

The voice of the fishermen

Understanding the fishermen community in Kalibaru village, North Jakarta



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Murtiti Setiasih Muharamiah
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Wageningen
The Netherlands

Abstract

DKI Jakarta, the capital city of Indonesia, is facing flood problem due to the increasing population pressure and land subsidence. The land subsidence goes in a rapid rate and if no measures are taken Jakarta would sink up to six metres in less than nine decades. To cope with the flood problem, the Government of Indonesia and the Government of the Netherlands cooperate with the National Capital Integrated Coastal Development (NCICD) programme which has the vision to improve the socioeconomic of North Jakarta and the surrounding areas. The project involves measures such as dykes, drinking water provision and also resettlements. As the community who lives in the coastal area, the fishermen community is the stakeholder, which will be directly influenced by the resettlement programme. There is a tendency of a resettlement program to overlook the social dimension and it may have a degradation effect to the well-being of the resettled. This research tried to unravel the social dimension of the fishermen community in Kalibaru village in North Jakarta by conducting qualitative research using immersion as a strategy in employing in-depth interview, observation and group discussion. From the study, it was seen that the fishermen community in Kalibaru village consider fishing as an identity rather than merely income generating activities. Fishing has always been their occupation in generations therefore path dependency propensity was also revealed. The strong cohesion and living environment are also aspects perceived to be essential by the fishermen community. The researcher learning process suggests that an open learning space is important to unveil basic values constructed in a community.

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Table of contents

Abstract.....	i
Acknowledgement.....	ii
Table of contents.....	iii
List of Figures.....	iv
List of Tables	iv
List of Acronyms	v
Chapter I: Introduction.....	1
1.1 Research Background	1
1.2 North Jakarta context.....	2
Chapter II: Literature Review	4
2.1 Understanding Displacement	4
2.2 Understanding the stakeholders' entities.....	5
2.3 Understanding perception	7
2.4 Research issue	8
Chapter III: Research approach.....	10
3.1 Research Strategy	10
3.2 The strategy materialised.....	11
3.3 Research location	11
3.4 Research Framework.....	13
3.5 Ethical consideration.....	13
3.6 Critical epistemology.....	14
3.7 Reflection of the research project.....	14
Chapter IV: Research findings	15
4.1 Identifying the fishermen community perception	15
4.1.1 Evaluative frame of reference	15
4.1.2 Feedback from the fishery network	17
4.1.3 Self efficacy	18
4.1.4 Social relation	20
4.1.5 Environmental effectiveness	22
4.1.6 Historical existence of the fishermen community in Kalibaru village	23
4.2 Prioritisation according to the fishermen community	24
4.3 The Pelindo II harbour development in the fishermen community 'front yard'	26
Chapter V: Discussion	28
5.1 The fishermen community perception on their practices	28
5.2 Historical background determine the community practices.....	31
5.3 Current development influence the fishermen community practices.....	31
5.4 Variables on of the fishermen community in Kalibaru village perception	31
5.5 NCICD programme and its relation to the fishermen community perspective	32
Chapter VI: Conclusion and consideration	35
6.1 Conclusion.....	35
6.2 Consideration.....	35
References.....	36
Annex 1: List of respondents	39
Annex 2: Interview and observation checklist	41
Annex 3: Group discussion documentation.....	43

List of Figures

Figure 1. Orientation map of Jakarta in Java Island.....	1
Figure 2. Number of poor households in Jakarta province by sub-district and administrative villages, 2008	3
Figure 3. Resettlement programme	4
Figure 4. Theoretical framework on analysing variables which are relevant to understanding the current practices of fishermen	8
Figure 5. Jakarta Bay and the immersion location in Kalibaru village.....	12
Figure 6. Research framework	13
Figure 7. Left: the fish is being cleaned, Right: the salty fish on top of the bamboo tables and below are the plastic waste and still water	22
Figure 8. DKI Jakarta and the origin areas of the immigrant fishermen community in Kalibaru village	24
Figure 9. Fishermen community in Kalibaru village perspective on variables which influence them to live in the area and do fishing as the main income generating activity	25
Figure 10. Jakarta Bay reclamation plan and the immersion location in Kalibaru village	26
Figure 11. Fishermen community in Kalibaru village perspective on opting their current practices.....	32

List of Tables

Table 1. Daily activities of Suradi's family during research period.....	21
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List of Acronyms

BPS	Badan Pusat Statistik (Indonesian Central Statistic Agency)
DKI	Daerah Khusus Ibukota (special administrative capital area)
DFDR	Development-cause forced displacement and resettlement
EFC	Eastern Flood Canal
GoI	Government of Indonesia
GoN	Government of the Netherlands
GT	Gross Ton
Jabodetabek	Jakarta Bogor Depok Tangerang Bekasi
JCDS	Jakarta Coastal Defence Strategy
JMR	Jakarta Metropolitan Area
NCICD	National Capital Integrated Coastal Development
PMU	Program Management Unit
Pokmaswas	Kelompok Masyarakat Pengawas (Community watch group)
RT	Rukun Tetangga (neighbourhood groups)
RW	Rukun Warga (community groups)
Susenas	Survey sosial ekonomi nasional (National Socioeconomic Survey)
TPI	Tempat Pelelangan Ikan (Fish Auction Place)

Chapter I: Introduction

1.1 Research Background

Daerah Khusus Ibukota (DKI) Jakarta, special administrative capital region of Jakarta, is a province in Java Island and also the capital city of Republic of Indonesia (figure 1). The city had a population of about 9.6 million people in 2011 with total households of about 2.2 million (BPS, 2011 in Abidin et al. 2011), inhabiting an area of about 661.51 km² (Abidin et al, 2011). Jakarta is surrounded by other provinces namely West Java (Bekasi Municipality and Bekasi city, Depok city) and Banten (Tangerang city). Jakarta along with the three cities and a municipality are often referred to as Jakarta Metropolitan Area (JMR) Jakarta, Bogor, Tangerang and Bekasi (Jabodetabek). The whole JMR Jabodetabek covers an area of approximately 7,500 km² and with the total population of 27.9 million people in 2010 (Abidin et al., 2011), this makes the area the 6th biggest urban area in the world (JCDS, 2011). Jakarta is also known as a harbour city which had the title of 'Queen City of the East' in the 17th century (Steinberg, 2007) and has a coastline of approximately 35 kilometres (Farming, Fishery and Marine Office of North Jakarta, 2012) spreading from the east to the west coast in the northern part of Java island forming the Jakarta Bay.

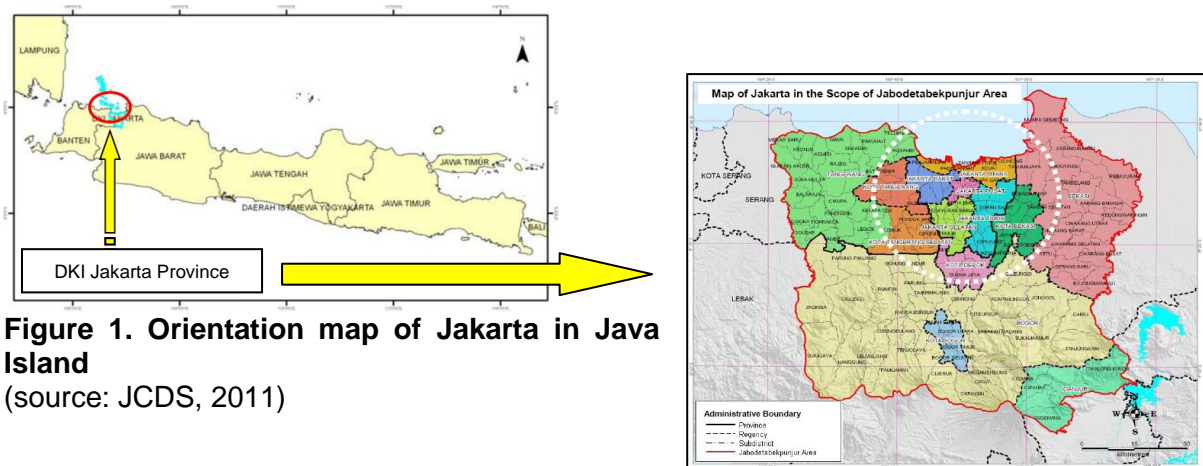


Figure 1. Orientation map of Jakarta in Java Island
(source: JCDS, 2011)

Jakarta has been an attractive place for both local and foreign investment due to the better access to infrastructure, markets, skilled labour and entrepreneur and better access to decision makers (Abidin et al. 2011). Jakarta is the centre of government and also the centre of business districts in Indonesia. The characteristic of the dynamics and expansion of Jakarta growth attracts human mobilisation towards the city. The urbanisation rates into JMR Jabodetabek growth very rapidly. Firman et al. (2011) stated that Jakarta is a magnet for migrants who seek better living conditions, mostly poor migrants originating from other provinces, especially those around Jakarta.

Due to the socioeconomic pressure, the area faces several issues including land conversion (e.g. decrease of green space, residential area to offices and business space), flood hazard, slum settlements, and environmental degradation of mangrove ecosystems, marine pollution, sedimentation and narrowing of the estuary, land subsidence, tidal flood, and abrasion (Ward et al, 2011; JCDS, 2011). Furthermore, clean water provision is an issue in Jakarta. Many people are having difficulties in getting access to clean water - only 40% of the Jakarta population is estimated to be connected to the piped central water supply, some 40% obtain water through bore wells, and some 20% still have to buy clean water from street vendors (Steinberg, 2007).

One of the biggest problems in Jakarta is the annual flood. The most recent severe floods took place in 1996, 2002, 2007 (Wagemaker et al., 2011) and 2012 (Simanjuntak et al., 2012). The increasing population pressure and land subsidence are the main reason that make Jakarta a high flood risk (Brinkman and Hartman, 2009 in Wagemaker, 2001). Land subsidence in Jakarta has been happening in several places for many years (Murdohardono and Tirtomihardjo, 1993; Mudohardono and Sudarsono, 1998; Rajiyowiryo, 1999 in Abidin et al., 2011). From the three main causes of land subsidence in Jakarta, groundwater extraction is considered as the most dominant cause followed by the load of construction and natural consolidation of alluvium soil (Abidin et al., 2011; Murdohardono and Sudarsono 1998; Rismianto and Mak, 1993; Harsolumakso, 2011; Hutasoit, 2011).

According to the land subsidence map of Jakarta (Andreas, 2001 in Lijster, 2013) from the year 1974 – 2010, Jakarta has experienced total land subsidence of 25 up to 400 cm with the land subsidence annual rate of 0.5 to 17 cm. With the current groundwater extraction activity, it is predicted that Jakarta would sink to at least five to six meters lower until the year 2100. If the groundwater extraction would be stopped in 2020, land subsidence in Jakarta can be limited to 1.5 to two meters.

In 2009 - 2011, a partnership of the Government of Indonesia (GoI) and the Government of the Netherlands (GoN) cooperate with Jakarta Coastal Defence Strategy (JCDS) in tackling flood problems caused by the sea, tidal flood. The cooperation between the two governments set several ambitions: land subsidence should stop, floods from rainfall should be mitigated, the city should be protected against the sea, and additional fresh water provision for drinking water. In 2013, the project changed the name from JCDS to National Capital Integrated Coastal Development (NCICD) and has the vision to develop the future socio-economic of North Jakarta and the adjacent regions of Banten and West Java provinces (Sannen, 2013).

Brinkman (2012) in his JCDS project planning mentioned resettlements as one of the strategies to cope with flood in the coastal area of Jakarta. Such resettlements would influence the entire population in the coastal area of Jakarta. According to the World Bank (2010) resettlement is a process to assist the displaced person to replace housing, assets, livelihoods, land, access to resources and services and to restore their socioeconomic and cultural condition. Moreover, resettlement can have a broader meaning than just a physical replacement of people. Cernea and Schmidt-Soltau (2006) stated that in an ecological and sociological sense, displacement occurs not only when land takings compel physical relocation, but also when a particular development or conservation project introduces restricted access to cultivable lands, fishing grounds and even if the traditional users are not physically relocated but are administratively prohibited from using the natural resources.

Looking at the nature of the NCICD programme there is a possibility of both physical and non-physical displacement involving the community in the coastal area of Jakarta. Displacement activity carries a high risk of impoverishment when it is forced and done involuntarily. However, Dhakal et al. (2011) based on the study of a resettlement programme argued that resettlement can be successful if the resettlement plans are initiated and designed in consultation with the residents.

1.2 North Jakarta context

NCICD programme implementation will be mainly implemented in the coastal area of Jakarta. Strategies such as land reclamation, dyke improvement will inevitably influence the current dynamic in the northern part of Jakarta. In the 12th century, the port was known as the busy port of pepper and the harbour was called Sunda Kalapa after the Javanese kingdom of Sunda. During the colonial time, the harbour became an important place for the Portuguese who called the port Jayakarta, meaning “glorious victory”. The Dutch colonisers later renamed the city to Batavia and during the Japanese occupation the Japanese renamed it

into its current name Jakarta. After the independence era, the harbour area was abandoned and Jakarta lost its coastal identity in the mid 20th century. Since then the coast has become 'the other space' and associated with the poor neighbourhood, fishermen and Chinese communities who continued to live and work in the north Jakarta area (Cybriwsky and Ford, 2001; JCDS, 2011; Abidin, 2011). Now DKI Jakarta government is trying to rebuild the coastal area.

According to the statistic census in 2009, the North Jakarta municipality is vulnerable to sea water flood and also flood water from Jakarta's rivers. The municipality vulnerability index of the municipality comes second after the Thousand Island municipality which is located on Java Sea, north to DKI Jakarta. In the vulnerability survey, the Indonesian central statistic agency (BPS) took into account aspects such as a measure to assess the impact of external forces (e.g. climate change) (Susenas, 2009 in Firman et al. 20011). Moreover, the poor of Jakarta are concentrated mainly in the North and Eastern parts of Jakarta. There are two localities with the highest concentration of poor households located in North Coastal Jakarta i.e. Kalibaru village in the Cilincing sub-district and Penjaringan village in the Penjaringan sub-district (Susandi, 2009 in Firman et al., 2011). The population growth there is due to the new housing settlements in the coastal area and also migration of the fishermen. In 2008 there were in total 20,125 fishermen in the coastal area and the number decreased to 12,222 in 2012 (JCDS, 2011; Farming, Fishery and Marine Office of North Jakarta, 2012).

