The 6th Asian Academic Society International Conference (AASIC)
A Transformative Community:
Asia in Dynamism, Innovation, and Globalization

A REVIEW OF CLIMATE CHANGE ADAPTATION POLICY FOR INDIGENOUS PEOPLES IN INDONESIA

Wengki Ariando
Environment Development and Sustainability, Chulalongkorn University, Bangkok, Thailand
Corresponding author's email: wengkiariando@yahoo.com

ABSTRACT

Indigenous Peoples (IPs) is one of the vulnerable group to climate change. Climate change has degraded the Indigenous Peoples belief and livelihood. Moreover, IPs have traditional ecological knowledge as best practice in environmental management and adaptation for years. The traditional ecological knowledge (TEKs) used in environmental, social, and economic activities. Mostly the climate change policy used the top-down approaches with climate science background. At the International level, the right of Indigenous peoples to use their own belief for climate adaptation policy has declared in many agreements and development plans. The objective of this research is to study the implemented policy for the IPs on climate change adaptation in national and local level in Indonesia. This research used desk study and policy analysis based on literature review. The combination of the TEKs and climate change science analysis is mainly finding of this research to pursue both of bottom up and top down approach for policy making as appropriate climate change adaptation plans. Indeed, for the development project in Indonesia, there are lacks of action for Indigenous peoples for climate change adaptation.

Keywords: Climate change, climate policy, indigenous peoples, adaptation.

1. INTRODUCTION

1.1. Background

The IPs are an accomplished group in managing the natural balance with their own Traditional Ecological Knowledge (TEK) as adaptive capability and recognized as a vulnerable group to climate change. Nowadays, the IPs have been attracting the global attention to the development of strategies include the encouraging in policy and development. In the climate change adaptation policy, there is a struggling process of policy makers to include the IPs knowledge. According to Petheram et. al (2010) the IPs despite the growth of their best practice to support the programs based on their needs around the world.

The future directions for policy-makers and practitioners whose dealing with climate change adaptation are suggested to foreground the TEKs and the experiences of frontlines experts in key policy arenas (Palframan, 2014). For example, the indigenous adaptation strategies such as rainwater harvesting, cultivation, and ecosystem services could entitle emerging countries to minimize their vulnerabilities to climate change impacts regarding improve and mainstreaming them into national and possibly global climate change adaptation plans (Opare, 2016). The TEKs consult to the knowledge base acquired by the IPs through direct contact with the environment over many hundreds of years (Berkes, 1993).

In 2014, the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) Working Group II stated that the IPs have a role as the cultural dimension in combating climate change by their TEKs. In Indonesia has developed the National Action Plans for climate change but they did not mention any words related to the IPs knowledge. This paper is trying to breakdown the policy and national action plan related to the IPs knowledge and proposing the concept of the TEKs as background for adaptation process in making the project development related to climate change. Indeed, the integration of policy for climate change adaptation of the IPs is very important to study. The objective of this research is to study the implemented policy for the IPs on climate change adaptation in national and local level in Indonesia.

1.2. Climate Change Adaptation

Climate change adaptation is the capability to anticipate the negative effects of climate change and to take relevant actions to prevent the impacts or taking advantage of opportunities that may occur (IPCC, 2007). Adger et.al (2003) stated that climate change adaptation has attracted the government and public awareness in both developing and developed countries, particularly in the policy contexts and social science research on the adaptive capacity for all sectors (governments, civil society, and markets) to deal with climate perturbations.

Generally, the government of Indonesia has already committed and will further take the effective policies and actions for climate change adaptation (Ministry of Environment and Forestry Indonesia, 2018). In 2014, Indonesia officially announced the national action plan for adaptation that called as *Rencana Aksi Nasional – Adaptasi Perubahan Iklim* (RAN-API). The RAN-API is the Indonesian national action plan document on adaptation to the impacts of climate change, which involves integrated coordination among all the stakeholders, from the government, civil society organizations, international cooperation agencies and other stakeholders (Bappenas, 2013).

