It Takes a Village

*Indonesia Climate Change Community Actions in Program Kampung Iklim*

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This thesis is submitted in fulfillment of the Master of Science degree awarded as a result of successful completion of the Erasmus Mundus Masters course in Environmental Sciences, Policy and Management (MESPOM) jointly operated by the University of the Aegean, Central European University, Lund University and the University of Manchester.
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### List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAPPENAS</td>
<td>National Planning Agency</td>
</tr>
<tr>
<td>BMKG</td>
<td>Meteorological, Climatological and Geophysical Agency</td>
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<tr>
<td>BPLHD</td>
<td>Provincial Environmental Management Agency</td>
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<tr>
<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<tr>
<td>DNPI-NCCC</td>
<td>National Council on Climate Change</td>
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<tr>
<td>KLHK-MOEF</td>
<td>Ministry of Environment and Forestry</td>
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<tr>
<td>KLH-MOE</td>
<td>Ministry of Environment</td>
</tr>
<tr>
<td>KPLH</td>
<td>Office of Environmental Management (municipal level)</td>
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<td>Proklim</td>
<td>Program Kampung Iklim</td>
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<tr>
<td>Renstra</td>
<td>Strategic Plan</td>
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<tr>
<td>RAN-API</td>
<td>National Action Plan for Adaptation to Climate</td>
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<tr>
<td>Renja K/L</td>
<td>Ministry/ Agency Work Plan</td>
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<tr>
<td>RKP</td>
<td>Government Work Plan</td>
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<tr>
<td>RKPD</td>
<td>Regional Government Work Plan</td>
</tr>
<tr>
<td>RPJMD</td>
<td>Regional Medium-Term Development Plan</td>
</tr>
<tr>
<td>RPJMN</td>
<td>National Medium-Term Development Plan</td>
</tr>
<tr>
<td>RPJPD</td>
<td>Regional Long-Term Development Plan</td>
</tr>
<tr>
<td>RT</td>
<td>Rukun Tetangga (Neighbourhood Association)</td>
</tr>
<tr>
<td>RW</td>
<td>Rukun Warga (Community Association)</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
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### Glossary

<table>
<thead>
<tr>
<th>Indonesian</th>
<th>English</th>
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<tr>
<td>Desa</td>
<td>Village</td>
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<tr>
<td>Dukuh</td>
<td>Hamlet</td>
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<tr>
<td>Dusun</td>
<td>Hamlet</td>
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<tr>
<td>Kabupaten</td>
<td>County/regency or sub-district</td>
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<tr>
<td>Kecamatan</td>
<td>District</td>
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<tr>
<td>Kelurahan</td>
<td>Urban village</td>
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<tr>
<td>Kota</td>
<td>City</td>
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<tr>
<td>Kotamadya</td>
<td>Municipality region</td>
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<tr>
<td>Propinsi/provinsi</td>
<td>Province</td>
</tr>
<tr>
<td>RT</td>
<td>Neighbourhood Association</td>
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<tr>
<td>RW</td>
<td>Community Association, comprised of various Neighbourhood Associations in a given area</td>
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Abstract

Indonesia has been involved in climate negotiations at the international level, prioritizing both climate change mitigation and adaptation because they are two sides of the same coin. As such a programme was developed in order to increase public awareness of climate change, positively acknowledge and reward communities who have initiatives or engaged in efforts to mitigate and adapt to climate change while being supported by a community organization. This is the climate smart or climate resilient villages program, Program Kampung Iklim.

This thesis takes an analysis frameworks from ‘community-based adaptation’ and, along those same lines, action research in order to see how Proklim: a) is a community-based or community-level programme, b) exists within the larger context of the national and international frameworks on climate change in Indonesia, c) study the strengths, weaknesses and future opportunities for the programme’s long term capacity, d) increase public awareness of climate change.

The thesis concludes that while based on data from the first four years of its life, Proklim is not a specifically community-based adaptation programme, but it is a community-level programme. In addition, Proklim is firmly embedded within the hierarchical framework of climate change adaptation. Lastly, there are still many opportunities open to improve the Proklim for future uses, including but not limited to evaluating both individual project activities as well as the programme itself as a whole.

Keywords: Program Kampung Iklim, Proklim, climate change adaptation, community-based adaptation, action research, Indonesia, climate smart villages, climate resilient villages
Table of Figures
Figure 1 Adaptation under the UNFCCC (Adaptation Committee 2013) .................................................. 3
Figure 2 Climate Change Vulnerability in Southeast Asia (Yusuf and Francisco 2009)) .......................... 4
Figure 3 Adaptive Capacity Index in Southeast Asia (Yusuf and Francisco 2009) ................................. 4
Figure 4 Institutional Framework for Climate Change in Indonesia (Rachmawaty 2013; Suryanti 2014; Widayati 2015) .......................................................................................................................................................................................... 13
Figure 5 Proklim Contribution to International Adaptation Framework (Widayati 2015) ....................... 13
Figure 6 Proklim within multilevels of mitigation action (Widayati 2015) .............................................. 14
Figure 7 Proklim Requirements (MOE Decree 19 2012) ...................................................................... 15
Figure 8 Program Kampung Iklim Process (MOE Decree 19 2012; Suryanti 2014) .............................. 18
Figure 9 Proklim Nominations by Province 2012-2015 (MOEF Proklim Verification Raw Data 2012; MOEF Proklim Verification Raw Data 2013; MOEF Proklim Verification Raw Data 2014; MOEF Proklim Verification Raw Data 2015) .......................................................................................................................................................................................... 20
Figure 10 Proklim Trophy and Certificate Awarded 2012-2015 (MOEF Proklim Verification Raw Data 2012; MOEF Proklim Verification Raw Data 2013; MOEF Proklim Verification Raw Data 2014; MOEF Proklim Verification Raw Data 2015) .......................................................................................................................................................................................... 21

Table of Tables
Table 1 Guiding Interview Questions ................................................................................................. 8
Table 2 Process/Outcomes Matrix (Patton 2002) ................................................................................. 11
Table 3 Prerequisites for Proklim Nomination 2013 (MOE Decree 19 2012) .................................. 15
Table 4 Prequisites for Proklim 2015 (MOE raw data 2015) .............................................................. 16
Table 5 Proklim Nomination Form Guidelines .................................................................................... 19
Table of Contents
Acknowledgements ....................................................................................... i
List of Abbreviations .................................................................................... ii
Glossary ........................................................................................................ ii
Abstract ......................................................................................................... iii
Table of Figures ........................................................................................... iv
Table of Tables ............................................................................................ iv
I. Introduction ............................................................................................... 1
  1.1. Background .......................................................................................... 1
  1.2. Indonesia at Climate Negotiations ......................................................... 1
  1.3. National Level Institutional Framework ............................................... 2
  1.4. Mitigation in Indonesia ......................................................................... 2
  1.5. Climate Change Adaptation in International Negotiations ................. 2
  1.6. Adaptation in Indonesia ....................................................................... 3
  1.7. Non-State and Non-National-Level State Actors ................................ 5
  1.8. Problem Definition and Question ...................................................... 5
  1.9. Structure of Thesis .............................................................................. 6
II. Methodology ............................................................................................. 6
  2.1. Methodology ....................................................................................... 6
  2.2. Audience ............................................................................................ 6
  2.3. Access to Data and Ethics .................................................................... 7
  2.4. Limitations and Scope ......................................................................... 7
  2.5. Interview Conduct .............................................................................. 8
  2.6. Literature Review ............................................................................... 9
  2.7. Analytical Framework ......................................................................... 10
III. Data Gathering: Case Study for Participation in Climate Change Adaptation ................................................. 11
  3.1. Program Kampung Iklim .................................................................... 11
  3.2. Institutional Framework .................................................................... 12
  3.3. Prerequisites for Proklim Site Nominations ........................................ 14
      Spatial Definition .................................................................................. 14
      Qualifying Criteria .............................................................................. 14
  3.4. Proklim Process .................................................................................. 18
  3.5. Initial Information ............................................................................... 22
  3.6. Interviews ............................................................................................ 22
      Officials ............................................................................................... 22
      Community Members .......................................................................... 24
      Verification Team ................................................................................. 24
  3.7. Analysis .............................................................................................. 25
I. Introduction

1.1. Background

The Government of Indonesia considers Indonesia to be vulnerable in face of climate change impacts (Widodo 2015, Nurbaya 2015, UKP-PPI 2013, RAN-API 2012), located on the equator and an archipelagic nation. However, due to its natural resource based economy, whereby main exports include coal and palm oil, Indonesia is also considered a frequent major emitter of greenhouse gases due primarily to land use change and forestry issues (Yudhoyono 2009; Witoelar 2016). As such Indonesia is involved in the United Nations Framework Convention for Climate Change (UNFCCC).

Under the international climate negotiations framework, mitigation of greenhouse gas emissions was the main purpose of reduction of emissions, adaptation taking a secondary role. The government under President Susilo Bambang Yudhoyono, was the first developing country to voluntarily agree to emissions cuts, the government of Indonesia is increasingly interested in adaptation of climate change, especially since 2012 and the development of Indonesia’s National Action Plan for Adaptation to Climate Change, a framework that embeds within it a hierarchical framework that links sub-national to international actions.

