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EVALUATION OF EXOGENOUS FORCES AGAINST CLIMATE CHANGE ADAPTATION POLICY IN THE CITY OF BANDAR LAMPUNG

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ABSTRACT

This research seeks to assess the impact of exogenous incentives on local climate change adaptation governance and to determine the level of commitment and support from local stakeholders for the sustainability of climate change adaptation policies. The focus is on Bandar Lampung City, which is part of the "Asian Cities Climate Change Resilience Network" (ACCCRN) program, serves as a pilot city for the implementation of RAN-API in Indonesia, and participates in the Inclusive Climate Resilient Cities Project funded by United Cities and Local Governments Asia Pacific (UCLG ASPAC). The research findings indicate that the variations in 'compliance' noted in Bandar Lampung City are substantially affected by the role of funding, particularly in three climate adaptation programs ACCCRN and CRIC, which are financed by international organisations, and the RAN-API program, initiated by the central government. The actions conducted by the city government within the ACCCRN and CRIC programs, funded concurrently based on requirements, yielded a significant degree of compliance from the local government. The government's plan for activities in the pilot city of RAN-API, which requires self-financing through the regional budget (APBD) as stipulated in the current RAN-API financial framework, has garnered minimal substantial reaction. This indicates that external support (exogenous factors) accompanied by the promise of funding for regionally conceived policy initiatives is more impactful than the state's participation, which possesses the ultimate ability to enforce policies.

KEYWORDS: Exogenous Forces, Adaptation Policies, Environmental Economics, Climate Change, Climate Risk Management.

1. INTRODUCTION

Indonesia's climate change and global warming represent significant obstacles to achieving the objective of "Creating a Beautiful and Sustainable Indonesia," as delineated in the National Long-Term Development Plan (RPJPN) 2005-2025. In 2014, the Indonesian Government promulgated the National Action Plan for Climate Change Adaptation (RAN-API) as a policy instrument to strengthen the roles of central and regional governments in improving community adaptation while simultaneously managing disaster impacts and risks. The RAN-API was established in acknowledgement that Indonesia, as an archipelagic and agricultural nation, will be significantly impacted by global warming, resulting in increasing sea levels and alterations in weather, climate, temperature, and precipitation patterns and intensity. The repercussions will result in losses across multiple sectors, including healthcare (Ebi & Bowen, 2016; Hayes et al., 2018), agriculture and food security (S. Kumar et al., 2022), infrastructure (Hajdukiewicz & Wyżga, 2021; Stoffel et al., 2016), as well as the effects of disasters. Consequently, all stakeholders and sectors, along with various levels of government (both central and regional), must collaboratively contribute to its realisation; either through the initiatives and strengths (endogenous forces) inherent to the regional government or through support from external factors and entities (exogenous forces) provided by the central government and/or international institutions to the regional government (de Voogt & Patterson, 2019; Whitley, 2024). Three critical facets of climate change governance at the local government level include the impetus to address climate change, the specific measures undertaken, and the regional frameworks and networks that represent cities globally (Castán Broto et al., 2022). Furthermore, exogenous elements exert both direct effects pertaining to the acquisition, translation, and dissemination of information and indirect effects affecting institutional structures, social dynamics, and technological and functional domains (De Voogt & Patterson, 2019; Agung et al., 2023; Zhou & Chen, 2019). Climate change, as a worldwide issue, has prompted wealthy nations to support developing countries via the New worldwide Fund for climate change adaptation and mitigation (C. et al., 2004). Despite the absence of a new agreement from international negotiations, the Global Climate Initiative, in conjunction with WWF International, has effectively urged developed nations to support developing countries, including Indonesia, in implementing climate change adaptation and mitigation strategies, following the Conference of the Parties on Climate Change held every four years (Twidyawati et al., 2021). The Indonesian government's commitment to climate change is evidenced by the enactment of Law Number 17 of 2004, ratifying the Kyoto Protocol to the United Nations Framework Convention on Climate Change, subsequently reinforced by Presidential Regulation Number 61 of 2011, which outlines the National Action Plan for Greenhouse Gas Emission Reduction (RAN-GRK). In 2014, the Indonesian government announced the National Action Plan for Climate Change Adaptation (RAN-API). The RAN API underscores that governance in Indonesia profoundly impacts the development of climate change adaptation policy measures. Consequently, the RAN API is anticipated to serve as a policy tool to strengthen the functions of both the central and local governments in improving community adaptation capability while simultaneously managing catastrophe impacts and risks. This aligns with Law No. 23 of 2014 about Regional Government, which delineates the distribution of governmental responsibilities among the Central Government, Provincial Government, and Regency/City Governments. This regulation highlights that the Indonesian governance system exhibits externalities stemming from the distribution of responsibilities and authority between the central and regional governments. This externality presents challenges regarding scale and the allocation of tasks and responsibilities, particularly concerning climate change across regional administration and governmental tiers. Bandar Lampung serves as the capital of Lampung Province, situated in a latitude of 5°20' - 5°30' and a longitude of 105°28' - 105°37', encompassing an area of 19,722 hectares, which comprises 20 districts and 128 sub-districts. This city is intersected by two principal rivers, Way Kuala and Way Kuripan, together with 23 minor rivers. All these rivers constitute a watershed area (DAS) that predominantly directs their flow towards Teluk Lampung. Bandar Lampung serves as a significant port city for the Sumatra region. The Port of Bandar Lampung City is situated on a bay-shaped coastline, thereby mitigating the full impact of large waves generated by strong winds on the coastal region. Nonetheless, in certain sections of the coastal zone, erosion by sea waves has already transpired, and in many locations, the coastal areas are highly populated. To address the housing need, inhabitants construct residences on ground reclaimed from the beach, leading to accretion. Consequently, numerous settlers lack legal documentation of land title.

