

Poverty and Informal Housing as a Stressor in Manila

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I

1 SUMMARY

The Philippines, due to its geographical location in the Ring of Fire and the Typhoon belt, gets affected by a variety of natural hazards every year such as typhoons, earthquakes, and volcanic eruptions. Additional stresses like droughts and sea level rise (caused by climate change), and land subsidence due to excess groundwater extraction, contribute to lowering Manila's resilience even further. Informal housing, however, is one of the main factors that contribute to lowering the resilience of the city to the multiple natural resources that it is prone to. The urban poor of Manila usually live in informal settlements due to the lack of availability of affordable housing and the increase of unplanned urban migration. This sector of society is therefore the most affected by disasters. Due to the lack of availability of resources before, during and after the occurrence of a natural event, dwellers of informal settlements are significantly more vulnerable to the effects of shocks. For this same reason, they have a lower ability to recover afterwards, which consequently increases their vulnerability to the next natural disaster due to the high recurrence of such events in the region. Furthermore, low to non-existent government intervention in these communities leads to malfunctioning drainage and sanitation systems, which end up affect the city as a whole as they contribute to pump station blockage and surface water pollution in cases of flooding. On the other hand, government interventions involving resettlement plans tend to fail due to lack of popular consultation and community involvement in the decision-making process. Successful relocation plans could significantly reduce the vulnerability of these communities to natural disaster since they would reduce population density in Metro Manila, move the communities to lower risk and more geologically stable areas, and reduce surface water pollution in the city due to better waste management. Proper relocation plans by the government could therefore have a great impact in improving the overall resilience of Manila, but community participation and consultation is primordial for the efforts to be successful. Additional proposed solutions, as well as supplementary resources are provided including reference literature and understanding/discussion questions related to the topics discussed in the report. Answers to the understanding questions are provided separately for lecturers.

2 KEYWORDS:

Community Participation; Failed Relocation Plans; Informal Settlements; Poverty; Rural-Urban Migration; Unplanned Urbanization; Vulnerability; Informal Housing; Coping Ability; Overpopulation; Flooding; Waste Management; Extreme Weather; Typhoon Belt; High Risk; Unavailable Housing; Drainage System; Surface Water Pollution ; Waste Disposal

1 PROBLEM STATEMENT

In a time where resource distribution constitutes a major difficulty worldwide due to the growing population and gradual depletion of resources, it is inevitable that a large number of people will not have access to the levels or quality of resources that are a basic necessity for sustaining a decent quality of life. This state of lacking the essentials and financial resources to maintain a minimum standard of living is referred to as 'poverty' (Chen, 2020). Poverty is one of the stressors that continuously increases the vulnerability of the 1.8 million poor and the 8.7 million low-income citizens in the Metro Manila area, which represents an overwhelming 82% of its 12.9 million inhabitants (Jocson, 2016; Albert & Raymundo, 2015). Overpopulation adds an additional burden to the poor citizens of Metro Manila. The Philippines, due to its location along both the Ring of Fire and the Typhoon Belt, is one of the countries in the world more prone to natural disasters. Factors such as population growth, internal migration (due to the constant natural disasters), and rapid unplanned urbanization are a few of the factors that further difficult effective risk management in preparation and response to the constant risks posed by natural hazards (World Bank, 2005).

Poverty as a stressor in Manila is greatly related to income inequality, vulnerability, and the use of informal housing. Income inequality refers to a disproportionate distribution of wealth across a population which can be observed between countries, or between regions, communities, or individuals within a single nation. Additionally, income inequality makes it harder for individuals living at or below the poverty line to improve their socioeconomic status because it is linked to a reduction in access to resources that enable or facilitate sustenance, financial wellbeing, and overall health and success. Wealth disparity acts as a socioeconomic stressor that increases the vulnerability of impoverished people in the Metro Manila area. In this context, vulnerability is a lack of access to resources that can increase someone's capability to cope with a disaster, regardless of its origin, and that would allow them to be resilient after a shock or hazardous event. These resources can be tangible resources such as first aid kits, intangible resources like education, or access to services like emergency shelter and healthcare, among many others. The poor tend to have little to no access to such resources in order to be prepared for disasters or to be able to react afterwards, so they tend to have a disproportionate disadvantage when getting back on their feet compared to more wealthy segments of the population. Furthermore, the lack of social protection and shelter solutions for the urban poor were identified as some of the greatest sources of vulnerability for this part of the population by the international humanitarian agency CARE when talking about their development projects in the city (2020).