1.3. Indigenous Peoples and Climate Change

The IPs are successor and native of distinctive cultures and ways of linking with people and the environment whose have treasured social, cultural, economic, and political characteristics that are distinct from those of the assertive societies in which they live (United Nations, 2013). Nowadays, the IPs are facing the degraded beliefs for their local knowledge and livelihood (Berkes, 1993). This has caused many traditional societies of the IPs are struggling for keeping their local cultures and intergenerational knowledge transmission because of globalization (Beckford, 2017).

The IPs in Indonesia context are *Masyarakat Hukum Adat* (MHA) who defines as Indonesian citizens who possess unique characteristics, live in harmony according to their customary law, have a bond to the ancestral origins and residence equality (Warman, 2014). The existence of policy implemented to the IPs and the climate change in Indonesia was not directly mentioned in any policy. Fortunately, there are several laws and regulations related to the IPs in Indonesia as shown in Table 1.

Table 1 Laws and regulation related to the Indigenous Peoples

Law / Regulation	Summary
The 1945 Constitution of The Republic of Indonesia (Amendment) Chapter 18 -clause 2 and Chapter 281 - clause 3.	Chapter 18(2): The State recognizes and respects units of indigenous communities and their traditional rights as long as they live, and in accordance with the development of society and the national principles as set out in the legislation. Chapter 281(3): The cultural identity and the rights of traditional communities are respected in line with the times and civilization.
Act No. 41 Year 1999 on Forestry (and Constitutional Court Decision No. 35/PUU-X/2012).	Chapter 67(1): The IPs along by the fact still exist are recognized the right to collect forest products to meet the needs of daily life the indigenous peoples concerned; conduct forest management activities based on customary law and not contrary to law; and empower to improve their welfare. Chapter 67(2): Affirmation of existence and abolishment of the IPs as referred to in

	paragraph (1) shall be determined by the Local Regulation (Perda). Explanations of Chapter 67(1): The IPs existence is recognized based on the definition of the IPs.
Ministry of Home Affairs (MOHA) Regulation No. 52 Year 2014 on the Guidelines on the Recognition and Protection of the IPs.	The IPs are Indonesian citizens who have distinctive characteristics, live in groups harmoniously according to their customary law, have ties to the ancestral origin and/or similarity in residential location, have a strong relationship with the land and the environment, as well as have value system which determines the economic system, political, social, cultural, legal and utilize a single region for generations.
Ministry of Forestry Regulation No. 62 Year 2013 on Amendment of Ministry of Forestry Regulation No. 44 Year 2012 on Establishment of Forest Area.	Chapter 18a: The IPs are a group of people who are bound by customary law as part of the group member that shared a partnership of law because of similarities in the basic residence or descent. Chapter 18b: The IPs region is the area to live and organize the life of the IPs concerned with clear location and area limits and confirmed by the local regulation (Perda).
Joint Regulation of Ministry of Home Affairs, Ministry of Forestry, Ministry of Public Works, and Land Agency No. 79 Year 2014 on Procedures to Settle Land Ownership Conflict in Forest Area.	Chapter 9: Affirmation of the IP's rights on forest area will be carried out in accordance with the provisions of the applicable legislations.
Regulation of the Minister of Land Agency and Spatial Development No. 9	Chapter 1(1): Communal rights on land are joint rights on land of an indigenous community that granted to specific community living in a forest or plantation area.

Law / Regulation	Summary
Year 2015 on the	Chapter 1(3): The IPs are a group of people who are bound by customary

Procedures to Establish the Land Communal rights on the IPs Land and Community Living in the Special Area (Revocation of Minister of Land Agency Regulation No. 5 Year 1999 on Guidelines on Resolution of Indigenous Rights (*Hak Ulayat*) of the IPs)	law as part of the group member that shared a partnership of law because of similarities in the basic residence or descent. Chapter 3(1): Requirements of the IPs includes a society that is still in the form of *paguyuban*; have institution in the form of the customary authorities; have a clear customary law; and there are institutions and legal instruments, in particular customary judicial system is still adhered to. Chapter 3(2): Requirements of community groups located in Specific Area (Forest and Plantation area) includes: physically dominating an area for at least 10 years or more in a row; still harvest forest products in a particular region and its surrounding areas to meet the needs of everyday life; the specific area is being the main source of life and livelihood; and there are social and economic activities that are integrated with community lifestyle.
Act No. 6 Year 2014 on Village	Chapter 95(1): Village Official and village community can establish a customary village Institution Chapter 95(2): Customary village institution is an institution that performs customary functions and become part of the original composition of the village that grew and developed on the initiative of the village community. Chapter 96: National, Provincial, City or District Governments to make the arrangements of the IPs units and establish them into Customary Village (*Desa Adat)*.

