mentioned that disparity in the level of development between states encourages inter-state migration, in other words high rate of development attracts migrants from backward or less developed states. Analysis of census data by TaralekarRadha et.al., (2012) have taken West Bengal and Odisha also as the states which had more than 10,000 migrants migrating to Mumbai for 'work' and 'education'.

Migration usually takes place after the local festival called 'Nuakhai' is celebrated in western Odisha, which coincides with the rice harvest in August-September. Migration is mostly seasonal in nature and informal. For the said festival, the farmers take loan from the moneylenders and their inability to pay back makes them victims to labour agents or 'Sardars' who offer them work and money for their

labour. These migrants are formed into groups called 'Patharia'. Each group receives a payment in the range between Rs.20,000 and 25,000 as an advance, out of which the 'Sardar' takes a 10% commission. This transaction makes the farmers similar to that of bonded labourers. At the work site, the labourers receive about Rs.300-500 a week towards food, which can be denied if the workers fail to meet their targets. Cases of physical harassment of the migrants and also sexual abuse of women and children have been reported in the migrated/receiving areas. Children are more favoured in such work areas due to their small size and ability to move quickly. (PradeepBaisakh, 2011; Singh MahimPratap, 2010; AmbastaPramathesh, 2014; KARMI, 2014). Inability of the government to curb such 'distress migration', in spite of such schemes such as the MNREGA has also been mentioned.

Female migration do take place but in lesser number than male migration as has been studied by Sansristi (2006/07) in Bolangir and Nuapada district. The study revealed that the migrants mostly belonged to the age group of 21-40 and belong to small, marginal and landless households, who are largely dependent on agriculture. However, in the case of women, the decision to migrate lied with the family and the rate of migration of unmarried women or girls was low. The study has also observed the implication of caste system in the decision of women to migrate. High class women do not venture outside the village to migrate and look for work within the village itself. Untouchability is also practiced. At the work place the women are subjected to various forms of harassment. For the women whose husbands have migrated, they take on the additional responsibility of looking after the household and the farm. Finding employment in the village is difficult due to the preference of men as wage labourers. Very little amount is left by the husbands/men for looking after the household and as a result the women take more loans from the moneylenders leading to more debt .

The state of Odisha has been marked as one of the major migrant 'Sending' area according to the analysis in the Policy Brief document of UNESCO/UNICEF (2012). The reviewed studies on Migration in/from India, so far, are largely based on the secondary data from the Census of India which fails to capture seasonal migration or migration due to natural calamities. It can be seen from the above reviewed studies that Migration from the districts of the Mahanadi delta, is largely due to impact of natural calamities most importantly droughts and cyclones. Female migration has received more attention in Odisha than in the Indian Bengal Delta. Women migration from the state of Odisha or specifically from the districts located within the Mahanadi Delta, has been attributed largely due to economic reasons besides being induced by natural calamities and not due to marriage, as is shown in the census data.

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These references have been organised into sections for ease of use for DECCMA researchers. Further references are available in the synthesis working paper.

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