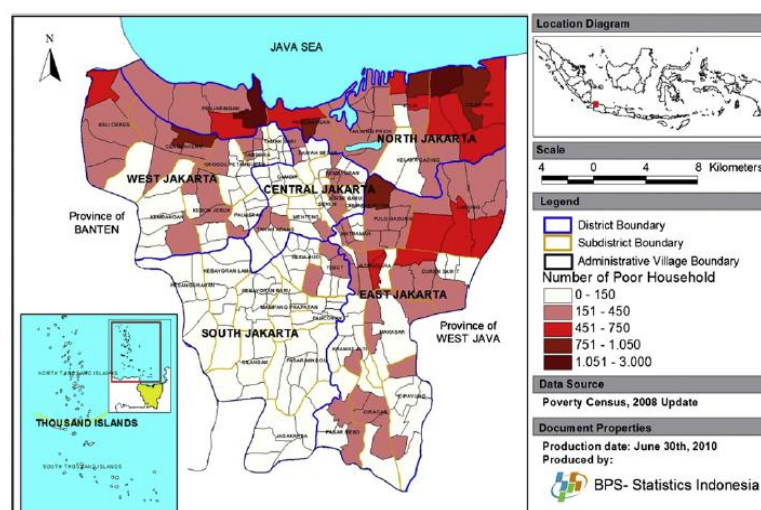


Figure 2. Number of poor households in Jakarta province by sub-district and administrative villages, 2008
(source: BPS Statistic Indonesia in Firman et al., 2011)

The fishermen who live along the coastline of Jakarta Bay will be the first to be affected by the Jakarta Bay development. Resettlement of fishermen has been a challenge also in other parts of the world. From a study on fishermen willingness for mobility in European countries, it was revealed that the willingness of occupational mobility was low. The most significant reason for the fishermen to resist exiting the fishing activity is demographic and job-related (Pita et al., 2010). For fishermen in Europe, as can be said for all fishermen around the globe, fishing is an occupation that provides benefits beyond income and fishermen regard their job as more than a way of making a living - it is a way of life (Cinner et al., 2009; Gatewood and McCay, 1998; Griffith and Pizzini, 2002; McGoodwin, 2001; Pollnac and Poggies, 2006 in Pita et al., 2010).

Chapter II: Literature Review

2.1 Understanding Displacement

Land for land sounds like a reasonable swap, but how do you implement it? How do you uproot 200,000 people...and relocate them in a humane fashion? How do you keep their communities intact? (Roy 1999:55 in Maldonado, 2012)

Resettlement has created many nightmares for slum areas in Jakarta. Many resettlements had been characterised by forced eviction where the people were forced to go from their housings and experience the destruction of their wooden houses by the field government officials. The eviction caused disappointment, anger and loss. The World Bank (2010) categorises this type of resettlement as involuntary resettlement. Outcomes of involuntary displacement as described by Cernea (2000) in Sharma (2010) are 'major impoverishment risks such as landlessness, joblessness, homelessness, marginalisation, food security, increased morbidity and mortality, loss of access to common property recourses, social disarticulation, differential risk identities and risk to host population. These authors recommend that involuntary resettlement should be avoided where feasible or minimised, exploring all viable alternative project design. Other authors add to this that it is not feasible to avoid resettlement; the displaced persons should be meaningfully consulted and should have opportunities in planning and implementing resettlement programmes (World Bank, 2010).

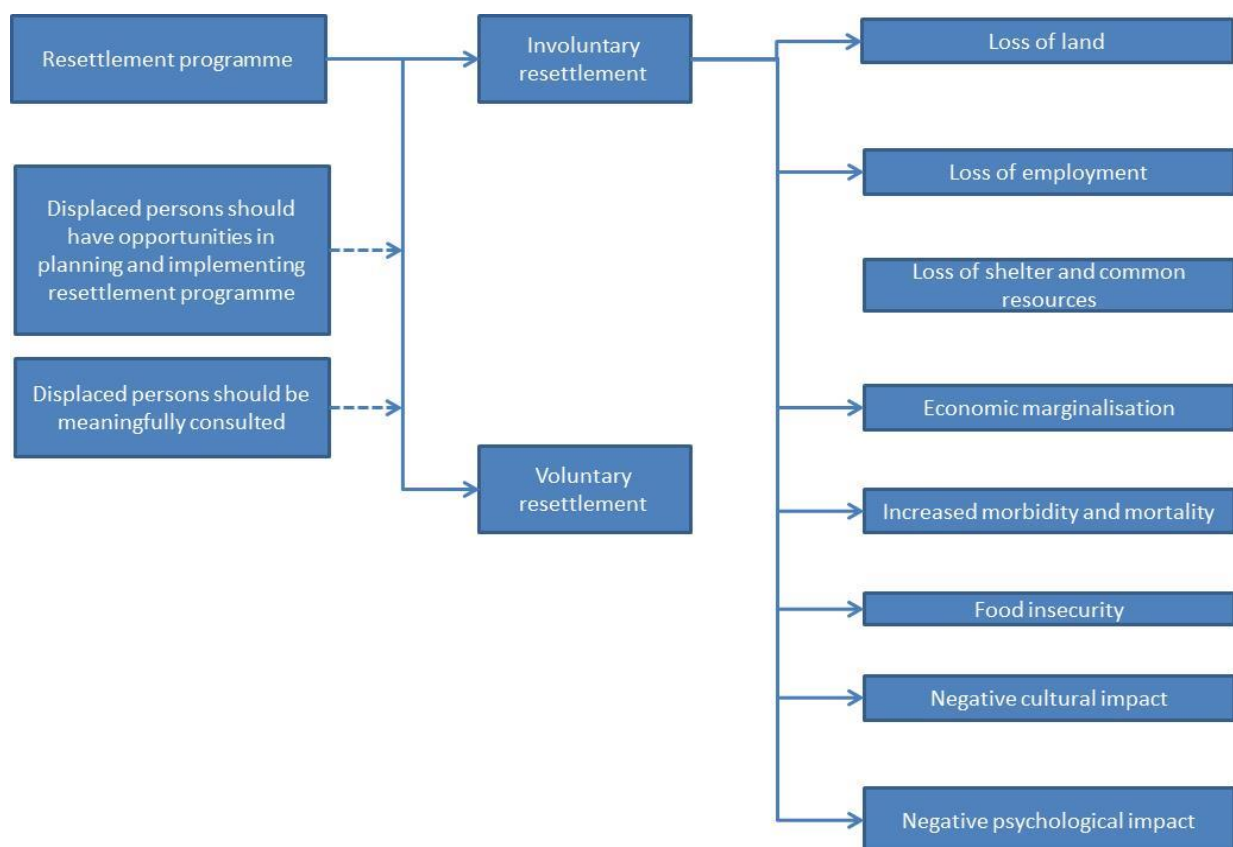


Figure 3. Resettlement programme
(source: World Bank, 2010 & Sharma, 2010)

The development projects likely to displace people are those that require land acquisition such as infrastructure projects (World Bank, 2010). NCICD project is a development project focusing on socioeconomic development of the coastal area in the North Jakarta. The project also has a potential to cause displacement to the actors living in the coastal area whether it is physical or non-physical displacement.

NCICD programme planning was based on the increasing land subsidence trend causing the flood risk in DKI Jakarta and the area surrounding to increase. Arandel and Wetterberg (2013) pointed the weaknesses of resettlement which prioritises technical requirements rather than social and economic concerns: lacking mechanism to gauge community social structures and needs, it does not consider whether new locations provide jobs and services comparable to those that residents relied on at their original sites (Cernea, 1993; Viratkapana & Perera, 2006 in Arandel & Wettenberg, 2013), ignores disruptions to social networks (Uysal, 2012 in Arandel & Wettenberg, 2013) therefore technical oriented resettlement without consideration of the existing connection between neighbours, family groups or ethnic enclaves destroys the capacity for collective action and networks for mutual aid that are not easily replaced.

Another issue, which also comes often with resettlement, is compensation. The policy makers rely too much on the positive effect of compensation in order to restore people's livelihoods, ignoring the social and cultural consequences of displacement (Cernea and Mathur, 2008; Maldonado, 2008 in Maldonado 2012). The well-being of the displaced people cannot only be guaranteed by monetary compensation. Aspects such as loss of social networks tend to be overlooked in formulating resettlement policies. In an international conference for economics, social justice and ethics in development-caused involuntary migration in 2010, it was agreed that a development-caused forced displacement and resettlement (DFDR) that takes a justice- and right-based approach to displacement needs to make room for the recognition of the social and cultural dimension of displacement. Furthermore a displacement without social and cultural dimension will almost likely have an impact on people's mental well-being, disrupts informal sectors of exchange and social capital and severs connections to sense of place, which threatens their cultural identity (Maldonado, 2012). Success and failure of resettlement is better determined not by material components but rather by incorporating the social and cultural dimensions and the qualitative variables of importance in people's own perception (Stamler 2007 in Maldonado, 2012).

In line with the concepts above, there is a need to understand the social and culture layers of the potentially displaced people. NCICD programme is still in the planning and there is an opportunity to have more comprehensive thoughts on the stakeholders involved.

2.2 Understanding the stakeholders' entities

Successful innovation requires as much input from farmers themselves as from scientists (Leeuwis, 2004)

Communication used to be employed to persuade potential recipients to be in line with a certain policy. Later it was realised that there is a gap between the policy makers and the recipients' thoughts (Leeuwis, 2004). Rolling (1988) in Leeuwis (2004) argued that there should be at least a partial mutual understanding between the two actors.

The previous flood infrastructure project, the Jakarta's Eastern Flood Canal (EFC), suffers serious delays since it was planned in 1973 and the construction started only in 2002. One of the reasons for the three decades delay was the absence of critical actors in the policy process (Simanjuntak et al., 2012). Critical can be defined as crucial, decisive, indispensable and vital (Merriam Webster, 2013). In line with this, critical actors can be seen as actors who

are crucial, decisive, indispensable and also vital. The Ministry of Public Works of Indonesia formulated a guideline about social management in dam development to be used for development works in Indonesia. It was stated that the main stakeholders in a dam development are communities and community leaders who are directly related to the dam development and actors establishing the development such as project implementer. The author then explains the importance of prioritising stakeholder because of the sensitivity during the data collection and the difficulties in the involvement implementation (Ministry of Public Works of Indonesia, 2009). Nevertheless, despite the policy efforts mentioned above, within infrastructure projects social aspects tend to be overlooked. In the EFC project there was an absence of landowners in the problem framing and planning phases resulting in tough opposition in the implementation phase (Simanjuntak et al., 2012).

Who are the actors involved in the NCICD programme? NCICD programme is a programme funded by the Government of the Netherlands (GoN) in supporting infrastructure development in Indonesia, dealing with flood risk mitigation. National and local institutions in Indonesia are involved in the programme. The related ministries and bodies are responsible to be the steering committee who has the responsibility to give guidance about the programme and those who are sitting at echelon¹ I are in the coordinating committee. The Programme Management Unit (PMU) is below the echelon II or the implementer (Sannen, 2013). The PMU is supported by Dutch consultancies and is divided into two teams; master plan team and PMU assistance team and are operated by a consortium of four Dutch consultancies (Royal HaskoningDHV, Witteveen en Bos, Rebel group and Triple A). In the programme, the consultancies provide analysis of the programme and the decision should be made by the Government of Indonesia (GoI).

Public participation is the involvement of all parties who may potentially have an interest or subject to a decision making of an intervention, or be affected positively or negatively by the intervention (SAIEA, 2005; Andre et al., 2006). According to SAIEA (2005), there are four types of stakeholders from a public participation for Environmental Assessment point of view; practitioners, decision makers, developers and civil society. When NCICD stakeholders are put into the public participation point of view the decision makers are the GoI, the practitioners are the Dutch consultancies consortium, the developers are the private institutions which will execute the programme implementation and the civil society is the whole community of Jakarta and the areas surrounding in general and the community living in the coastal areas of Jakarta Bay

Each stakeholder has its own interest in the programme and the interest will influence each perspective in the programme. Leeuwis (2004) mentioned that there are three aspects which can influence perspectives; social background and history, concrete political context and individual interest. Public participation is needed to assure optimal satisfaction of each stakeholder towards the programme as it is said by Leeuwis that top-down or blue print planning has a flaw of limited consideration of human aspect. It assumes that human behaviour is predictable while in contrary human has been proved to be less predictable and controllable than expected.

From the NCICD programme point of view there is a need to understand the human aspects of the stakeholders. Fishermen community residing in the coastal area of Jakarta are considered to be the stakeholders which will be directly influenced by the programme. As mentioned above, social and culture dimensions are equally, or some even say more important than the technical dimension in a programme development, NCICD programme needs to have an understanding on the social and cultural aspects that exist within the

¹ Echelon is a term used to refer to ranks in the government offices in Indonesia. Echelon I is the highest rank, usually directly below the minister then comes Echelon II until Echelon IV.

community. Here the fishermen community, the directly influenced actor, is 'insider' due to the knowledge and experience. The outsider of the programme, in this case decision maker, practitioner and the developer needs to learn from the insider. As Leeuwis (2004) said that knowledge of the 'insider' will provide great information for the programme.

2.3 Understanding perception

Answering the needs of the 'outsiders' of the NCICD programme in understanding social and cultural dimensions of the fishermen community as the directly influenced actor of the programme, the researcher used the perception model of Cees Leeuwis (2004) which explains variables which influences an individual to have certain practices. The model also includes variables such as environment, social, self-efficacy, evaluative frame of reference and also the feedback from the related network, usually related to the occupation.

Leeuwis (2004) stated that without a proper understanding of why people do what they do (and do not do) at a given point in time, it will be impossible to contribute to change effectively. He further explained several variables that help to understand an individual in choosing his or her current practice. Therefore, understanding how the fishermen perceive their practices and their living environment is important to generate and design appropriate strategies for the NCICD programme. Effective improvement might demand optimal change from stakeholders. In his model, Leeuwis (2004) used farmers' practices as an entry point to explain rural change and innovation. Yet, he further argued that rural change and innovation often does not involve only farmers. Therefore, the researcher makes use of the model and adjusted it to variables related to fishermen practices (figure 4). The model discusses five main variables which can contribute to an individual choice of practices.

The first variable in Leeuwis (2004) model is the evaluative frame of reference that explains that an individual practice will depend on (a) their perceptions of the consequences of a certain practices, (b) the perceived likelihood that these consequences will emerge and (c) their valuation of such consequences in relation to a set of aspirations. This variable is also referred to as an attitude towards a specific practice (Fishbein & Ajzen 1975; Ajzen & Fishbein, 1980 in Leeuwis, 2004). Attitudes may be based on few or many beliefs, and these beliefs may or may not accurately reflect reality, but the evaluative meaning they carry is automatically activated (Ajzen and Fishbein, 2000 p. 7). According to this model, it is possible that the fishermen's' current choices could be based on the technical consequences and also socio-economic consequences. Relation, cultural, emotional, identity and their knowledge on fishing may influence their choice.

According to the theory of planned behaviour, human action is guided by three kinds of considerations: beliefs about the likely consequences of the behaviour (behaviour beliefs), beliefs about the normative expectations of others (normative beliefs) and beliefs about the presence of factors that may further or hinder performance of the behaviour (control beliefs) (Ajzen and Fishbein, 2000).