Source: Herawati (2017).

In the international level, the recognition of the IPs on climate change showed the very strong voice. The IPs have been recognized in Sustainable Development Goals (SDGs) as well. The 2030 Agenda encompasses three specific references indicators to the IPs in context of zero hunger (SDG 2), education (SDG 4), and climate change (SDG 13). Furthermore, the International Labour Organization (ILO) mentioned that the approach to the IPs empowerment is to promote social solutions to environmental problems and it is well positioned to address the threats posed by climate change (ILO, 2017). Table 2 presents the international instrument and framework for the IPs.

Table 2 International agreements related to Indigenous Peoples and Climate Change

No	Instrument and Framework	Year	Document Number	Description
1	ILO Indigenous and Tribal People Convention	1967	107	The previous ILO instrument on the issues. Though no longer open to ratification, it remains in force in 17 countries
2	ILO Indigenous and Tribal People Convention	1989	169	The only international treaty on indigenous people that is open to ratification. It has been ratified by 22 countries so far
3	United Nation Declaration on the Rights of Indigenous People (UNDRIP)	2007		The most recent expression of indigenous people's aspiration at the international level
4	2030 Agenda for Sustainable Development Goals (SDGs)	2015	Directly mentioned: Goal 2, Goal 4, Goal 13	Adopted in 2015 with a pledge to leave no one behind, it called on indigenous peoples to engage actively in its implementation, follow-up, and review
5	Paris Agreement	2015	Preamble, Article 7.5	Outcome of the summit on climate change, at which 2015 states highlighted the importance of indigenous people' traditional knowledge in combating climate change

Source: ILO (2017).

2. METHODOLOGY

This research used desk study and policy analysis based on literature review. The policies that used in this research are National Action Plans for Climate Change Adaptation of Indonesia or well known as RAN-API and National Development Plan of Indonesia for Climate Change Adaptation and Mitigation.

3. RESULT AND DISCUSSION

3.1. National Action Plan for Climate Change Adaptation (RAN-API)

The RAN-API is under Indonesian Ministry of National Development Planning (Bappenas) with some related some ministries and national agencies of Indonesia. Post-designing the RAN-API, Indonesia is concerning on reducing the impact of climate change at local, regional, national, and international scales. This commitment is followed by the Paris Agreement as a driver to reduce the impact of climate change in all of the sectors. The roadmap of Indonesia initiatives for climate change in the last decade (2007-2017) is shows in Table 3.

Table 3. Indonesia initiatives for climate change

Year	National Commitment
2007	COP-13 in Bali → National Action Plan on Climate Change (RAN-PI)
	Indonesia: National Response to Climate Change (Yellow Book) → 2007 – 2009
2009	Technology Needs Assessment (TNA)
	President announced the Indonesian mitigation target (-26% /-41%)
	Indonesia Climate Change Trust Fund (ICCTF)
2010	Indonesia Climate Change Sectoral Roadmap (ICCSR)
	Indonesian Second National Communication (SNC)
2011	Presidential regulation No. 61 year 2011 on National Action Plan on GHG Emission Reduction (RAN-GRK)
	Presidential Regulation No. 71 year 2011 on National Greenhouse Gas Inventory
2014	National Action Plan for Adaptation (RAN API)
2017	Indonesia Third National Communication (TNC)

Source: Bappenas (2014)

For the implementation of climate change adaptation in local and province, it is named as RAD-API. The preparation and detail project is the responsibility of each region under the Ministry of Home Affairs. The RAD-API is prepared by related local department and agency as development priorities from the national budgets (Bappenas, 2014). In fact, the implementation of RAD-API is rarely to find in the provincial development planning. Mostly, the provincial and district government developed project based on the hazard and risk from national disaster for example floods, volcano eruptions, tsunamis, earthquakes, landslides, and storms) (Indonesian National Board for Disaster Management, 2014) .

