

The Situation Analysis of Migrant Population Residing in the Flood Prone Areas in Chennai

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ABSTRACT Many people from other states in India come to Tamil Nadu to make a living. This contributes to the escalation in floating population in the city each year as it is the State capital and hub of all paramount economical activities. As the city-proper has dense constructed buildings with its local population residing, this migrant population is bound to reside mostly in the flood prone areas in the city and its suburbs. Through unplanned settlements of migrants in these areas, they face the menace of annual inundation during the monsoon considerably more comparing the natives because of various reasons. This study focuses on the life situation analysis of the migrant population who are residing in the flood prone areas in Chennai. It also aims at collecting various socioeconomic, socio-political and socio-ecological facets of these migrants to study their living conditions and welfare facilities available to them, as against various legislative provisions.

INTRODUCTION

Since the beginning of the 20th century, social scientists had analyzed one of the major determinants of migration is urbanization, while other determinants include social, cultural, educational and economic reasons. Until recently, distance and duration were considered important, but tertiary determinants of migration, such as modern transport and communication advances have made this insignificant (Sujatha et al. 2014). A huge number of workers from other states come to Tamil Nadu to make a living, especially in Chennai – the State capital. They come in search of employment, education, medical facilities and so on. Some migrate to Chennai after their marriage to settle here, especially women because of their family situation.

Chennai is the fourth largest metropolis in India. Chennai, the capital of Tamil Nadu, and Kancheepuram, the nearby district to Chennai with the major suburbs of the metropolitan, attract millions of migrant population from other states of India. The first census of India which was taken in 1871 affirmed a population of 397,552 persons living in Chennai (Muthiah 2008). According to the 2011 demographic of Chennai, the city has a density of 26,553 people per square kilometer marking it the most densely populated city in Tamil Nadu. According to the UN World Urbanization Prospects' latest revision, Chennai's 2018 population is now estimated at 10,705,000, and this estimate represents

the urban agglomeration of Chennai, which typically includes Chennai's population in addition to adjacent suburban area. Within a century and a half, Chennai has grown 26 fold times in population. Most residents of Chennai are Tamils. Sixty-two percent of migrants to the city were from other parts of the state, thirty-four percent were from other parts of India and four percent were from outside of India (World Population Review 2017).

Owing to the budding of industrialization and modernization in Chennai during the British regime and its expansion since first Premiership of Jawaharlal Nehru, people started to migrate to Chennai to earn better. The transportation and communication system also supported them. As the city's establishment has already started during the British period, the city-proper has dense constructed buildings with its local population residing. Thus, the migrant population is bound to reside mostly in the suburbs and outskirts of the city which are particularly flood prone areas. Also, the establishment of special economic zones, housing projects, international schools and multi-speciality hospitals in the suburbs drive the migrant population to settle in the unplanned settlements in the city's suburbs and outskirts, especially in the flood prone zones. In what is now increasingly being seen as the norm rather than the exception, extreme weather events like cyclones, droughts and tropical storms are wreaking unimaginable havoc in disaster-prone regions and a large section of the population, especially the migrants, find their lives uprooted and livelihoods destroyed (Sharalaya 2018). As a result, during the monsoons, this migrant population faces the menace of annual inundation considerably more comparing with the natives because of various reasons. According to the Centre for Migration, the worst-hit people in the floods are the migrant footloose workers (Sudhi 2018).

This exploratory study focuses on the life situation analysis of the migrant population who are residing in the flood prone zone in Chennai. It also aims at collecting various socio-economic, socio-political and socio-ecological facets of these migrant people to study their living conditions and welfare facilities available to them, as against various legislative provisions. This study is an investigation into the lives of migrant population residing in Chennai and its suburbs.

Objectives of the Study

Migrants from other states of India form a majority of Chennai's population. Today, the city and its suburbs embrace this migrant population without any pre-planned setting and uncontrolled development. During the monsoons, usually the most vulnerable groups during flood disaster situations are migrant populations living in geographically inaccessible areas (Mariaselvam and Gopichandran 2016). The present study makes a modest attempt to study the living condition of the migrant population in Chennai who are residing in the flood prone zone of the city. It also aims at the following.