Since 2012, adaptation has increasingly become a buzzword, mentioned alongside low-economy and sustainable development. However, adaptation is fundamentally about increasing resilience to climate change impacts, instead of reduction of emissions. According to Indonesian negotiators, adaptation and mitigation are “two sides of the same coin” (Witoelar interview 2016) and exist together in the national framework as national policy (Bakar speech 2016). As such, a programme was developed that combined both adaptation and mitigation, at the community level but which was related and connected to other climate initiatives in the country.

1.2. Indonesia at Climate Negotiations

Indonesia has engaged in international climate change negotiations under the United Nations Framework Convention on Climate Change since its earliest inception. However, the Bali UNFCCC Conference of the Parties 13/Conference Members to Kyoto Parties 3 (COP13/CMP3) was a turning point for Indonesia as it hosted the UNFCCC conference in Bali, the Conference Chair being then Minister of Environment, Rachmat Witoelar alternating with President Yudhoyono. From this Conference, the Bali Action Plan was produced which had elements of adaptation, mitigation, financing, technology and shared vision, and allowed Indonesia to have a proactive role in climate negotiations. While a Non-Annex I Party to the UNFCCC, and thus not required to make binding commitments. However, it has established mitigation to climate change as a national priority since 2009 when then President Yudhoyono announced Indonesia’s voluntary commitment to reduce greenhouse gas emissions by 26 percent domestically and a further 15 percent with international assistance against a business as usual scenario by 2020. In 2015, Indonesia submitted its Intended Nationally Determined Contribution (INDC) to the UNFCCC. Under President Widodo, Indonesia increased its domestic greenhouse gas emissions reduction target up to 29 percent against BAU by 2020, with a further 15 percent “subject to a global agreement” (MOE 2015).
1.3. National Level Institutional Framework

Since early 2015, two government institutions that deal with climate change, namely Dewan Nasional Perubahan Iklim or National Council on Climate Change (DNPI-NCCC) and Badan Pengelola REDD+ or REDD+ Management Agency have been shut down. The major coordinating body for climate change negotiation falls under the Directorate General of Climate Change under the Ministry of Environment and Forestry (MOEF). For both domestic mitigation and adaptation planning at the national level, the National Planning Agency (BAPPENAS) plays an important role. In addition, key line ministries involved include the Coordinating Ministry for Social Welfare (Kemenko Sosial), Coordinating Ministry for Economics, National Planning Agency (BAPPENAS), Ministry of Environment and Forestry (KLHK-MOEF), Ministry of Energy and Mineral Resources (ESDM), Ministry of Agriculture (Kemtan), Ministry of Transport, Meteorological, Climatological and Geophysical Agency (BMKG), and others.

1.4. Mitigation in Indonesia

It is important to briefly discuss the legal standing of Indonesian national level activities specifically for mitigation of climate change to be able to contrast the coordination and institutional context between mitigation of climate change and the institutional context of adaptation to climate change.

Since the 2009 declaration of greenhouse gas emissions reduction, climate change mitigation has been a priority for the national government which serves as a legal basis for domestic action. While under the current administration of President Joko Widodo the reduction target from domestic efforts has increased from 26 percent to 29 percent of GHG emissions reductions by 2020, the Presidential Decree number 61 of 2011 under President Yudhoyono has enshrined the emissions reductions commitments as a national priority. Following upon this, BAPPENAS produced the National Action Plan for Greenhouse Gas Emissions Reductions (RAN-GRK), which are the national-level sectoral actions to reduce GHG emissions in five key sectors: agriculture, forestry, peatlands; waste management; transportation; energy; and, industry. With both the Presidential Decree and the RAN-GRK, greenhouse gas emissions reductions is mainstreamed into the national planning plans of the key sectors, while line ministries had to In addition, a guide was developed for sub-national levels of government to develop the Provincial Action Plan for Greenhouse Gas Emissions (RAD-GRK). This requires sub-national governments and key non-state stakeholders to develop provincially relevant greenhouse gas emissions reduction plans in order to contribute to the domestic Indonesian target (Sekretariat RAN-GRK 2012).

1.5. Climate Change Adaptation in International Negotiations

While adaptation was a part of the UNFCCC negotiation process since the earliest negotiation periods the main purpose of the UNFCCC was in order to reduce greenhouse gas emissions internationally. However, Member Parties who were encouraged to include within their 1996 National Communications findings and observations of impacts, risk assessment and vulnerabilities to climate change (Adaptation Committee 2013).

An important discussion surrounding adaptation is the discussion surrounding financing of adaptation. This was formally established at the COP6bis in Bonn, Germany in 2001, through the agreement that there would be a formation of and financing through the Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF), the latter of which would
specifically finance funded through levies from Clean Development Mechanism (CDM) transactions and developed countries’ voluntary contributions.

In COP9 in Milan, the Adaptation Fund was agreed by Party Members to be the main source of funding for adaptation to climate change in developing countries, including support for capacity building and technology transfer. In 2006, COP12/CMP2, the Nairobi Work Programme on Adaptation was established under the Subsidiary Body for Scientific and Technological Advice (SBSTA) in order to enhance capacity at all levels to “identify and understand impacts, vulnerability, and adaptation responses, and to select and implement practical, effective and high priority adaptation actions” (UNFCCC FCCC/CP/2005/5/Add.1, 2006). Currently, the role of adaptation under the UNFCCC is a roadmap that includes support and elements, across three subsidiary bodies, and with many supporting frameworks.

![Figure 1 Adaptation under the UNFCCC (Adaptation Committee 2013)](image)

### 1.6. Adaptation in Indonesia

While Indonesia is vulnerable to natural disasters, according to Yusuf and Francisco (2009), Indonesia is less vulnerable to climate change than other neighbours in the Southeast Asian region such as Cambodia or the Philippines. However, the same map is different when the values deal with adaptive capacity, which are values that Yusuf and Francisco obtained from socio-economic values such as the Human Development Index, standard of living, longevity, education, poverty incidence, income
Inequality; technology indicators such as electricity coverage and extent of irrigation; and, infrastructural indicators such as road density and communications (Yusuf and Francisco 2009), Indonesia scores low on adaptive capacity.

In 2012, the National Planning Agency, BAPPENAS, published the National Action Plan for Adaptation to Climate Change (RAN-API). It is a science-based study on the need for adaptation in
Indonesia and serves as guidelines for policy makers regarding adaptation in short and medium term plans, and is “used to complement existing plans” (Arif et al. 2015). While the legal basis of RAN-API is more opaque than the RAN-GRK, due to the fact that there is no Presidential Decree, both the 2010-2014 Mid-Term National Development Plans under President Yudhoyono and the 2015-2019 Mid-Term National Development Plans under President Joko Widodo, both produced by BAPPENAS include climate change as a key priority. As such, when it is provided within the Mid-Term Development Plan, government agencies, line ministries and sub-national levels can refer climate change as a priority. For Indonesia, adaptation should be strictly developed from a science based (Muhammad interview 2016; RAN-API 2012), with emphasis on regarding long-term climate changes and long-term adaptation projects.

1.7. Non-State and Non-National-Level State Actors

Under the UNFCCC, adaptation building requires public participation as a major principle (Arif et al. 2015). The RAN-API does implement a top-down guidelines, it also is used as a guideline to show how adaptation measures can be taken and are already being carried out in Indonesia. According to Arif et al. 2015, climate adaptation should be developed recognizing local conditions, culture and environment. Because the capacity to adapt relies on socio-economic conditions more than locational conditions, it is important that science-based policies are also underpinned by participation of communities. In addition, Miyaguchi emphasizes that there are different levels of vulnerability, and so there needs to be localized adaptation to climate change in order to have local impacts from the adaptation (Miyaguchi 2011). However, according to Dodman and Mitlin (2013), for developing countries adaptation was too high-cost and involved high-technological solutions that would not affect the lowest socio-economic rung and was not helpful to the vulnerable societies. However, they also suggest that participatory development practices can be used as a basis for a community-based level of adaptation that would be targeted toward vulnerable communities.

As such, a good start for studying Indonesian adaptation to climate change would be the community-level actions or those targeted at community-level. In Indonesia, one such national-level activity that had community-level initiatives was Program Kampung Iklim under the Ministry of Environment and Forestry. Its work is national level, but focuses on community-level climate change adaptation and mitigation activities, as well as having specific community organization criteria. Swalheim and Dodman (2008) indicate that all activities regarding resiliency against climate impacts must include participation (Swalheim and Dodman 2008).

1.8. Problem Definition and Question

The main objectives of this study are to:

1. Review climate change adaptation policy, which is a top-down system within Indonesia, in the context of local actions.
2. Investigate how community-level actions on adaptation affect the overall contribution to climate change adaptation at the national or international level, a bottom-up process.
3. Investigate climate change adaptation in Indonesia using a case-based study of an Indonesian climate change program that has very few evaluated or academic reviews so far.
To support the objectives, firstly, the focus of the thesis would be on one specific programme that was developed to handle climate adaptation actions. Secondly, three research questions were developed, which depending on the results of the study may be taken separately or together.

Q1: How does local or community-level adaptation actions influence the national adaptation plans in Indonesia?

Q2: Are community-level adaptation actions under the Program Kampung Iklim considered community-based adaptation and in what way?

Q3: What factors are needed to be improved (strengths and weaknesses) in the established community-level Program Kampung Iklim in order to increase community level awareness of climate change? This question is a brief of the functions of Proklim as it currently stands.