Figure 1 shows some of the relationships that will be mentioned throughout this trend report. It is important to note that this causal loop is by no means comprehensive of all the causes and effects that lead to or arise from poverty and informal housing. Poverty, as a wicked problem, cannot be attributed to a single cause and it is impossible to pinpoint all the factors that influence it. However, the purpose of the figure is mostly to portray the complexity of these intertwined systems and show how they are multidimensional and multidisciplinary.

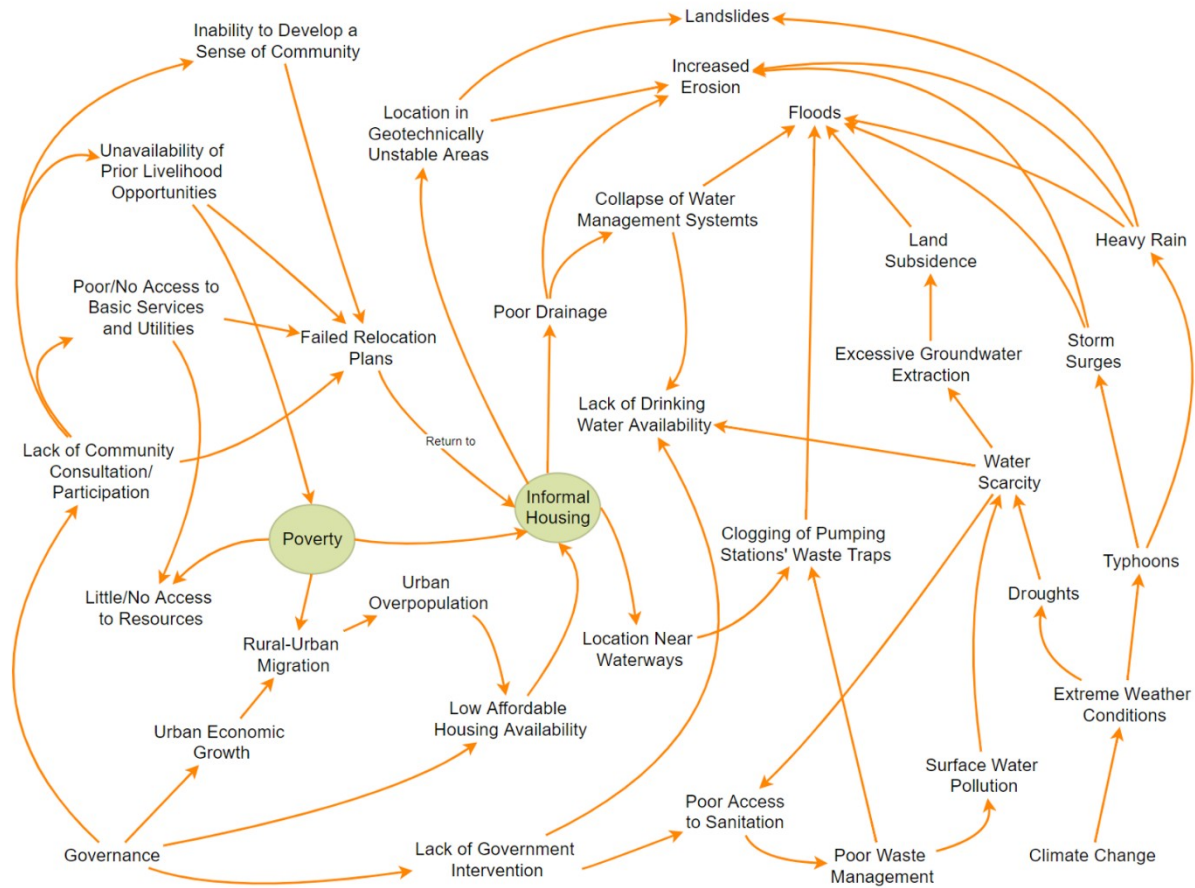


Figure 1. Causal loop diagram showing the relationships between poverty, informal housing and some common shocks and stresses that affect Manila. The arrows represent a causal relationship from cause to effect.

Being the most densely populated city in the world with 42,857 people per square kilometer and almost 1.8 million people, overpopulation in the city of Manila has led to the establishment of informal settlements such as slums (Quigley, 2018). This situation extends to the Metro Manila area as well, in which three million people live in informal settlements. This means that one out of four Metro Manila residents lives in informal housing (Singh & Gadgil, 2017). In these makeshift dwellings, government intervention is minimal so access to clean water, sanitation and proper drainage is extremely limited, if not non-existent (Jocson, 2018). Inadequate waste management from the overcrowded slums contributes to polluting the water quality of nearby waterbodies, worsening the problem revolving around lack of access to clean drinking water. Informal settlements are usually located in high risk areas such as riverbanks, over canals and near train tracks. Additionally, the greatest fault in the implementation of government relocation plans for informal settlers has been the lack of consultation with the population in question. The government is required by law to give all information about the new site to the people who will be relocated, which is rarely done in advanced. Since there is no prior consultation with the community, the resettlement area usually does not match the needs of the slum dwellers, utilities aren't ready when the relocation takes place, and the dwellers usually have no access to their usual livelihoods. With the relocation being a failure, most of the dwellers tend to go back to the Metro Manila area to live

in informality in their old communities. Hence, the lack of community involvement makes the offered solution unsustainable.