The second variable is the perceived effectiveness of social environment (Leeuwis, 2004). This variable looks at how fishermen see how effectively the current fishery network operates, such as the input supply for fishing equipment and also how they market their fish catch. It also looks at the influence of their colleagues on their choices. The third variable is self-efficacy that closely relates to the confidence of the fishermen on their own capability. When the fishermen think that they are only able to fish, self-efficacy might be a strong variable which determines their choice to become fishermen. Ability to fish may reflect that fishermen think that they only have the skill to fish thus decrease their chance to do other jobs. Self-efficacy also reflects on how fishermen perceive their ability to accommodate risks (Leeuwis, 2004). Therefore, it is also important to see their efforts to accommodate the risk of

having low income due to low catch. The fourth variable is how the fishermen perceive their environment condition in supporting their practices.

The last variable is the social relationship and perceived social pressure. This variable can be seen as how others' desires and expectation may also influence the fishermen practices (Leeuwis, 2004). It is important to realise that fishermen are not living as isolated actors. In this variable it is also necessary to see other actors who might play a role in influencing fishermen. This actor might vary from the media to political issue.

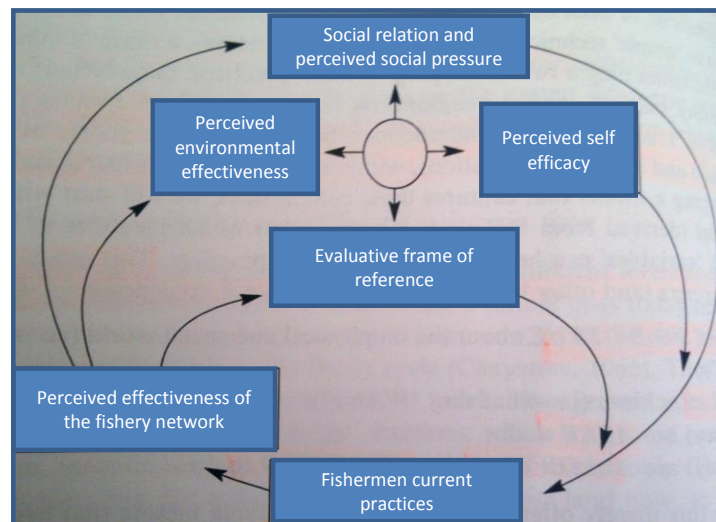


Figure 4. Theoretical framework on analysing variables which are relevant to understanding the current practices of fishermen
(source: Leeuwis, 2004)

Besides the five variables mentioned above, Leeuwis (2004) also explained that it is essential to see the historical context of the practice. Behaviour might also be influenced by a social attitude established in the past and brought into present and future practices (Campbel, 1963 in Ajzena and Fishbein, 2000 p.2) hence historical background is important to have a comprehensive understanding of the human dimension of NCICD programme.

2.4 Research issue

NCICD programme is an intervention to cope with flood risk and to improve the socioeconomic conditions in the area surrounding Jakarta Bay. The intervention has the possibility to cause resettlement, whether it would involve physical or non-physical relocation. In a resettlement planning there is a tendency of relying on technical analysis and overlooking the social and cultural layers of the development. Many resettlement activities only trust monetary compensation to solve the displacement issue while well-being of the people may not only depend on money. Questions that can be raised are: Do they feel at home in their future place? Will they have the same proud feeling as they have for their current occupation? Will the community have the same bond as they do in their current place? These questions may be considered by many people from different layers before they decide to replace themselves from their location and activity. In this study, the researcher will focus on the social dimension of the intervention.

To reach both the vision of NCICD programme in coping with tidal flood and developing socioeconomic condition in North Jakarta, PMU assistance group intended to gain more knowledge about the fishermen community. The first stage of the communication strategy defined by the team is active listening. For this thesis, the researcher works closely with the

PMU assistance team focusing on the communication strategy with NCICD stakeholders, especially with the fishermen community living on the coastal area of the North Jakarta.

This study aims to contribute to the optimisation of NCICD programme in generating and designing appropriate displacement strategies related to the fishermen by unravelling the social dimensions within the fishermen community through understanding the fishermen community perception.

To achieve the aim of the study, the main research question has been formulated: *what are the social manifestations to be considered in the coastal zone management regarding the fishermen community as the directly influenced actor?*

In answering the main research question, there are sub research questions to be focused on:

- *How does the fishermen community perceive their practices?*
- *What is the historical background of the fishermen community existence?*

Chapter III: Research approach

3.1 Research Strategy

For this research, the researcher employed in-depth interview, observation and group discussion. To convey these activities immersion was chosen as a research strategy. Immersion is open-ended, experiential, face-to-face, interactive and human (Chamber, 2007). By immersing in the fishermen community, the researcher has the opportunity to have a learning space in understanding their perception as 'insider'. Perception as Leeuwis (2004) mentioned, is not neutral and has multiple realities depending on what a person believes to be true.

What actors know (believe) about social conditions, including especially conditions of their own action, but cannot express discursively; no bar of repression, however, protects practical consciousness as is the case with the unconsciousness (Giddens, 1984: 375 in Leeuwis, 2004)

Practical knowledge or also referred to as tacit knowledge or implicit knowledge can be made partly explicit and/or transferrable to others but this usually requires considerable effort and energy and also needs cooperation from the person with the knowledge (Leeuwis, 2004). Immersion allows the researcher to appreciate fishermen community perception on their practices which cannot be articulated verbally.

During the immersion, the researcher conducted in-depth interviews with the assistance of an interview checklist. Highly pre-structured interviews are unsuitable for exploring people's views, as they confine the discussion to what the interviewer finds relevant (Leeuwis, 2004). Interview checklists also allowed respondents to give a response in their preferred order. Note taking was minimised to avoid behaviour alteration of the respondents. This decision was the result of a reflection after an interview session where the researcher noticed that a respondent only gave short answers and glanced at the notebook in contrast with before the researcher took the notebook when the respondent told his story eagerly.

Besides in depth interviews, the researcher also observed the fishermen environment, activities and also conversations. While joining daily activities, much can be learned about people's views by noting and analysing the way they talk about something outside an interview situation (Darre, 1985; Te modler, 1995; van Woerkum, 2002 in Leeuwis, 2004). By carefully looking at everyday conversations and by wondering why people make certain statements (including humour and jokes), communication workers may be able to identify the things people find important, values and interests that are at stake, worries people have and existing knowledge gaps (Leeuwis, 2004). Observation, which was part of the immersion strategy, is a necessary strategy to help the researcher build her interpretation.

During the research, the researcher was also open to unexpected findings outside the planned research framework. These unexpected findings are assumed to enhance research interpretation and also to bring the research closer to the reality in the fishermen community in Kalibaru village.

3.2 The strategy materialised

The immersion was undertaken in three phases; the first phase was on 18 – 20 July 2013, the second phase was on the 23 – 26 July 2013 and the third phase was on the 2 – 3 August 2013. In between the immersion phases, the researcher documented the findings and reflected on the findings to determine the next respondents and to improve the interview and observation checklist. The researcher also realised that it is essential to take a distance from the fishermen community in between the immersion phases to prevent total engagement that could result in limited critical reflection of the researcher towards the community and the research project. During the immersion within the fishermen community, the researcher stayed with a family who lives in Kalibaru village and depends on fishing as the main income. During the immersion, the researcher joined the daily activities of the family, informal conversation within the community and leisure activities. Interviews were done at a convenient time for the respondents - mostly during their leisure time.

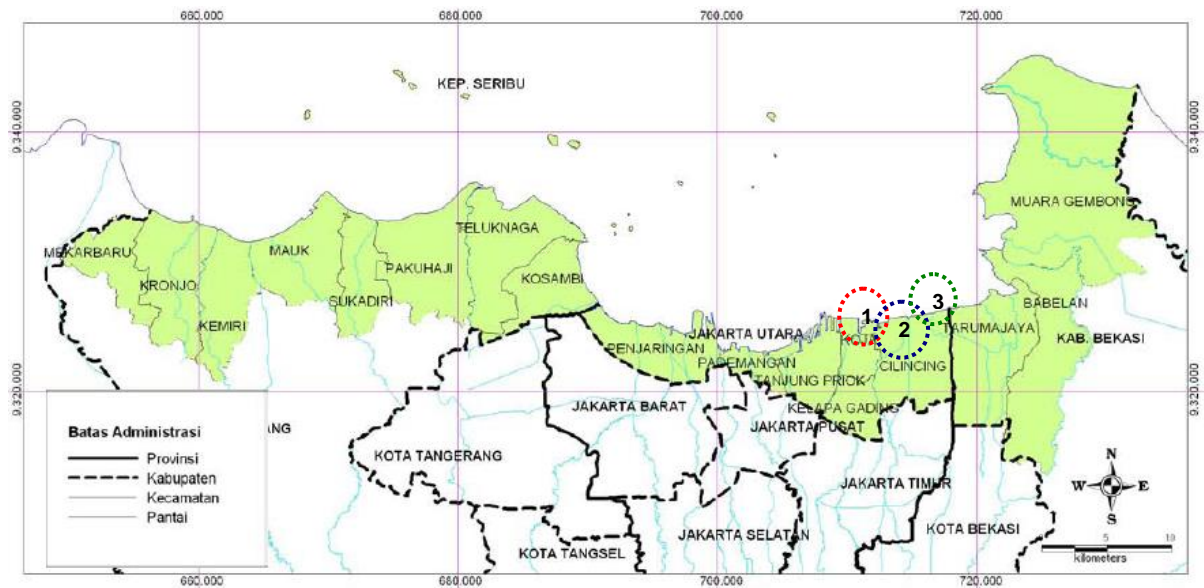
The researcher let herself to be guided by the information obtained during the research. From the interviews, the actors who were essential to the community were found to be the fishermen groups (KUB), *tengkulak*, mobile bank, and the community watch groups which will be further discussed in chapter four.

Besides the immersion phases, the researcher also had several one-day visits to gain preliminary insight into the location options, to obtain missing data, and to have a group discussion with the respondents. During the immersion and visits the researcher obtained an overview of the living condition of the fishermen and the activities of the people in the community through observation.

From the information obtained from the interviews and observation during the immersion and the field visits, the researcher formulates preliminary findings and discussion by inviting all of the interviewees. The discussion was held on the 17th of August 2013 at 10.00 – 13.00. This time of the day was chosen because according to the observation during immersion, in this period the fishermen have come back from fishing and later in the afternoon return to sea to throw their nets. The researcher invited all the interviewees however, not all of them were present as some of them were not yet back from fishing. Nevertheless, during the session, there were several people who were interested and joined the session. In the discussion, the researcher had an opportunity to share the findings and actively listened to the participants remarks on the preliminary results. Within the discussion, the researcher noticed that the participants were listened attentively and were eager to provide further comments or corrections to the researcher.

3.3 Research location

From the discussion with the North Jakarta Farming, Fishery and Marine office there were three locations along the coastline of Jakarta where the fishermen communities are located. These three locations include Marunda village, Cilincing village, and Kalibaru village (figure 5). According to the statistics, Kalibaru village is the densest area with a population of 87,663 people while Cilincing village has 54,623 people and Marunda village has 22,162 people (BPS, 2010).



Note:

- 1 : Research location (Kalibaru village)
- 2 : Cilincing village
- 3 : Marunda village

Figure 5. Jakarta Bay and the immersion location in Kalibaru village

(source: RBI map for Java Island, Bakosurtanal, 2000 in JCDS 2011 and author, 2013)

According to the Indonesian Fishery Law No. 45 year 2009, traditional fishermen are people whose livelihood is catching fish using fishing boats of maximum five gross ton (GT). From the database on the number of fishing boats, the number of fishing boats up to five GT had increased from 460 units in 2008 to 636 units in 2012 while the number of bigger boats declined through the same period. Therefore, this phenomenon signifies that the number of small scale fishermen is increasing. The Farming, Fishery and Marine office registers the traditional fishermen numbers based on Business Group Membership called Kelompok Usaha Bersama (KUB). Kalibaru village has the most KUB members of 811 members from the total 1403 fishermen who are registered in the KUB in the north Jakarta (KUB database, 2013).

Considering the number of fishermen in Kalibaru village and a discussion with the representatives from the North Jakarta Farming, Fishery and Marine Office, the researcher selected Kalibaru village as the research location.

3.4 Research Framework

Below is the formulation of the research strategy and materialisation which have been explained above into a research framework diagram (figure 6).

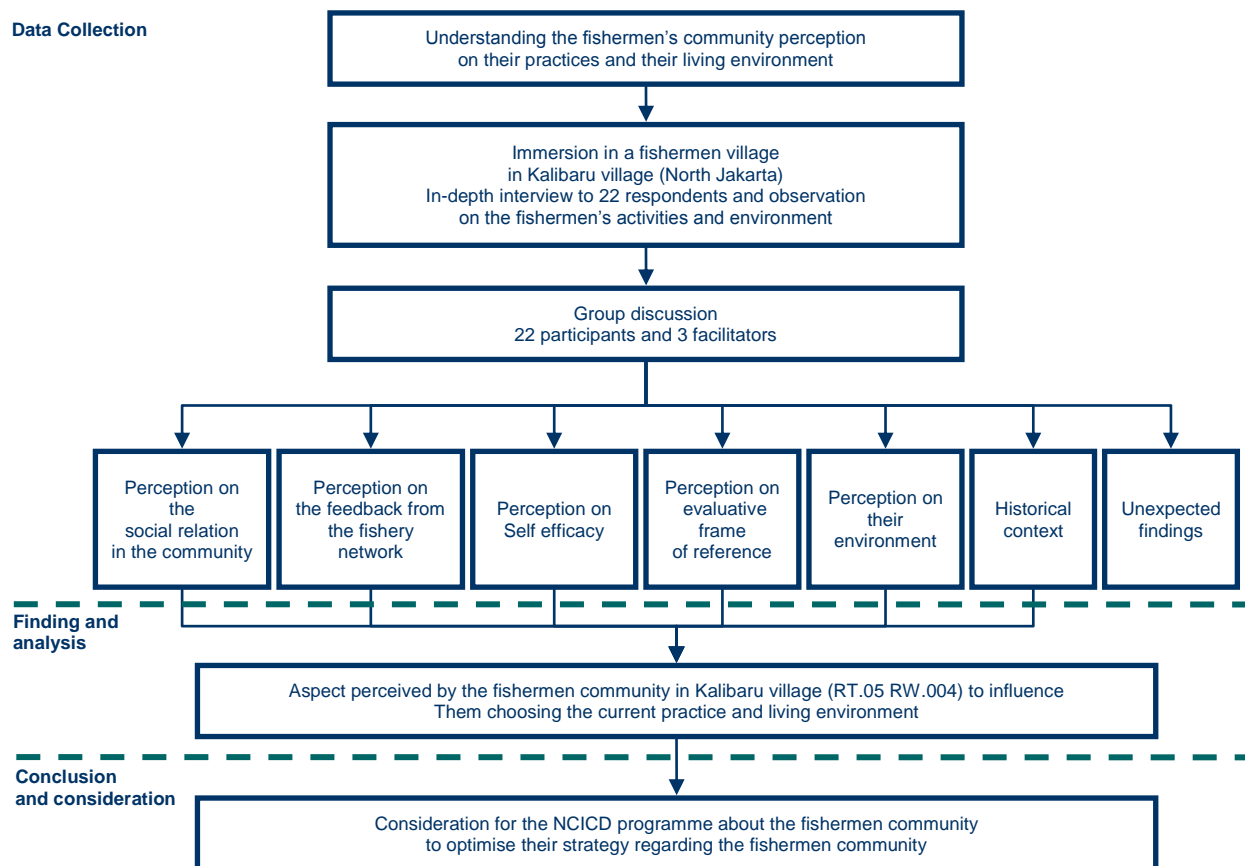


Figure 6. Research framework

3.5 Ethical consideration

To bring transparency into the research, the researcher informed the fishermen group leader of the purpose of her study before the immersion to fishermen community and throughout her stay answered questions from members of the community regarding the research whenever they were asked. The researcher informed the purpose of the study to the respondent before each interview and provided a consent form to document their voluntary participation in the research. In times when the respondent was not able to read, the researcher read the consent form to the respondent to provide equal access to the information about the research. In the end, the researcher presented the preliminary results to the respondents. This session was to share the result and to appreciate the respondents' right to access to what the researcher has formulated based on the interviews and observation during the whole research. Afterwards, the researcher also discussed these preliminary results with the NCICD consultant representatives.