- To study the socio-economic status of the migrant population residing in the flood prone zone in Chennai and its suburbs.
- To study the cause and reason of their socio-political status to reside in these areas.
- To identify the problems (physical, psychological, social and ecological) faced by them in their flood-prone residing places.
- To suggest how to reduce their issues and problems they face in Chennai during the monsoon floods.

Study Area

Chennai is the capital of Tamil Nadu, and it is the fourth largest metropolitan city in India. During the British rule and after the independence, the city became the important hub of all paramount economic activities - special economic zones, industrial promotion corporations, and information technology parks proliferate in and around the city. Because of the augmentation of job opportunities here, people from other states of India migrated to Chennai in hope of aggrandizement in their lives. Later, to succor this population, many housing projects, educational institutions and multi-speciality hospitals were established here. The present study area includes the residing area of migrant population living in the flood prone zone in Chennai especially in Mudichur, Tambaram, Guindy, Arumbakkam, Koyambedu and Pallikaranai forming the extensive suburban area of the city.

METHODOLOGY

This exploratory study has been carried out among fifty migrant people residing in the flood prone areas in Chennai who are residing in the river banks, canal banks, wetlands and marshlands of Chennai which form the major suburban area of the city. The study was carried in the third quarter of 2018 before the onset of the annual monsoon. A random sampling of 50 migrated people was selected who are residing in the flood prone areas to conduct interviews to collect the information. All respondents were above 18 years old. These migrant people were randomly selected and interviewed about their life condition in Chennai during the times of floods. The questions focus on their cultural, economic and social background, their choice of residing in Chennai, their benefits and issues in their migration, changes in their geographical features, atmosphere in and around their flood prone areas, overall quality of life during the inundation, natives succour during the floods, environmental conditions in the flood affected areas, and availability of flood warnings and relief programmes. Some respondents frankly revealed their extremely mediocre living conditions, lack of intact help and support from the government, health problems, lack of safety measures and social problems which they face during the floods. Some secondary data are collected from the articles in various newspapers and websites.

RESULTS

Preamble of Chennai City

Chennai is the capital of Tamil Nadu State in India. It lies in the Eastern Coramandel Coast of

the country where three water bodies - Advar River, Buckingham Canal and Cooum River – pass through the city. The geographical feature of the city comprises of plain terrain with Bay of Bengal in the East. Advar and Cooum are natural rivers while Buckingham Canal is a man-made fresh water navigation canal, and the river Cooum connects the canal to the Bay of Bengal. The region is elevated 6.7 meters in average from the mean sea level. The city gets the major rainfall from the north-east monsoon winds between October and December, and this period is accomplished with intermittent depressions and recurrent cyclones. The city receives an average rainfall of about 140 cm and sixty-five percent of rains are received in its monsoon season (Indian Meteorological Department 2012).

History of Chennai Floods

From October to December every year, the coastal regions of Tamil Nadu, including Chennai, receives more than sixty percent of annual rainfall from the northeast monsoon. This is called the annual cyclone season comprising of depressions and cyclones. As a result, most of the areas in the city and its suburbs, especially the banks of the three major watercourses -Adyar River, Buckingham Canal and Cooum River – are flooded every year. With the source of documented records, it is revealed that the city has experienced many major floods between 1943 and 2017, with the 1943, 1978, 1996, 2005, 2015 and 2016 floods causing particularly severe damage (Padmanabhan 2016). In addition, unplanned and often illegal urban development has led to many wetlands and natural sinks being built over, this along with ageing civic infrastructure and poorly designed drainage systems, has resulted in an increased frequency of severe flooding (Sinha and Janardhanan 2015).

During the great flood of 2015, the city was continuously hit by several heavy rain falls between 9th November and 2nd December. On 1st December only, the city received about 50 cm of rainfall which resulted in the great flood with thousands of residents marooned in the flood water and the death toll was over 500 (Lakshmi 2015). In 2016, Cyclone Vardah crossed the city on 12th December, and it is considered as the most intense tropical cyclone of the North Indian Ocean cyclone Season with winds estimated at 65 mph. More than 16,000 people were ma-

rooned in the flood water. This cyclone took over 20 lives, uprooted about one lakh trees and caused immeasurable damage to the city's infrastructure (Chennaivision 2016). In 2017, the city again received a huge monsoon rainfall in early November and hundreds were marooned in the flood water (The Hindu Net Desk 2017). All these recent floods caused damages more than hundred billions to the city.