1.9. Structure of Thesis
This thesis is structured as follows: Section 1 provides a brief context on climate change, the institutional context of climate change in Indonesia, the objective and research question of the study. Section 2 provides the methodology for the thesis. Section 3 provides the case-study context in Indonesia, specifically regarding adaptation under Program Kampung Iklim (Proklim), the institutional governance context. The Section 4 forms an analysis of the Proklim, recommendations, shortcomings and future research possibilities.

II. Methodology

2.1. Methodology
Desk-based literature study was carried out on climate adaptation, community-based adaptation and community-participation approaches to development and reviewed in the data analysis section. Because the focus is on community-level participation in adaptation to climate change, and because of the Objective stated in Section 1, a programme under the Ministry of Environment and Forestry (MOEF) that focuses on climate-level actions to mitigation and climate change, Program Kampung Iklim. This is then identified by the researcher as being the main case study.

In addition, the researcher also did some desk-based research using the Proklim verified questionnaires from 2012, 2013, 2014 and 2015 to identify which provinces that participate in the programme would be suitable for further study, and the prerequisite adaptation, mitigation and community. It could be said that in the case of adaptation under Proklim, the mechanisms have elements of community participation approaches and community-based adaptation, depending on the sites viewed.

2.2. Audience
This thesis was supported in part by the Indonesian MOEF who permitted access of the raw data for Proklim. The contents, discussion and results of this research may be interesting for academic researchers focusing on Indonesia and climate change. In addition, as the chosen Proklim is only four years old policy makers at various levels might be interested in using this as a brief overview on Indonesian programmes such as Proklim and Indonesian community-based adaptation which have not
been commonly researched on. More specifically, this may be of interest for those curious about the immediate strengths and weaknesses of Proklim as a climate change programme.

2.3. Access to Data and Ethics
It must be stated that the Program Kampung Iklim data belong to the Ministry of Environment and Forestry and that the Directorate General for Climate Change, specifically the Directorate for Climate Change Adaptation. Because the programme has only been in operation since 2012, there have been few attempts to evaluate the results of the last four years of Proklim academically. As such, one of the research questions on evaluation of current Proklim functions was developed from discussions when seeking permission to use the data.

2.4. Limitations and Scope
While there are other programmes that fall under the climate change framework of the country, the study is focusing on the role that Program Kampung Iklim has in the overall institutional framework of Indonesian climate change. This study will zoom in even more to focus on the adaptation side of the Proklim, in order to be able to use the Community-Based Adaptation action research framework as one of the forms of analysis.

Studying a relatively new programme such as Program Kampung Iklim poses its own set of challenges. Partially, it is because of the newness of the programme that there is a lack of published, accessible and English language information and analysis on Indonesian adaptation to climate change both at the community level and at the higher levels. In addition, a significant part of the literature review was on community-level adaptation or community-based adaptation (CBA) studies. This was due in part because the focus on studying Program Kampung Iklim meant that originally there was a focus on community-based activities.

The limitations of the study include focus on interviews that are accessible from Jakarta by public or private transport within less than four hours, due to the financial limitations, as such, a deeper focus on interviewing other provinces that either have high levels of nominations or trophies or conversely, low to zero levels of participation in Proklim was not possible. In addition, it is also rare to conduct a formal interview over the phone so a physical visit was more appropriate, and so geographical proximity was important.

In addition, in order to request interviews for purposes of academic research to official government offices require that a formal letter be sent to the head of the unit, or head the agency if provincial, and the wait time for a reply from the specifically relevant officers or officials limit the interviews, especially those outside of the island of Java was difficult to access. In addition, due to the financial and geographical limitation, most telephone interviews were out of the question.

For the field visit and interviews with community members, the researcher had to rely on the Verification Team and location of site visits, so the focus was narrowed down to Verification Team externally consulted upon to conduct site visits for the Jakarta Provincial Environmental Agency. In addition, the locations chosen were not existing Proklim awardees or participants, but new nominations and it is important to remember that there is a possibility that the answers may be different had there been interviews with a Proklim awardee in the earlier years.
2.5. Interview Conduct

Based on Patton (2002), the interviews that would be conducted will mainly be conducted with semi-structured interviews or informal interviews with guiding questions. For interviews with community members, the researcher has to go along with a Proklim surveyor team to verify (Verification Team) nominations to the 2016 Proklim. As such, the main interviews were conducted by the Verification Team, with a structured interview based on the Proklim nomination questionnaire, to reconfirm the information there. The researcher then continued with a mostly informal interview with the community members, although there are some guiding questions that were asked when or if the Verification Team did not ask.

Interviews with the provincial-subnational levels and survey team were conducted with a view to see how the Proklim process was viewed by those conducting facilitation on the ground or working to verify the nominations.

Table 1 Guiding Interview Questions

<table>
<thead>
<tr>
<th>Community Members</th>
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<tbody>
<tr>
<td>1. How long have you been involved in the activity [for which your village was</td>
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<tr>
<td>nominated to be a Proklim candidate]?</td>
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<tr>
<td>2. How did you join the organization that runs the activity?</td>
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<td>3. Are you aware of the Program Kampung Iklim, the role that your activity plays</td>
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<td>in climate change?</td>
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<tr>
<td>The rest of the questions with regard to participation, organizational structure</td>
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<tr>
<td>and networks are found in the Proklim criteria questionnaire and was conducted by</td>
</tr>
<tr>
<td>the Verification Team.</td>
</tr>
<tr>
<td>Main goal:</td>
</tr>
<tr>
<td>a. Identifying level of awareness of participating community members to climate</td>
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<tr>
<td>change.</td>
</tr>
<tr>
<td>b. Identifying community participation dynamics.</td>
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<thead>
<tr>
<th>Provincial/sub-national level Environmental Agency Officials, Employees, Staff</th>
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<tr>
<td>1. What are the historical and institutional conditions for the province to be</td>
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<td>involved in Proklim?</td>
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<tr>
<td>2. How does your province prioritise climate change adaptation, if at all?</td>
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<tr>
<td>3. Is there an opportunity to network with Proklim (between provincial agencies,</td>
</tr>
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<td>between levels of government, interagency networks and inter-communities)?</td>
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<tr>
<td>4. What are the main strengths and opportunities of the Proklim project for you?</td>
</tr>
<tr>
<td>5. What are the current weaknesses and threats to Proklim?</td>
</tr>
<tr>
<td>Main goals:</td>
</tr>
<tr>
<td>a. Identifying the process of Proklim at the sub-national level.</td>
</tr>
<tr>
<td>b. Identifying strengths and weaknesses, opportunities and threats of Proklim as</td>
</tr>
<tr>
<td>viewed by the facilitating officers</td>
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<tr>
<td>c. Identifying existing networks.</td>
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<tr>
<th>Surveyor Team</th>
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<tbody>
<tr>
<td>1. Were you already aware about the Proklim project before you became an</td>
</tr>
<tr>
<td>interviewer/surveyor for Proklim?</td>
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<tr>
<td>2. Do you find that the community members you interview know about what Proklim</td>
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<td>is and what climate change is?</td>
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<tr>
<td>3. What are the main suggestions as surveyor you would have to improve the</td>
</tr>
<tr>
<td>process (either of the verification process or overall)?</td>
</tr>
<tr>
<td>Main goals:</td>
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Main goal:
a. Identifying awareness level of surveyed communities on the purpose of the surveyor team (Proklim, adaptation, mitigation, climate change).

b. Identifying strengths and weakness, opportunities and threats of Proklim as viewed by external surveyors.

2.6 Literature Review

In the past, adaptation for developing countries was viewed as high-cost, high-technology solutions that would not be able to access those in the lowest levels of socio-economic ladder (Dodman and Mitlin 2013), as such would completely miss out the vulnerable communities that needed adaptation. Miyaguchi believes that there needs to be localized adaptation to climate impacts as vulnerability differs at different levels of government and governance, and sometimes can be identified as not being linked to climate (2011), as such localized adaptation such as Community-Based Adaptation “enable communities to understand and integrate the concept of climate risk into their daily lives in order to cope with or respond to immediate climate variability and long term climate change” (Miyaguchi 2011; Ensore and Berger 2009).

This identification of local communities and discussion of enabling suggests that a key aspect to adaptation, especially at the local level, both CBA or for community-level actions is partnership at the local level. For purposes of this research the researcher has separated CBA from community-level initiatives, due to the fact that while the adaptation actions may revolve around a community, they may not necessarily be initiatives that were initiated by the community under discussion. CBA that is successful must have as a basis a framework that integrates:

1) Social issues, such as group dynamics, and institutional arrangements (Bryan and Behrman 2013).

2) Climate science, such as climate signals, vulnerability, location.

3) Community public participation as the main basis of activities.

There is then, no surprise that participatory development theories contributed to the CBA analysis (Dodman and Mitlin 2013), specifically that CBA now plays the role that participatory development analysis had played in the past. However, there are some problems identified by CBA researchers and within CBA studies (Kirby et al. 2015; Bryan and Behrman 2013; Dodman and Mitlin 2013; Ayers and Forsyth 2009). The main discussions revolve around a few key things.

There is difficulty to distinguish adaptation and development. Firstly, it is difficult to provide indicators to adaptation, even locally-based initiatives, in the way that mitigation can be assessed, i.e. reduction of emissions. Most CBA projects are too new to be tested for its efficiency in face of climate variability (Huq and Reid 2007). Adaptation can look like a development project (Huq and Reid 2007; Dodman and Mitlin 2013).

