Indonesia’s climate change national determined contributions, a farfetch dream or possible reality?

L Y Sulistiawati
Assoc. Prof of Law, Center for Asia Pacific Studies, Gadjah Mada University, Jl Tevesia B-13, Bulaksumur, Caturtunggal, Depok, Sleman, Yogyakarta, Indonesia
Corresponding authors: lindayanti@ugm.ac.id

Abstract. As one of the Parties of the Paris Agreement, Indonesia is required to prepare and communicate its own National Determined Contribution (NDC) and maintaining successive nationally NDC which it intends to achieve. Indonesia has set unconditional reduction target by 29% and the conditional target up to 41% of the business as usual scenario by 2030. By setting these goals, Indonesia envisions achieving archipelagic climate resilience through comprehensive adaptation and mitigation programs and disaster risk reduction strategies. This research tries to depict local regulating efforts to reach those NDC targets in the local level of Indonesia’s government, through examining the local government effort in dealing with climate change issue and fulfilling Indonesia’s NDC target. Also suggest alternative options to achieve NDC implementation in the local level in Indonesia, emphasize the role of Ministry of Environment and Forestry to re-introduce and socialize Indonesia’s NDC to the local government.

1. Introduction
According to Paris Agreement, Indonesia is required to prepare and communicate its Nationally Determined Contribution (NDC). Indonesia’s NDC sets unconditional reduction target by 29% and conditional target up to 41% of the business as usual scenario by 2030. [1] By setting those goals, Indonesia envisions achieving archipelagic climate resilience through comprehensive adaptation and mitigation programs and disaster risk reduction strategies [1].

As reported in the first submitted NDC, Indonesia identified that a big portion of the emission (63%) is caused by land use change and peat-forest fires. Further, the Biennial Update Report (BUR) submitted Indonesia to the UNFCCC indicated an increase in the number of greenhouse emissions, where the main contributing sectors were still the land use change and forestry sectors, particularly the peat fires (47.8%) and energy (34.9%) [1]. Having this in mind, the Indonesian NDC carefully specify steps on combating climate change by focusing general sector of land use, energy, and waste management.

To realize the goals outlined in the NDC, Indonesia has taken various steps, such as instituting a moratorium on the primary forest as well as prohibiting any conversion of its remaining forest and employing the implementation program of mixed energy. The planned actions are embedded under the promulgation of relevant regulations and policy instrument. Such are including the national action plan on GHG emissions reduction as stipulated in Presidential Regulation (PERPRES) No. 61/2011 and the inventory of greenhouse gas under the Presidential Regulation (PERPRES) No. 71/2011, on the national level.
2. Research Question
Having the afore mentioned scenario in mind, this study is trying to find out what are actually done on the local level in implementing the NDC. Research question for this research is, “to what extend are the gaps and disjoints of local regulations in Indonesia in supporting the national regulations in NDC implementation?”

3. Research Methods
There are 416 city and district governments in Indonesia, and 115 regulations mentioning climate change was able to be analyzed. Internet and connectivity became central issues for the analysis, eq. from West Papua, out of 13 cities and districts, only 1 district (Sorong) uploaded their regional regulation related to climate change. Java got the upper hand of 26 climate change related regulations uploaded to the web. Because of this limitation, there might be districts/cities whom already enacted climate change related regulations but not uploaded it to the internet, and hence, could not be analyzed in this research.

This research is a normative research, and base on climate change -related regulations enacted by districts and cities in Indonesia from 2014 through 2018. ‘Climate change regulation’ in this research is not a regulation solely on climate change, but any regulation which are in connection to climate change, from disaster management, pest control, crops, up to management of environmental offices. Author read the collected climate change -related regulations and go through them based on climate change issues mentioned. Triangulation of the result is based on the current issues in international environmental law, and the current environmental issue in Indonesia.

4. Analysis
4.1. Hierarchy of Indonesia regulation

![Hierarchy of Indonesia regulation](image)

Figure 1. Indonesia’s legal framework hierarchy is as follows based on Law No.12/2011.

Indonesia is a unitary republic based on the 1945 Constitution (Undang Undang Dasar 1945). The head of the region is the Governor (at the provincial level) and the head of district/city is the Bupati/Walikota (in Kabupaten/Kota level). As stated in Law No.22/1999 concerning Law on Regional Administrations jo Law No. 32/2004 concerning Regional Administration jo Law No.24/2009 concerning the National Flag, Language, Emblem and Anthem, local government in Indonesia are distinguished between Kabupaten and Kota.