Moreover, in the strategies of ecosystem resilience including extreme droughts that cause limited water, changes in the type of vegetation due to changes in weather patterns, puddles due to sea level rise that cover settlements and areas of ponds and agriculture was mentioned the importance of local knowledge in environmental management. In this part, the RAN-API also a little bit mentioned about the IPs as a key person in the principles of conservation and social welfare using their TEKs.

Since Conference of the Parties (COP) 13 in Bali under United Nations Framework Convention on Climate Change (UNFCCC) have included the Reducing Emission from Deforestation and

Degradation (REDD) initiative which has subsequently developed into REDD+. This negotiation has paved the way for the availability of international funding support for REDD+ initiatives and created opportunities for developing countries to take advantage from international funding schemes. Unfortunately, the REDD+ project in Indonesia is more focused on mitigation of land and forest conservation including biodiversity losses, forest people, and the TEKs for climate change besides the adaptation.

3.2. National Plan for Climate Change

The National Plan of Indonesia for climate change was designed by Indonesian Ministry of National Development Planning. Whereas, the RAN-API as part of National Development Framework. Practically, the RAN-API is presumed to provide input to the future government work plan and the National Medium-Term Development Plan (RPJMN) becoming more responsive to the impacts of climate change (Government of Indonesia, 2018). The RAN-API is also a resource to develop the local strategy and action plan for climate change adaptation for local governments (Bappenas, 2013).

Generally, the RPJMN consists of three parts namely the National Development Agenda, the Sectoral Development Agenda, and the Regional Development Agenda with the *Nawa Cita* (the *Sanskrit* term for nine agenda priorities) explicitly accommodated in chapter six of the first part of the RPJMN (UNDP, 2015). For further detail the position of the RAN-API in the National Development Framework is shown in Figure 1.

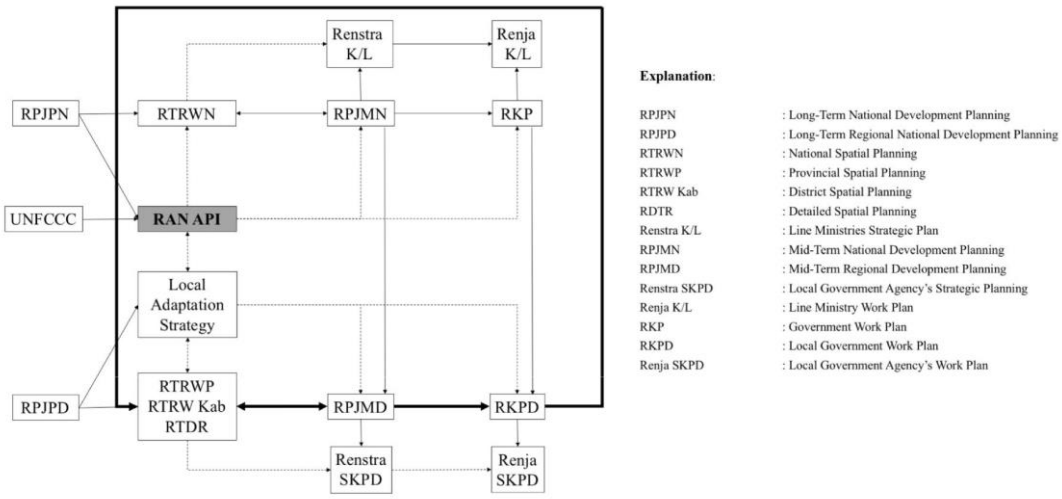

Figure 1. The Position of RAN-API in the National Development Framework Source: Bappenas (2014).

In the RPJMN, the REDD+, and the RAN-API has been included in medium-term planning in 2015-2019 (Bappenas, 2013). The RPJMN targets 2015-2019 tackling climate change post-2019 issues for climate change control are handled by five technical directorates and one secretariat of directorate general as shown in Figure 2.