Analysis of historical climatic data indicates that Bandar Lampung experiences alterations in trends and variability of climate variables, including temperature and precipitation. The most conspicuous evidence is the pattern of rising average surface temperatures in this metropolis over the previous century. Alterations in seasonal precipitation patterns have been noted, including modifications in the commencement of the rainy season and variations in the incidence of intense rainfall events. According to 14 global climate models (GCM), future wet season rainfall in Bandar Lampung is projected to experience a small rise, particularly in coastal regions. Conversely, precipitation during the dry season is projected to diminish (Bröer, 2018; Echebima & Obafemi, 2023; Maniruzzaman et al., 2024; Murray-Tortarolo et al., 2017). The effects of climate change on the residents of Bandar Lampung City, encompassing both coastal regions and other communities, provide a highly intricate situation (Mukhlis, 2016). The uncertainty of the rainy and dry seasons impacts the planting schedule for some farmers in specific regions of the city. Secondly, floods result from extreme weather events, including intense rainfall over brief durations, when environmental circumstances and infrastructure are inadequate to manage such occurrences, exemplified by land conversion, river constriction, and habitation near coastal areas. In urban areas characterised by dense development and yards covered in concrete or asphalt, precipitation cannot permeate the soil, a situation worsened by insufficient sanitation, inadequate waste management, and obstructed drainage systems. Third, access to clean water is becoming progressively challenging due to the depletion of raw water sources, including diminished river flow, the vanishing of several springs, declining groundwater levels, seawater intrusion, and the deterioration of groundwater quality. This pertains to the degradation of water catchment areas in mountainous and highland regions, as well as the transformation of these areas into residential and industrial developments. Fourth, climate change and increasing sea surface temperatures are expected to drive fish population's poleward, complicating the ability of fishermen in tropical regions to secure adequate catches, thereby impacting the livelihoods of fishermen in tropical nations, including Indonesia and Bandar Lampung. The ambient circumstances and temperatures generated are highly conducive to mosquito proliferation and the transmission of diseases such as dengue fever, malaria, elephantiasis, among others, as well as various additional effects attributable to climate change. The significant risk of catastrophes is not solely indicative of the region's geographical natural phenomena but also stems from other factors that heighten community vulnerability, necessitating an adaptation mechanism (Suripto et al., 2021). Vulnerability is defined as the extent to which a system is prone to being influenced or its incapacity to manage the effects of climate change, encompassing changeable and extreme weather conditions (A.H.G. Kusumah, 2021). The study findings indicate that climate change initiatives affect education, finance, infrastructure, and disaster readiness. Coastal regions exhibit greater adaptation to climate change (Zikra et al., 2015). Consequently, policies must consider susceptibility to the effects of climate change (Griggs & Reguero, 2021). The examination of the impact of external forces contradicts autonomous state theory and government intervention theory. Both Bandar Lampung City and Semarang City have prioritised climate challenges as strategic concerns and have developed programs, policies, and adaptation and mitigation measures within their city resilience strategies, including financial predictions. Nonetheless, the external impetus of fundraising significantly outweighed the state's role, which possesses ultimate ability to execute policies, in influencing the policy initiatives that emerged in both regions. The municipal administration recognises the necessity for a policy characterised by high objective rationality (agenda-setting rationality), although this recognition has not translated into action due to concerns regarding increased regional budgetary burdens. This research will contribute to discussions regarding the influence of funding from international donors and central government assistance on governance in climate change adaptation policy-making at the local level in urban areas, viewed through the lens of dependency theory. Consequently, regarding the execution of RAN-API, the Indonesian Government has selected Bandar Lampung as one of the pilot locations for its implementation, alongside Semarang City, Pekalongan City, Blitar City, Tarakan City, Malang Regency, Batu City, and Malang City. These regions exhibit significant risk, hence they are classified as pilot cities in Indonesia, enacting a set of governance strategies aimed at developing adaptive and climate change-resilient urban environments. Resilience is the ability of a system to confront possible risks and stresses, as well as to adapt to changes while preserving its functions and structures in the context of climate change risk management (Gaber et al., 2022). Government strategies must account for

adaptation, as each sector exhibits varying degrees of resilience. Bandar Lampung, classified as a highly vulnerable city and designated by the central government as a pilot city for the National Action Plan for Climate Change Adaptation (RAN API), faces the challenge of how local governance can effectively address climate change through various policies, programs, and political decisions within the region. Furthermore, how these adaptation measures enhance the region's adaptive ability or resilience to the effects of climate change. Public endorsement of pro-environment policies, which have an epistemological foundation, indirectly asserts its role in the sustainability of environmental policies (Okafor et al., 2023; Rojas-Ospina et al., 2024; Sony, 2024). Semarang City is one of the cities in Indonesia serving as a pilot city for three projects, ACCCRN, CRIC, and RAN API. The city has emerged as a paradigm for flood and tidal flood mitigation research conducted by numerous international organisations, including UNDP and the World Bank.