Migrant Population in Chennai

Tamil Nadu has a fairly large interstate migrant population, estimated to be over ten lakhs, with large concentrations around Chennai (Dutta 2016). Chennai city comprises much with migrant population who has accorded many developments in various fields in and around the city. These migrants come from other States to Chennai in search of employment, education and medical facilities. It seems that for the white collar workers in IT, heavy engineering and automobile industries, as well as poor migrants employed in restaurants, housekeeping and construction, Chennai has become the land of livelihood, if not opportunity (Kalyanaraman 2011). For skilled works, many migrants hail from Karnataka, Kerala, Andhra Pradesh and Maharashtra. For unskilled works, many migrants hail from Assam, Bihar, Orissa, West Bengal and Uttar Pradesh (Dutta 2016). Chennai's education system attracts migrants who want good schools for their children (TNN 2010). A recent census shows that the population in the inner city grew less than eight percent in the last 10 years and added 19 lakh in the suburbs (Kalyanaraman 2011). This boom in the suburbs has come from migration. Unlike other cities, inter-state urban migration to Chennai was seventy percent for men and seventy-two percent for women which gives a distinct character to the city. For the males, the most important reason for migration is employment (47%) followed by the movement of the family (27%), business (5.6%), and education (4.1%). In contrast for females, the primary reason for migration is marriage (42%) followed by movement of the family (34%). A very small number of women came to the city for reasons of education and business (Kanjamala 2007).

Personal Factors

The migrants who were interviewed for this study were 50 in numbers who are all above 18

years old. Among the 50, 25 of them were men and 25 of them were women. They all reside in the flood prone areas in Chennai – Mudichur, Tambaram, Guindy, Arumbakkam, Koyambedu and Pallikaranai. Among these, Mudichur, Tambaram, and Guindy are near the bank of Adyar River; Arumbakkam and Koyambeduare near the bank of Cooum River; and Pallikaranai is a marshland in Chennai.

The migrants from other States of India consider Chennai city as an economically and socially lucrative option when they make a decision to migrate for betterment. A major percentage of respondents, 44 migrants, expressed that they migrated to Chennai for job and business (88%), some respondents, 3 migrants, said that they wanted to pursue better education in Chennai (6%); a small percent of respondents, 2 migrants, expressed their family situation including marital shift to Chennai (4%); and one migrant migrated to Chennai for competitive medical facilities (2%).

Socio-economic Conditions

Owing to the urbanization and modernization, people from other states come to Chennai for their amelioration. On account of globalization, employees of multinational companies, information technology sectors and automobile industries migrate to Chennai as a part of transfer in their job. With growing literacy, on the one hand, and mass migration to the Gulf and elsewhere, on the other hand, there is an acute shortage of unskilled labour in Tamil Nadu. Today, the city has a large migrant population with unskilled labourers working in the government developmental projects, construction sites, mills, brick kilns and manufacturing units. Most of them bring their families along with them to their place of job. Due to lack of space inside the city, new economic tracts and business spans are established in the suburbs and outskirts of the city (well-nigh nearer to the flood prone areas). As the special economic zones, industrial promotion corporations and information technology parks are formed in these areas, the migrant population working in these facilities is bound to reside in the flood prone areas since the cityproper is already occupied with the native population. To minister this population, unplanned housing projects, international schools, multispeciality hospitals and recreation centres are established in these flood prone areas. Although their place of residence is approved by the government, the basic needs to them during the times of floods are ignored by the higher officials.