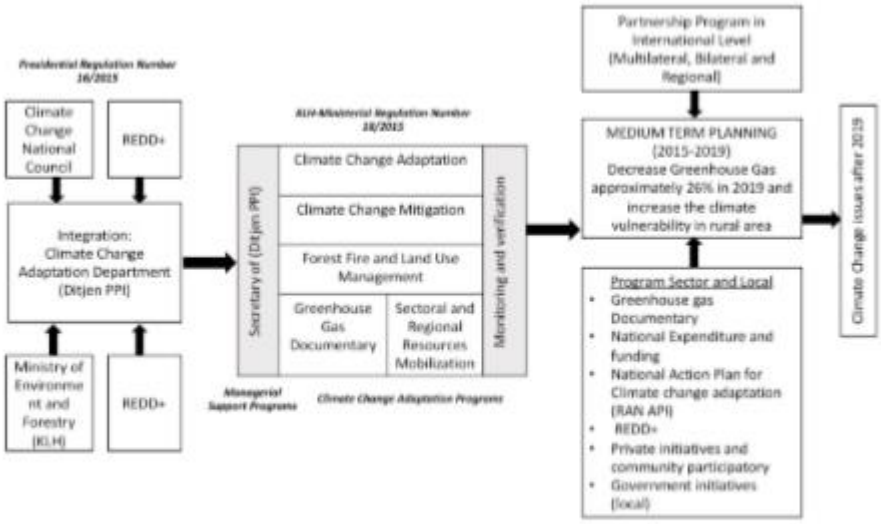

Figure 2. RPJMN of Indonesia for climate change.

Source: Bappenas (2014).

The National Long-Term Development Plan (RPJPN) between 2005 to 2025 was drawn up as a continuation or previous stages of development planning under Article 4 of Act No. 25 Year 2004 on National Development Planning (Bappenas, 2014). The RPJPN spans twenty years and is divided into four phases which each spanning of five years. In achieving the vision of sustainable development, the Government of Indonesia conducted that the long-term sustainability of development and predicted the challenges of climate change which affect the activities and community livelihood in the future (REDD, 2005).

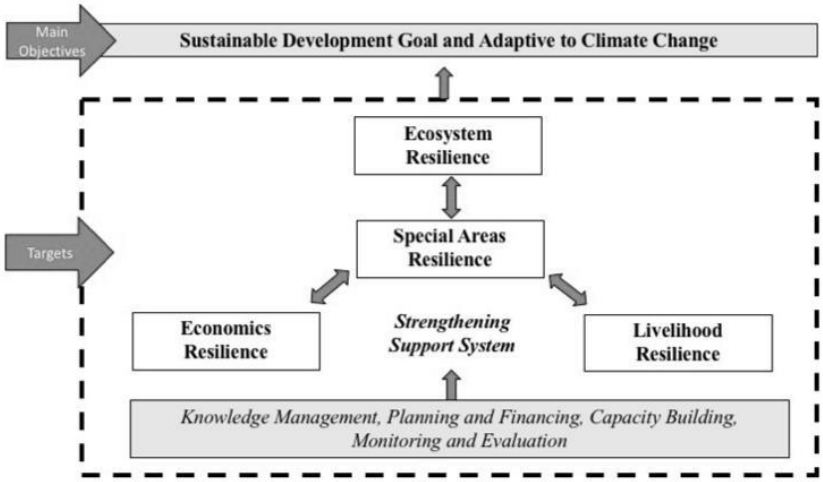

Figure 3. Long-term planning of Indonesia for climate change. Source: Bappenas (2014).

The RPJPN mentioned three targets of sustainable development and adaptative to climate change as shown in Figure 3. These targets comprise of ecosystem resilience, livelihood resilience, and economic resilience (Bappenas, 2014). The community resilience in the IPs should be considered to take the best practices in climate change adaptation from their TEKs that they have gotten by generation from their ancient. Unfortunately, there is no any words in this guidance that directly discussing about the IPs and their TEKs.