An interview with Rukuh Setiadi, a representative of Semarang City's Climate Resilience Team, reveals that the city is significantly affected by foreign organisations in its selection of adaptation and mitigation initiatives. At-risk populations, including participants in government relocation initiatives, the urban impoverished, residents in areas designated for significant infrastructure developments, individuals reliant on low-lying industries, economically disadvantaged urban newcomers, the elderly, female-headed households, and labourers in industrial zones, have been identified as the focal groups for strategies aimed at aligning the objectives of the Asian Cities Climate Resilience Network (ACCCRN), RAN-API, and CRIC projects with sectors vulnerable to changes in location. Nonetheless, the RAN API document does not explicitly indicate that local governments must 'transform' the RAN API into a RAD-API document. Currently, the Provincial Government of Lampung and the City of Bandar Lampung, designated as a pilot location for RAN-API, do not legally possess the RAD-API. This state of non-compliance is probably prevalent in other RAN-API test cities. Considering the aforementioned background, there are various intriguing facets to examine in the context of Bandar Lampung City. Initially, there has been a disparity in the 'obedience' and gravity with which the local government addresses the presence of exogenous stimuli. The motivation originating from foreign institutions (via the ACCCRN program) was promptly addressed by the city administration through the execution of actions that are essential to the program's instructions and regulations. The execution of risk assessments, the development of urban resilience strategies in response to climate change, the initiation of pilot projects, and the facilitation of city-wide adaption measures have all been conducted successfully. Currently, as a pilot region for RAN-API, the requisite document in the form of RAD-API has yet to be generated. The disparity in 'compliance' is markedly affected by the funding mechanism; all activities executed by the city government within the ACCCRN program are financed based on requirements, while the initiatives implemented by the government as a pilot city for RAN-API necessitate independent funding sourced from the regional budget (APBD). Secondly, from an institutionalisation standpoint, while both exogenous factors necessitate the establishment of teams at the municipal level, the city's adherence to the ACCCRN program (influenced by international institutions) is evidently more pronounced than its compliance with the stipulations of the RAN-API (influenced by the central government). The ACCCRN initiative has formed the Climate Change Resilience Coordination Team, authorised by the Mayor of Bandar Lampung's Decree, and directly coordinated by the regional secretary, comprising many stakeholders. Currently, a working group has not yet been established in Bandar Lampung, despite its status as a pilot city for RAN-API. Third, an examination of the diverse adaptation measures used by various ACCCRN cities reveals that the policies and activities undertaken by city governments are not particularly remarkable or indicative of innovation. This indicates that numerous policies and operations are standard governmental responsibilities that should be executed under typical conditions, irrespective of external pressures. The government should be responsible for activities such as reforestation, mangrove planting, biopore infiltration hole formation, and rainwater gathering. The problem occurs as these tasks were conducted solely due to external pressure. Were there no prior initiatives by the local administration, were there earlier initiatives that remained unimplemented owing to insufficient funding, or was the policy enacted solely due to the intervention of the funders? This encompasses several enquiries stemming from the viewpoint of the initiative driving the government's policies, particularly on climate change adaptation measures.

The short-term objectives of this research, corresponding with the research questions, are:

1. To ascertain the position and role of exogenous drivers, specifically from international

organisations, as either facilitators or interveners in climate change adaptation policies in Indonesia.
2. To ascertain the position and role of exogenous drivers, specifically from the central government, as either facilitators or interveners in climate change adaptation policies at the regional level.
3. To evaluate whether the mentality of the government (bureaucracy) at both central and regional levels influences the extent to which climate change adaptation policy is driven or intervened by exogenous factors.
4. To formulate a new theory on how the equilibrium model can enhance the role of exogenous factors as constructive support in developing rational climate change adaptation policies for future Indonesia.

2. LITERATURE REVIEW

2.1. Key Theory

Adaptive Governance emphasises the importance of flexibility and multi-stakeholder involvement in responding to external disturbances, such as global economic pressures and climate disasters. This theory asserts that adaptive policy systems must incorporate local knowledge, institutional innovation, and responsive feedback mechanisms to reduce vulnerability. In Bandar Lampung, this concept is relevant for evaluating how adaptation policies, such as mangrove rehabilitation or flood early warning systems, may be compromised by external factors, including fluctuations in international funding or national energy policies that conflict with the local environmental agenda. However, Adaptive Governance neglects to account for the power dynamics that often arise in the interactions between local and external actors, a domain where Political Ecology (Xie et al., 2019) provides valuable insights. This theory clarifies that decisions regarding natural resources and the environment are consistently positioned within unequal power dynamics, where external entities (such as multinational corporations or donor organisations) can assert control over the policy agenda through financial or regulatory leverage. Extensive infrastructure initiatives, such as the construction of an international port in Lampung Bay funded by foreign investors, sometimes overlook ecosystem-based adaptation recommendations in favour of promoting economic expansion. Political Ecology highlights local community resistance to external interventions, illustrated by fishermen's protests against the conversion of mangrove area into industrial zones, which exacerbates climate vulnerability. This perspective suggests that adaptation strategies are not merely technical but also political, as global economic incentives often eclipse local sustainability. However, neither Adaptive Governance nor Political Ecology has sufficiently examined the factors contributing to the failure of effectively formulated policies to be executed, underscoring the importance of the Policy Implementation Gap (Howlett, 2019). Howlett acknowledges that several flaws in policy execution, such as inadequate inter-agency coordination, limited human resource capacity, and unclear legislative instruments, can be exacerbated by external factors. In Bandar Lampung, the RPJMD's commitment to reducing carbon emissions is hindered by national policies that advocate for coal downstreaming, leading to regulatory conflicts between central and regional authorities. Furthermore, dependence on external funding for adaptation projects (e.g. GCF/UNDP programs) sometimes involves technical requirements that are misaligned with local administrative capacities, intensifying the gap between planning and execution. The integration of these three concepts produces a thorough analytical framework, Adaptive Governance provides principles for developing responsive policies, Political Ecology reveals essential conflicts of interest, and the Policy Implementation Gap emphasises operational shortcomings. In Bandar Lampung, this synthesis of theories clarifies why adaptation initiatives, such as coastal wall construction or Community Resilience programs, often display fragmentation when faced with external pressures, such as fluctuations in the global coal market (which affect APBD allocations) or top-down policy interventions from Jakarta that overlook the city's distinct geographic context. Previous studies on climate change adaptation in Indonesia (e.g., Surabaya, Semarang) primarily focus on endogenous factors such as community involvement and technological progress; therefore, this research presents a novel viewpoint by emphasising exogenous impacts that have been neglected. This work synthesises the three theories, filling the scholarly gap while providing practical answers to improve policy coherence across governmental levels and to predict more complex global disruptions.