The researcher stayed with the family as they provide a meaningful place and context for the researcher. The researcher was treated as part of the family during the research nevertheless, a monetary contribution was given to the family to minimise the cost burden of the stay.

3.6 Critical epistemology

In the implementation of this research, the researcher was subjected to her being as a native Jakarta resident and being impartial towards the research. To have lived and grown in Jakarta, the researcher had already known the condition of Jakarta. Having seen the slum areas and how the media construct her subjectivity had shaped her thoughts that slum areas were areas with high criminal rates and dangerous for a woman to wander around alone. This added to the worrisome of the researcher prior to the research fieldwork. Moreover, the researcher previous occupation in Jakarta as a government officer had an influence on how she constructed her assumptions and at times would tend to be on the government side and base her conclusion on laws and regulations. On the other side, the researcher also believes that local knowledge is very important to be considered in an intervention, and this aspect was most of the time being overlooked in previous projects where the researcher was involved. This critical reflection motivates the researcher to go into the deep in unravelling the implicit knowledge in an intervention. The researcher is still struggling to change her point of view from collecting data as a need of a project to collecting data to appreciate the rights of community as being part of a development. Another important aspect to have influenced the research is the researcher position in the NCICD project. The researcher chose not to expose the resettlement possibility to the Kalibaru village because the project itself is not yet socialised to public and the researcher felt that she was not in the position to do the first socialisation.

3.7 Reflection of the research project

During the research period there were several challenges that might compromise researcher's point of view and condition to do research. Firstly, the researcher was confronted with sleepless nights due to the researcher's limited ability to adapt to the research location and to sleep with rats walking on the ceilings and on the floor. Even one night, the researcher woke up with a mouse next to her face. Secondly, the researcher was challenged by her asthmatic condition when the house was filled with the smoke of cigarettes. The researcher decided to divide the immersion into several phases allowing the researcher to document and reflect on the research progress and also to recover from the restless nights.

The researcher realised that the family where she stayed treated her differently in the house. This can be seen by the food provided daily. One of the daughters said they usually only eat rice with one side dish while, during the researcher's stay, rice was always served with several side dishes. The family also spared time to accompany the researcher to visit the research location.

During the research, it was also realised that it was difficult to avoid feeling pity because of the living conditions. Sometimes the researcher heard that the neighbour did not have anything to eat so they only cooked rice without any other dish. Therefore, the researcher sometime brought milk and some cookies for the children. The researcher realised that this might alter their behaviour towards the researcher.

Other aspects which can influence the research are the period when the researcher conducted the research. The research was done during the Ramadan when Muslims fast from sunrise until the sunset. Most of the fishermen community around the immersion location was Muslims therefore the Ramadan activities might be different from activities in other periods.

Chapter IV: Research findings

This chapter will look at the findings during the field research on understanding the social dimension of fishermen community which was undertaken in Kalibaru village. The findings will be presented relating to the sub research questions which includes the fishermen community perception and the historical background of the fishermen community in Kalibaru village. In this chapter, the researcher also describes the harbour development that is currently being executed in the village and the perception of the fishermen community towards the development.

4.1 Identifying the fishermen community perception

4.1.1 Evaluative frame of reference

Evaluative frame of reference aspects are much related to their knowledge and mode of reasoning about the natural, economic and/or social. This reasoning will then lead to a certain attitude toward a practice

Uncertainty

From the interviews and informal talks, the research also revealed that the fishermen consider their job to be much exposed to capriciousness. Most of the respondents said that being a fisherman has more grief than happiness. They mentioned that the income is always uncertain, because some days they catch more fish than other days. Another aspect of uncertainty is the sea condition; several fishermen said that it is very dangerous to work as a fisherman. On the other hand, they also believe the sea sometimes give surprises. Mr Suradi said that he once had 40 million rupiah (2,500 euro) for one day because he had an unusually large crab catch.

“Being a fisherman is a risky business. Once there was a big wave and he had to hold on to a bamboo on the bagang and nobody came to help me” Mr. Suradi

It was also observed during the research that the fishermen returned from the sea with empty buckets. Other fishermen said

“To go to the sea now is only to waste fuel”

“I only get four kilograms of lundu² fish; the sell doesn’t even cover the fuel cost”

According to Mr. Silih Hartono, the fishermen actually realise that their activity offers many uncertainties. But the happiness that comes with having an extremely large catch (referred to as *along*) brings more hope to future fishing activities. During the research, there were also two days when the fishermen caught 400 then 200 kilograms of fish. They were very proud and happy when they told the story about their catch. Mr. Dasmin, the owner of the boat, then explained that when he caught 400 kilograms he receives 2 million rupiah or equivalent of 145 euro. Mr. Dasmin’s brother who was also on the boat told the story about how they had found the fish. During the research, the big catch as it is referred by the fishermen as ‘*along*’ happened twice within seven weeks. Even though there are no catch, the fishermen still go to the sea every day. When they do not have the money to buy fuel, they join another boat to work as a crew.

² Lundu is a type of sea fish

Language discourse

Another aspect that is important in understanding the evaluative of framework is how the fishermen build their knowledge and beliefs. During the research, it was noticed that the fishermen community used certain terms in explaining about their practices. One term which was often used by the fishermen is *rezeki*. *Rezeki* comes from an Arabic word *rizq*, which means blessings or sustenance and usually referred to blessings from God. The fishermen use this word when they talk about the sea resources.

"Rezeki (Gift from God) in the sea is unpredictable" Mr. Silih Hartono

"There are many rezeki in the sea" Mr. Tarwad

Specific discourse used by the fishermen community is how they referred to the seasons. There are two types of fishing periods; one is *Baratan* and the other is *Timuran*. *Baratan* comes from the word barat which means west and *Timuran* comes from the word timur which means east. According to Mr. Suradi and Mr. Jumani, the west season usually coincides with the month November until May or related to the raining season and the east season coincides with the month June – October or related to the dry season. Nevertheless, according to them, nowadays it is difficult to predict the period of the two seasons.

"The weather and season used to be predictable. Starting from September or October the west season comes and in March the east season comes. But now it is difficult.... Maybe it is because of the climate change" Mr. Suradi while smiling towards the end of his remark.

The fishermen also use certain terms in speaking about types of jobs. They refer to job types into two; working in the sea and working on the land. They used the same categorisation in speaking of skills. They perceive that they only have the skill to go to the sea and lack the skill to work on the land. They relate working in the sea with freedom. They said that being a fisherman they have the freedom to control their own working time.

"It's nice to work in the sea. You can choose for yourself to work in the morning, afternoon or evening. You have no boss to be angry at you. Perhaps my wife will be angry if I don't catch anything" Mr. Saiful Bahri (Chairman of KUB Lentera Bahari)

The fishermen also have the freedom to combine leisure in between working with other activity. The researcher observed that the fishermen were socialising while preparing fishnets in a bamboo hut near the landing place for their boats. Thus they can combine both leisure and working activity in their own convenient time.

When they talk about working on land, they talk of insufficient salary and comfort.

"Once we worked to clean the river, to get the garbage out of the river. But the salary is only enough to cover the transportation cost and the food cost on that day. So it was not enough" Mr. Kasnun

"If I work on land I don't feel comfortable" Mr. Dasmin

Looking at the operational costs mentioned by the fishermen, one fishing trip is also relatively high. According the fishermen, for one fishing trip they need to spend money on fuel, food for onboard, ice to preserve the fish and cigarettes. The amount of money spent ranges between 35,000 rupiah (2 euro) and 100,000 (6.5 euro) (depending on the fishing ground distance. Due to the uncertainty of fish catch, the operational cost sometimes cannot be

covered. Therefore, the reason of the insufficient salary of working on land (e.g. clean the river) seems to have another dimension.

4.1.2 Feedback from the fishery network

In line with Leeuwis model, the fishermen community's perception on the ability, quality and reliability of physical and organisational infrastructure also influence their decision making in fishing activities. In the area, there are several aspects which directly support the fishing activity.

Fishing gear supply

The first is the existence of fishing equipment supply facilities. Near the research location there were shops that sell fishing equipment including one owned by the fishermen group. The advantage of the shop owned by the fishermen group is it is very close to the fishing harbour and the fishermen houses. From the research, it was revealed that the fishermen community has an attachment with their hometown for their fishing gear supply. According to the fishermen, they buy their boats in Indramayu because the wood quality is better there. The boats are then delivered to Jakarta through the sea.

Selling the catch

There are facilities for the fishermen to sell the catch – a fish auction place, the market and the *tengkulak*³. In the research location, there is a fish auction place called *Tempat Pelelangan Ikan* (TPI) Kalibaru which is open from 9 o'clock in the evening until 5 o'clock in the morning. According to Mr. Silih Hartono and Mr. Suradi, in this auction place they sell the fish catch from Kalibaru and from other areas such as Pelabuhan Ratu, Cirebon and Karawang.

Despite the existence of the big selling facility, from the research it appears that most of the fishermen sell their catch to the *tengkulak*. According to Mrs. Sri Haryati (2013) speaking as a representative from the North Jakarta fishery office, besides being the middlemen the *tengkulak* also have a role as skippers who can give loans and are responsible for giving the fishermen a loan during a low catch season. By getting loans from the *tengkulak*, the fishermen have to exclusively sell their catch to their *tengkulak*. The existence of *tengkulak* is perceived by the fishermen as a very important actor because they can offer the fishermen reliability and certainty by; (1) giving the fishermen loans as a capital to buy fishing equipments (e.g. boats, nets), (2) buying the whole the catch of the fishermen with a certain and stable price and (3) giving loans to the fishermen during the low catch.

The *tengkulak* existence is supported by another external actor who will buy the collected catch. According to interviews, it appears that the *tengkulak* sells the fish catch to an export industry located in Pemalang, Central Java (PT. Phillips Seafood Indonesia).

Finance

Another actor that is also considered by the fishermen community of being able to support their financial situation is the *Bank Kelliling* or mobile bank. During the research, the researcher observed that on one day several mobile bank agents came to the location. According to Mrs. Tasini, when her husband does not get any fish catch, she usually borrows money from the mobile bank. The amount of her loan is around 100,000 to 150,000 rupiah⁴ or approximately comparable to 6.5 to 10 euro.

³ *Tengkulak* is a middlemen (who buy the produce from the farmers or the first owner (Fakultas Ilmu Komputer UI, 2008)

⁴ Rupiah is the Indonesian currency

A mobile bank is a cooperative that lends money. The fishermen community perceives that the mobile bank can give them easy access to monetary support when they have low catches. The mobile bank only asks for a copy of an ID of the borrower and gives the money directly to the borrower. Meanwhile according to the fishermen when they go to the formal bank they have to provide collateral to be able to get a loan. Moreover, the mobile bank agents come to the fishermen community to offer the loans and collect the instalments.

A loan from a mobile bank has 20% interest per loan and the loan has to be fully repaid within 25 to 30 days. According to Mr. Harif, a mobile bank agent, he has many customers in RT.004 (the research location) and many community members borrow money regularly. Besides borrowing money from the mobile bank, the interviewees also revealed that family and neighbours are their sources of family support both in the form of a gift and loan.

Example of the mobile bank loan scheme reported by respondent:
Amount of loan asked by the borrower: 100,000 rupiah
Administration cost: 5,000 rupiah
Deposit: 5,000 rupiah
Amount received by the borrower (after deducted by the administration cost and the deposit): 90,000 rupiah
Interest (20%): 20,000 rupiah
Amount of money has to be paid back: 120,000 rupiah

From the interview it was discovered that within a household, the wives are responsible for the financial management.

"After I get the money from the fish sells, I give the money directly to my wife" Mr. Saiful Bahri

Mr. Saiful Bahri's statement is confirmed by other husbands who let the wives arrange the monetary affairs in the household. This gives the wives the opportunity to be in charge of the finances in the family but also forces the wives to be confronted by the monthly expenses that have to be paid.

"My husband gives me the money after he sells the catch but he did not ask about the monthly bills or whether the money is enough" Mrs. Susi.

4.1.3 Self efficacy

Skills and competence

Some respondents relate their choice of becoming a fisherman with their education level. They said that they feel they do not have capabilities or skills other than fishing. Some fishermen spoke of their level of education as being insufficient to apply for other jobs.

"I don't have any certificate to apply for jobs" Mr. Wiryana

According to the Lentera Bahari KUB profile book (Profile Lentera Bahari, 2011), of the 60 members, two of the members followed education beyond primary school level while the rest followed until primary school level. Some graduated primary school then stopped following formal education and some did not finish primary school. Related to the education level of the fishermen community member, it was revealed that some of the respondents were illiterate. This was not realised by the researcher until the respondents gave responses that indicated indirectly that they were not able to read.

"I am not educated like my children, so you can just sign the consent form for me" Mr. Tarwad

Another reaction was from a lady who shook her head silently to give the sign that she did not understand the consent form and a man who made a gesture of reading the consent form and later said that he did not understand because he could not read.

Other aspect the fishermen relate to their incompetence of working on the land is age. They feel that they are too old to apply for jobs on the land. By fishing they can practice this occupation until their late age.

Female and children education

From the interview of several female respondents, it was revealed that there is strong will of these women to continue for a higher education. However, the men usually get priority to follow a higher education.

"I used to take care of the children of a military family and they sent me to school. Then when I moved to Jakarta I did not work anymore with the family. My bigger sister said she could only afford to send one person to school and then she sent my brother to the vocational school. My sister said a man will have the responsible to take care of the family." Mrs. Warnati

Mrs. Kanipah, who is married to a fishermen and a mother of four children, also shared the same experience. Her aunt paid for her school until junior high school but when she wanted to continue to the senior high school, her aunt she said to her,

"A girl does not need to follow higher education because she will finally end up in the kitchen".