Contradictions in scale of integration exist in CBA discussion. For Dodman and Mitlin (2013), CBA continues to be framed as “local” issue. Due to that there is a discrepancy between what is needed for adaptation to be considered mainstream, through scaling up of successful projects, and the literature which insists that in order for adaptation to be effective, it must be local (Kirby et al. 2015).

There is difficulty to identify inclusive participation versus tokenism and worse, exclusion of members of the community. The assumption is that as CBA is solely a local-level analysis, then localised decisions made for adaptation at that level are done with the community’s best interests at heart (Dodman and Mitlin 2013). This presumes that there is no such occurrence of dissent or varied
priorities, and that there is no exclusionism in decision-making processes. Additionally unless the initiatives are identified and evaluated at the local level, there needs to be a level of trust by the communities to engage outsiders (Huq and Reid 2007). However, outsiders are not well placed to understand the societal dynamics within the community. As such, there may be a possibility that what is viewed as community participation by outsiders, there may just be token participation or exclusion of some stakeholders either by choice, through culture or circumstance, that is not understood.

Meaningful participation in CBA decision-making does not have identified indicators. Another important study regarding participation in climate adaptation discourse outside of CBA is the study of the social capital model. A study by Arif et al. 2015 reviewed the process by formulating social capital as a significant contributor to the process of designing the RAN-API in Indonesia. In these studies, four indicators were identified as contributing to social capital in discourse, the first three namely trust, leadership, government participation with an unnamed fourth variable. Unlike CBA, the social capital in the above study was done referencing participation and decision-making at the national level.

It is additionally difficult for integration of science of climate change at the local level. Because CBA is local and place-based (Ayers and Forsyth 2009), the science of adaptation needs to also be local and place-based. However, not all communities have access to the science of climate and not all areas have the capacity to have locally-based climate modelling. In addition, as stated before, key indicators for mitigation are easier to establish and measure. Indicators for effective adaptation projects, either local or large-scale, can only be measured in the long-term, if at all.

Because CBA has only been recently begun to be researched to on, most information is or case studies that use it are considered an action research approach to climate change adaptation research, specifically through a reviewing case studies, learning-by-doing and pilot activities (Ensore and Berger 2009; Huq and Reid 2007).

2.7. Analytical Framework

The first two research questions will be analysed based on the desk research and observation from field visit and interviews.

The last research question will be identified based on the studies done regarding community-based adaptation as action research (Patton 2002; Ensore and Berger 2009); the analytical framework to review the case study at hand will be inspired by the community-based adaptation by importing some elements of Program Kampung Iklim (Proklim) as the main case study. Action research is best associated to deal with issues arising out of one project, or programme, such as Proklim. Thus, Proklim will be judged partially on CBA. It is not a specific framework, but is appropriate for reviewing a specific product, program, person, and in this case, it is established for the purposes of identifying immediate strengths and weaknesses of a programme such as Proklim.

Because it is impossible to evaluate every Proklim nominated project, the main focus is to evaluate the functions of the most current Proklim iteration based on the presence and extent of three criteria. Each thematic criterion will also be plotted on a process/outcomes matrix with different levels of stakeholders’ priorities.

a) Science-based foundations. This is a key criteria for adaptation activities under the UNFCCC and under the RAN-API, that all actions must be based from science to policy and
transformed to action at the community level. As such it is important to view the criteria, the field visit and interviews to see whether or not Proklim nominees base their activities based on a scientific foundation.

b) Participation of the community or community initiative. This is a key criterion for community-based adaptation. While this is more appropriate to be used to evaluate projects individually, it is possible to view the
c) Level of awareness of community to climate issues. This last one is based on a key criteria for the Proklim programme itself and is based on both interviews and reliance on second-hand interviews.

Table 2 Process/Outcomes Matrix (Patton 2002)

<table>
<thead>
<tr>
<th></th>
<th>Favourable</th>
<th>Neutral/Unknown</th>
<th>Unfavourable</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Importance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Importance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Importance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A process/outcomes matrix is used. This is due to the fact that, as no evaluation mechanism currently exists, it is difficult to evaluate Proklim. As such the matrix will map the different stakeholders’ priorities, which will be teased out through desk research and specifically through interviews with relevant stakeholders. In addition, a Strengths-Weaknesses-Opportunities-Threat matrix will be completed based on results of interviews, observations, and documentation of Proklim so far that exist.

III. Data Gathering: Case Study for Participation in Climate Change Adaptation

3.1. Program Kampung Iklim

*Program Kampung Iklim* or Proklim, is a programme established in 2012 under the purview of the then Ministry of Environment (MOE) in 2012. Its legal functions are established through Ministerial Decree number 19 in 2012 on *Program Kampung Iklim*. The Decree referenced the Indonesian National Act number 32 in 2009, on the *Protection and Management of the Environment* as its first consideration. However, its second stated consideration is that in order to control the impacts of climate change, programmes must be developed to increase the capacity of adaptation and mitigation at the local level.

This nation-wide programme was established to increase awareness, increase community resilience, acknowledge and reward local adaptation and mitigation initiatives, provide information and data about such activities at the local level for future regional, national and international level analyses (Widayati 2015). Analysis of the Decree establishes Proklim to focus on increasing awareness of climate change mitigation and adaptation through not only the activities required, but also the community organization requirements which include socialization and capacity building efforts. Through incentivising and encouraging ongoing local actions by participating in the programme, the actions and initiatives taken in by the villages nominated will increase community resilience toward climate change impacts. It acknowledges and rewards on-going or established local initiatives nationally. It also provides a forum for collection of information and data of adaptation and mitigation actions which can contribute to meeting both RAN-API and RAN-GRK targets for Indonesia.
Proklim has been advertised as a main action for Indonesia that allows engagement of communities, villages and “non-party stakeholders to engage in DMRV-able climate actions at all sectors” (Bakar, speech 2016). This is a significant statement of intent to continue working with Proklim and expanding Proklim at the national level as it was stated within the context of the official Indonesian government statement during the Meeting for the Signatories of the UNFCCC Paris Agreement in New York City on the 22 of April 2016. Proklim is designed to feed into both UNFCCC adaptation and mitigation commitments internationally.

The three main goals for Proklim are:

1) Increase awareness and encourage community level participation in climate initiatives  
2) Strengthen capacity of local governments for climate change activities  
3) Identification of bottom-up activities for climate adaptation and mitigation.

3.2. Institutional Framework

Based on the desktop research, files and presentations on Proklim, there are two different institutional frameworks where Proklim will fit. The first is within the domestic field, and within the international field. For the domestic field there are two overlaps with Proklim at the national level, RAN-API and National Act 32/2009.

While RAN-API focuses on the large scale, and is a top-down approach, Proklim adaptation activities could be considered part the small scale contribution to RAN-API action plan (BAPPENAS 2012). The connection between RAN-API and Proklim is especially relevant when the activities in question deal with resilience, food security, energy security, and others that also fall under the Proklim criteria.

In addition, Proklim fits into the main institutional framework for climate change, both in adaptation and mitigation, are divided into a policy and community-participation approach. RAN-API also has identified some sectoral aspects that overlap with Proklim criteria. framework as a community-level programme, and partially fulfils the National Act 32 of 2009, Article 3, the content of which specifically mentions “anticipation of global issues”, including climate change.
Proklim is also intended to fit into the international framework for climate change adaptation and mitigation strategies under the UNFCCC processes. For adaptation, Proklim is the domestic tool to contribute to the UNFCCC adaptation elements. Proklim fits under the National Adaptation Plans under the Cancun Adaptation Framework as it is part of the Indonesian NAP action and policy development. Under the Nairobi work programme (NWP), Proklim serves to strengthen adaptation in Indonesia, specifically local level planning and practice. In addition, it is considered a possible submission for Indonesian actions on adaptation under the NWP, and subsequently opens up a potential avenue for developed country support. Lastly, under Loss and Damage (L&D), collection of local-level vulnerability data under Proklim may contribute to baselines for L&D insurance mechanisms (Widayati 2015).
For mitigation actions, Proklim provides a collection point for data on mitigation activities that will be part of Indonesia’s INDC, specifically to the 29 percent domestic greenhouse gas reduction target. Data collected during the Proklim nomination and verification phases may be used as data for the National Greenhouse Gases Inventory under the MOEF. They information provided will also contribute to the National Communications and the Biennial Update Reporting which are both submitted to the UNFCCC.

![Figure 6 Proklim within multilevel of mitigation action (Widayati 2015)](image)

### 3.3. Prerequisites for Proklim Site Nominations

**Spatial Definition**

For the purposes of this paper, while *kampung* is defined as “village”, the spatial areas covered by the programme and that qualify can include various lower levels of institutional and informal governance structures, the smallest being the *Rukun Warga* (RW), or Community Units level of semi-formal governance; and also include *desa* or village; *dukuh* or *dusun* which are hamlets and semi-formal; *kelurahan* or urban villages, or “administrative areas that are equated with those” (MOE Decree no. 19, 2012).

**Qualifying Criteria**

In order to qualify, the activities and community organization in charge should have been in place for two years or more prior to the year of nomination. There are specific activities that are suggested within the appendices of the Ministerial Decree. In addition, the nomination form as well as the verification process requires confirmation of specific activities that fall under specific categories that are pre-determined by the MOE.
Proklim’s adaptation categories from 2012 are defined as those “activities that are carried out to increase the capacity to adapt toward climate change, including climate variability and extreme climate events, in order that the potential damage decreases, opportunities can be taken, and consequences of climate change impacts can be managed” (MOE Decree 19 2012).