2.2 The Concept of Exogenous Power

Exogenous forces refer to external factors that lie outside the authority or control of a local organisation, yet significantly impact policy

formulation and execution. In the context of climate change adaptation in Bandar Lampung, external factors include global economic trends, national and international political influences, actions by non-local entities (such as multinational corporations or donor organisations), and transboundary environmental effects that hinder the city's ability to confront climate challenges. Unlike endogenous factors such as local institutional capacity, community involvement, or financial resources, external pressures are often unforeseen, hierarchical, and promote structural dependency (Vázquez-Barquero & Rodríguez-Cohard, 2016; Bonet et al., 2023; Fan et al., 2019). International trade policies that encourage the export of extractive commodities, such as coal, may conflict with local emission reduction efforts; nevertheless, national legislation on resource allocation, as illustrated by the Job Creation Law, may limit local authority over coastal areas. This concept addresses the influence of supranational organisations such as the World Bank and the Green Climate Fund (GCF), which, despite providing adaptation financing, often impose technical and bureaucratic requirements that do not align with specific local needs, as demonstrated by the mangrove rehabilitation project in Bandar Lampung that was hindered by complex reporting procedures. Furthermore, exogenous forces are complex, the economic aspect is exemplified by the fluctuations in global commodity prices affecting the regional budget (APBD), while the political aspect is evident in the national energy policy that prioritises the establishment of coal-fired power plants outside urban regions, consequently exacerbating emissions and tidal flooding resulting from rising sea levels. The societal impact of climate change-induced migration, exemplified by fishermen from the East Coast of Sumatra who have lost their livelihoods, exacerbates the pressure on Bandar Lampung's infrastructure and resources. Additionally, transboundary environmental challenges, including marine plastic pollution from neighbouring countries and forest fires in adjacent provinces, further increase the vulnerability of local ecosystems (R. Kumar et al., 2021). Previous studies on climate policy in Indonesia, especially in Jakarta and Semarang, frequently overlook this external factor, primarily focussing on community adaptability or technological innovations. In Bandar Lampung, connected to the global logistics network through Panjang Port and shaped by national strategic initiatives such as the Trans Sumatra Highway, the interaction between local and foreign factors creates unique challenges. A notable example is the conflict between the ecosystem-based spatial plan implemented by the municipal government and the Lampung Bay reclamation project funded by foreign investors for industrial development, where global economic priorities and national geopolitical interests take precedence over sustainability principles. The concept of exogenous forces clarifies why adaptation policies are predominantly reactive rather than proactive; for example, emergency fund allocations for tidal flood mitigation are prioritised over long-term prevention strategies due to central fiscal policy limitations that constrain local budgetary flexibility. This paper fills an academic gap by asserting that failures in climate change adaptation originate from both internal shortcomings and the local government systems' inability to anticipate or mitigate external disturbances. This methodology enriches the discourse on public policy and climate change by linking localised micro-scale analyses (e.g., mangrove degradation in Teluk Betung District) with macro-global contexts (e.g., international carbon markets or ASEAN climate diplomacy), while offering a relevant evaluative framework for coastal cities in the Global South facing simultaneous development challenges and climate vulnerabilities.

3. METHOD

3.1. Research Design

This evaluative investigation on the influence of external factors in climate change adaptation policies in Indonesia is structured as qualitative research. Qualitative research, as noted by Sambodo et al. (2022), involves the experiences of research subjects, including their behaviours. Qualitative research aims to elucidate phenomena fully and contextually (holistic-contextual), as well as with depth (in-depth). The research data sources comprise interviews and papers pertaining to the city's resilience plan and project execution procedures. This paper provides a comprehensive contextual analysis of the influence of exogenous factors on climate change adaptation policies in Indonesia, particularly examining their role as drivers or interventions at the municipal government level. Exogenous influences on local governments in this context pertain to international donor organisations, including The Rockefeller Foundation via the ACCCRN program and the European Union through the UCLG ASPAC program, in addition to the central government through the RAN-API policy.

This project will examine the influence of external factors on climate change adaptation policies in Indonesia, focussing on five key aspects:

a. Are exogenous incentives from international organisations more likely to act as drivers or interveners in Indonesia's climate change adaptation policies?
b. The influence and function of external drivers in this context, specifically from international organisations (The Rockefeller Foundation via the ACCCRN program and the European Union through United Cities and Local Government Asia Pacific (UCLG ASPAC)), as well as from the central government (RAN-API BAPPENAS Secretariat, the Ministry of Environment and Forestry, and Mercy Corps Indonesia), regarding whether they predominantly act as drivers or interveners in regional climate change adaptation policies.
c. The impact of the government's bureaucratic reliance mindset at both national and regional levels on the implementation or intervention of climate change adaptation measures influenced by external sources.
d. Develop a novel theory regarding how the equilibrium model might position exogenous factors as beneficial supports, rather than interventions, in formulating sensible climate change adaptation policies in Indonesia moving forward (equilibrium point).

The selection of informants is predicated on the criterion of individuals who are knowledgeable about the issues, possess relevant data, and are prepared to furnish comprehensive and precise information. Qualitative research prioritises the suitability of informant selection over the quantity of informants, emphasising the richness and diversity of the social phenomena under investigation. Ahmed (2024) and Supriyanto et al. (2023) elucidate that purposive sampling, also referred to as judgement sampling, entails the selection of subjects deemed most capable of furnishing the requisite information. Interviews were administered to 14 informants. One representative from the National Development Planning Agency or the RAN-API secretariat, one individual from the former National Council on Climate Change (DNPI), which was disbanded during Joko Widodo's administration, two representatives from regional development planning agencies in Indonesia, specifically from Bandar Lampung City and Semarang City, one representative from Mercy Corps Indonesia (representing the Rockefeller Foundation) which provided financial support for the ACCCRN project, and one representative from a national NGO (Urban and Regional Development Institute – URDI) that collaborates with the Government of the Republic of Indonesia in executing climate initiatives in the regions. One individual from the CRIC project, which finances United Cities and Local Governments Asia Pacific (UCLG ASPAC), six members of the Bandar Lampung City Climate Change Working Group, and one member of the Semarang City Climate Change Coordination Team. The subjects were selected purposively, also known as judgement sampling, which involves choosing individuals who are most capable of providing the requisite information for this research issue.