Although a negligible proportion of the population in Chennai suburbs consists of the migrants, they are bound to reside in the unplanned layouts of the flood prone zone. Migrated people who earn better through their white-collar jobs prefer to stay in these areas since housing facilities are available widely for them here, and their place of work and schools for their children are easily accessible from their residing area. Migrated unskilled labourers who strive hard to earn in unskilled works face difficulty in paying a high amount as rent in the nonflooded areas and hence forced to rent houses in the flood-prone areas, especially in the banks of the rivers and wetlands. When enquired about the overall quality of their life during the annual floods since the great flood of 2015, all the 50 respondents (100%) told that their life is terrible and unhappy during the monsoon seasons. Although they are content with the availability of job opportunities, educational system for their children and medical facilities, they are dissatisfied with their life during the floods. Because of the improper planning and unfitting schemes of the concerned ascendancy, this migrant population does not receive any warning about flood from the local authorities or get on-time rescue during the flood or partake proper flood-relief campaign or receive the appropriate compensation for their loss in the flood. Even, during the floods of 2015, 2016 and 2017, most of the flood relief packages comprising of medical kit, basic food kit and clothes did not reach these migrant people affected in the flood areas when compared to the natives. Also, a financial assistance of Rs. 5000/- provided to the families hit by the deluge in 2015 by the State government did not outstretch to most of the migrant population. This is mainly because the local bodies are ignorant about the migrant population's occupancy, language problems, having their other state's home-town address in their national identity card, and maintaining bank account in their home state. The natives also do not help these migrants most of the time as they feel that the jobs and living spaces are grabbed by this migrant population. When asked about the help received during the floods, a great number of the respondents, 46 migrants (92%), revealed that they were devoid of assistance and aid during the floods in their residing areas.

Socio-political Factors

The social and political phenomena of the repercussion of haphazard industrialization, globalization, modernization and urbanization paved way for the recent floods in Chennai. The social structure in the city engenders vulnerability to annual floods and is responsible for its effects on the migrant population. The political decisions in the city paved way for the establishment of government projects such as Chennai Metro Rail Corporation Limited (CMRL), State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT), private industrial complexes/industrial estates/parks, special infrastructure project stretch and housing locality in the flood prone zone since the city-proper was already populated with its local inhabitation and dense buildings.

Natural disasters are and will persistjeopardy to contemporary societies; they have, in spite of technological development, become more recurrent over time. Disasters like floods not only intimidate lives or damage property but also extremely upset societies and their socio-political structures. During the monsoons, the migrant population who were affected in the floods felt completely cut off from the society and political framework of the city. Because of unplanned housing and desultory layout patterns in the suburbs, this migrant population suffered more in the floods and received help quite late when comparing the local victims affected in the floods. The social resilience in their residing area was also behindhand. When asked about the help provided by the local political community to the migrants affected in the floods, a large amount of respondents, 37 migrants (74%), revealed that they received help only after the local victims acquired support from the local political community. Many respondents, 9 migrants (18%), disclosed that they did not receive any sort of help from the local community and remained in their houses' terrace until the floods subsidized without food and other basic amenities for more than two or three days. This could be avoided only by promoting community coherence. Only a few respondents, 4 migrants (8%), divulged that they received on time help during their distress in the floods.

The Tamil Nadu Public Works Department issued warnings regarding the upcoming floods and relief programs; but the information apparently did not reach the migrant population ontime because of the disintegration of phone and media communication in the affected areas, language barrier since these messages were passed in local language by the local authorities and the lack of maintaining the records of these migrant population in the government books. When asked about the flood warnings and relief programs, a huge number of the respondents, 48 migrants (96%), disclosed that they did not get these warning messages and relief information on-time. Because of this, they struck in the flood for a long time without receiving any assistance or help. Only scanty respondents, 2 migrants (4%), told that they received these warning messages and relief information on time that too from their neighbours.

In the earlier times, as there was paucity in the community acceptance of this migrant population among the locals, there were delays in the rescue and provision of relief programs to this migrant population. The impacts are present during the time of the flooding, and extend after the flood waters recede, as homes are being rebuilt and people are struggling to interact with multiple institutions whilst also trying to maintain as near to normal a life as possible (Butler et al. 2016). In contradiction, notion of welfare and community acceptance of the locals were only analogized after the great flood of 2015. At present, the community's acceptance scale has raised by avoiding community respect differences.

Socio-ecological Factors

Since the great flood of 2015, Chennai has been flooded by an extreme annual monsoon with an average of more than 450 mm of rainfall each year. Although it was widely believed that Chennai's affliction was lead by the climate change, there are certain human dimensions of disaster involved in this. The scale of the disaster at Chennai was magnified by a rampant disregard for town planning, and the basic principles of ecology and hydrology (Mukherjee 2015). Some of these infringements include the erection of the international airport on the floodplain of the Adyar river, construction of the Mass Rapid Transit System (suburban railway system) upon the Buckingham Canal, construction

of the Metro Railway line tunnels through the Cooum river, establishment of Information Technology and Knowledge Corridors in the wetlands and marshlands of Pallikaranai and Siruseri located in the South of the city which generally function as the natural sink for flood water, resettlement of slums along the river banks of Adyar and Cooum, building of multi-story housing projects in the river catchment areas, building of schools, colleges and universities atop the water bodies, and construction of pavements and roads on the drainage system which is already inadequate and poor.