Under Proklim, mitigation is defined as “activities that are carried out in an effort to reduce the levels of greenhouse gases in order to counter climate impacts” (MOE Decree 19 2012) and are comprised of the following activities.

**Table 3 Prerequisites for Proklim Nomination 2013 (MOE Decree 19 2012)**

<table>
<thead>
<tr>
<th>Adaptation + Mitigation (60%)</th>
<th>Community Organization (40%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Drought, flood and landslide control</td>
<td>1) Recognized community groups exist with</td>
</tr>
<tr>
<td>a. Rainwater harvesting</td>
<td>a. Board</td>
</tr>
<tr>
<td>b. Water infiltration</td>
<td>b. Organizational structure</td>
</tr>
<tr>
<td>c. Protection and management of water springs and sources</td>
<td>c. Plans/work programmes</td>
</tr>
<tr>
<td>d. Efficient water use</td>
<td>d. Rules and regulations</td>
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<tr>
<td>e. Flood control infrastructure</td>
<td>e. Cadre systems.</td>
</tr>
<tr>
<td>f. Early warning system</td>
<td>2) Policy support</td>
</tr>
<tr>
<td>g. Adaptive design</td>
<td>a. From local groups</td>
</tr>
<tr>
<td>h. Terracing</td>
<td>b. Village policy</td>
</tr>
<tr>
<td>i. Planting vegetation.</td>
<td>c. Sub-district/district/city level policies.</td>
</tr>
<tr>
<td>2) Improved food security</td>
<td>3) Social dynamics</td>
</tr>
<tr>
<td>a. Cropping systems</td>
<td>a. Community self-reliance</td>
</tr>
<tr>
<td>b. Irrigation/drainage</td>
<td>b. Funding</td>
</tr>
<tr>
<td>c. Integrated farming/mixed farming</td>
<td>c. Gender participation.</td>
</tr>
<tr>
<td>d. Diversification</td>
<td>4) Community capacity</td>
</tr>
<tr>
<td>e. Systems and technology for land and fertilizer management</td>
<td>a. Socializing and spreading activities</td>
</tr>
<tr>
<td>f. Technology for breeding plants and farm animals</td>
<td>dealing with adaptation and mitigation</td>
</tr>
<tr>
<td>g. Yard areas utilization.</td>
<td>of climate change to others</td>
</tr>
<tr>
<td>3) Handling/anticipation of rising sea levels, flooding, sea water intrusion, abrasion, ablation and land erosion due to high waves and wind</td>
<td>b. Local leaderships or figureheads of the</td>
</tr>
<tr>
<td>a. Natural barrier structures</td>
<td>effort</td>
</tr>
<tr>
<td>b. Artificial protective structures</td>
<td>c. Technological diversity</td>
</tr>
<tr>
<td>c. Constructed building structures</td>
<td>d. Local power</td>
</tr>
<tr>
<td>d. Relocation of settlements</td>
<td>e. Network building.</td>
</tr>
<tr>
<td>e. Provision of clean water</td>
<td>5) External involvement</td>
</tr>
<tr>
<td>f. Integrated coastal management system</td>
<td>a. Government</td>
</tr>
<tr>
<td>g. Alternative livelihoods.</td>
<td>b. Business</td>
</tr>
<tr>
<td>4) Control of climate related diseases</td>
<td>c. NGOs/academic institutions.</td>
</tr>
<tr>
<td>a. Disease vector control</td>
<td>6) Development activities</td>
</tr>
<tr>
<td>b.</td>
<td>a. Ensure consistent implementation of</td>
</tr>
<tr>
<td>c.</td>
<td>activities</td>
</tr>
</tbody>
</table>
b. Early warning systems for climate-related diseases
c. Sanitation and clean water
d. *Perilaku Bersih dan Sehat* (PBHS), or Clean and Healthy Behaviour.

### Mitigation

1) Waste management and solid waste
   a. Waste collection
   b. Treatment plant
   c. Reuse
d. Application of zero-waste concept.

2) Processing and utilization of wastewater
   a. Domestic wastewater
   b. Household industries.

3) Use of new energy, renewable energy and conservation
   a. Low greenhouse gas emission technology
   b. Renewable energy
   c. Energy efficiency.

4) Agriculture
   a. Reduction of fertilizer and irrigation system modifications
   b. Post-harvest activities.

5) Vegetation cover/greening
   a. Greening
   b. Agroforestry practices.

6) Prevention and control of forest fires
   a. System for prevention and control of forest and land fires
   b. Peatland management.

### Benefits

7) a. Economic
   b. Environmental
   c. Reduction of climate change impacts.

Both adaptation and mitigation comprise 60 percent of the grade obtained by a given candidate site. The categories for community organizations and organizational sustainability and support, comprises of 40% of the Proklim grading. After 2012, the qualifications for handling/anticipation of rising sea levels, flooding, sea water intrusion, abrasion, ablation and land erosion due to wind or high waves originally was subsumed under adaptation activities but was later moved to separate group of activities specifically for adaptation and mitigation of climate change in coastal regions. However, these activities are still counted within the 60 percent overall score falling under the adaptation and mitigation qualifications. There were also adjustments to the questions asked, although covering the main thematic points.
### Adaptation

5) Drought, flood and landslide control
   a. Rainwater harvesting: water holes, water retention basin, rainwater catchment, other
   b. Water infiltration: biopore, infiltration wells, built waterfall (BTA), *rorak*, water channels management, other
   c. Protection and management of water springs and sources: built water source protection, planting vegetation surrounding water sources, local laws to guarantee water source, other
   d. Efficient water use: targeted water reuse, water quotas, other
   e. Flood control infrastructure: development and regulation of dams and reservoirs, flood levees, provision of flood retention areas/floodplains, water pump (*polder system*), flood warning system to monitor water levels and flow, evacuation routes, information storage and communication, other
   f. Adaptive design: raise/heighten building structure, design house on stilts/floating home, other
   g. Terracing
   h. Other

6) Improved food security
   a. Cropping systems: cropping patterns, heteroculture (intercropping, overlapping shifts)
   b. Irrigation/drainage: paddy fields with irrigation flows, innovative irrigation systems (management, organizational, human resources)
   c. Integrated farming/mixed farming: integrated farming, management of local potential
   d. Diversification: diversity of food crops, climate resilient crops
   e. Yard areas utilization.

7) Control of climate related diseases
   a. Disease vector control: management of mosquito breeding areas, other
   b. Sanitation and clean water: clean environment with no still water areas, raise fish in garden pools or potted plants, larva monitoring, early warning system to anticipate climate-related disease outbreaks, other
   c. *Perilaku Bersih dan Sehat* (PBHS), or Clean and Healthy Behaviour: actively participating in PBHS, proper circulation of air in house.

### Coastal Adaptation

8) Handling/anticipation of rising sea levels, flooding, sea water intrusion, abrasion, ablation and land erosion due to high waves and wind
   a. Natural barrier structures: natural beach protection
   b. Construction of protective structures: land recovery by adding sediment supply or other methods related to abrasion reduction, building coastal barriers, elevating building, building houses on stilts, building floating structures
   c. Relocation of settlements: moving housing or important assets to safer locations
   d. Coastal management: implementing integrated coastal management
   e. Alternative livelihoods: aquaculture, adaptive fish species
   f. Other

### Mitigation

7) Waste management, solid and liquid waste
   a. Solid waste management: waste receptacles and collection, composting, 3Rs, other
   b. Processing and utilization of wastewater: Septic tank equipped with methane capture, IPAL equipped with methane gas capture, other

8) Use of new energy, renewable energy and conservation
   a. New renewables and energy conservation: wood efficient stoves, utilizing gas methane/biogas, rice husk stove, use of non-food crop seed fuel, micro hydro/water flow use, wind energy use, solar/solar cells energy, other

9) Agriculture

8) Recognized community groups exist with
   a. Board
   b. Organizational structure
   c. Plans/work programmes
   d. Rules and regulations
   e. Cadre systems.

9) Policy support
   a. Local wisdom: protecting plants that store water, ban on cutting down productive trees, other
   b. Community policy
   c. Village policy
   d. Sub-district/district/city level policies.

10) Social dynamics
   a. Community self-reliance
   b. Funding: independent funds from membership fees, sponsor (external) funds less than independent funds, book-keeping with treasurer
   c. Gender participation: more than 60%

11) Community capacity
   a. Socializing and spreading activities dealing with adaptation and mitigation of climate change to others: visits from other communities/villages, community representatives become resource persons in socialization activities, other
   b. Local leadershps or figureheads of the effort
   c. Technological diversity: appropriate technology, rainfall measurement tools, other
   d. Local experts: technology, biogas, agriculture and organic fertilizer, rainfall measurements, other
   e. Network building: local level, city level, provincial level, nasional level.

12) External involvement
   a. Government (at all levels); business/private sector, NGOs, academic institutions

13) Development activities
   a. Ensure consistent implementation of activities: activities ongoing consistently.
   b. Ramping up of activities both in scope or in variety.

14) Benefits (economic, environmental, reduction of climate-related disasters impacts): increased income, new emerging water sources, soil fertility increase, rescue failed crops, increasing crop cover, reduction of impacts of disasters (floods, landslides, droughts, seawater floods), reduction in household expenses, communication and increased awareness of environmental functions
3.4. Proklim Process

Proklim is an annually run programme, the process of which runs continually from the beginning of the year until the announcement of Proklim trophy and certificate awardees in November of the year. Nominations are closed by early May. There are four main stages of the process: submission of location nominations, initial scoring based on administrative pre-requisites, field verification and final scores and award.