3.3. Future: Integrated Traditional Ecological Knowledge and Climate Science for Policy Implementation

The United Nation Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007 declared that the community-based adaptation could applicate in the concept of Free, Prior and Informed Consent, FPIC (FAO, 2018). The FPIC defines on the IP's right to provide their consent to any development projects based on their TEKs that impacted to their traditional lands, and that consent should be freely given prior to implementation of projects and that they should be fully informed of the effects on people and their lands (Schroeder, 2010). Indeed, the effective climate adaptation needs engagement (awareness, motivation, and capacity to act) at appropriate scales, from individuals to global institutions as the whole package policy (Bohensky et al., 2016).

The integrated of the TEKs and climate change science is very important for key performance of adaptation. It might be impacted to the policy development and planning (Berkes, 2010). The indigenous knowledge and knowledge-based practice are the backgrounds of indigenous resilience in building the capacity for climate change impacts (Nakashima et. al, 2012). Moreover, the certain circumstance of the IPs in Indonesia is struggling with right and environmental problems. Minister's Decree of Ministry of Home Affair Indonesia Number 52 the Year 2014 about the Guidelines of Rules and Protection for the IPs including their right to their territory and livelihood . Susilowardhani (2014) stated the awareness of the advancing impacts of climate change in Indonesia has also raised the requirement to figure out action plans for climate change adaptation.

The IPs are diverse the multilevel challenges in facing the climate change, but there are also similarities in many of the underlying factors affecting sensitivity, adaptive capacity, and vulnerability (Ford et al., 2016). Indeed, it should be considered as a right for the IPs in the climate change to put their TEKs in the policy and project development. As a proposed solution, the specific regulation and policy for the IPs and climate change adaptation are critical to protecting the IP right and livelihood.

4. CONCLUSIONS

The IPs in Indonesia are suffering in their right and their livelihood losses from environmental problems. The combination of the TEKs and climate change science analysis is mainly finding of this research to pursue both of bottom up and top down approach for policy making as appropriate climate change adaptation plans. Both of RAN-API and National Plan Development Framework has not been focused on the existence of the IPs and reducing the impact of climate change for the IPs. The urgency between mitigation and adaptation in Indonesia is still arguable. In local level as strategy of RAN-API or named as RAD-API is difficult to find the implemented project for climate change adaptation. Mainly the local project for adaptation focused on disaster risk reduction. Indeed, for the development project in Indonesia, there are lacks of action for Indigenous peoples for climate change adaptation.

5. CITATIONS AND REFERENCES

Adger, W. N., Huq, S., Brown, K., Conwaya, D., & Hulmea, M. (2003). Adaptation to climate change in the developing world. *Progress in Development Studies, 3*(3), 17. doi:10.1191/1464993403ps060oa

Bappenas. (2013). *National Action Plan For Climate Change Adaptation (RAN-API) Synthesis Report*. Retrieved from Jakarta:

Bappenas. (2014). *Rencana Aksi Nasional Adaptasi Perubahan Iklim (RAN-API)*. Retrieved from Jakarta:

Beckford, C. (2017). Climate change resiliency in Caribbean SIDS: building greater synergies between science and local and traditional knowledge. *Journal of Environmental Studies and Sciences, 8*(1), 42-50. doi:10.1007/s13412-017-0440-y

Berkes, F. (1993). *Traditional Ecological Knowledge: Concepts and Cases* J. T. Inglis (Ed.) *Traditional Ecological Knowledge in Perspective* (pp. 45). Retrieved from http://library.umac.mo/ebooks/b10756577a.pdf

Berkes, F. (2010). Indigenous ways of knowing and the study of environmental change. *Journal of the Royal Society of New Zealand, 39*(4), 151-156. doi:10.1080/03014220909510568

Bohensky, E. L., Kirono, D. G. C., Butler, J. R. A., Rochester, W., Habibi, P., Handayani, T., & Yanuartati, Y. (2016). Climate knowledge cultures: Stakeholder perspectives on change and adaptation in Nusa Tenggara Barat, Indonesia. *Climate Risk Management, 12*, 17-31. doi:10.1016/j.crm.2015.11.004