Regarding these infringements, none of the migrants were aware of it. Almost all the respondents, 49 migrants (98%), confessed that they were not aware of these transgressions since they were either new to the area or their house-owners or land-dealers did not reveal this to them. Only one respondent, 1 migrant (2%), acknowledged that, although he knew about these transgressions, he stayed in the flood prone area thinking erroneously that such huge massive floods would not happen. This was proved wrong to him later.

During the annual floods, the migrant population faces issues in getting basic amenities like water, food, and even a dry and nice place to stay. When asked about their environment during the floods, all the respondents (100%) told that they had a bad and unbearable environment around their home. This is because of the stagnant flood water filled with garbage, sewage waste and debris in and around their house, even this infected flood water raised up to first floor of about 12 feet and more in Tambaram and Mudichur. As a result, the lives of many people residing in these areas were affected. Many migrant people were affected with water-borne diseases receiving no help from the outside world. A huge number of the respondents, 44 migrants (88%), revealed that they were sick with illness from flu to skin infections to even lung infections as the result of contaminated flood water. Some even noted that their friends or relatives (who are also migrants residing in Chennai) were died during (submerged in flood water) or aftermath the floods (affected by flood-prone diseases).

The effects of Global Warming affect Chennai's annual monsoon floods greatly. Yet, these floods are linked to man's ecological disturbances. "Extreme weather events are indeed increas-

ing due to global warming. This is because a warmer climate can hold more moisture in the atmosphere, leading to heavier rainfall when it does occur. However, it's difficult to say for certain that a particular extreme event – like the Chennai floods – is attributable to anthropogenic climate change," says Dr. Roxy Mathew Koll of The Indian Institute of Tropical Meteorology, Pune (Rajgopal 2016).

Anti-migrant Sentiment

The natives of Chennai and other Tamilians started to develop anti-migrant sentiment after many migrant people from other states settled in Chennai. It is the discrimination against the migrant people from other states in Chennai. Chennai has a fast and larger economic growth rate, and as a consequence, many people from other states of India migrated to Chennai.

These migrant workers in Chennai are being subjected to a growing degree of racial discrimination, prejudice and violence. Their language and accent is continuously ridiculed. They are often looked down upon and blamed for rising crimes (Denyer 2008). As these migrant people residing in Chennai do not have their own community's association right in Chennai, they are continually abused by the neighbourhood, employers and local authorities. The locals think this migrant population as the main source for their unemployment problems and sharing of governmental aids and services. Thus, an antimigrant sentiment has started to establish among the locals who, most of them, do not help these migrant people even during hectic situations like floods.

DISCUSSION

The flood disaster situation in Chennai among the migrant population is invariably a sensitive balance between accessible resources and deliverable assistance. All the recent floods in Chennai since 2015 are the results of erratic and extreme monsoon rainfall; but the detrimental disasters caused by the floods are the results of man's compensation upon nature. In 2016, the Parliamentary Standing Committee on Home Affairs submitted its report on the disastrous recent Chennai floods; the report concluded, among other things, that "encroachment of lakes and river beds played a major role in causing