To nominate a region, the MOEF has provided an online portal\(^1\) which provides a downloadable nomination form in the format of Microsoft Excel spreadsheet. This website provides accompanying guidelines to register as a user, a guideline to fill in the nomination form and a guideline for the Proklim programme itself. The nomination form serves to collect information on the nominated areas.

\(^1\) Program Kampung Iklim (Proklim) Website: [http://proklim.menlhk.go.id](http://proklim.menlhk.go.id)
The submitted nominations will be examined by the Ministry and the Provincial Environmental Agencies in order to determine how verifications of the nominated regions’ data will be carried out by verifiers and the technical team. As of the nominations for Proklim 2016, many provinces chose to hire a team of verifiers, some from academic institutions, in order to support the Proklim verification process. After the consultation period, regions are ranked, and the Steering Committee reviews the rankings. The high scoring regions are awarded Proklim Certificates while the highest scoring regions are awarded both a Certicate and Trophy.

Table 5 Proklim Nomination Form Guidelines

<table>
<thead>
<tr>
<th>Nomination Form Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Identity of the individual nominating and their associated organization.</td>
</tr>
<tr>
<td>2) Location of the nominated area and its main identifying factors such as spatial area size, elevation, main area typology, average rainwater, population, top three sources of livelihoods in the nominated area.</td>
</tr>
<tr>
<td>3) Verification Team member details.</td>
</tr>
<tr>
<td>4) Climate change related data such as changes felt by the community members within the past five years, including</td>
</tr>
<tr>
<td>a. changes in rainfall, intensity of rainfall, shifting of rainy and dry seasons, temperature, wind intensity, changes in water level;</td>
</tr>
<tr>
<td>b. climate related events that have occurred, including floods, landslides, drought, failed harvests, sea water flooding, others</td>
</tr>
<tr>
<td>c. Sources of water, such as rainfall, surface water, shallow ground water (household wells), deep ground water, and water springs</td>
</tr>
<tr>
<td>d. Levels of community members suffering from climate-related diseases in the past five years, such as diarrhoea, dengue and malaria.</td>
</tr>
<tr>
<td>5) Adaptation activities, Table 3.</td>
</tr>
<tr>
<td>6) Coastal region adaptation activities, Table 3.</td>
</tr>
<tr>
<td>7) Mitigation activities, Table 3.</td>
</tr>
<tr>
<td>8) Analysis of vulnerability and adaptation to climate change through interview of a community member which is carried out and filled by the Verification Team</td>
</tr>
<tr>
<td>a. Community members interviewed and demographic details such as education level, household size, and main assets including rice paddy, fields, house, mobile assets.</td>
</tr>
<tr>
<td>b. Questionnaire on climate related impacts:</td>
</tr>
<tr>
<td>i. Schedule of the most recent rainy season commencement and end.</td>
</tr>
<tr>
<td>ii. If the interviewee has experienced significant seasonal shift changes.</td>
</tr>
<tr>
<td>iii. Changes that have been felt.</td>
</tr>
<tr>
<td>iv. Extreme weather events experienced by the village.</td>
</tr>
<tr>
<td>v. Frequency of extreme weather.</td>
</tr>
<tr>
<td>vi. Impacts of the extreme weather on assets.</td>
</tr>
<tr>
<td>vii. Direct livelihood impacts</td>
</tr>
<tr>
<td>viii. Adaptation efforts</td>
</tr>
<tr>
<td>ix. Field observations.</td>
</tr>
</tbody>
</table>
Figure 9 Proklim Nominations by Province 2012-2015 (MOEF Proklim Verification Raw Data 2012; MOEF Proklim Verification Raw Data 2013; MOEF Proklim Verification Raw Data 2014; MOEF Proklim Verification Raw Data 2015)
Figure 10 Proklim Trophy and Certificate Awarded 2012-2015 (MOEF Proklim Verification Raw Data 2012; MOEF Proklim Verification Raw Data 2013; MOEF Proklim Verification Raw Data 2014; MOEF Proklim Verification Raw Data 2015)
3.5. Initial Information
Throughout the four years of data from Proklim that this thesis examines and is available, the highest levels of nominations come from the western Indonesian provinces, especially West Java, Riau, Central Java, East Java and Bali. However, there are no consistent numbers of submissions from each province from year on year. For example, while West Java has consistently nominated Proklim candidate regions since 2012, however, other provinces, such as North Sumatera, West Sumatera Bengkulu and Special Capital Region (DKI) Jakarta begun submitting nominations since 2014 and did not submit any in 2012 and 2013. The inconsistencies may be further seen in the fact that some provinces that had participated in Proklim’s inaugural year, such as Bangka Belitung, did not continue to nominate in subsequent years, while Southeast Sulawesi submitted nominations in 2012 initially but did not participate again until 2015. It is also important to note that out of 34 provinces, 11 provinces have still not participated by nominating a single site for Proklim, including the newest province of North Kalimantan.

In terms of scoring, the highest performing provinces with the highest levels of trophies and certificates differ from the provinces with the highest levels of nominations. While West Java remains in the lead with trophies and certificates throughout and Bali follows, the trophies from South Sulawesi, West Nusa Tenggara and East Nusa Tenggara were awarded almost exclusively from their 2015 nominated sites.

3.6 Interviews
After the desk analysis of legal documents related to the programme, the currently available raw data from 2012, 2013, 2014 and 2015 Proklim activities, it was necessary to interview a few members of Provincial Environmental Agency officials and request for site visits to view Verification Teams interview community members and interviews with representatives from key stakeholders. Due to the past Proklim results, the first identified region was West Java. The other identified region was the capital city region of Jakarta. It only began participating in the last two Proklim periods yet has had some villages certified by Proklim.

Officials
Two heads of units in Provincial Environmental Agencies were interviewed, specifically due to their official status as overseeing Proklim verification in their respective agencies in their respective provinces. Mrs. Fitriunnisa in charge of Proklim at the Jakarta Environmental Agency was interviewed and Mr. Tulus Sibuea at the West Java Environmental Agency was interviewed. Lastly, Mr. Haryanto from the East Jakarta Office of Environmental Management (KPLH), a municipality-based environmental government institution, was interviewed.

Institutional Structure
Mrs. Fitriunnisa focused on the fact that institutionally, Proklim exists within the context of the Jakarta Provincial Government’s plans and the Environmental Agency reports directly to the Governor’s office. Climate change, especially adaptation and mitigation to floods was the entry point from where climate adaptation was encouraged and from where Proklim entered.

For, Mr. Tulus Sibuea, the fact that the RAN-API had less institutional strength than its mitigation component RAN-GRK, meant that for activities that would or could fall under Proklim, the provinces had more leeway to be flexible and identify activities and sites that were
appropriate. For mitigation activities, his office was not in charge because other sectors could target mitigation in the province better. For Proklim, sites were identified based on typology, geography and science that would work with Proklim well. For West Jawa, heavy involvement with a former policy of Green Growth and assorted policies meant that the transition meant they could shift those activities into Proklim as well. For Mr. Sibuea, the best way to encourage community involvement is to engage in the economic and monetary benefits to the community of climate change adaptation and mitigation.

Mr. Haryanto, with the East Jakarta Office of Environmental Management (KPLH) said that the point of Proklim at his level was to increase awareness for the environment, by directly going to the Community Units (RW) and even Neighbourhood Units (Rukun Tetangga, RT), which is a smaller unit of community. His office works closely with the urban village head office (Kelurahan) to support activities at the Community Unit level to dealing with environmental issues.

**Network**
For both provincial officials, there was an aim to increase community networks among each other, in order to increase capacity building on climate issues at the local level. Both reflected that a larger goal is to establish a network of communities that would assist each other in increasing community capacity to engage in Proklim activities and identify villages that could be guides to others as pilot projects. At the municipal level, Mr. Haryanto mentioned that the he worked with municipal and community level governments and schools to identify activities, but also mentioned that he had spent longer on Adiwiyata, another environmental awareness project targeting schools.

It was mentioned by both provincial officials that there was a social media group, through *Whatsapp*, that connected all the persons-in-charge of Proklim in the respective Provincial Environmental Management Agencies. It also included Ministry officials who worked on Proklim activities.

**Concerns**
It was important to note that both were concerned about capacity, both in terms of financing (Fitriunnisa interview 2016) and human capacity (Sibuea interview 2016). For Ibu Fitriunnisa, her main concern was both human capacity and decreasing financing which would hamper the lack of human capacity to continue conducting verification. She has a team of 3 people working on Proklim, and until 2016 hired support to conduct Verification visits from academia. However, she stated that this support would end for 2017, and she would be forced to look at other options such as tapping into public-private partnership in order to support Proklim, or companies interested in working with Proklim for their Corporate Social Responsibility activities.

Mr. Sibuea was equally concerned with the lack of support for increasing human capacity to dedicate to Proklim socialization as well as verification. Similar to Mrs. Fitriunnisa, he was limited by the amount of staff he could dedicate to Proklim activities. For Mr. Sibuea, he was not looking at the private sector but was interested in engaging Verifiers from the provincial government and city level officials, in a way to increase Proklim interest as well as engage
provincial government level government staff and officials to be involved in climate related activities.