Kabupaten (district), in this context, refers to an area, which is predominantly rural; while Kota (city or, municipality) refers to urban areas. As a result of the regional autonomy legislation enacted in 2000 and implemented gradually from 2001, greater autonomy and powers are being devolved to local
authorities. This means that the local government such as Kabupaten and Kota were granted regulatory power, thus they can make their own law which only applies to their region, the law is manifest in the form of Peraturan Daerah, Peraturan Bupati, or Peraturan Walikota.

This research found different levels of regulations in terms of CC-related regulations in districts and cities in Indonesia. Out of the 115 regulations; 30 are Head of District regulations (Peraturan Bupati), 10 are Head of City regulations (Peraturan Wali Kota), 20 are Regional Regulation (Peraturan Daerah), either District or City, 5 are City level action plans, 2 are Provincial Regulations.

The 2 Provincial Regulations are from West Java and Aceh on Disaster Management. Both regulations are vague in mentioning climate change impacts in relation to disaster management. The regional regulation (Perda) climate change related regulation were mainly found in Jawa and Bali. 15 of the 20 analyzed regional regulation were from Jawa, and most of them were dedicated regulation for environmental conservation and/or management [2]. This bears striking difference with some of the 30 Head of District regulation, which were mainly found in Sumatra and Sulawesi. Wajo district in South Sulawesi, for example, have no climate change regulation, but Wajo has farmers’ empowerment and protection regulation. Further, within the regulation, it explains prevention, organization, and protection for farmers in the event of typhoon, drought, floods, and other climate change impacts. It even includes insurance for farmers enduring these situations. There are several reasons as to why the local regulations are more detailed and precise in comparison to the regional regulations.

First, based on Law No.12/2011 (Figure 1) Article 7 para 1, provincial regulation is higher in hierarchy than the district or city regulation. The consequence is, district or city regulation cannot override or in opposition to the provincial regulation. So it makes sense if the provincial and regional regulations analyzed were more broad discussing climate change impacts in comparison to the head district or city regulations. The later regulations are supposed to be more technical and details to assist implementation of the higher regulations. Based on Law no.32 Year 2004 on Regional Government, Article 10 paragraph 3, each district or city has the authority to manage their own governance. Environmental issues, including climate change related regulations, falls under the authority of local government, still the regulations on this issues have to conform to regional regulations on the similar issue.

Second, the promulgation of a regional regulation (Perda) is more complicated than head of district/city regulation. Based on Law no.32 Year 2004, to promogulate the regional regulation, the government and the regional parliament (vice-versa) needs to get approval from one another. Head district or city regulation, are simpler, meaning the head district or city can directly enact the regulation without approval from the local parliament. Hence, local government might opt to enact directly a head district or city regulation and introduce climate change related regulation instead than having to get approvals from the local parliament. That is why we found more direct head district or city regulations than regional regulation in relation to climate change.

4.2. The Local and regional regulations on GHG reduction and climate change in Indonesia
As a strategy to address the issue of GHG reduction and climate change, all of the provinces in Indonesia have already established the GHG reduction action plan in 2014. Such regional action plans are promulgated in accordance to the framework of the Guideline for Implementing Local Action Plan for Greenhouse Gas Emission Reduction which was published in 2011 by the Indonesian National Development Planning Agency or Bappenas. The publishing of the guideline is a follow up action for Indonesian Commitment in dealing with climate change issues stated in the G-20 Summit 2009 [3]

Pursuant to the said implementation guidelines, a climate change coordination team was formed to optimize the implementation of the national action plan on GRG Reductions as well as to improve the efficiency and effectiveness in achieving the goals under the national action plan. The formed coordination team, with the coordination of Secretariat of National action plan, provides direct assistance to the regional action plan team in the promulgation and monitoring the implementation of regional action plan on GHG Reduction. This accelerating step has played a significant role in the success of promulgation of regional action plan on provincial level in nationwide. By December 2013,
every province in Indonesia has finished their regional action plan on GHG Reduction and enforcing it by incorporating it under the enactment of a Governor Regulation (Peraturan Gubernur) \[4\].

The promulgation of such regional action plan is pursuant to the timeline as mandated under the Presidential Regulation (PERPRES) No. 61/2011 on the national action plan on GHG emissions reduction. It provided that regional action plan on provincial level shall be promulgated and made effective through the governor regulation, within the period of 12 months since the Presidential Regulation is enacted.