massive flood in Chennai" and the committee urged the state government to "check mafia involved in illegal construction for business and usurping water bodies for their real estate business" (Jayaraman 2017). People affected in the flood led a desperate life until the stagnant water subsided, especially the migrant population residing in the flood affected areas. "The floods have put the district in a state of crisis. The flood affected persons find themselves in a desperate situation, with many unmet vital humanitarian needs such as access to food, safe shelter and non food items. The rains and the flooding have meant that people have lost their livelihoods and dependent on external support. The dire situation is further compounded for the flood affected people with vulnerabilities especially for those people discriminated because of caste" (Act Alliance 2017). The vast number of migrant families settled in the flood prone areas in Chennai. These wetland settlements sprung up during the southward expansion of the city real estate and IT corridor, which brought in a huge number of migrant workers; the migrant works are left with little choice but to build their settlements around marshy flood prone lands which were of little interest to the real estate sector; right across the settlement, one could find swathes of unutilised land, which virtually turned into a lake during the floods (Srividhya et al. 2015). Even those who bring relief materials for the flood victims forget the migrant camps and only look for the natives in camps; it is necessary to save our land as well as the people who came trusting our land (Vaishnavi 2018). During the Chennai flood in 2015, the migrant workers who lived in rented accommodation have lost their belongings and have not been able to access relief, especially dry rations and Rs.5,000 cash relief that government had earmarked for those affected by floods as they do not possess ration cards. Some of the migrant workers working as guards were asked to work during flood days of December 01 to 04, 2018; many of them are unhappy that they have been denied dry ration and compensation (Daksham 2016).

According to Gadgil Committee report, India, especially the south, will face many 'extreme climate events' in the near future, and this has already started in Chennai in 2015 and in Kerala in 2018; but, the unfortunate thing for the flood victims is that the government does not have a clear flood prevention and victim's rehabilita-

tion policies (Vetriselvan 2018). The terrible condition of the lives of the flood affected migrant people was more combined with the susceptibility especially for those people differentiated because of language, culture and creed.

CONCLUSION

Chennai city plays a vital role in generating economic growth of Tamil Nadu. This economic center attracts migrant workers along with their family from other states making them an important sect in the society. The disastrous rains over the last few years have not only affected the natives but also this migrant population. The state abides by its own domestic laws, labour laws and association. But, extensively, the migrant population in Chennai is not covered under these laws. They should be monitored and guided by the State government. They should be relocated to non-flood prone areas from their settlements near river banks, canals, wetlands and marshlands. Just like the native victims, this migrant population should be given a good shelter, drinking water, food and hospital facilities whenever they are hit by floods. The affected and injured migrants must be given the compensation on time. The local and state government may have ensured best practices in maintaining a good ecological balance; however, applying a little more caution never hurts anyone. A report on the migrant population should be taken annually for submitting to Disaster Management Commissioner and Disaster Relief Commissioner for appropriate action at appropriate time.

Flood disaster poses an abrupt and a huge anxiety on the affected area. The early reaction to flood and other disasters chiefly arrives from the local population. Later, regional, national and international assistances are marshaled over the time. Consequently, the native victims acquire the rescue, relief and rehabilitation enterprises in the course of time. But, substantially, the migrant population remains in the crisis situation without the aid of diverse stakeholders including the government, non-government and international organizations. Catastrophic flood conditions claim a distinctive set of contemplation which favours to customize the anticipated standards of ministration for the migrant population. Amid flood disaster in Chennai, there is a principled obligation to consider about the sustained resolutions and enduring schemes for reconstituting and rehabilitating the devastated migrant communities in the flooded areas. There is an instantaneous requirement to devise ethical guidelines to regulate flood disaster response.

It should be imparted that these migrant people residing in Chennai are clearly explained about their nature of the topography of the city, climatic and geographical conditions, flood prone zones, flood alerts, help centres where they can communicate in their mother-tongue, rescue operators, district resource centres, city information exchange centres, relief and rehabilitation facilities available to them. These migrant people expect NGOs to start a separate association for them to share their grievances and to get equal rights in the society. Recently, the State government also plans to establish resource centres to track migrant people living in the flood prone areas in the city to alert and assist them during the floods. Moreover, the government strictly and mandatorily proposed projects to regulate illegal settlements in the flood prone zones, sewage management, pollution-control, plastic-avoidance and maintaining a balanced environment in the city; it has also allotted one hundred Crore rupees in September 2018 for executing the same (Mani 2018). As a consequence of these projects, it is expected that the lifestyle of migrants in Chennai would soon become better during the worst-case scenario of floods, and they will not be deprived of any prerogative of the natives during the rescue and relief programs.

RECOMMENDATIONS

The following are some suggestions for the improvement of secure living conditions for migrant population residing in the flood prone areas in Chennai.

- Proper record and census of the migrant population should be recorded by the Corporation of Chennai.
- Just like ration card, an identity card should be provided to individual family by the local government to avail primary amenities from the government.
- They and their family members should not deprive of any equal right in the society. They should have a better housing.
- Flood preparedness and emergency management should reach this migrant population without any language barrier.