FAO. (2018). Food Agricultural Organization - Indigenous People: Free, Prior and Informed Consent (FPIC). Retrieved from http://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

Ford, J. D., Cameron, L., Rubis, J., Maillet, M., Nakashima, D., Willox, A. C., & Pearce, T. (2016). Including indigenous knowledge and experience in IPCC assessment reports. *Nature Climate Change, 6*(4), 349-353. doi:10.1038/nclimate2954

Government of Indonesia. (2018). *Peraturan Presiden Republik Indonesia Nomor 79 Tahun 2017 tentang Rencana Kerja Pemerintah (RKP) Tahun 2018*. Jakarta: Ministry of State Secretary.

Herawati, T. N. (2017). *Indigenous peoples planning framework*. Retrieved from http://documents.worldbank.org/curated/en/551271482216295666/Indigenous-peoples-planning-framework

ILO. (2017). *Indigenous peoples and climate change from victims to change agents through decent work* (pp. 56).

Indonesian National Board for Disaster Management. (2014). *Rencana Nasional Penanggulangan Bencana 2015-2019* (pp. 131).

IPCC. (2007). *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* R. K. Pachauri & A. Reisinger (Eds.), (pp. 104).

IPCC. (2014). *Summary for Policy Makers, In: Climate Change 2014: Impact, Adaptation, and Vulnerability. Part A: Global and SEctoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* C. B. Field, V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, & a. L. L. W. e. P.R. Mastrandrea (Eds.), (pp. 1-32).

Ministry of Environment and Forestry Indonesia. (2018). *Third National Communication of Indonesia Year 2017 Under UNFCCC* Vol. 3. N. Masripatin (Ed.) (pp. 270).

Nakashima, D. J., Galloway McLean, K., Thulstrup, H. D., Ramos Castillo, A., & Rubis, J. T. (2012). *Weathering Uncertainty- Traditional Knowledge for Climate Change Assessment and Adaptation. United Nations Educational, Scientific and Cultural Organization (UNESCO)* D. McDonald (Ed.) (pp. 122).

Opare, S. (2016). Adaptation to climate change impacts: coping strategies of an indigenous community in Ghana to declining water supply. *Climate and Development, 10*(1), 73-83. doi:10.1080/17565529.2016.1184610

Palframan, A. (2014). "In common nature": an ethnography of climate adaptation in the Lesotho Highlands. *Local Environment, 20*(12), 1531-1546. doi:10.1080/13549839.2014.911268

Petheram, L., Zander, K. K., Campbell, B. M., High, C., & Stacey, N. (2010). 'Strange changes': Indigenous perspectives of climate change and adaptation in NE Arnhem Land (Australia). *Global Environmental Change, 20*(4), 681-692. doi:10.1016/j.gloenvcha.2010.05.002

REDD. (2005). National Long-Term Development Plan 2005-2025 (Indonesia). Retrieved from https://theredddesk.org/countries/plans/national-long-term-development-plan-2005-2025-indonesia.

Schroeder, H. (2010). Agency in international climate negotiations: the case of indigenous peoples and avoided deforestation. *International Environmental Agreements: Politics, Law and Economics, 10*(4), 317-332. doi:10.1007/s10784-010-9138-2.

Susilowardhani, A. (2014). The Potential of Strategic Environmental Assessment to Address the Challenges of Climate Change to Reduce the Risks of Disasters: A Case Study from Semarang, Indonesia. *Procedia - Social and Behavioral Sciences, 135*, 3-9. doi:10.1016/j.sbspro.2014.07.317

UNDP. (2015). *Converging Development Agendas- Nawa Cita, RPJM and SDGs*. Retrieved from Jakarta:

United Nations. (2013). *Indigenous Peoples and the United Nations Human Rights System* Vol. 9. U. Nations (Ed.) (pp. 50). Retrieved from http://www.ohchr.org/Documents/Publications/fs9Rev.2.pdf

Warman, K. (2014). Peta Perundang-undangan tentang Pengakuan Hak Masyarakat Hukum Adat, Retrieved from http://procurement-notices.undp.org/view_file.cfm?doc_id=392