However, it was silent on the matter of specific implementation effort on the level of district since the obligation in formulating local action plan only lies on provincial level, regardless that the coordination and importance of the role of district governor in achieving goals of GHG reduction are mentioned in the guideline as well. Hence, the implementation on the district level is still very much questioned.

Thus the implementation of proposed action plan in the level of district and city are often questioned, since heavier focus are being shifted onto the prominent district and city. This might be driven by the notion that the more densely populated and brisk area are producing more GHG and having a larger impact on the climate change, thus quicker action should be taken in such area. Examples are Jakarta and Bandung, cities which already promulgated programs and projects on GHG reduction, with a rigid listing budgetary consequence.

On the other hand, several provinces and district have already established regulations which is related to the issue of combating climate change. However, such law at the district level have not been enacted evenly. Most of the provisions of climate change is enshrined under the regulations on protection and management of environment and disaster management. Further, the regulation on the protection and empowerment of farmer also contained provision on climate changes combating, while the regulation on the position, organization structure, duties and function of the environment department at district level also establish specific body in addressing the issue of climate change and greenhouse gas reduction at district level.

Based on the GHG reduction and Climate change related regulations in the level of district provinces in Indonesia, it seemed that the local government are still baffled over this issue. The current legislation is far too abstract and too random for the local government. This is further worsened by the lacks of socialization on this issue, especially the national framework which serve as a basis for local government when addressing this issue.

4.2.1. Issues frequently mentioned in climate change related regulations. Based on the research, there are various issues that are mentioned by the climate change related regulations. The top 5 issues are: (1) Environmental Management and Guidance Plan (Rencana Pengelolaan dan Pembinaan Lingkungan Hidup/RPPLH); (2) Environmental Strategic Study (Kajian Strategis Lingkungan Hidup/KLHS); (3) Definition of Climate change; (4) Atmosphere/Air; (5) Others.

These top five issues within climate change related regulations are not detailed and apparent to be less prioritized than other issues. This can be caused by several things, among others: (1) they do not understand the importance of climate change; (2) they do not think that climate change should be prioritize in that particular regulation/s; or (3) they do not understand the issue.

Regulation related to climate change in districts outside Java, Sulawesi, and Sumatra are harder to find on the internet. For the example only 1 district regulation was found from Papua, 1 district regulation from Kalimantan, 1 district regulation from Eastern Nusa Tenggara. This made the population of research becomes a bit heavy in developed areas. With the enactment and implementation of the ‘Palapa Ring Project’ in October 2019, it is hoped that the internet ring in Indonesia, specifically Eastern Indonesia can be enhanced. The research also hopes that this will bring district governments to update, upgrade, and upload their enacted regulations on the internet.
Figure 2. Indonesia’s local regulations relation to climate change (Period 2014-2018).
Source: compiled by author 2019.

Figure 2 depict the type of climate change related regulations in Indonesia’s districts, based on their issues. The most discussed issue in relation to climate change in the district regulations is the Environmental Management Plan (Rencana Pengelolaan dan Pembinaan Lingkungan Hidup/RPPLH), which was mentioned in 23 districts regulations. The next popular issue in climate change regulations is the Strategic Study of Environment (Kajian Lingkungan Hidup Strategis/KLHS) which was mentioned by 18 districts. The definition of climate change in the district regulations was only found in 17 districts regulations, and typically they are similar to the definition of climate change in according to the National Action Plan. 5 districts have complete action plan of climate change (mostly allocated in Java: Bandung, Jakarta, Surabaya, Semarang, and outside Java only in: Kupang).

4.3. National strategy on NDC implementation
The national strategy on NDC Implementation was established in 2017. As this framework is still new, it has not yet been introduced sufficiently to all of the provinces and districts in Indonesia. As the result, the government on districts level are lacking understanding and vision on how to achieve established target at district level. Further, such big ambition may be perceived by the district government as the national matter which is handled solely only by the central government, without any necessary participation from the district level.

It prescribed the strategy for NDC implementation, which consists of 9 elements, namely
- Building ownership and commitment from State and Non-state actors,
- Development of implementation framework and communication network for coordination and building synergy, strengthening institution, and engaging NSA
- Creating enabling environment in the form of policy and regulations and related planning policies
• Human resources and institutional capacity building
• One data policy on greenhouse gases
• Development of policy planning and programs
• Development of guidance for NDC implementation
• NDC implementation,
• Review and adjustment of the NDC

It has a good indicator on how to reach the NDC implementation nationally. However, it does not stipulate much on the level of regional and local levels.