In a country prone to extreme weather events such as typhoons and floods, the lack of proper drainage in these communities can represent a great imminent danger, not just for the dwellers but for neighboring areas, due to the lack of adequate rainwater management. Overcrowding may also lead to complications with transportation within the settlements due to the tight organization of the housing units. This means that vehicular traffic is almost impossible through some slums. A lack of effective management of rural-urban migration also means that there are few sustainable and resilient housing options available for incoming migrants from rural areas, which further contributes to the formation and overpopulation of slum areas (Caraballo, 2017). This becomes an even more pressing issue with the rapid unplanned urbanization that has been taking place in Manila over the last century (World Population Review, 2020). Additionally, since informal settlements are built in without performing any prior geotechnical study, dwellers run the risk of landslides occurring from the floods or their homes being destroyed by an event like an earthquake and leaving them homeless.

Although shocks caused by events like typhoons, droughts and floods are likely to be more recurrent or of greater intensity due to the impact of climate change before the year 2050, it is more difficult to determine how poverty in Manila will develop in the next 30 years. It is important to note that the Philippine government has indeed been working to reduce poverty and income inequality by setting poverty reduction targets in their 2011–2016 Development Plan. These plans were mostly targeted at nationwide connectivity, improvements in sanitation, women empowerment, and communication technologies (Caraballo, 2017). All of these are relevant and important for nationwide development, but policies need to start targeting deep-rooted issues specifically related to informal settlements, such as ways to improve their resilience to natural threats and to boost their socio-economic development. If these are not addressed, poverty will continue to be a main stressor in Manila.

Ultimately, poor inhabitants are more vulnerable to the effects of climate change than the rest of the citizens of the city. This will remain unchanged as long as national planning for disaster prevention and remediation continues to destine less efforts and resources to the city's slums, and destine most of them to sectors of society that contribute heavily to their GDP (Albert & Raymundo, 2015).