- Instructions should reach this mass before, during and after the flood on time avoiding mishaps, especially in the flood prone lowlands.
- Just as the natives receive, the availability of flood relief packages, flood relief camps and medical facilities should be given to them easily, efficiently and timely.
- Avoid housing this mass in the flood prone areas especially by distinguished Chennai River Restoration Programme and clearing off the encroachments near the water bodies.
- Providing public awareness not to avoid or separate this migrant population from the natives and giving them the equality in society.
- Introducing disaster management programmes to this mass and their children in their comfortable language along with the details of flood pattern and geographical features of the particular area.
- Local government bodies should consider them with utmost importance while devising mitigation measures.
- The State government must take necessary efforts to ensure that honest implementation of the existing flood relief schemes to reach this mass. Moreover, the government should come up with deviceful schemes, according to the need of the mass.

REFERENCES

- Act Alliance 2017. India: Floods in Chennai and Tamil Nadu. Actalliance. From http://actalliance.org/alerts/india-floods-in-chennai-and-tamil-nadu (Retrieved on 23 August 2018).
- Butler C, Walker-Springett K, Adger N, Evans L, O'Neill S 2016. Social and Political Dynamics of Flood Risk, Recovery and Response: A Report on the Findings of the Winter Floods Project. Exeter: The University of Exeter.
- Chennaivision 2016. Cyclone Vardah: Chennai Worst Hit, Limps Back to Normalcy. Chennai News, Daily, December 13. From https://chennaivision.com/cyclone-vardah-chennai-worst-hit-limps-back-normal-cy (Retrieved on 4 September 2018).
- Daksham D 2016.Migrant Workers Worst Hit by Tamil Nadu Floods: Survey. Deccan Chronicle, Daily, January 14. From https://www.deccanchronicle.com/current-affairs/140116/migrant-workers-worst-hit-by-tamil-nadu-floods-survey.html (Retrieved on 30 August 2018).
- Denyer S 2008. India Struggles to Tame its Heart of Darkness. elEconomista. From http://www.eleconomista.es/mercado-continuo/noticias/368898/

- 02/08/ India-struggles-to-tame-its-heart-of-darkness. html> (Retrieved on 23 August 2018).
- Mani A 2018. Rs. 100 Crore. *Dinamalar*, Daily, September 5, P. 1. Chennai: Dinamalar Publications.
- Dutta M 2016. Come South, Young Man, But Here be Dragons. The Hindu, Daily, July 19. From https://www.thehindu.com/opinion/op-ed/come-south-young-man-but-here-be-dragons/article 2974594.ece (Retrieved on 25 August 2018).
- Indian Meteorological Department 2012. Regional Daily Weather Report for Tamil Nadu. Indian Meteorological Department, Chennai Regional Meteorological Centre. From https://www.imdchennai.gov.in/rdwr.htm (Retrieved on 23 August 2018).
- Jayaraman N 2017. Why Chennai Like Other Indian Cities Will Definitely Flood Again. Hindustan Times, Daily, September 3. From https://www.hindustantimes.com/analysis/why-chennai-like-other-indian-cities-will-definitely-flood-again/story-KVxgIt0zyctNFO70EklYGJ.html (Retrieved on 27 August 2018).
- Kalyanaraman M 2011. Migration Spurs Suburban Sprawl. The Times of India epaper, Daily, October 25. From http://epaper.timesofindia.com/Default/Scripting/ArticleWin.asp? From=Archive& Source= Page&Skin=TOINEW &Base Href= TOICH% 2F2011%2 F10%2F25 &View Mode= GIF&Page Label=4&EntityId=Ar00600&AppName=1> (Retrieved on 25 August 2018).
- Kanjamala A 2007. Social analysis of migration in India. In: L Stanislaus, J Joseph (Eds.): Migration and Mission in India. Delhi: Ishvani Kendra, P. 21.
- Lakshmi K 2015. Rain Wreaks Havoc in Coastal Districts. The Hindu, Daily, November 10. From https://www.thehindu.com/todays-paper/tp-national/tp-tamilnadu/rain-wreaks-havoc-in-coastal-districts/article7863341.ece (Retrieved on 23 August 2018).
- Mariaselvam S, Gopichandran V 2016. The Chennai Floods of 2015: Urgent Need for Ethical Disaster Management Guidelines. Indian Journal of Medical Ethics, 1(2): 91-95. From https://www.researchgate.net/publication/315988089_The_C hennai_floods_of_ 2015_urgent_need_for_ethical_disaster_management_guidelines> (Retrieved on 27 August 2018).
- Mukherjee A 2015. Don't Just Blame Climate Change: Chennai Floods were a Manmade Disaster. The Conversation. From https://theconversation.com/dont-just-blame-climate-change-chennai-floods-were-a-manmade-disaster-51849 (Retrieved on 27 August 2018)
- Muthiah S 2008. Madras, Chennai: A 400-year Record of the First City of Modern India. Volume 1. Chennai: Association of British Scholars, P. 77.
- Rajgopal KS 2016. Chennai Floods Due to Climate Change? The Hindu, Daily, March 24. From https://www.thehindu.com/sci-tech/energy-and-environment/chennai-floods-due-to-climate-change/article7980332.ece (Retrieved on 25 August 2018).
- Sharalaya N 2018. Taking India's Climate Migrants Seriously. The Diplomat, August 10. From https://creativecommons.org/limates/