The informants selected for this study, based on judgement sampling, include BAPPENAS (secretariat of RAN API), the Ministry of Environment and Forestry, the National Council on Climate Change (DNPI), BAPPEDA from 11 Indonesian cities, the Climate Change Working Group, Mercy Corps Indonesia (representing the Rockefeller Foundation), and the National NGO (Urban and Regional Development Institute – URDI), along with the project funded by United Cities and Local Governments Asia Pacific (UCLG ASPAC). The validation procedure for data is conducted using triangulation, a method that assesses data validity by employing external sources for verification or comparison (Sambodo et al., 2022; Gunarto et al., 2020). Source triangulation involves comparing information acquired from many sources. The triangulation of methodologies is conducted using many data gathering techniques, including interviews, observations, and documentation studies, to acquire consistent data. The validity of the data was assessed through the triangulation method, which entails verifying the consistency of information from interview results against documented sources, as well as source triangulation, which compares the congruence of information between different informants.

4. RESULTS

4.1. Implementation of Exogenous Push ACCCRN

Prioritising climate change adaptation in national development policy is justified by at least two grounds. The effects of climate change can jeopardise fundamental human rights to critical necessities, specifically food, housing, and clothes. Secondly, disregarding climate change adaptation will hinder attempts to alleviate poverty and attain sustainable development. Given those factors, it is essential for Indonesia to prioritise climate change adaptation within its national development strategy agenda. Consequently, incorporating climate change adaptation components into development policy

frameworks should be regarded as an essential strategy for attaining long-term sustainable development. The objective of the Asian Cities Climate Resilience Network (ACCCRN) is to enhance awareness, secure funds, and implement initiatives aimed at fortifying resilience against the current and future effects of climate change for impoverished and disaster-vulnerable areas. As an ACCCRN city, Bandar Lampung must develop a Vulnerability Assessment (VA) document, a City Resilience Strategy (CRS), and concrete adaptation measures following the CRS, along with the establishment of City Resilience Indicators (CRI) to evaluate the effectiveness of these adaptation actions. Environmental programs, tree planting, trash management, and analogous projects are intrinsically linked to climate change, encompassing both adaptation and mitigation strategies. Nonetheless, these initiatives have failed to identify a singular primary objective, namely the aim of forecasting the effects of climate change. This indicates that these endeavours are just a needed component of the development agenda.

Figure. 1: Diagram Concept of Climate Resilience Planning in ACCCRN.

Figure 1 elucidates that the Climate Resilience Planning Concept Diagram in ACCCRN delineates the systematic framework employed by the Asian Cities Climate Change Resilience Network (ACCCRN) to aid Asian cities in enhancing their adaptive capability to the effects of climate change. Figure 1 delineates the principal components illustrated in the diagram.

a. **Risk and Vulnerability Assessment:** The initial stage involves identifying climate threats (such as floods, droughts, rising temperatures) and analyzing the social, economic, and physical vulnerability of the city. Scientific data and community participation are used to map vulnerable areas and groups.
b. **Strategic Adaptation Planning:** The assessment results are integrated into the development of adaptation strategies, such as climate-resilient infrastructure, early warning systems, or community training programs. This process involves collaboration between stakeholders (government, private sector, NGOs, academics).
c. **Implementation and Capacity Building:** The strategy is operationalized through pilot projects, local policies, or integration into urban development plans. This component may include human resource training, allocation of specific funding, and utilization of innovative technology.
d. **Monitoring and Evaluation (M&E):** The M&E system is designed to track the effectiveness of interventions, measure indicators of success, and adjust strategies based on feedback. Performance data is used to improve response and transparency.
e. **Participation and Inclusivity:** The diagram may emphasize the importance of involving local communities, marginalized groups, and women in all stages of planning to ensure equitable and sustainable solutions.
f. **Multisector Policy Integration:** ACCCRN encourages the harmonization of climate resilience policies with other sectors (health, transportation, energy) to create synergy and avoid conflicting policies.
g. **Sustainable Resilience:** This process is dynamic, with long-term adaptation mechanisms that update strategies based on changing climate conditions, scientific developments, and community needs. The ACCCRN program provides a new awareness that these efforts must be clearly mapped so that the goal of achieving urban resilience indicators can ultimately be assessed definitively.

4.2 Implementation of Exogenous Impulse on RAN API

RAN-API constitutes a component of Indonesia's national development framework. From the standpoint of national development planning, RAN-API is a cross-sectoral thematic framework that specifically addresses the formulation of climate-proof and resilient development plans at the national level. RAN-API is anticipated to offer direction for the Government Work Plan and the National Medium-Term Development Plan (RPJMN) in the future, enhancing responsiveness to the effects of climate change. The RAN-API does not constitute an independent document with formal legal authority;

instead, it functions as a primary input and an essential component of national development planning papers and the planning processes of Ministries/Agencies (K/L). RAN-API serves as a reference for local governments in developing the Regional Climate Change Adaptation Strategy/Action Plan (RAD-API) to assist in the preparation of climate-resilient development planning documents. To execute climate change adaptation in the regions, it is essential to prepare RAD-API at the provincial and district/city levels, with each area responsible for the preparation, coordinated by the Ministry of Home Affairs or through the formation of working groups. RAD-API is formulated by engaging pertinent technical departments and aligning with regional development priorities, considering the capabilities of the APBD and the community. Consequently, as a pilot city for RAN-API, Bandar Lampung City must formulate the RAD-API, focussing on the strategies and action plans within the Economic Resilience Sector (including the Action Plan for the Food Security Sub-Sector and the Action Plan for the Energy Independence Sub-Sector), the Life System Resilience Sector (comprising the Action Plan for the Health Sub-Sector, the Action Plan for the Settlement Sub-Sector, and the Action Plan for the Infrastructure Sub-Sector), the Ecosystem Resilience Sector, the Special Regional Resilience Sector (encompassing the Action Plan for the Urban Sub-Sector and the Action Plan for the Coastal and Small Island Sub-Sector), as well as the Supporting System Sector. Nevertheless, the research findings indicate the absence of planning or action papers in the fields/subfields generated by Bandar Lampung City as a pilot city for RAN-API, including the establishment of working groups. This section elucidates the rationale behind UCLG ASPAC's selection of Bandar Lampung City as a pilot city for the implementation of environmental cooperation pertaining to climate resilience, specifically within the framework of the Climate Resilience and Inclusive Cities (CRIC) Project, utilising the theory of the role of international organisations. Clive Archer (1983) in his book International Organisations asserts that international organisations are formal bureaucratic structures established through agreements among members (governmental or non-governmental) from two or more sovereign states, aimed at pursuing the collective interests of the membership. International organisations (IO) possess a structured framework of regulations, aims, and governance. Constitution, resources, emblems, secretariat, etc.