Poverty in Manila and the underlying issues that it relates to (overpopulation, informal settlements, wealth inequality, rural-urban migration, and lack of proper basic sanitation and water access) have clear ethical consequences. The inappropriate management of this situation has left poor inhabitants and squatters in a disproportionately vulnerable state when compared to the rest of the population. A lack of interventions to improve access to proper housing and deal with overpopulation would mean that impoverished communities in the Metro Manila area, and throughout the Philippines as a whole, will have to face a never ending loop of living in less than optimum conditions, losing everything to natural disasters, and settling wherever available to try to recover from the event.

2 SOLUTION STRATEGIES

Manila has a large number of inhabitants with a clear disadvantage to be able to cope after a disaster and recover from it effectively. The city needs to implement more projects focusing on promoting the resilience within these communities by further implementing climate change adaptation and disaster risk reduction measures to housing plans (Shaw et al., 2010). By aiming some of these efforts specifically at poor communities, it might be possible to not only reduce poverty even more, but to increase equity in

Manila and improve the city's resilience as a whole. Targeting poverty and wealth inequalities might also prevent volatile growth and disorganized rapid urbanization (UNDP, 2012), which can address poverty and informal settlements through a proactive approach.

As previously stated, poverty and informal housing in Manila increase the vulnerability of poor citizens to natural disasters by reducing their ability to recover after the event. With this in mind, it is important to understand that the effect of these two factors on the resilience of the less privileged population is of a multidisciplinary nature. Thinking of hazard prevention from a multidisciplinary perspective would be extremely beneficial for the city of Manila. This would explore the city's resilience and disaster vulnerability from its relation to the natural conditions of the region, as well as the social circumstances that generate inequalities and ultimately put some people at a greater risk than others (ACS, 2017). Unfortunately, it is common for governments to perceive the presence of homelessness and makeshift housing as problems that need to be removed, instead of seeing them as a segment of the population that needs help and that would be beneficial to invest in and empower. In the Philippine Development Plan from 2011-2016, the government of the Philippines addressed the importance of improving housing, resource availability and economic opportunities as a way to fight poverty (NEDA, 2011). And although relocation plans do exist for informal settlers, the government needs to improve their consultation with the population in question for these plans to be effective. This has been a massive fault in the implementation of government relocation plans. It is necessary for relocation plans to be more participatory so that the new location will be suitable for the people who will be moved there, or else the relocations will keep perpetuating the problem without giving a sustainable solution.

So far, the government has implemented fairly successful projects aimed at improving connectivity, national planning, women empowerment, access to sanitation and to communication technologies (Caraballo, 2017). The improvement in connectivity has facilitated the implementation of early warning systems for typhoons and floods, which are promising for future natural disasters since they would allow citizens of all levels of income to have similar access to information regarding upcoming events. For poor communities, this clearly represents a better chance of preparing for a natural disaster than facing it with less prior knowledge and with less access to information. The government investment in appropriate sanitation also means that a greater percentage of the population will have access to this basic need, which represents a great improvement in the quality of life of many (especially in low-income households). This can help reduce the spread of diseases and reduce contamination to water bodies from unsuitable waste disposal (Caraballo, 2017). Additionally, the projects focusing on women empowerment could help promote financial independence among women and help reduce the poverty rate among women of working age. The Philippines still has some strong traditional views on gender roles, with a lot of people seeing men as the hardworking providers in families, and women as having the role of child bearers and housewives. These views are more prevalent in rural communities where, although women play an important role in agricultural development, land titles of ownership are for the most part granted to the husbands (JICA, 2008).