Another story was from Mrs. Susi who followed an education to be a nurse and did not follow the final exam because it was very expensive. She said that she had to pay ten million rupiah or now equivalent to approximately 600 euro. She really regretted the fact that she could not afford the exam. She then imagined how different her life would be if she could have paid the exam and work as a nurse.

From interviews and informal talks the researcher found that the fishermen community has hope for their children to follow higher education. During an interview with Mrs. Warnarti, she told her story about her children. She is very proud that her first daughter is currently following college education in finance. Now she is concerned about her younger son who will be graduating from the senior high school. She is encouraging him to follow his sister and pursue higher education. Mr. Elon also told his story about how proud he is of his daughter who is now in the 5th grade of primary school and wants to be a doctor. Mrs. Kanipah also said that she puts high hopes on her oldest son who just entered senior high school. She told her worries of her son not being able to continue to a higher education because of his health. She then told that her son's left eye was injured during his childhood because of mussel shell pieces.

However, it was revealed that the priority to send the children to school competes with family needs. A male respondent said that each family now receives subsidy to support children going to school. He admits that he uses the subsidy money partly for the school needs and the other part to support the household needs. A female respondent also admitted that she used the subsidy money that she received to pay rent.

Ability to accommodate risks

In discussing self efficacy, Leeuwis (2004) includes the ability to cope with risk. According to the interviews, the fishermen mentioned that uncertain income due to low catch is the main risk of being a fisherman. They reported that the low catch occurs mostly during the west season (*Baratan*). During this season the waves are very high and it is very dangerous to go fishing.

During the low catch season, the fishermen reported that they would try to find other jobs 'on the land' such as making boats, porters to lift solar cans, construction work, collecting garbage and riding *becak* (trishaw). During the research, the researcher also sees other activities in the area such as people working to build or renovate their neighbour's house and painting boats.

The fishermen also said that they would go fishing in other fishing grounds. According to Mr. Saiful Bahri, sometimes he goes to Karawang which is two hours away by boat and stays there for two weeks to catch fish. He then sells his fish catch in Karawang and sends the money back to his wife through his fellow fishermen who goes home to Kalibaru. Mr. Wadi said that when the fish catch is low in his usual fishing ground, he goes to the area near Ancol for fishing. The wives of the fishermen have their part in contributing to the financial situation in the family by peeling green mussels, producing and selling seafood chips and opening small shops. Mrs. Kanipah, the wife of the KUB Lentera Bahari chairman, said that every day she works to peel green mussels and earn 35,000 rupiah (2 euro) per day. During the research, the researcher saw females peeling mussels from the morning until the afternoon.

4.1.4 Social relation

Social relation in a household

Findings on social relation within the family were obtained by observing the daily activities of the host family. From the observation, the family starts the day at 3 am to have breakfast. This relatively early breakfast time was influenced by Ramadan when the Muslims may eat before sunrise and after the sunset. The father starts to work at 4 am in the morning to collect the fishnets. The father reported that this activity always starts at 4 am, whether it is Ramadan or not.

Task division within the family are already clearly defined and the tasks are sometimes crosscutting between the family members. The mother is mainly responsible for the household chores and is assisted by the daughters after they come home from school. The mother also helps the father to prepare the fishing nets. In the family, the father is usually expected to be breadwinner. This also applies to other families within the fishermen community. The wives usually earn money for additional income or substitution when the husbands do not get any income.

The working hours of a fisherman starts relatively early compared to office working hours. During the immersion, the researcher followed he daily flows in the community and noticed that the change in the daily rhythm of the researcher, who was already used to the office working hours, could be tiresome. With the daily activities, the family members have ample of time to have quality time in the evening. During dinner time, they shared their activities during the day.

Table 1. Daily activities of Suradi's family during research period

Time	Father	Mother	Children within school age (daughters)	Child below school age (son)
03.00 - 04.00	Early breakfast			Sleep
04.00 - 05.00	Goes to the sea to collect fishnets and sell the catch	Do house chores (e.g. dishwashing, washing clothes)		
05.00 - 06.00			Shop for the cooking	
06.00 - 07.00		Cook food for the shop	Goes to school	
07.00 - 08.00				Wakes up and clean up by himself
08.00 - 09.00				Playing
09.00 - 10.00	Watch the shop And help the father with Preparing fishing nets	After school activities: help mother to watch the shop Watch the younger children (e.g. youngest brother, nieces, neighbour children)		
10.00 - 11.00				
11.00 - 12.00				
12.00 - 13.00				
13.00 - 14.00				
14.00 - 15.00				
15.00 - 16.00	Goes to the sea to cast fishnets	Prepare dinner		
16.00 - 17.00	Afternoon rest		Rest	Rest
17.00 - 18.00	Getting ready for afternoon prayer			
18.00 - 19.00	Dinner	Dinner	Dinner	Dinner
19.00 - 20.00	Family time (usually watch TV)	Dishwashing and cleaning up then family time	Family time (usually watch TV)	Family time (usually watch TV)
21.00 - 03.00	Sleeping	Sleeping	Sleeping	Sleep

Source: observation during the researcher's stay in the family, 2013

Social relations in the community

Throughout the immersion, it was found that almost all members of the community are relatives whether it is a relationship based on ancestry and also by marriage. Most of them live within the same house or in the neighbourhood. A household unit in Kalibaru village mostly consists of an extended family with father, mother, children, children-in-law and grandchildren. These household members share a piece of land the size of approximately 30m². One such house can be occupied by 15 people. The house is usually divided into several rooms and each nuclear family has its own room.

The fishermen community members also offer help between families. There was one day when Mrs. Susi said that the neighbour did not have anything to eat so she gave some food to the neighbour. They also help to take care of each other's children during the afternoon. Most of the time, the older children will take care of the younger children. This can be between neighbours and also between families. During play time, the cousin of the family where the researcher stayed came to the house to play and sometimes to have lunch together. Mrs. Susi will cook for all the children. The community calls the act of helping each other as *gotong royong*.

Gotong royong comes from Javanese tradition where it calls up images of social relations in traditional, smoothly working, harmonious, self-enclosed village on Java, where labour is accomplished through reciprocal exchange and villagers are motivated by a general ethos of selflessness and concern for the common good (Bowen, 1986)

Issues within the community

During the research it was also revealed that early marriages are too an issue within the community. From informal conversations, the researcher found that many females got married at a very young age. The researcher spoke with a girl who got married at the age of 14. She is now 19 years old and has two children. She did not continue her education. When the researcher asked the reason of leaving school, she replied with silence and shook her head. She said that she now takes care of her children and helps her mother to sell mussel chips. It was also revealed that some of the marriages emerged from early pregnancy out of wedlock. The parents married them to avoid family embarrassment. It was realised that this is a difficult issue to talk about and the girls and the family are reluctant to discuss it because in Indonesia sexual relationship before marriage is considered taboo and shameful.

4.1.5 Environmental effectiveness

The first time the researcher visited the research location; there was a strong putrid smell in the air. It came from the still dark water in the gutter, the smell of the green mussels which just came from the sea and boiled in big drums and the open communal toilet which is located right above the seashore without any hygiene system. During the immersion, the researcher also saw that the children sometimes urinate and defecate directly in the gutter. At the other end of the gutter, toddlers were playing barefoot in the water. Flies are everywhere and also flying to the food in Mrs. Susi's the snack shop.

The researcher visited several activities in the area such as salty fish business. Here they process the fish, dip in salty water then dry them on bamboo tables. The smell was even stronger in the salty fish processing place. The smell came from the salted fish, the waste and the still water below the table.



Figure 7. Left: the fish is being cleaned, Right: the salty fish on top of the bamboo tables and below are the plastic waste and still water (source: author, 2013)

The shore was formed by a combination of waste piles and green mussels. The community members throw their domestic waste onto the seashore daily. The community admits that they always throw the garbage to the seashore because there were no waste disposal facilities in the area. However, the waste piles do not only come from the community waste but also from the sea. The wave brings the garbage to the shore until it forms a solid ground. On top of the waste pile comes the green mussel shell waste from the green mussel business in the location. The mussel shells get crushed because people step on it and it

becomes a sandy texture which appears to be the top layer of the ground in Kalibaru village, especially near the sea. According to the interviews to fishermen community members, this phenomenon has been happening since the early 1990s when the shoreline was further from the land compared to the current situation. Since then, the shoreline has moved approximately 50 meters toward the sea due to the combination of waste and mussel clam heap. This phenomenon is apparent perceived as positive by the fishermen community since it provides them additional land availability.

Another aspect is how the fishermen community prefers to use the open toilet where the waste goes directly into the sea rather than using the Mandi Cuci Kakus (MCK) or communal toilets without any water to clean afterwards. On the other side of the sea, the researcher saw children swimming in the sea and nearby there were open toilets. Mr. Wadi said that two of them are his children. The researcher asked whether the children had problems with skin disease but according to him they did not get any skin diseases. The researcher saw different; one of the girls living in the area had skin infection on the soles of her feet caused by mussel shells and a boy playing had an open wound on his hand.

In the environment, the researcher also noticed the amount of rats and mice. Apparently, the researcher was the only one to have noticed the rats and mice. During the evenings, the researcher stayed awake while the rest of the family members fell asleep. The rats were also walking in the kitchen through kitchen utensils.

From the interviews, the respondents stated that they have access to water. They use ground water to wash clothes and shower, while for drinking and cooking they buy bottled water or water in jerry cans. According to the respondents, the water that is sold in jerry cans come from the central water provision. However, to get the centrally provided water, they need to use a pump and most of the respondents do not have the access to the pump. During the researcher's stay in the research location, the researcher also found that the ground water was clear and did not have any smell. This contradicts researcher's prior assumption that the water in the coastal area of Jakarta will taste brackish due to sea water intrusion. They also stated that living in Jakarta means better access to other facilities such as schools and health clinics. They also feel the environment is safe; this is expressed both verbally and non-verbally. During the immersion, the researcher saw that the children can play without any adult supervision and come back safely afterwards.

When the fishermen talked about the environment related to the fishing activities, the fishermen stated that the sea water is heavily polluted especially after a heavy rain. During the research, there were some rainy days and the researcher saw that the colour of the water was grey and murky. The fishermen reported that when the water is polluted they cannot catch any fish and the crabs are already in a bad condition. The respondents refer to industrial activities that throw wastewater directly into the river without any treatment.

"If the water is polluted, the sea water become white and the crabs become red as if it was boiled" Mr. Saiful Bahri (Chairman of KUB Lentera Bahari).

4.1.6 Historical existence of the fishermen community in Kalibaru village

From the interview, most of the respondents are not originally from Jakarta. Only two respondents are originally from Jakarta. Most of them come from other regions in West Java, mostly from Indramayu and others from Ujung Kulon, Cirebon and Brebes. Several come from Sulawesi otherwise known as the Bugis tribe. There are two types of the non native Jakarta people. The first are the first-generations who were born in their hometown and then moved to Jakarta. The second are the second-generations whose parents were migrants and they were born in Kalibaru village. There are several reasons for their migration to Jakarta. From the interviews most of them said that they came to Jakarta to follow their parents, relatives or husband with the hope of getting better income and life. From the oldest

respondent, it was reported that the migration to Kalibaru village happened six decades ago approximately in the 1950's and since then they have built families and raised their children and grand children in the village. Even though they originate from outside DKI Jakarta province, they consider Kalibaru village their home.

During the research, it was noticed by the researcher that being in Kalibaru village feels like being outside of Jakarta. The people speak their original language with each other. Javanese language usually dominated the conversation. The young generations are able to speak Indonesian, nonetheless it was also noticed that the older generations sometimes tend to have difficulties in understanding Indonesian. During an interview with Mr. Sukim, a salty fish business owner, the researcher sometimes had difficulties in understanding the conversation. Mr. Silih Hartono, who accompanied the researcher during the interview, had to occasionally act as a translator.

From the geographical position of the place of origin of the fishermen and also Jakarta province, they are all located in the northern coast of Java Island (figure 7) with direct access to the Java Sea. From the interview, the fishermen reported that many of the fishermen learned their ability to fish from the fathers or their relatives while some learned to fish while working as boat crews during their childhood. During the research the researcher also found some children go fishing from an early age, approximately 11 years old, with their father. Some even quit school because they prefer to go fishing.