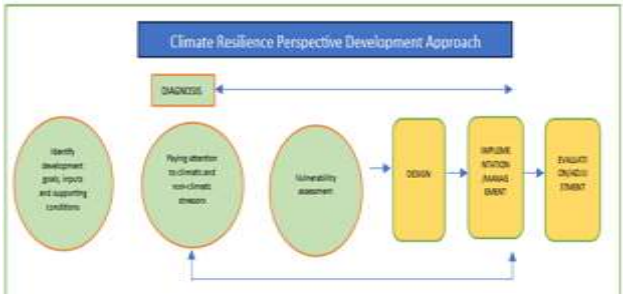


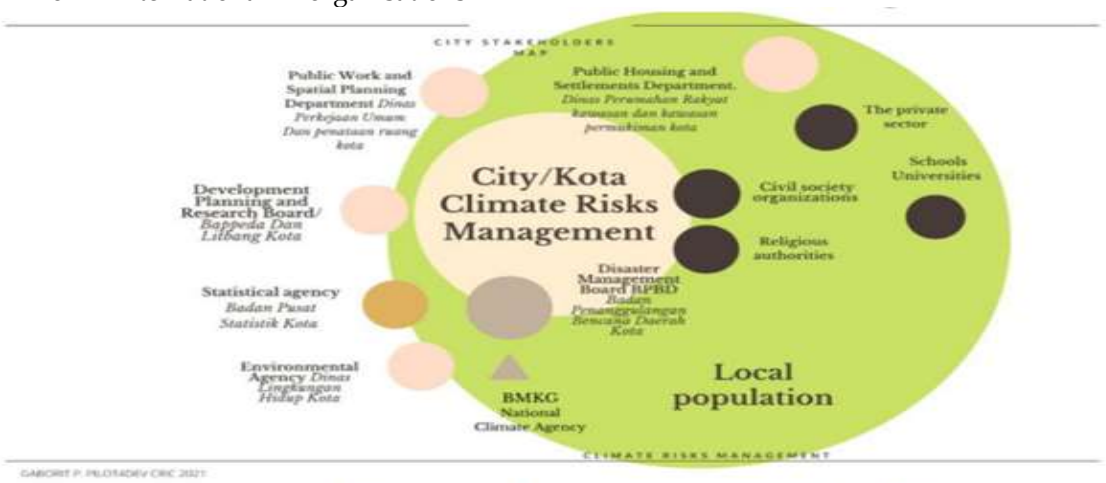
Figure. 2: Chart Climate Resilience Perspective Development Approach in the RAN API.

Figure 2 depicts a structured framework for enhancing climate resilience within the scope of the National Action Plan on Climate Change Adaptation (RAN API). This strategy aims to incorporate sustainability concepts and climate change adaptation into the development process. The chart delineates a systematic progression of phases, commencing with the identification of risks and vulnerabilities via the examination of climatic, sociological, and environmental data. This phase seeks to delineate the particular challenges confronting a region or sector, including sea level rise, drought, or ecosystem degradation. This method entails the formulation of evidence-based adaptation plans through collaborative efforts among government entities, local communities, academia, and the commercial sector. The approach aims to reduce risk while enhancing the ability of institutions and communities to address climate change. The implementation phase is succeeded by the integration of policies across sectors, including energy, agriculture, and infrastructure, to provide coherence and synergy across programs. Continuous monitoring and assessment are essential for assessing the efficacy of the implemented measures. This technique employs quantifiable performance metrics, including a reduction in community vulnerability and an enhancement in the accessibility of water resources. The assessment outcomes are subsequently employed to adaptively modify the strategy, guaranteeing that the methodology stays pertinent to evolving climatic conditions and regional requirements. The RAN API seeks to mitigate the adverse effects of climate change while enhancing long-term systemic resilience for equitable and sustainable development.

4.3 Implementation of Exogenous Push CRIC UCLG-ASPAC

In the international system, international organisations (IO) fulfil a distinct role that

corresponds with the principles and essential characteristics of international organisations (Almakky, 2023). Archer categorises the roles of international organisations into three classifications, instrument, arena, and actor. International organisations function as instruments, enabling their members to pursue their individual national objectives. The secondary function is that of an arena. In this context, international organisations serve as a platform for their members to pursue resolutions to domestic issues, whether within their own nations or in foreign territories. The last role is that of an actor, wherein the IO functions as an independent entity, unencumbered by external influences in decision-making. According to Clive Archer's thesis on the function of international organisations in international relations, UCLG ASPAC serves as a tool for its members, a platform for developing solutions, and an autonomous entity. UCLG ASPAC serves as a tool for its members to attain specific objectives and to synchronise operations in accordance with their foreign policy aims. This position is evident in the execution of the CRIC project in Bandar Lampung City, which embraces the 2030 sustainable development agenda and the 17 Sustainable Development Goals (SDGs). Consequently, to bolster the climate-resilient city initiative, UCLG ASPAC endeavours to localise the Sustainable Development Goals (SDGs) at the urban level, with specific emphasis on the 11th SDG pertaining to climate-resilient cities.