After Ondoy, the typhoon that devastated Manila in 2009, the Philippine government developed the "Flood Management Master Plan for Metro Manila and Surrounding Areas". The Master Plan, which received support from the World Bank throughout its development, proposed structural and non-structural measures that would allow for better flood management in case of extreme weather events. The main structural elements presented by the Master Plan included improvements to urban drainage, flood control measures for rivers, and structural measures to prevent flooding in the long-term such as land raising (World Bank, 2017). These measures would have a huge positive impact on reducing the vulnerability of all the citizens of Manila since they could reduce the severity of flood events in the city. According to the Japan International Cooperation Agency (JICA), the effects of short-lived rain events cost the Philippine

economy 2.4 billion pesos/day (almost 42 thousand euros per day) (Lagmay et al., 2017). Improving the efficiency of urban drainage systems could therefore save the Philippine economy over 15 million euros a year, which could be destined to, for example, improving the quality of life of slum dwellers.

However, when focusing on the population living in poverty, it is more pertinent to explore the non-structural measures presented in the Master Plan. These include community-based flood risk management, early warning systems and flood forecasting. Additionally, the Plan discusses the importance of relocating informal settlers living in high risk areas and to improve the management of solid wastes. Records of waste collection at pumping stations by the Metro Manila Development Authority (MMDA) calculated that about 17,000 m³ of solid wastes are collected at the trash racks from major pumping stations every year (World Bank, 2017). This means that almost 5,000 tons of non-recyclable waste block pumping systems in the city that are meant to operate in case of flooding. As mentioned earlier in the report, poor waste management in slums contributes to water pollution of nearby waterbodies, especially since many are located along or over drainage channels directly connected to pumping stations. Hence, it makes sense that this waste can ultimately end up in trash racks from the pumping stations. In this sense, improving waste management in informal settlements through government intervention would contribute to reduce the amount of waste blocking the pumps.

It can also be useful to address informal settlements by preventing them instead of just relocating the dwellers after their arrival to Metro Manila. Most migration to the area is rural to urban, since migrants are attracted to the Metro Manila area due to the impressive economic growth sustained by the region between 2010 and 2016. The Philippine economy has been heavily focused on commercial development, provision of services and real state, which has left out a large part of the population that earned their living from agriculture and industrial practices (Porio, 2016). This economic growth, although it improved the GDP of the country, technically reducing poverty, actually lead to rising inequality between the city and the countryside. This further boosted migration to the cities and the formation of slums. Therefore, if the government invested more in the development of industry and agriculture providing better opportunities away from cities, population densities could be reduced, rural-urban migration would diminish significantly, and poverty would be reduced by providing basic resources to communities before they need to move elsewhere to look for sustenance.

To make sure that the plans from the 2017-2022 Master Plan are fully developed, it explicitly delegates the responsibility of implementing and monitoring the multiple ideas proposed to different NEDA Secretariats to guarantee a more efficient management of the plan for the upcoming years (NEDA, 2017). The best way to know what progress was made during this period of the Master Plan will be to identify the recurring issues to be developed in the 2023 Master Plan. However, no amount of planning or monitoring will be sufficient to improve the informal housing situation in Manila without an improvement in governance. Leadership is crucial for policies to be implemented in the best way possible, and it is important for there to be coherence between local and national integrated risk reduction plans. According to Mary Joy Gonzalez and Celso Dulce from CARE Philippines, they encountered greater success working with rural governments at local levels but encountered more difficulties when working with the government in Metro Manila. This can be attributed in part to the change in government every three years, which can easily interrupt the progress made from one term to the next, and even destroy it completely. A solution to this would be to have as many people as possible at every level of governance from the legislative and judicial branches working towards the same resilience plans so that it is a fully integrated project. This way, even after elections, plans could roll over to the next term smoothly and uninterrupted and progress could be made more efficiently. After all, every government office has a role in improving the resilience of Metro Manila.

3 LINKS FOR FURTHER READING

The following publications explain more about the stress that informal housing represents in Metro Manila and/or solution strategies.