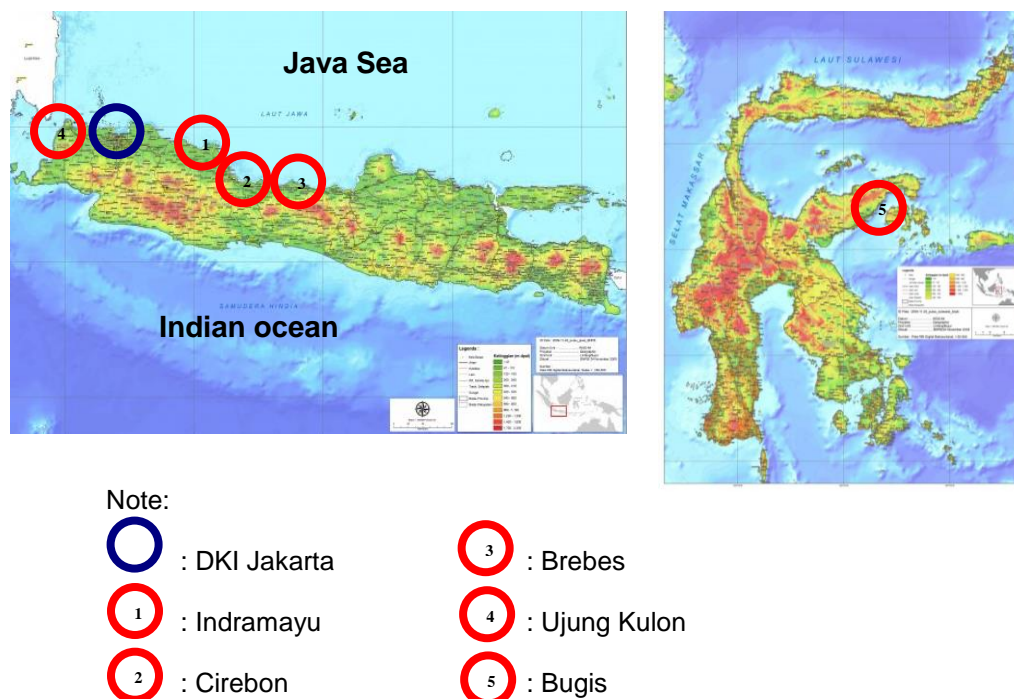


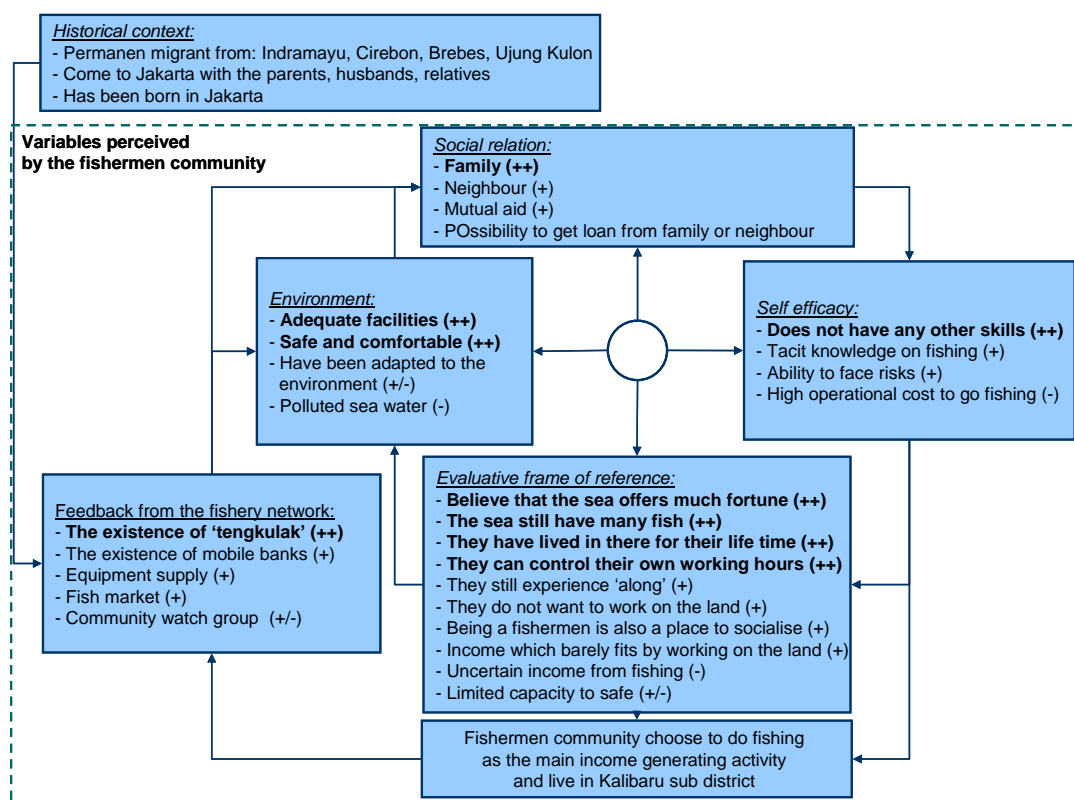
Figure 8. DKI Jakarta and the origin areas of the immigrant fishermen community in Kalibaru village (source: BNPB, 2009 and author, 2013)

4.2 Prioritisation according to the fishermen community

Within the discussion held after the interviews and observation activities, the researcher shared the preliminary findings and held a small interactive part that aimed to get an insight on how the fishermen community perceives the priority of each finding. The whole findings were divided into two types: aspects related to the community choice of living location and aspects which directly related to the community choice to fish. The aspects that are related to

the community choice of living location are (in random order): (1) family, (2) neighbours, (3) safe and comfortable, (4) utilities (e.g. water and electricity), (5) Mobile banks financial loan, (6) Financial loan from relatives and (7) has been living in the location for long time. The aspects that are directly related to fishing activities are (in random order): (1) does not have other skills, (2) not willing to work on land, (3) believe that the sea offers many gifts (*rezeki*), (4) close to place to sell fish, (5) believe that the sea condition still supports the fishermen to catch fish, (6) flexible working hours, (7) have the skills to know the best condition to fish, (8) fishing as a form of social activity, (9) close to the fishing equipment supply facilities and (10) has the ability to cope with risk (e.g. side jobs and wives also support financial income).

From the small group work, there are similarities of the three groups in their priority of the aspects. The aspects related to the community choice of living location are: family, safe and comfortable, has been living in the location for a long time. While for the aspects related to the fishing activities which are put on the top priorities are: believe that the sea offers many gift (*rezeki*), does not have other skills, believe that the sea condition still support the fishermen to catch fish, close to the place to sell fish. During the group work, one group added one more aspect which influence them in choosing to work in the sea and that is lack of monetary capital. From the discussion it was also revealed that the fishermen preferred to sell their catch to the middlemen/*tengkulak* than to the fish auction market. The researcher reckoned that there was a difference between the preliminary findings categorisation and the ones which were further analysed.



Notes:

- + : aspects which are considered by the fishermen to be important in supporting the fishing activity and their option to live in the location
- : aspects which are considered by the fishermen to discourage them to go fishing and to live in the location
- +/- : neutral aspects

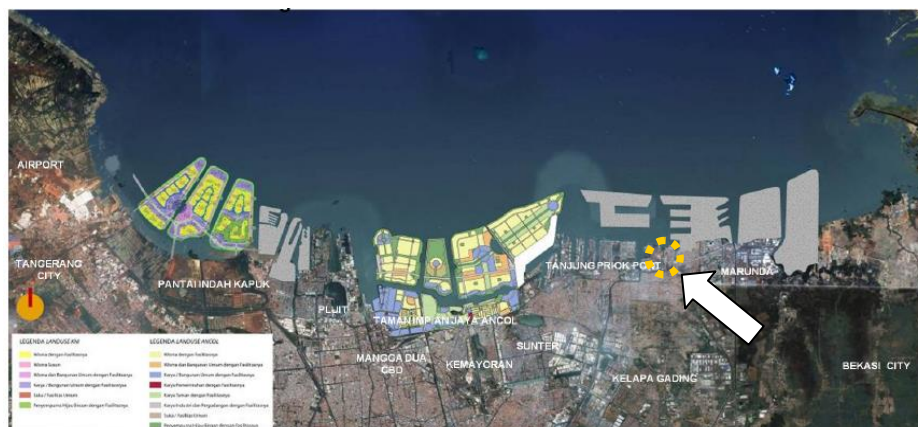
Figure 9. Fishermen community in Kalibaru village perspective on variables which influence them to live in the area and do fishing as the main income generating activity (source: author, 2013)

4.3 The Pelindo II harbour development in the fishermen community 'front yard'

During the research, it was revealed that the research location is currently affected by a harbour extension development. According to the environmental impact assessment document of the Kalibaru harbour development, PT. Pelabuhan Indonesia II (PT. Pelindo II) or Indonesian Port II authority planned to develop the extension of the current Tanjung Priok port with three stages of development starting in 2012. The goal of the port extension is to improve the national logistics lines, to improve the port service level to the international level, and to boost regional economy (Pelindo II, 2012). In the document it was stated that the environmental impact assessment was prepared to fulfil the Indonesian ministry decree no.5 year 2012 about the type of business plan and/or activity that are obligated to have an environmental impact assessment.

For the document, the team conducted a survey of the areas expected to be affected. During the research, most respondents within the research location claimed that they did not receive any information regarding the harbour development. Only some stated that they have heard about the development from the village authority once and never had any consultation process regarding the development until the community watch group (Pokmaswas) asked the consultant who prepared the environmental impact assessment for the project. From the document, it was found that the environmental impact assessment was done in the areas that will be directly influenced meaning that the area will be evicted in a short period to build the authority office building. The environmental impact assessment seemed to overlook other communities in the area that will also be directly influenced but not in a structural way. In this case, the harbour development in Jakarta Bay which is located in front of the research location disturbs the fishing ground of the fishermen community. According to the fishermen community since the harbour development started there are several negative impact experienced. The fish catch has been lower and the fishermen are pushed to find other fishing ground which is located further than their previous fishing ground. They also mentioned that the water has become turbid after the development.

Mr. Jumani, the chairman of Pokmaswas (community watch group), stated that he received reports such as: the nets are being dragged by the tug boat, the fishermen's boat was hit by the tug boat. This incident has been recorded by the Pokmaswas and reported to the Ministry of Marine of Fishery. Pokmaswas has actually existed from before the harbour development started. The harbour development which is commonly perceived as negative has encouraged Pokmaswas to function again.



Note:

☀ : Research location

■ : Plan for the harbour extension

Figure 10. Jakarta Bay reclamation plan and the immersion location in Kalibaru village
(source: KLH & DHI Water and Environment (S), 2011 in JCDS 2011)

The respondents reported that they have heard about the resettlement plan regarding the harbour extension. Some of them expect sufficient monetary compensation for the resettlement and some of them said that they prefer to stay in their current settlements. Reasons to stay in the area are their families are here and they have been living there their entire life.

Chapter V: Discussion

This chapter looks at the fishermen community's perception on their practices and the historical background of the community. What follow is the social manifestations by the fishermen community to be considered by the coastal zone management programme based on the discussion.

5.1 The fishermen community perception on their practices

Leeuwis perception model (figure 2.2.) focuses on an individual model however during each individual interview and informal talks the researcher found that many fishermen have the tendency to give similar answers regarding the fishing practices. The fishermen community shares the similar perception and terms when discussing their practice due to the use of common resources namely the Jakarta Bay as their fishing ground. However, the researcher also sees the likelihood of social construction of knowledge because the fishermen talk and share their daily life hence the use of certain terms (e.g. *Baratan* and *Timuran* to explain fishing seasons).

Evaluative frame of reference

With the variable evaluative frame of reference, Leeuwis (2004) stated that the basis knowledge and reasoning of a practice about the natural, economic and/or social world. It also relates closely to the attitude towards a practice Fishbein & Ajzen 1975; Ajzen & Fishbein, 1980 in Leeuwis, 2004). From the findings, it prevailed that fishermen community consider fishing to be not only an occupation but also an identity.

It is evident in the way the fishermen think of jobs location-wise and make categorisations such as; working in the sea and working in the land. This implies that the fishermen regard fishing as working in the sea and 'othering' as other types of job by categorising them as working in land. Jensen (2011) wrote on identity formation by the act of 'othering'. Spivak (1985) in Jensen (2011) elaborated the process of 'othering' in three dimensions. The first dimension is the dimension of power and how the 'other' is subordinate to the 'self', the second is how the 'other' is morally inferior and the third dimension implies that the 'self' is that knowledge and technology is the property of the powerful empirical 'self', not the colonial 'other'. It indicates that being a fisherman is perceived as an identity by the fishermen community and they consider other jobs than those in the sea as inferior. This attitude can again be seen by how they describe fishing with positive entity such as comfortable job, fishing is a job with freedom. Certain use of language which some authors argued may also contribute to shaping identity (Jensen, 2011) also appears in the findings. The fishermen community use terms, *Baratan* and *Timuran* to refer to the fishing period which was used mostly only by fishermen community or other institutions which work closely with the fishermen such as the Ministry of Marine and Fishery and North Jakarta Farming, Marine and Fishery office.

Contrasting to the positive framing of fishing as a livelihood, it was also found that the fishermen are relating their occupations to aspects of uncertainties in terms of income and safety. Income fluctuates following the season and fish stock in the sea. Nevertheless, their belief seems to have influenced how they construct their knowledge. When the fishermen talk about the fish resources, they use terms from an Arabic word *rizq* or *rezeki*. They realise that even though there is uncertainty, they also believe that God still gives blessings to them through the sea and their livelihood can depend on it.

Feedback from the fishery network

Perception on the network effectiveness is closely connected with trust in the functioning of organisations and institutions (Leeuwis, 2004). The author then elaborates that perception for the network effectiveness is also influenced by availability, quality and reliability of physical and organisational infrastructure. Within the fishermen community in Kalibaru village, there are two important actors, which are frequently mentioned during interview and informal talks.

One actor is related to the catch sells. The fishermen sell their catch to the *tengkulak*. They believe that *Tengkulak* is reliable because it offers certainty to the fishermen. *Tengkulak* always buys the fishermen's catches at a price higher than if the fishermen sell their catch directly to the market. During the difficult season, *tengkulak* also lends them money.

Another actor is the mobile bank which supports the fishermen community financially and provides easy access to loans. Mobile banks can grant loans with the only requirement being a copy of the borrowers ID and without asking any collateral. The mobile bank agents also come to the location thus no additional effort such as transportation cost to get loans.

For fishing equipment such as nets, they rely on the supplier in the area. The interesting aspect about fishing gear equipment is they still buy their boats from Indramayu, their place of origin. The fishermen refer to the quality of the raw material which is better than it is in Jakarta. The boat supply facilities provide a kind of bond for the fishermen between the current place and their hometown.

Environmental effectiveness

The fishermen community's perception on the environmental effectiveness revealed an interesting variable. It seems that there is a big difference on how the researcher perceived the living environment of the fishermen community during the immersion compare to the fishermen community's perception. From the observation and experience during the immersion, there are several environmental issues seen by the researcher in the location concerning hygiene and sanitation. The hygiene council stated several hygiene standards such as hand washing after using the toilets, cleaning water containers once they are empty before refilling, clean all cooking utensils (Hygiene council, 2008). These hygiene standards are barely met in the community. Nevertheless, the community member seemed to have adapted to the condition. In the Ministerial decree of Public Works No. 14/2010, it stated that there should be no puddle or still water more than 30 cm deep. In Kalibaru village, the water in the gutter is always still and in several places there rain water can stay for two days before it seeps to the ground. Despite the observed environment condition, there were no complaints about the environment from the fishermen community. They even mentioned the adequate access to water and electricity. They feel safe and comfortable in their neighbourhood. It seems that the community has adapted to the condition. Another aspect of the environmental effectiveness, the fishermen consider that the water is polluted from the industrial wastewater which flows through the river especially during the rain. They complained about this situation which causes them to go further to catch fish.

It is interesting to see the difference between how the fishermen community perceives their environment as living environment and as a place to get an income. This might be because for the fishermen, the environmental impact directly affects their fish catch rather than their health.

Self efficacy

This variable relates to the confidence of the fishermen community towards their own capabilities. From the research it was revealed that the confidence within the community is influenced by the lack of skills and competence due to the low educational level achieved. They perceive that they do not have sufficient skills and competence to apply for other jobs. Their confidence is also influenced by illiteracy which appears to be an issue in the area as

well. The illiteracy aspect is a hidden issue because often the illiterate community member does not show that they are illiterate. The lack of confidence of doing other jobs persuades fishermen to keep practicing fishing. For the children, the fishermen community is very willing to send their children to school and follow higher education. Yet the problem of the competing needs of the school funds and the households' needs still haunts them.

Gender preference in education seems to also be an issue. The parents or whoever is able to fund the children's education prefers to send the male members of family. Within the fishermen community, original task division still influences decision making. The female members of the family are bound to be a homemaker and the male members are bound to be the earner.

Fishing has the nature of being a risky business and as it has been discussed above, the fishermen are conscious of this condition. Leeuwis (2004) mentioned ways to accommodate risks which includes to reduce risks and to pass on the consequences of the risk. The perception of the ability to accommodate risks also influences the fishermen's choice to fish. Fishermen perceive that they are able to cope with their risks by doing other jobs to fill the income gap. These side jobs can be on the land and also by finding other fishing ground. Risk of income gap is also filled by the wives who earn money such as by opening small shops, selling chips, and peeling mussel clams.