For Mr. Haryanto, his main concern was his scepticism regarding the interests of Neighbourhood Units or Community Units to be concerned about climate change and to be interested in working with Proklim projects. He refers back to another MOE project, Adiwiyata, which is guidance for schools on environmental awareness, which he has been involved with and seems positive about. His main interest is that Proklim will continue to develop community awareness on environmental issues.

Community Members
Two communities were visited, both in East Jakarta municipality. The first was Bambu Apus Village, East Jakarta, a community that lived on land that was owned by Taman Mini Indonesia Indah, a recreational park. While there was engagement with other community members, most did not want to be interviewed and Verification Team were directed to a few focal persons.

The community members interviewed were Mr. Selamet, the secretary for the Rukun Warga (RW) 03, or Community Association; Mrs. Algustina, a woman who runs a crafts recycling centre; and Mr. Tahmid, the daily manager of the waste bank in the area. Both Mr. Tahmid and Mrs. Algustina mentioned they were not aware of what Proklim was, or that their respective activities related to climate change issues. Mr. Selamat mentioned that Bambu Apus village had always been involved in community projects even prior to Proklim’s creation because their village was environmentally aware, not necessarily because of concern for or awareness of climate change.

The second community was Jati village, Pulo Gadung, East Jakarta. There the Verification team and engaged in interview with Mr. Suci who spearheaded greening activities and established a community garden with trash bank and composting on site with his neighbours. The interview was carried out by the Verification Team. During the course of the interview, he mentioned that it was difficult to maintain the gardens for funding issues. In the past, they had entered a competition similar to Proklim and the community spent more money on cleaning the community garden, trash bank and compost for the competition. There was no specific mention of awareness of climate change during the interview process.

Verification Team
The Verification Team from Bandung Institute of Technology were composed of 5 people who would do the verification of all of Jakarta Province’s nominations for 2016. They all had environmental education backgrounds and it was their second year working with Proklim in Jakarta. It was their first year working in the Verification Team. For the Verification, they split into two teams, the first one a team of two, and the second a team of three. The researcher conducted the interview as a focus group discussion, but noted that the teams answered collectively.

Their questions were divided into two main observations, the first regarding public awareness of the communities on climate issues, the second being process-oriented review of the Proklim verification stage based on personal experience.
Concerns
Both teams expressed the view that most of the people they interviewed to verify Proklim nomination criteria were not aware of what Proklim was or that their specific actions were involved. From both teams, they only met a few representatives who were both willing to be interviewed and also had an understanding of the link between their community actions, and climate issues. The first team (FGD with Verification Team 2016):

For our group, there were many that did not understand what “Proklim”; they only know their area is entering a competition. So we have to explain what Proklim is. We were informed by the Provincial Environmental Management that there is socialization per district or municipality.

The second team (FGD with Verification Team 2016):

I spoke to the head of the Community Unit woman, she asked what Proklim was. Her activity was that she worked on greening her community and was assisted by a company. Out of 22 areas I surveyed on one location did not ask about competitions and was focused on contributing to Jakarta by increasing their own awareness.

The main view was Proklim had not spread information regarding the concept of the “award” and its climate related purpose, despite some communities having multiple activities running well. Their main critique was they would request

3.7 Analysis

Process/Outcome Matrix
An analysis framework was done in a Process/Outcome Matrix of the priorities for the main stakeholders encountered during the field visits and interviews, and desk research of the Proklim documents. The main stakeholders identified are based on the stakeholders that were accessible to the interviewees during the field visits: national government (based on documents only), local level environmental agency, verification team, local government representative accompanying, community members involved in Proklim and community members not involved in Proklim. The results of this mapping should be able to identify which stakeholders should be engaged further when socializing the Proklim programme segregated by thematic issue.
1) Science as foundation for activities.

<table>
<thead>
<tr>
<th>Importance</th>
<th>Favourable</th>
<th>Neutral/Unknown</th>
<th>Unfavourable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Importance</strong></td>
<td>National government (literature)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local level environmental agency (interview)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medium Importance</strong></td>
<td>Verification Team (observation/informal conversation)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Importance</strong></td>
<td>Community members involved directly in activities (observation and interview)</td>
<td>Community members not involved (observation/informal conversation)</td>
<td>Local government representative (observation)</td>
</tr>
<tr>
<td></td>
<td>Local government representative (observation)</td>
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</tbody>
</table>

2) Community participation.

<table>
<thead>
<tr>
<th>Importance</th>
<th>Favourable</th>
<th>Neutral/Unknown</th>
<th>Unfavourable</th>
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<tbody>
<tr>
<td><strong>High Importance</strong></td>
<td>Community members directly involved in activities (observation and interview)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local level environmental agency (observation and interview)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medium Importance</strong></td>
<td>National government (documents) Verification Team (observation)</td>
<td>Local government representative (observation)</td>
<td></td>
</tr>
<tr>
<td><strong>Low Importance</strong></td>
<td>Community members not involved (observation)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3) Community awareness of climate change issues.

<table>
<thead>
<tr>
<th>High Importance</th>
<th>Favourable</th>
<th>Neutral/Unknown</th>
<th>Unfavourable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National level agency</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(documents)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verification Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(observation and interview)</td>
<td></td>
<td></td>
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<tr>
<td>Medium Importance</td>
<td>Local level environmental</td>
<td>Community members</td>
<td>Community members</td>
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<tr>
<td></td>
<td>agency (observation and</td>
<td>involved</td>
<td>not involved</td>
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<td></td>
<td>interview)</td>
<td>(observation)</td>
<td>(observation)</td>
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<tr>
<td></td>
<td></td>
<td>Local government</td>
<td></td>
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<tr>
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<td>representative</td>
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<td></td>
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<td>(observation)</td>
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</tbody>
</table>

3.8 SWOT Analysis
A SWOT analysis was undertaken on Proklim based on the interviewed individuals. The overlapping suggestions presented in interviews and desktop research was laid out in SWOT table in order to be able to provide suggestions from Proklim’s on-the-ground support going forward.

<table>
<thead>
<tr>
<th>Beneficial</th>
<th>Harmful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td>Weaknesses</td>
</tr>
<tr>
<td>Strengths</td>
<td></td>
</tr>
<tr>
<td>• Institutional vertical integration</td>
<td>• Lack of socialization of Proklim goals and targets to those involved with Proklim</td>
</tr>
<tr>
<td>• Science-based</td>
<td>• Questionnaire form could be fixed in order to include more information on community organizations</td>
</tr>
<tr>
<td>• Data collection of activities</td>
<td>• No evaluation/ follow up for Proklim villages</td>
</tr>
<tr>
<td>• Awards are positive feedback loops for winning communities and their neighbours (network)</td>
<td>• No evaluation of Proklim programme</td>
</tr>
<tr>
<td></td>
<td>• No mechanism to ensure that there is no coercion in participation</td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>• Partnerships with other departments/subdivisions working on same community-level</td>
<td>• Budget</td>
</tr>
<tr>
<td>• Training Verifiers from other government agencies</td>
<td>• Human resources capacity (numbers)</td>
</tr>
<tr>
<td>• Establish partnerships with local governments by engaging them in Proklim process</td>
<td>• Lack of wider community interest in Proklim</td>
</tr>
<tr>
<td>• Work with private sector CSR</td>
<td></td>
</tr>
</tbody>
</table>
3.9 Cross-Sectoral Scientific Linkages

Most activities at the community level do not appear to be specifically based on the owner, some activities, in particular those that fall under the Adaptation section, may be supported by cross-sectoral work that is independent of are supported by other government agencies or ministries and as such are based on institutional and scientific basis. It also increases inter-sectoral and cross-sectoral linkages at the local level.

Institutionally, Proklim exists as an overarching collection “bowl” where existing activities may be collected (Arif interview 2016), including those that are run by other sectors in one specific spatial area and fall under a local-level government unit, that touch upon climate adaptation and mitigation. The existing projects and activities do not necessarily have to be initiated by the community, nor initiated by the MOE under Proklim. However they must be maintained by an organization within the community to continue functioning. Activities under the Ministry of Health (MOH) and Climate Field School are both examples of science-based community outreach and education related to climate issues that may have been included in some nominations’ activities to Proklim.

Public Health

The Ministry of Health have released multiple Ministerial Decrees regarding climate-related diseases, including an Adaptation Strategy in the Health Sector toward Climate Change Impacts (MOH Decree 1018/MENKES/PER/V/2011) and the MOH Decree on Guidelines to Identify Health Risk Factors due to Climate Change (MOH Decree 035/2012). The criteria on the section on climate-related diseases are taken directly from Ministry of Health.

In an interview with Dr. Priyono, Dean of Public Health, University of Airlangga in Surabaya, East Java, he explained that there is a programme under the Ministry of Health which is targeted to develop public health. Indicators from the program include those that deal with environmental problems and environmental activities. “Perilaku Bersih dan Sehat” (PBHS) and the other health and sanitation criteria under Proklim’s adaptation component are all part of the activities with which the Ministry of Health is concerned. In fact, the PBHS programme was developed by public health officials and the Ministry.

The MOH’s Division for Health Promotion deals directly with the communities. Their specific activities include socialisation of public health issues, including the aforementioned PBHS, as well as provide community education on how to manage and practice what is taught. One example brought up by Dr. Priyono was that due to “climate shifts” (Priyono interview 2016), some areas with no historical record of Aedes aegypti mosquitoes in the past were now facing dengue fever and had no community capacity to handle this specific impact of climate change. Public health officials work with communities to assist in managing these diseases.