Sumber: Pascaline Gaborit, Climate adaptation to Multi-Hazard climate related in ten Indonesian Cities: Ambitions and Challenges, (Climate Risk

Figure ***3: Peta Map of Stakeholder Climate Risk Management.***

Figure 3 presents a map depicting climate risk management by many stakeholders. This graphic is presumably intended to illustrate the linkages and interactions among the various stakeholders in climate risk management, as well as their collaboration to address the issues posed by climate change. In climate risk management, stakeholders encompass diverse groups, including government bodies, corporations, non-governmental organisations (NGOs), local communities, and research institutes. The graphic illustrates the contributions of each stakeholder to the identification, assessment, mitigation, and adaptation of climate hazards. The government may be tasked with developing legislation and regulations, whereas corporations can concentrate on executing sustainable business practices. Non-governmental organisations and local communities can contribute to awareness-raising and the execution of adaptation initiatives at the grassroots level, whereas research institutes can furnish data and scientific analysis to facilitate informed decision-making. By comprehending the function of each stakeholder, it is anticipated that enhanced synergy may be established in addressing the issues of climate change, hence mitigating its adverse effects on the environment, economy, and society. The endeavours of UCLG ASPAC to localise the SDGs are intrinsically linked to the multilevel governance framework established by the organisation. The Sustainable Development Goals (SDGs) within the framework of multi-level governance must recognise the intricacies of global governance, which encompasses not only sovereign state systems but also networks of scientists, corporations, non-governmental organisations (NGOs), and environmental factors that constitute the basis of global governance (UCLG ASPAC, 2020). Guarini et al. (2022), in their study "Localising the Sustainable Development Goals, Assessing Indonesia's

Compliance towards the Global Goals," assert that diverse strategies are essential for localising the SDGs at national and subnational levels, including the establishment of policy networks through the incorporation of concepts from non-state actors. The initiative to localise the Sustainable Development Goals (SDGs) at the urban level by UCLG ASPAC received approval from the local government via the Letter of Commitment from the City of Bandar Lampung for the execution of the Climate Resilient and Inclusive Cities (CRIC) Project. The Mayor of Bandar Lampung declared his intention to link CRIC objectives with the city's policies and development priorities to bolster climate resilience.

The objectives to be formulated and implemented by the City of Bandar Lampung encompass:

1) Enhancing good governance.
2) Promoting sustainable resource utilisation.
3) Fostering social cohesion and inclusivity.
4) Advancing urban resilience and environmental initiatives.
5) Improving urban welfare and innovation. Likewise, non-state entities, specifically environmental non-governmental organisations (ENGOs), can have influence over governance processes in numerous instances (Haris et al., 2022).

5. DISCUSSION

5.1. Leadership Climate Change Adaptation

The examination of leadership evaluates the presence and efficacy of climate change adaptation policies (programs) effectively established by the Bandar Lampung City Government and the process of their development. Research findings indicate that the Bandar Lampung City Government has implemented direct and measurable actions categorized as climate change adaptation efforts, particularly since 2009, when the city was designated by Mercy Corps Indonesia and the Rockefeller Foundation as one of the Indonesian cities, alongside Semarang and eight other Southeast Asian cities, to participate in the Asian Cities Climate Change Resilience Network (ACCCRN). ACCCRN seeks to assist the aforementioned eight cities in enhancing resilience to climate change, particularly for impoverished and vulnerable populations. The assistance of ACCCRN in Bandar Lampung City has exceeded multiple milestones, commencing with the creation of a vulnerability assessment, the execution of pilot projects for climate change adaptation, sector analyses, and ongoing learning dialogues (SLDs). Prior to the execution of climate change adaptation at an urban level, all these accomplishments have been thoroughly examined and subsequently documented through the development of the City Resilience Strategy (CRS), the City Resilience Indicator report, and a compilation of concept notes as alternative initiatives on a smaller scale (such as schools, fishing zones, and densely populated areas). The CRS document under the ACCCRN framework constitutes the fundamental basis for executing climate resilience enhancement initiatives in Bandar Lampung City from 2010 to 2030. The CRS paper serves as a strategic framework to equip the city for potential worst-case scenarios resulting from climate change. The presence of the CRS document signifies the recognition that the absence of a resilience strategy document jeopardizes the operations of the urban system and endangers the vulnerable populations inside the city. This CRS serves as a document illustrating Bandar Lampung City's dedication to climate change adaptation, its integration with urban and developmental plans, and it delineates coordination and learning frameworks, as well as the participation of vulnerable populations in recognizing and executing adaptation measures. This CRS delineates the implementation strategy for accountability and coordination structures, as well as the monitoring of future resilience targets through the assessment of city resilience indicators. The Bandar Lampung City Government has executed numerous projects and formulated medium- and long-term policies for disaster management. Strategies to enhance infrastructure for climate catastrophe management, including drainage systems and coastal embankments, have been formulated. Nonetheless, because to the escalating climate change characterized by the frequency and intensity of extreme weather events, the existing design may prove inadequate for addressing future climate disasters. Consequently, the Bandar Lampung City Government possesses a significant knowledge of the necessity to incorporate climate change into the formulation of a formal and complete climate disaster control system document.