Social relation

Within the fishermen community there is a strong social cohesion. This is formed by the family relation within the community and also *gotong royong* or mutual aid. This creates the safe and comfortable feeling for the community to live in Kalibaru village. Bowen (1986) defined term *gotong royong* as mutual aid and it has been used by the state to become a cultural-ideological instrument for the mobilisation of village labour. Despite being reworked meaning of *gotong royong* by the government, the *gotong royong* or mutual aid still has a strong voluntary. In Kalibaru village, the researcher observed that within the neighbourhood they tend to help each other. This can be in the form of providing food when the neighbour does not have any food due to the low catch. Other forms of neighbourhood relationships are taking care of smaller children. *Gotong royong* does not have age dimension since from the early age the community members have been exposed to the sense of voluntarily helping the people living around them. The older children will play and watch the younger children during the afternoon. *Gotong royong* encapsulates the equivalent meaning as the social capital in the sustainable livelihood framework. Moser (1998) in Ellis (2012) defined social capital as reciprocity within communities and between households based on trust deriving from social trust'.

The relationship within a household has a dimension of family kinship and labour force which also cannot avoid the influence of other community members. Labour also holds an important factor for a family. Each family member needs the help of another to fulfil the task. The children help the mother to do house chores such as folding clothes, take care of the younger siblings, the mother helps the father to fix the fishnets. Regarding task division within the household it is influenced by the expectation of other community members. One obvious social pressure is on task division within the household. Within the fishermen community in Kalibaru village the father is expected to be the breadwinner in the family though it is also common that both husband and wife provide for the family, but this does not apply to every household. Fishing is considered to be the main income generating activity for the household. The income from the wives is considered to be additional or substitution income. While the husband is expected to be the breadwinner, the wife has the task to take care of the house chores and family. The task divisions as community expectation become another issue when it is combined with the early marriages which also appeared to be an issue in the village due to promiscuity. Then the young father has to support the household and the young mother is responsible for taking care of the family instead of finishing her

compulsory education. Certain expectation of male and female task division within the household can be seen as the 'rewards' and 'sanctions' system in the community. The sanction such as moral condemnation might not be tangible, but the impact to the individual could be very significant

5.2 Historical background determine the community practices

Future practices might be determined by previous practices, decisions and happenings (Rip, 1995; Garud and Karnoe, 2001 in Leeuwis, 2004) and be part of path dependency. Path dependency is used in innovation diffusion. According to other authors, innovation is evidently and observably not random and it is dependent on a variety of factors and the factors somewhat define the trajectory of the innovation (Coombs and Hull, 1998).

Fishing practice by the fishermen community in Kalibaru village is also likely to be determined by what has happened in the past. One possible determinant of the fishing trajectory of the fishermen community in Kalibaru village is the past living environment. The fishermen community in Kalibaru village was mostly immigrant. From all the respondents, they migrated from other coastal areas in Java Island and Sulawesi Island (figure 4.2.). Characteristics of their origin can be identified in Kalibaru village such as the language they speak (thick Javanese language accent) and the way they build their house (houses of the migrant from Bugis are built on stilts). Another factor is parents' practices. From the research, almost all of the fishermen learned their skill from their parents. It is also seen that the fishermen are starting to introduce the fishing skills to their children. There is a possibility that this path dependency will still endure in the next generation.

5.3 Current development influence the fishermen community practices

It appears that current development has an influence on the fishermen community dynamic. One aspect is stronger community cohesion due to the pressure from the development. This can be seen from the reactivation of community-watch group or Pokmaswas. The community watch group is already established before the harbour development but it was active again following many incidents involving the fishermen boats due to the development. The community-watch group has the position to ask for further information around the project development and report the incidents to the authority.

Another aspect caused by this development is the pressure on the confidence of the fishermen of perceiving fishing as an income generating activity. According to the fishermen the fish is not available again near the shore and to go fishing to a further fishing ground requires additional operational costs. The validity of the perceived knowledge of the fishermen on the fishing grounds is further challenged by the harbour development.

5.4 Variables on of the fishermen community in Kalibaru village perception

From the discussion of the five variables in the Cees Leeuwis model, the historical background of the fishermen community in Kalibaru and the current development, following is the perception of the fishermen community in Kalibaru village regarding their practices.

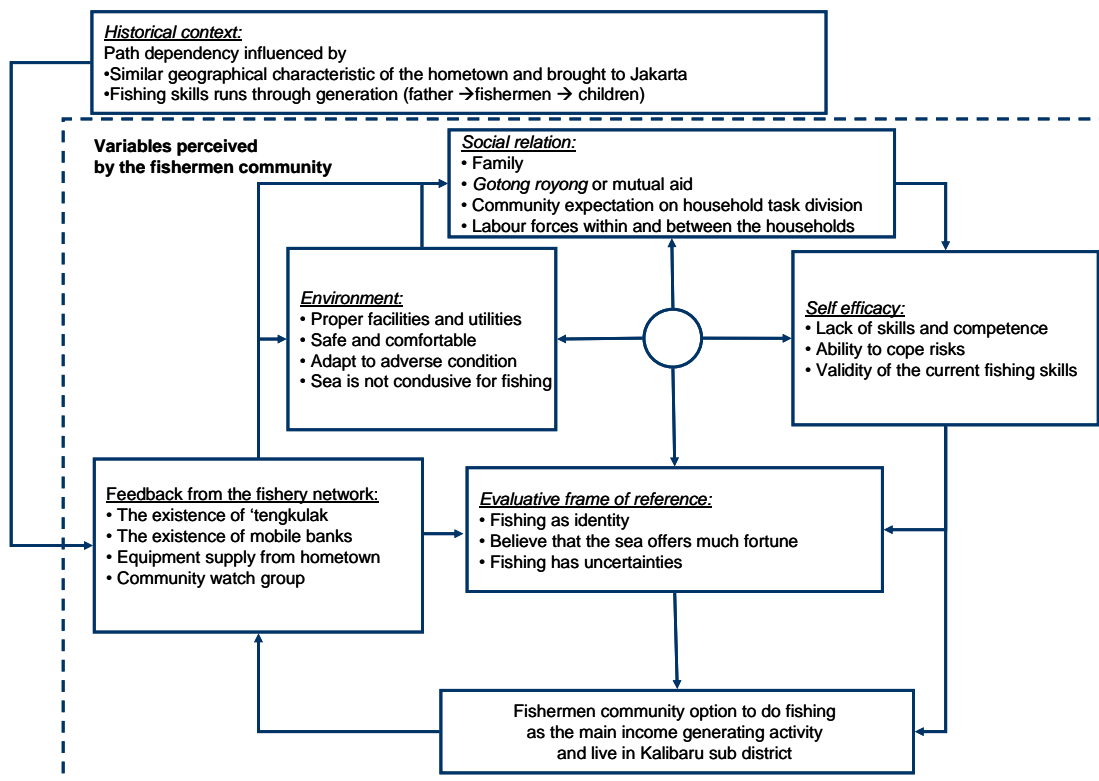


Figure 11. Fishermen community in Kalibaru village perspective on opting their current practices (source: author, 2013)

5.5 NCICD programme and its relation to the fishermen community perspective

After above discussion, the researcher aims to answer the main research question on the social dimensions need to be considered within the coastal zone management, in this case the NCICD programme. In Kalibaru village, there are several social dimensions unfolded.

Fishing as an identity

Fishing as identity was revealed from the way the fishermen community used certain terms such as to refer to categorisation of occupations and to refer to fishing periods. This identity then influences their attitude towards other occupations and regards it as less interesting than fishing with reasons such as not comfortable, the salary is insufficient and freedom. It is important for the project to recognise this perception of the fishermen. This means, displacing them in terms of occupation means changing their identity.

Fishing as a result of path dependency

Fishermen community has practiced fishing from generations, the skills and equipments are probably also inherited from the elders. This process is still seen to continue in the fishermen community on how the parents take their children, mostly sons, to the sea and teach them to fish. The current practices of the fishermen are influenced by the practices of the past generations. This aspect needs to be appreciated because changing traditions might provoke resistance or involve a long process.

Fishing entails uncertainty

Uncertainty is the barrier perceived by the fishermen community to continue fishing. However, the fishermen cope by seeking certainty from other aspects in the environment such as *tengkulak* who gives certainty by giving loans and buying fish catch, and mobile banks who gives loans without collateral. The risk of uncertainty of income is minimised by income source diversification (e.g. pulling rickshaws, owning shops). Other aspects which

influences the fishermen community in coping with uncertainty is their belief. Blessings from God are always certain and this belief is very strong for the fishermen.

Existence of strong social cohesion

Gotong royong appears very strongly within the community. Family relation and the sense of kinship give the fishermen the feeling of safety and comfort to live in the neighbourhood. This social cohesion even shows an increment after the harbour development. The community watch group was revived and relays the aspirations of the fishermen community to the authority.

Living environment

The living environment of the fishermen might seem to be below the national standard set by the Indonesian Ministry of Public Works regarding sanitation and hygiene conditions. However, the fishermen community seems to have adapted to the adverse living environment. However, on the other side, the advantages to living in the area including access to their boats and their working place, namely the sea. The previous locations of the fishing community were always in the coastal area.

The next question would be how to treat these social manifestations of the fishermen community in Kalibaru village within the NCICD programme which may requires resettlement of the community along the coastline of north Jakarta. Leeuwis (2013) in his inaugural speech argues about the importance of three aspects which might influence an innovation process. He mentioned hardware (the biomaterial dimension e.g.: technical devices, technical practices), orgware (the social dimension: relationships, institutions, organisational forms) and software (the symbolic dimension: knowledge, meanings, visions, discourses). He further argued in his paper that a successful innovation needs a thorough and balance understanding of these intertwined aspects. The new orgware can be seen as changes in systems which are fundamental to facilitate people to make use of new ideas and technical opportunities such as policy, market organisation legal framework, service provision and incentive systems.

NCICD programme intends to provide a plan which will improve the socioeconomic condition of the north Jakarta and at the same time cope with the flood risk. The programme would encompass new ideas such as the so called 'Giant Sea Wall' or northern connection crossing the Jakarta Bay, modern fishing methods as it is already introduced by the Ministry of Marine and Fishery by awarding the fishermen with a modern boat which require them to go to sea for longer periods of two months. These new ideas will necessitate change from the fishermen community. To use the modern boat and go to sea for two months may alter the presence and participation of the fishermen as it causes long absence in their family and community. The researcher would argue that change is not only essential for the fishermen community but also from the actors of NCICD programme in approaching the social aspects within the community.

It is needed to be realised that there might be differences between the perceived reality by the scientific papers and projects compared to the perceived reality by the fishermen community. From the literatures and reports, it was stated that in North Jakarta clean water is scarce (e.g. Steinberg, 2007) and flood often occurs in the coastal area of Jakarta (e.g. JCDS, 2011). Nevertheless, from the research findings, the fishermen community perceived that utilities such as clean water are accessible. From the interviews and informal talks, it is found that the research location is rarely flooded. This was also noticed by the researcher that the area was not flooding during the research even during heavy rain. The main water issue perceived by the fishermen community is the sea water pollution which influence their fish catch. Other differences are the fact that Jakarta is experiencing land subsidence and on the contrary, the fishermen community is witnessing a peculiar 'plastic waste and mussel clam reclamation' which supplies them more land availability. Both statements are realities

seen from different perspective which is influenced by different interests and approaches. The differences need to be seen by both sides to enable an effective communication and achieve the optimal changes from both sides, namely NCICD programme and the fishermen communities.

Chapter VI: Conclusion and consideration

6.1 Conclusion

NCICD programme is a coastal zone management intervention deemed necessary in the views of the increasing flood risk due to rainfall, increasing sea level and land subsidence in Jakarta. The project aims to cope with flood risk and also to improve the socioeconomic condition in North Jakarta. The programme indicated the possibility of resettlement related to the structural development along the coastline of Jakarta even though the programme planning is currently in the process and on-going analysis may suggest otherwise. Resettlement programmes cannot only depend on the successfulness of monetary compensation given that the well-being of the potentially resettled people may not only be replaced financially but also the social aspects within the community. In case of the fishermen community in Kalibaru village the research has unravelled social dimensions which involve aspects such as identity, path dependency, uncertainty, social cohesion and living environment. The fishermen perceived their occupation to be beyond the activity to earn money but it is the way they live as how it is inherited to them by their predecessors and reinforced on a daily basis in their present community.

To bring about change regarding the NCICD programme, it is important that the practitioners of the NCICD programme understand these dimensions of the fishermen community and it is also equally important to make themselves understood by the community. An example would be to make the fishermen community understand that the NCICD programme has the ambition of protecting the city from the sea while the fishermen community thinks that the sea should be protected from the city that sends pollution to the sea.

The researcher realised there was a strong need of creating space for change in her way of thinking and behaving during the process of active listening to unravel the social dimensions for the project. The process was not effortless as it demanded high level of adaptation to the fishermen community daily life in order to optimise open communication process. These challenges might also have to be confronted by the NCICD actors to be able to create a space of open communication to achieve the improvement of socioeconomic of North Jakarta. Undertaking such research projects in a context of active listening and sharing may also enhance the perspective of knowledge circulation needed to mediate between the ambitions of the NCICD programme.

6.2 Consideration

During the research, the researcher felt the immersion as a strong instrument to have a deeper understanding of the social dimensions within a community. This instrument might be potential to be used in the future interaction between the NCICD programme and other member of the civil society related to the project. It is also important to realise that the definition of working hours for other stakeholder might be different than office working hours. It is important to consider this in order to choose the appropriate time to optimise discussion and to ensure access for stakeholders. Based on the research, there are some aspects which can be considered for the intervention: there is a need to apply the Indonesian hygiene and sanitation standard to all of the community layers including the fishermen community in the coastal area, there is a need to support the fishermen community's access to send their children to school.

Further similar studies might be needed in other locations influenced by the NCICD programme to accommodate the different social characteristics of the community.