3.1 “RISK AND RESILIENCE: INTERROGATING PROSPERITY, INEQUALITY, AND CLIMATE DISASTERS IN METRO MANILA”

Author: Emma E. Porio

Link: https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsbk2017-appc2016_fnl.pdf#page=235

Relevance: This publication is part of the “Risk, Shocks, Building Resilience: Proceedings of the Second Annual Public Policy Conference 2016” published by the Philippine Institute for Development Studies in 2017. Although chapter 13 (“Risk and Resilience: Interrogating Prosperity, Inequality, and Climate Disasters in Metro Manila”) is the most relevant for the topic of informal housing in Metro Manila and its relationship to lower resilience, the entire document contains valuable information about factors that influence the resilience of the city from four main aspects: agricultural resilience, health resilience, macroeconomic resilience and urban environment resilience. Furthermore, Emma E. Porio, a professor of Sociology and former chair of the Department of Sociology and Anthropology at the ADMU (Ateneo de Manila University), has written several articles about the relationship between poverty and resilience in Metro Manila. Her articles have always emphasized the need for an integration of disciplines to strengthen policy planning in the city (which has been highlighted throughout this text). Additionally, she is very critical and objective when discussing faults in policymaking, governance, and risk management. The article therefore goes into greater detail about some of the points that were mentioned in this trend report, mainly governance and how policies are implemented among the urban poor.

3.2 “PHILIPPINE DEVELOPMENT PLAN 2017-2022”

Author: National Economic and Development Authority

Link: <http://pdp.neda.gov.ph/wp-content/uploads/2017/01/PDP-2017-2022-07-20-2017.pdf>

Relevance: Published in 2017, this document portrays the Philippine government’s current plans for sustainable development. Some of the things addressed are governance, informal housing, poverty, economic growth, and inequality reduction. It would also be valuable to compare the current development plan along with the “Philippine Development Plan 2011-2016”. The document goes into much greater detail about the government’s plans for development, which were not fully mentioned in the trend report due to its narrower scope.

3.3 “NEGOTIATING INFORMAL HOUSING IN METRO MANILA : FORGING COMMUNITIES THROUGH PARTICIPATION”

Author: Abidemi Coker

Link: <https://jyx.jyu.fi/handle/123456789/49349>

Relevance: This research paper from 2016 explores the institutional and socio-political relationships that facilitate or difficult access to housing in Manila. The document discusses in great depth the reasons why it is hard to obtain regular housing as a low-income citizen in Manila, which is not explored fully in this report. The author understands the complexity of this wicked problem and addresses it with three main focal points to try to understand it. The first one is related to access to housing, participation, and community building. The second focal point covers urban governance and housing rights. The third one focuses on poverty and megacities. A great takeaway from this article is that it gives value to informal settlements as communities where resources are shared through informal yet organized associations. The article therefore gives great insight on the informal settlements in the city.

3.4 “ASSESSING THE FEASIBILITY OF RESETTLEMENT AS A CLIMATE CHANGE ADAPTATION STRATEGY FOR INFORMAL SETTLEMENTS IN METRO MANILA, PHILIPPINES”

Author: Anne Tadgell, Linda Mortsch, Brent Doberstein

Link: https://www-sciencedirect-com.tudelft.idm.oclc.org/science/article/pii/S2212420916303788?casa_token=0kvyoC2shfIAAAAA:0O2IAiSs8JrwFILpzv9BA6uENAZiqTIW-KLdd2O9oNpL6mU9ZkmMIH1-Xp50JLfxC8ZULjMnsBY

Relevance: This article from 2017 was published in the 22nd volume of the International Journal of Disaster Risk Reduction. It focuses mainly on resettlement as a solution to informal housing, the foreseen challenges to any resettlement plan, perceptions on resettlement and the feasibility of the plans. It also presents poverty reduction as the foundation of any intervention plans for urban poor communities in Manila.