4.4. Gaps and disjoints between the national strategy and the local regulations

Based on the promulgation of regulations on climate change and greenhouse gas action plan, both on the national level, provincial and district level, it seems that difference of perception on climate change issues exists in Jakarta and the local level. On the national level, the matter of climate change is regarded as a pressing issues since the Indonesian Ministry of Environment and Forestry is the department who is in charge of negotiation and international relation of climate change, they somehow understood how important climate change is for Indonesia as a country. However, study has shown that this crucial understanding have not been adequately transferred to the local level [5]. Climate change in the local level is still perceived as a project oriented activity, which can be handled with producing a simple regulation (to satisfy request from central government). Once a local level enacted/issued a regulation, the issue of climate change is considered dealt with.

This condition is closely intertwined with a lack of understanding and awareness on the issue of climate change in the local level [6]. Although, when asked about the changing patterns of rainy and dry season, intense monsoons, typhoons, and climatic phenomenon (hence crop and harvesting problems) local level admit that they experience them. Accordingly, there exist an urgency to connect the scientific understanding of climate chage with local practicality of agricultural practices. Once this understanding and awareness is sufficiently bridged, the climate change as an issue will be understood more and steps toward mitigation and adaptation will not be such a foreign concept.

Further, although the climate change National Strategy is very comprehensive in the national level, however, it is hard to translate into direct action in the local level. Instead of asking the local level to interpret actions for the national strategy, maybe there is a need for Central Government to give options for actions for the local levels taking examples from best practices of the world to accomodate the geographical situation in the area concerned.

5. Conclusion

Based on the study, there is yet to be found a direct local and regional regulations which truly supports the current national strategy on NDC implementation. This shows that there is a significant gap and disjoint of local regulations and it seems that there is a difference perception on climate change regulation exist in national level and districts or cities level. Lack of substantial understanding and vision toward the gist of climate change problem in the field. In light of this, the Indonesian Ministry of Environment and Forestry needs re-introduce and socialize Indonesia’s NDC to provinces and districts as well as encouraging ways of reducing GHG and combating climate change to them.

Ultimately, it has to be noted that the implementation of Indonesia’s NDC consist of 3 phases, which are the preparation, implementation, and monitoring and review. When the present study was conducted, the implementation itself is still undergoing the stage of preparation, which is targeted to be done by 2020. Having this in mind, the increasing existence of regulation on climate change and greenhouse gas reduction are to be expected to happen only by the starting of 2020, after the preparation stage is fully accomplished.
References

[1] UNFCCC “First nationally determined contribution republic of Indonesia: United Nations framework convention on climate change” http://www4.unfccc.int 2016 [Online] Available: http://www4.unfccc.int/ndcregistry/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20%202016.pdf [Accessed: 30-10-2018]

[2] Sulistiawati L Y “The Jakarta Post: Commitment to Paris Agreement and Kalimantan dream” https://www.thejakartapost.com 2019 [Online] Available: https://www.thejakartapost.com/academia/2019/09/19/commitment-to-paris-agreement-and-kalimantan-dream.html [Accessed: 29-10-2018]

[3] BAPPENAS “Guideline For Implementing Green House Gas Emission Reduction Action Plan” http://ranradgrk.bappenas.go.id 2011 (Jakarta: BAPPENAS) Available: http://ranradgrk.bappenas.go.id/rangrk/admin/cms/downloads/publications/Guideline_for_implementing_green_house_gas_emission_reduction_action_plan.pdf. [Accessed: 30-10-2018]

[4] BAPPENAS 2014 Laporan dua tahun pelaksanaan RAN-GRK dan RAD-GRK (Jakarta: KPPN/BAPPENAS)

[5] Listriani S and Roesa N 2015 Local government policy on facing the impact of climate change on fisheries sector K. Jurnal Ilmu Hukum KJIH03 (2015) 67

[6] Nugraha I and Syahni D 2 “Mongabay: Hadapi perubahan iklim kesadaran pemerintah daerah terbilang minim” http://www.mongabay.co.id/ 2017 [Online] Available: http://www.mongabay.co.id/2016/11/25/hadapi-perubahan-iklim-kesadaran-pemerintah-daerah-terbilang-minim/ [Accessed: 30-10-2018]