- the diplomat.com/2018/08/taking-indias-climate-migrants-seriously/> (Retrieved on 25 November 2018).
- Sinha A, Janardhanan A 2015. Extra Rain and Poor Urban Planning: Why Chennai Went Under Water. The Indian Express, Daily, November 19. From https://indianexpress.com/article/explained/extra-rain-poor-urban-planning-why-chennai-went-under-waters (Retrieved on 30 August 2018).
- Srividhya T, Prathamesh M, Thomas F 2015. Chennai Rain Relief and Migrant Workers in Chemmenchery Thopu: Updates from the Ground. ThozhilalarKoodam. From http://tnlabour.in/migrant-workers/2924> (Retrieved on 3 September 2018).
- Sudhi KS 2018. Floods Impacting Migrant Workers. The Hindu, Daily, August 22. From https://www.thehindu.com/news/national/kerala/floods-impacting-migrant-workers/article24753496.ece (Retrieved on 25 November 2018).
- Sujatha M, Devi MSRL, Thulasimala D, Janaki L 2014. Socio-economic Impact on In-Migrant Labourers: A Case Study of Chennai City. EnviroGeoChimica, 1(3): 180-189. Chennai: Emas Applied Research Publishing. From https://www.academia.edu/7894896/socio-economic_impact_on_in-migrant_labourers_a_case_study_of_chennai_city (Retrieved on 25 August 2018).
- The Hindu Net Desk 2017. Chennai Rains 2017: City Survives Heavy Rainfall, Braces For More. The Hindu, Daily, November 7. From https://www.thehindu.com/news/cities/chennai/chennai-rains-2017-city-survives-heavy-rainfall-braces-for-more/article19980182.ece (Retrieved on 5 September 2018).
- Padmanabhan M 2016. When Cities Went Under Water. The Hindu, Daily, August 30. From https://www.thehindu.com/news/national/tamil-nadu/floods-in-tamil-nadu-cities/article7965264.ece (Retrieved on 25 August 2018).
- TNN 2010. Migration to Chennai Follows Industrial Growth, but Quality of Life? The Times of India: City, Daily, April 13. From https://times.of.indiatimes.com/city/chennai/Migration-to-Chennai-follows-industrial-growth-but-quality-of-life/article-show/5798687.cms (Retrieved on 23 August 2018).
- Vaishnavi H 2018. Kerala, After the Flood: Local Samaritans Shun Migrant Workers from Bengal, Odisha and Assam; Government Comes to their Aid. Firstpost. From https://www.firstpost.com/india/kerala-after-the-flood-local-samaritans-shun-migrant-workers-from-bengal-odisha-and-assam-govt-comes-to-their-aid-5018971.html (Retrieved on 3 September 2018).
- Vetriselvan M 2018. Neeraalaanadhu Ivvulagu. Kungumam Thozhi, Fortnightly, September 1, P. 71. Chennai: KAL Publications Private Limited.
- World Population Review 2017. Chennai Population 2018. From http://worldpopulationreview.com (Retrieved on 23 August 2018).

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