Institutionally, the MOH and public health officials have a higher human capacity to socialize and work directly with communities. In addition to the Ministry officials, at the provincial and sub-national levels, the Provincial Health Office, Puskesmas or Centre for Community Health clinics that are the main promoters of public health. Some of their services is information on environmental health. This is due to the fact that the goal of public health officials is to promote health, whereas doctors cure illness.
The Climate Field School (CFS) is a co-operation between the Meteorology, Climatology and Geophysics Agency (BMKG) and the Department of Agriculture, in charge of food security and agriculture at the sub-national or district level. This CFS focuses on increasing actual scientific knowledge of agricultural workers and farmers on the issue of climate change that would affect their livelihoods. For BMKG and the Ministry of Agriculture, it is based on the Presidential Instruction 5 in 2011 (INPRES 5/2011), which specifically deals with food security, specifically rice production in face of extreme climate events.

The Climate Field School operates in 3 phases (Utomo 2014):

1) Training of Trainers: local government officers at regency/sub-district and provincial levels, Agriculture field officers (extension agents) and Plant Disease Observation officers. It lasts 4 weeks. The training lasts four days.

2) Training of Trainers: instructors for this phase are those who had trained at the first phase. They teach Agriculture field officers and plant disease Observation officers from sub-district levels and selected farmers (primary farmers). The training lasts four days and includes simulations.

3) Training for Farmers: farmers put the training into action by directly planting and managing crops in a field guided by the participants who were trained at the second phase. This is a field work phase, and encourages participants to apply adaptation strategies in their planting calendar. The training lasts three to four months.

These activities are carried out at the community level. The trainings touch on and include specific climate science, simple technology, focus on livelihoods and crop farming, criteria that appear within the Proklim.

3.10 Community Participation and Awareness of Climate Change

It is difficult to state that Proklim’s goal of increasing awareness of climate change has improved. In this case, would it be considered a success if activities do not contribute to increasing awareness of the purpose of the mitigation and adaptation actions?

Despite this, public participation is a key aspect of Based on interviews, and the fact that many activities registered under Proklim also fall under other sectoral categories, not all members of the community understand the role that their activities play in adaptation to or mitigation of climate change, or what those concepts are. Through its interviews based on the questionnaire, the Verification Team can only determine the level of awareness of climate change in the specific person interviewed. Based on their interview result as mentioned in Section 3, they encountered more than one interviewee who were not aware of either the activities of Proklim, or information on climate change. It remains to be seen whether or not Proklim will be considered effective when some members of a given community do not consider themselves knowledgeable about climate change.

From observation during the site visits, there were specific community members that were focal points for the Proklim activity. Should a Verification Team approach someone who was not a focal point for an interview, they would be informed that the potential interviewee could not
answer. There was no community participation during the verification period from individuals in the neighbourhood present unless they had been contact in advance by the village head’s office.

For community participation, it is hard to determine whether or not the questionnaires are adequate to identify the social and community levels of participation. During the interviews in Bambu Apus, it was noted that there were three community members interviewed, who worked on three very different actions in the village (working with the RW; worked at recycle centre; worked in the waste bank) with different local coordination. However, there was only limited space to include more than one community-based organization. This ensures that not all community participants can be acknowledged as contributing.

4. Conclusion

4.1 Research Questions

The discussion of the Proklim activities should lead to addressing the research questions originally posed at the beginning of the study.

Q1: How does local or community-level adaptation actions influence the national adaptation plans in Indonesia?

Based on the desktop study, it is clear that local-level adaptation actions can be designed to fit into the national adaptation framework. However, this can only be proven if the supporting data is collected and can support it. In the case study of Proklim, as of now there is no reporting and evaluation of established Proklim sites. This is based on the institutional framework that links the Proklim activities, both mitigation and adaptation, to the international framework for climate change via the national level. However, while the data exists within the nomination forms, the data is not used nor published. There is no follow up action to ensure the effectivity of such actions or that the community activities are still ongoing.

However, on an institutional level Proklim provides access to local and scaled down actions that contribute to sectoral goals under RAN-API, specifically the strategy and action plans that handle priorities that also coincide with Proklim criteria:

1) food security,
2) energy security,
3) livelihood resilience, specifically that deal with
   a. health sector,
   b. infrastructure,
4) Resilience of special areas including coastal areas.

In addition, the supporting systems that exist within the RAN-API, while it does not mention communities, does emphasize capacity building of stakeholders, and development of reliable and timely climate information, both aspects under Proklim. In addition, as was discussed further, Proklim was designed to meet the National Act 32/2009 on Environmental Protection and Management requirements.
Q2: Are community-level adaptation actions under the Program Kampung Iklim considered community-based adaptation and in what way?

The design of Proklim ensures that while activities are at the community level, not all adaptation actions necessarily fall under community-based adaptation. This is due to the fact that for many aspects that fall under Proklim activities, a top-down process is required. For example, if the health and agriculture related criteria are fulfilled by a community, there is a chance that the Health or Agriculture officers have been working with the community in question to establish a specific climate adaptation activity specific to that.

In addition, the very fact that if a community member wanted to nominate their village for Proklim, they must also report their intention to qualify for Proklim by reporting it to the Provincial Environmental Management Agency also indicates that there is a top-down control over activities that should be at the grassroots. This could be considered prohibitive to CBA.

However, there are some similar characteristics of Proklim to CBA. Some elements that Proklim takes from CBA is the participatory nature of Proklim activities and the actions that are based in science before being submitted as policy or action level. In relation to the first point, is that there must be community-level activities that exist due to initiatives of locals. While interviewees do not necessarily mention or understand the link between their activities with the climate process, some have established that some activities of their own accord.

However, the shortcoming of this is that not all communities have access to the scientific data that would benefit their projects, and that not all of these community-initiated activities will have an impact in the medium to long term, which is what a time line for adaptation should be (Arif interview 2016). Some theorists may also assume that Proklim is the attempt to bridge local-level adaptation efforts while at the same time scaling up to be contributing to the national climate fight, which is a disputed in the discourse of CBA.

Q3: What factors are needed to be improved (strengths and weaknesses) in the established community-level Program Kampung Iklim in order to increase community level awareness of climate change? This question is a brief of the functions of Proklim as it currently stands.

The Process/Outcomes matrix and the SWOT analysis was presented in Section 3 in order to identify the main positive factors of Proklim as well as identify the weaknesses and threats that could be improved. The Process/Outcomes matrix show briefly how stakeholders to Proklim do not hold the same priorities with regard to the science, community participation and awareness of climate change. As these are based on observation and interviews, this could be used to identify how to approach communities with local-level adaptation or mitigation activities.

In addition, the SWOT analysis provides a summary of what stakeholders or those involved working with Proklim feel. There are many opportunities for Proklim to expand, including finding partnerships to work with, including other government agencies to socialize climate change while implementing projects that may contribute to Proklim; tapping into the legally required CSR requirements for budgetary and/or technical assistance; involving the local government further into climate activities; training more people to become Verifiers and
introducing more stakeholders. In addition, the data collected through every year of Proklim activities should be used or publicly available as knowledge-sharing. Most of these activities bar the last one can be used to alleviate the problems identified by stakeholders in the threat section, particularly to do with the decreasing budget and human capacity to conduct verifications while Proklim is becoming more commonly known and receive more nominations every year.

4.2 Future Research

Proklim was established in 2012, a programme that works with communities to establish climate change actions to contribute to the national goals in Indonesia. The current Minister for Environment has also announced that Proklim will become an important As such, there have been a considerable amount of data collected within the past four years, there has still not been adequate evaluation plans for two levels. Firstly, a monitoring and evaluation on the projects that are registered under Proklim should be done. This evaluation should be used to quantify and measure any positive impacts within the community as well as its significant, if any, impact on the higher levels of government.

In addition, an evaluation on the entire Program Kampung Iklim should be undertaken in order to evaluate the effectiveness of the program as a whole and specifically to see whether or not Proklim has had a positive impact on the three main goals for Proklim, which are:

1) Increase awareness and encourage participation
2) Strengthen capacity of local governments
3) Identification of bottom-up activities for climate adaptation and mitigation.

Such research would require a scope that is both broader and go much more in depth than this thesis, such as interviewing the majority of Provincial Environmental Management Agencies whose provinces are both active and non-active; representatives of villages that have already been awarded certificates or trophies to see ensure that Proklim activities either have progressed or has stopped. In addition, it is important to view research on communications of Proklim at the national level.

Based on the aforementioned research, data such be evaluated and research initiated to:

a) measure the levels of increased awareness and capacity level toward climate change issues. Or,
b) research on specific activities in communities can contribute to identifying the most beneficial activities in a given region, this information can be used to more accurately identify locations that would benefit from such a grassroots endeavour.

Other research can be used to measure the actual levels of awareness and participation in climate activities at the local level, as well as measure the changes in both human, strength and community capacity. Finally, while this paper touched briefly on financial issues, it will eventually be studied in the aftermath of Paris COP21/CMP11.
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**Unpublished Data with Permission of the Ministry of Environment**


**Personal Interviews**

Siti Soraya Soemadiredja, MESPOM, Lund University


Rachmat Witoelar. President’s Special Envoy for Climate Change. 31 May 2016. Jakarta, Indonesia


**Focus Group Discussion with Surveyor/Verification Team for DKI Jakarta Proklim 2016 Nominations**


**Telephone Interview**

Priyono. Dean, Faculty of Community Health. Universitas Airlangga. 27 May 2016