3.5 “NAVIGATING INFORMALITY: PERILS AND PROSPECTS IN METRO MANILA’S SLUMS

Author: Gayatri Singh and Gauri Gadgil, The World Bank

Link: <http://pubdocs.worldbank.org/en/564861506978931790/Navigating-Informality-Metro-Manila-7-26-17web.pdf>

Relevance: This report published by The World Bank in 2017, offers an amazing insight into the slums of the whole Metro Manila area. It includes thorough surveying and mapping of the slums, their locations, and characteristics, which gives an interesting view on how slums are distributed throughout the Metro area. It also dedicates an entire chapter to “Migration, Slums and Urban Poverty” and discusses the slums’ vulnerability to disaster, which were all discussed in this report. The report includes a vast number of tables showing demographic data for slums in multiple cities in Metro Manila, as well as results from population surveys regarding what informal settlers believe to be the major problems that come with living in slums. Additionally, they address two important questions in the conclusion: “Are current slum upgrading approaches enough?” and “Can technological solutions support slum upgrading and facilitate

inclusive urbanization?”. This last question promotes the discussion on how resistance relates to resilience.

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5 UNDERSTANDING QUESTIONS

- 1) What are three factors that make informal settlers more vulnerable to natural disasters?
- 2) What are three ways that the presence of informal housing reduces the resilience of Manila?
- 3) How does vulnerability relate to resilience?
- 4) Why is it so important to address the issue of informal settlements through a multidisciplinary approach?
- 5) What aspect of the government's relocation plans for informal settlers must be improved to achieve a sustainable solution for the issue of informal housing in Manila?

6 DISCUSSION QUESTIONS

- Is it viable to pursue the proposed solution of investing in further agricultural development, even though this would probably slow down the economic growth rate that the Philippines has been having due to investment in more profitable sectors?
- Should informal settlements have access to resources provided by the government and benefit from government intervention?
- What problems can arise from looking at informal settlements as a problem that needs to be taken care of instead of a population whose needs need to be addressed?

7 ANSWERS TO UNDERSTANDING QUESTIONS

- 1) Informal settlers are more vulnerable to natural disasters because they are usually located in high risk areas such as riverbanks, over canals and near train tracks. Additionally, due to the absence of government intervention, they have little to no access to appropriate drainage and waste management systems, which increases the severity of flood events in the vicinity of these communities. Lastly, the high density of these communities tends to make integrated risk management harder due to the lack of resources available to them.
- 2) Informal settlements contribute to reducing the resilience of Manila due to:
 - a. Their construction in geographically unstable areas increases the probability of landslides occurring, especially during heavy rainfall events.
 - b. Their location near pumping stations increases the amount of waste in the waste traps, reducing their overall efficiency for flood control.
 - c. Inadequate waste management from the overcrowded slums contributes to polluting the water quality of nearby waterbodies, worsening the problem revolving around lack of access to clean drinking water. This becomes especially problematic after a natural disaster, when access to clean water is a problem for the majority of the population.
- 3) Vulnerability is the lack of access to resources that would increase someone's capability to cope with shocks or stressors. Vulnerability and resilience are inversely related since higher vulnerability leads to lower resilience.
- 4) Addressing informal settlements through a multidisciplinary approach would explore their relationship to the city's resilience and disaster vulnerability in a more holistic way. It would take into consideration the relation to the natural conditions of the region, as well as the social circumstances that generate inequalities and ultimately put some people at a greater risk than others. Additionally, it would analyze the effect of governance at a local and national level and how this facilitates or difficult the implementation of resettlement and poverty reduction plans. Taking a multidisciplinary approach would encompass the entire STE systems in Manila and recognize more relations between events and conditions that would not be evident from a smaller scope.
- 5) Community participation should be enforced by the government whenever relocation plans are being developed and enforced. This is required by law, although for the most part not implemented. This leads to the failure of many relocation attempts since the new site does not fit the needs of the community being moved. It usually does not provide livelihood opportunities like the ones available in their prior location, and the people do not develop a sense of community or belonging to the new area. Additionally, since community participation is not enforced, it is not uncommon for relocations to take place before utilities are set up and before access to basic services has been settled. This all comes down to a solution that is not sustainable since in many cases the people that were resettled just end up moving back to the Metro Manila area and go back to informal housing that accommodates their needs better.