5.2. Institutional Structure Climate Change Adaptation

An analysis of institutional structure is performed to evaluate the execution of climate change adaptation policies in Bandar Lampung City, including all its variations and supporting elements. Contributing factors in this instance include leadership elements, the existence of institutions dedicated to climate change matters, and prospects

for collaborative finance in executing climate change adaptation initiatives. Leadership can be succinctly defined as a method of influencing individuals to collaborate in order to attain established goals, objectives, or aspirations. The notion clearly underscores the need of local leadership in fostering collaboration among diverse social forces within the community to attain urban resilience objectives in the context of climate change. This awareness has been authentically cultivated in Bandar Lampung through the mayor's willingness to engage multiple stakeholders in the planning and execution of adaptation measures, the formulation of diverse regional regulations, the allocation of regional budgets, and the complete confidence bestowed upon the subordinate institutions to implement climate change adaptation initiatives. This trust encourages several stakeholders to confidently contribute to the city's resilience objectives. This institutional section indicates that since 2009, a dedicated entity has been established to oversee the integration of climate change issues into regional administration. The organisation is designated as the Climate Change Resilience Coordination Team of Bandar Lampung City. This team is a multistakeholder entity authorized by the mayor as a specialised body endowed with comprehensive authority to offer recommendations, draft regulations, develop policies, execute programs, and establish partnerships with organisations both within and beyond the government to expedite the execution of adaptation initiatives. While the developed capacity primarily remains individual or institutional and has not been fully actualized across all pertinent institutions, the city's team capacity in planning, financing, coordinating, and executing resilience strategies has improved. The municipal team has increasingly recognized the necessity of addressing climate change as a collective concern and is prepared to establish platforms for broader dissemination of this knowledge. The mayor's trust in this team has demonstrated the capacity to foster teamwork. Collaboration and contributions from local governments, the commercial sector, non-governmental organisations, academia, and communities within the Team are anticipated to alleviate the emergence of climate change risks and repercussions on society at large. The collaboration among many stakeholders in adaptation activities, along with supportive rules and policies, is anticipated to enhance resistance to climate change.

5.3. The Role of Exogenous Forces in Climate Change Adaptation Policies

This section will particularly address four primary enquiries. Is the external role of foreign financing organisations in Indonesia a more dominant driver or merely an intervention in climate change adaptation policies? Does the federal government's role in cities and regions serve primarily as a driver or as an intervention in local climate adaption policies? (iii) Does the government's mentality in the city or region affect the extent to which it is influenced by external influences in policy-making? How can the optimal model enhance the contribution of exogenous players in formulating effective climate change adaptation policies in Indonesia? The role of international organisations, such as the Rockefeller Foundation and UCLG ASPAC, through the ACCCRN and CRIC programs, encompasses serving as tools for their members, platforms for developing solutions, or autonomous entities, while also being utilised by their members to attain specific objectives and synchronise actions in accordance with their foreign policy aims. This position is evident in the execution of the CRIC project in Bandar Lampung City, which aligns with the 2030 Sustainable Development Agenda and the 17th goal of the SDGs, specifically climate-resilient cities. In this context, the function as a catalyst for projects is elucidated. Secondly, RAN-API constitutes a component of Indonesia's National Development Framework. RAN-API is a targeted cross-sectoral theme strategy for formulating climate-resilient development plans within the context of national development. The RAN-API functions as a component of the RPJMN 2020-2024, reaffirming the dedication of both central and regional governments to execute climate change adaptation measures in alignment with their specific aims and policies. A review of the RAN-API policy is essential to facilitate the development of targeted climate adaptation policies, utilizing the findings from the scientific assessment of the RAN-API, which encompasses climate change and its associated risks, and examining how the RAN-API functions as a foundational guideline for formulating regional climate change policies.

In this context, pursuant to the stipulations of Law No. 23 of 2024 about Regional Government, the central government serves as the governing authority that regional governments are obligated to adhere to. The comprehension of gouvernementalité (the mentality of governing) about power in Indonesia exhibits significant logic when assessed from the perspective of governance in the country. The governing mentality contrasts with the serving mentality in the exercise of power, since it aims to

compel society to behave and regulate wealth and behaviour according to directives, akin to a father's authority over a family.

This method of control enables the government to cultivate citizens who conform to its policies or interests. These structured practices provide the mindset, reasoning, and methodologies to influence the behaviours or actions of individuals. When local or city governments possess large resources for policy implementation, this governing attitude does not pose a serious concern. Due to resource constraints, local governments will accept any requirements imposed by international institutions as motivators for advancing previously established policy initiatives when exogenous incentives present substantial promises. The collaborative governance method represents a recent advancement in the policy-making process. It resembles a "mantra" capable of remedying several policy ailments, including the politicization of rules, budgetary inflation, and implementation difficulties, among others.

This optimal paradigm facilitates the participation of diverse stakeholders and the integration of all interests to attain consensus. Consequently, the decision to implement the collaborative governance model in developing climate change adaptation governance and reconciling external influences with internal initiatives through agreement is a crucial objective that should be pursued.

6. CONCLUSION

The discussion regarding endogenous and exogenous factors in public policy remains pertinent, as one of the numerous indicators for assessing the success or failure of a system, development, or policy is the impact of factors outside governmental control (exogenous). The phrase exogenous refers to an external impulse, distinguishing it from endogenous impetus, which denotes an effort where the desire and activities for climate change adaptation arise from within the city itself. The disparity in 'compliance' within Bandar Lampung City is markedly affected by funding, particularly in three climate change adaptation initiatives, ACCCRN and CRIC, which are financed by international organisations, and the RAN-API program established by the central government. The actions conducted by the city government in the ACCCRN and CRIC programs, which were concurrently financed based on requirements, yielded a significant degree of compliance from the local government. The government's initiative for operations in the pilot city of RAN-API, which requires independent funding from the regional budget (APBD) as stipulated in the current RAN-API funding framework, has garnered minimal substantial reaction. This indicates that external support (exogenous force) with the commitment of funds for regionally conceived policy initiatives is, in fact, more impactful than the state's participation, which possesses the ultimate ability to enforce policies. Local governments, regardless of location, should exclusively employ exogenous incentives to enhance existing initiatives, rather than assuming a regulatory role. The government's authority to formulate policies, including those for climate change adaptation, must be effectively optimized, as the rationale for such policies is clearly articulated and justifiable. Consequently, the theory of the autonomous state must be employed effectively by formulating or intervening in policies to the greatest extent possible; although such interventions may lack economic viability, they significantly contribute to averting economic losses for cities and communities (the public). From this viewpoint, external stimuli solely function to bolster pre-existing policy ideas.

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