References

- Abidin, H. Z., Andreas, H., Gumilar, I., Fukuda, Y., Pohan, Y. E., Deguchi, T., 2011. Land subsidence of Jakarta (Indonesia) and its relation with urban development. *Nat Hazard [e-journal]* 59. pp, 1753 – 1771. Available through <www.library.wur.nl> [Accessed on 30 August 2013]
- Abidin, K. 2011. Runaway city: Jakarta Bay, the pioneer and the last frontier. *Inter-Asia Cultural Studies. [e-journal]* Volume 12 issue 4. pp, 513 – 531. Available through <www.library.wur.nl> [Accessed on 31 August 2013]
- Ajzen, I and Fishbein, M., 2000. Attitudes and the attitude-behaviour relation: reasoned and automatic processes. *European review of social psychology. [e-journal]* 11, pp. 1 – 33. Available through <www.library.wur.nl> [Accessed 16 July 2013]
- Andre, P., Enserink, B., Connor, D., and Croal, P., 2006. Public Participation International Best Practice Principles. Special Publication Series No.4. Fargo. USA: International Association for Impact Assessment. Available through <www.library.wur.nl> [Accessed 15 July 2013]
- Arandel, C. and Wetterberg, A. 2013. Between “Authoritarian” and “Empowered” slum relocation: social mediation in the case of Ennakhil, Morocco. *Cities. [e-journal]*. 30. pp, 140 – 148. Available through <www.library.wur.nl> [Accessed 7 May 2013]
- BNPB, 2009. Pulau Jawa Peta Wilayah Administrasi. [JPEG online] Available at <http://geospasial.bnpb.go.id/wp-content/uploads/2009/12/2009-12-01_pulau_jawa_bnpb1-585x413.jpg> [Accessed 5 September 2013]
- Brinkman, J.J., 2012. Flood Risk Management and Urban Resilience. Jakarta Coastal Defence Strategy (JCDS) Study.
- BPS, 2010. Demography. [online] Available at <http://www.bps.go.id/menutab.php?tabel=1&kat=1&id_subyek=12> [Accessed on 31 August 2013]
- Bowen, J. R., 1986. On the political construction of tradition: gotong royong in Indonesia. *Journal of asian studies. [e-journal]*. XLV (3) pp, 545 – 561. Available through <<http://www.jstor.org/discover/10.2307/2056530?uid=3738736&uid=2134&uid=373847541&uid=2&uid=70&uid=3&uid=373847531&uid=60&purchase-type=none&accessType=none&sid=21102587542051&showMyJstorPss=false&seq=13&showAccess=false>> [Accessed on 5 September 2013]
- Chambers, R., 2007. Poverty research: methodologies, mindsets, and multidimensionality. Working Paper 293. Brighton: Institute Development Studies.
- Coombs, R. and Hull, R., 1998. Knowledge management practices and path dependency in innovation. *Research policy [e-journal]* 27 pp, 237 – 253. Available through <www.library.wur.nl> [Accessed on 8 September 2013]
- Cybrirsky, R. and Ford, L. R., 2001. Profile Jakarta. *Cities. [e-journal]* 18 (3) pp, 199 – 210. Available through <www.library.wur.nl> [Accessed on 1 September 2013]
- DHI Water & Environment, 2011. Rapid Environmental Assessment for Coastal Development in Jakarta Bay [online] Available through <[http://www.esp2indonesia.org/sites/default/files/publications/REA%20Jakarta%20Bay_Indonesia_editedJuli11_final%20\(1\).pdf](http://www.esp2indonesia.org/sites/default/files/publications/REA%20Jakarta%20Bay_Indonesia_editedJuli11_final%20(1).pdf)> [Accessed 9 July 2013]
- Dive the world Indonesia. Map of Indonesia. [JPEG] Available at <<http://www.divetheworldindonesia.com/map-of-indonesia.htm>> [Accessed 22 July 2013]
- Ecological Dictionary, 2011. Land subsidence. [online] Available at <http://www.ecologydictionary.org/LAND_SUBSIDENCE> [Accessed 22 July 2013]
- Ellis, F., 2012. Rural livelihoods and diversity in developing countries. Oxford: Oxford university press.
- Farming, Fishery and Marine Office of North Jakarta, 2012. Pocket book of farming, fishery and marine in North Jakarta. Jakarta: Farming, Fishery and Marine Office of North Jakarta

- Farming, Fishery and Marine Office of North Jakarta, 2013. KUB Database. Jakarta: Farming, Fishery and Marine Office of North Jakarta
- Firman, T., Surbakti, I. M., Idroes, I. C., Simarmata, H. A., 2011. Potential climate-change related vulnerabilities in Jakarta: challenges and current status. *Habitat international*. [e-journal] 35. pp, 372 – 378. Available through <www.library.wur.nl> [Accessed on 30 August 2013]
- Hygiene council, 2008. Setting the hygiene standards for healthy home A series of practical recommendations from the hygiene council to help improve hygiene standards in the home. [pdf online] Available at <http://www.hygienecouncil.org/Portals/1/pdf/Hygiene_Standards_Booklet.pdf> [Accessed on 10 September 2013]
- Jakarta Coastal Defence Strategies, 2011. Jakarta Coastal Defence Atlas. Edition 30 September 2011.
- Jensen, S.Q., 2011. Othering, identity formation and agency. *Qualitative studies*. [e-journal] 1 (2) pp, 63 – 78. Available through <<http://www.doaj.org.ezproxy.library.wur.nl/doaj?volume=2&date=2011&spage=63&issn=19037031&func=openurl&issue=2&genre=article>> [Accessed on 5 September 2013]
- Lentera Bahari, 2012. KUB Lentera Bahari Profile. Jakarta
- Keiding, T.B., 2010. Observing participation observation a re-description based on systems theory. *Forum Qualitative Social Research* [pdf] 11 (3) Available through <<http://www.quantitative-research.net>> [Accessed 11 June 2013]
- Leeuwis, C., 2004. *Communication for Rural Innovation*. Oxford: Blackwell Science Ltd
- Leeuwis, C., 2013. Coupled performance and change in the making. Inaugural lecture upon taking up the post of Professor of Knowledge, Wageningen, 6 June 2013. Wageningen: Wageningen UR.
- Lijster, M. de, 2013. Sectorbijeekomst Indonesie. Topsector water kernteam export & promotie. The Hague, 14 June 2013. The Hague: Agentschap NL
- Maldonado, J.K., 2012. A new path forward: researching and reflecting on forced displacement and resettlement. Report on the International Conference: Economics, Social Justice and Ethics in Development-caused Involuntary Migration, the Hague, 4 – 8 October 2010. *Journal of Refugee Studies*. [e-journal] 25 (2) pp, 193 – 220. Available through <www.library.wur.nl> [Accessed on 31 August 2013]
- Merriam Webster, 2013. An Encyclopedia Britannica company. [online] Available on <<http://www.merriam-webster.com/dictionary/critical>> [Accessed on 31 August 2013]
- Ministry of Public Works Regulation. 2009. Minister of Public Works Regulation No. 03/PRT/M/2009 about Guidelines for Social Management in Dam Development. (No. 03/PRT/M/2009) [pdf online] Available at <http://www.pu.go.id/satminkal/balitbang/sni/isisni/permen_rekayasa%20sosial%20pembangunan%20bendungan_final.pdf> [Accessed on 16 July 2013]
- Nur, Y., Fazi, S., Wrojatmodjo, N., and Han, Q., 2001. Towards wise coastal management practice in a tropical megacity Jakarta. *Ocean & Coastal Management*. [e-journal]. 44. pp, 335-353. Available through <www.library.wur.nl> [Accessed 4 July 2013]
- Sannen, A., 2013. NCICD Program Management Unit. Topsector water kernteam export & promotie. The Hague, 14 June 2013. The Hague: Royal HaskoningDHV
- Sannen, A., 2013. Inception report. Assistance to the Programme Management Unit NCICD. Jakarta: Consultant Team Royal HaskoningDHV/RebelGroup/UNESCO-IHE
- Tourism of Indonesia. DKI Jakarta tourism map. [JPEG] Available at <<http://www.indonesia-tourism.net/jakarta/map/jakarta-high.png>> [Accessed 22 July 2013]
- Verschuren, P. and Doorewaard, H., 2010. *Designing a research project*. The Hague: Eleven International Publishing
- Pita, C., Dickey, H., Pierce, G.J. Mente, E., Theodossiou, I., 2010. Willingness for mobility amongst European fishermen. *Journal of Rural Studies*. [e-journal] 26 pp, 308 – 319. Available through <www.library.wur.nl> [Accessed on 16 July 2013]
- Pelindo II, 2012. AMDAL Pembangunan Terminal Kalibaru. Jakarta.

- Sharma, R.N., 2010. Changing facets of involuntary displacement and resettlement in India. *Social Change*. [e-journal] 40 (4) 503 – 524. Available through <www.library.wur.nl> [Accessed 11 May 2013]
- Sherbinin, A. et.al., 2011. Preparing for resettlement associated with climate change. *Science*. [e-journal]. 334. pp, 456 – 457. Available through <www.library.wur.nl> [Accessed 12 May 2013]
- Simanjuntak, I., Frantzeskaki, N., Enserink, B., Ravesteijn, W., 2012. Evaluating Jakarta's flood defence governance: the impact of political and institutional reforms. *Water Policy*. [e-journal]. 14. pp, 561 – 580. Available through <www.library.wur.nl> [Accessed on 30 August 2013]
- South African Institute for Environmental Assessment (SAIEA), 2005. Training course – Public participation in Environmental Assessment in South Africa. Developed as part of the SAIEA Calabash Project. First Edition, 2005
- Steinberg, F., 2007. Jakarta: Environmental problems and sustainability. *Habitat international* [e-journal] 31. pp, 354 – 365. Available through <www.library.wur.nl> [Accessed on 30 August 2013]
- World Bank, 2010. Involuntary displacement and resettlement. [online] Available through <<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTSOCIALDEVELOPMENT/EXTINVRES/0,,contentMDK:20486618~menuPK:1242235~pagePK:210058~piPK:210062~theSitePK:410235,00.html>> [Accessed 07 May 2013]

Annex 1: List of respondents

Below is the list of interviewees and their occupation.

Male	Occupation	Female	Occupation
Mr. Suradi	Fishermen KUB treasury He was born in Jakarta. His father came from Bugis, Sulawesi and his mother comes Indramayu	Mrs. Susi (Mr. Suradi's wife)	Small shop owner and a housewife She was born in Jakarta and her parents came from Indramayu.
Mr. Silih Hartono	KUB secretary Work in interior business (e.g. make furniture) His parents came from Indramayu and he was born in Indramayu. He migrated to Jakarta with his uncle when he was young	Mrs. Ika Masleha (Mr. Hartono's wife)	Housewife Used to work in KBN Her parents came from Indramayu and she was born in Indramayu. She came to Jakarta to follow her husband.
Mr. Kasnun	Fishermen KUB member He was born in Kulon (West Java). He came to Jakarta to search for his mother who has migrated earlier to the capital city.	Mrs. Tasini (Mr. Kasnun's wife)	Housewife, sometimes peel green mussels. She was born in Jakarta and her father comes from Indramayu and her mother comes from Cirebon
Mr Wadi	Fishermen He was born in Jakarta and his parents originated from Jakarta	Mrs. Darini (Mr. Wadi's wife)	Housewife She was born in Jakarta and her parents originated from Jakarta
Mr. Saiful Bahri	Fishermen Chairman of KUB He was born in Indramayu and migrated to Jakarta with the parents.	Mrs. Kanipah (Mr. Saiful Bahri's wife)	Housewife and peel green mussels Used to work in KBN She was born in Jakarta and her parents come from Indramayu
Mr. Tarwad	Fishermen with many fishing equipments	Mrs. Rasminah	Housewife Sells green mussel chips. Ex TKI She comes from Indramayu and moved to Jakarta In 1969
Mr. Elon	Fishermen KUB advisor He comes from Cirebon	Mrs. Warnati	Housewife Sell shrimp fish She was born in Indramayu and moved to Jakarta with her grandmother
Mr. Dasmin	Fishermen KUB member He was born in Ujung Kulon (West Java) and together with Mr. Kasnun he came to Jakarta to look for his mother	Mrs. Maida	Own a green mussel business. She was born in Indramayu and move to Jakarta when she was a child with her parents
8 respondents		8 respondents	

Actors who are considered to be important to the fishermen community

Mr Tusin	Ex fishermen Crab Tengkulak ⁵ He was born in Indramayu and later moved to Jakarta.
Mr. Harif	Work as a mobile bank agent and has clients in the immersion location
Mr. Sukim	Salted fish business owner Ex fisherman
Mr. Mukana	Tengkulak for crab and squids and send to PT. Phillips Seafood Indonesia in Pematang Ex fisherman
Mr. Jumani	Chairman of Pokmaswas (community watch group)

⁵ Tengkulak: middlemen (who buy the produce from the farmers or the first owner (Fakultas Ilmu Komputer UI, 2008)

Annex 2: Interview and observation checklist

Observation checklist	Interview checklist
Historical context	
Accent when they are talking	Story on how they live in Kalibaru Story on how they become fishermen
Social relation within their community	
<ul style="list-style-type: none"> • See the non verbal language when they talk about • Be always aware on their expression, signals • Afraid that one household member may have a stronger role (which is undesirable) • Who visits the community and follow their conversation. See if there is any remarks of incentive of disincentive 	<p>Why do they choose fishing as their activity? Are there any influences from external party such as government, political party, etc? Are there many external parties who visit the community? Who? To who are they related to? Are there any incentives of disincentives by the government according to the fishermen community? Access (no access) land, fishing activity, social security</p>
Feedback from their fishery-support network	
<ul style="list-style-type: none"> • How do they talk about their fishing in relation with their colleague • How do they talk about their (other) income generating activity (clam shells peeling, clam shells handicraft) in relation with their colleague. • The interdependency and trust between the fishermen • The interdependency and trust between the people in other activities • The use of collective resources • Labour exchange 	<p>How do they market their products (fishery and other products) How can they access their direct market Quality and reliability of their market How do they get their supply (fishing equipment, other products such as clam shells handicraft) Do they share their boats or other equipments (e.g. handicraft) Do they share each other's labour (e.g. in fishing, taking care of children, taking care of the boats) How do they get their credits (if applicable)</p>
Self efficacy	
<ul style="list-style-type: none"> • Their confidence when they talk about fishing compare to when they talk the possibility of other works • Daily conversation when they talk about their labour missing or financial related ability 	<ul style="list-style-type: none"> • What do they consider their fishing skills, as a skill, identity, etc • Their ability to pay for the cost of fishing compare to when they have other works • Their ability to mobilise labour. When they fish, will the community or household will loose a labour • How do they cope with the risk of their fishing activity money risk, safety risk? <ul style="list-style-type: none"> ○ Can they prevent it ○ Can they transfer the risk to other ○ Can they accommodate (accept) the risk ○ Can they reduce the risk?

Observation checklist	Interview checklist
Evaluative frame of reference	
<p>Fishing as a social activity</p> <ul style="list-style-type: none"> • Look at how fishermen interact during the fishing activity and the preparation • Listen to their daily conversation • How they talk about 'things' related to norms (things might refer to anything which is regulated by norms) • Emotions when they go fishing (happy, sad, inspired, etc) • When they talk about their activity, consider which identity they are taking? As a father/mother, religious leader, husband/wife. This might influence their talk. Also consider to talk when the rest is not around 	<p>How do they get their ability to fish?</p> <ul style="list-style-type: none"> • The techniques • The knowledge on when and where to fish <p>What do they think the risks of fishing are?</p> <ul style="list-style-type: none"> • Technically and socially? <p>Fishing as a social activity?</p> <p>Do they have any relatives there involve in fishing and how do they relate?</p> <p>Norms about fishing</p> <p>What is fishing activity for them? Income generating activity, or identity?</p> <p><i>(Think of tacit knowledge)</i></p>
Environmental effectiveness	
<p>Their expression when they talk about the environment (children: draw about their home and surrounding).</p>	<p>How do they think about their environment in relation with the fishing activity, daily activities, families, health</p>

Annex 3: Group discussion documentation

Activity documentation



Active listening during group discussion



The fishermen were eager to tell their stories



Small group discussion



Active participation