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Research Article

Reformulating Water Policy: Reaffirming Farmers' Rights and Developing Climate-Adaptive Governance Post-Constitutional Court Decision

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Abstract: The reformulation of water resource management policy following the Constitutional Court (MK) Decision Number 85/PUU-XI/2013 and the enactment of Law Number 17 of 2019 concerning Water Resources is an urgent necessity. Although Law 17/2019 establishes priority for water utilization for basic daily needs and smallholder agriculture (pertanian rakyat), the affirmation of farmers' priority rights remains weak in practice. This weakness stems from the centralization of allocation authority within the River Basin Organizations (BBWS), regulatory loopholes, and dominating pressure from non-agricultural sectors such as industry and urban development. Furthermore, the current governance model is static and inadequate to cope with the hydrological shocks of climate change, manifested in the increasing intensity of droughts and floods. This study aims to formulate policy recommendations that bridge the constitutional mandate, farmer protection, and the imperative for climate adaptation. A Policy Reformulation is required, resting on two pillars: The Absolute Affirmation of Farmers' Priority Rights through the legalization of water use rights (water use right certification) and the decentralization of operational water management authority to Water User Associations (P3A)/Federations of P3A (GP3A), alongside the establishment of accessible water dispute adjudication mechanisms. The second pillar is the integration of a Climate-Adaptive Governance Model based on the adoption of an Adaptive Decision Support System (ADSS) integrating real-time data and climate forecasting, the empowerment of P3A in operational decision-making, and a shift in investment towards Nature-Based Solutions (NbS) and the modernization of water-saving infrastructure. The implementation of this holistic model, particularly through the revision of the Water Resources Management Plan (RPSDA), is key to ensuring national food security and the sustainability of Indonesia's water resources.

Keywords: Climate-Adaptive Governance; Constitutional Court Decision; Farmers' Priority Rights; Water Resource Management; Water Resources Policy

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1. Introduction

Indonesia, as an agrarian and archipelagic nation, relies heavily on the availability of adequate water resources. Since the Reformation era, water management policy in Indonesia has experienced significant turbulence. The culmination of this turmoil occurred when Law Number 7 of 2004 concerning Water Resources was annulled in its entirety by the Constitutional Court through Decision Number 85/PUU-XI/2013. This decision reaffirmed the state's right of control over water (hak menguasai negara) and opposed any form of water privatization that potentially infringed upon the people's right to water. The annulment of Law 7/2004 created a temporary legal vacuum, filled by the reinstatement of the old law, which eventually led to the enactment of Law Number 17 of 2019 concerning Water Resources. Although Law 17/2019 attempts to internalize the spirit of the Constitutional Court's decision—specifically regarding the restriction of the private sector and the strengthening of the state's role—its implementation in the field still faces major challenges.

One crucial aspect requiring policy affirmation is the priority right of farmers, or the right to water for agricultural needs. Article 6 of Law 17/2019 does establish a priority order for water utilization, placing basic daily needs and smallholder agriculture (irrigation) at the top. However, in situations of water competition, legal affirmation and protection of these

priority rights often weaken under pressure from industrial, property, and urban sectors, which possess greater economic and political power. Climate change adds a severe layer of complexity. Meteorological data indicates an increase in the frequency and intensity of extreme climate events, such as prolonged droughts and flash floods, which directly threaten water availability and quality. The existing water governance system, largely designed in a pre-climate change era, has proven less adaptive and vulnerable to these hydrological shocks. Therefore, a paradigm shift is needed from reactive water management to proactive, risk-based climate-adaptive governance. This research is driven by the realization that water policy reformulation must serve as a bridge between the constitutional mandate, the need for food security through farmer protection, and the imperative of climate change adaptation. Without comprehensive reformulation, water conflicts will continue to escalate, and national food security will be threatened. This background highlights the urgency of producing a robust, equitable, and futuristic policy framework in water resource management.

The Constitutional Court Decision Number 85/PUU-XI/2013 on February 18, 2015, stands as a significant historical milestone in Indonesia's water resource management, fundamentally altering the regulatory landscape of the water sector. This decision annulled Law No. 7 of 2004 in its entirety as it was deemed contrary to Article 33 paragraph (3) of the 1945 Constitution of the Republic of Indonesia, which asserts that the land, the waters, and the natural resources within shall be under the powers of the State and shall be used to the greatest benefit of the people. A primary critique of Law No. 7 of 2004 was the excessive opportunity it opened for water privatization, raising concerns about the marginalization of basic public rights, particularly those of farmers dependent on irrigation water. This annulment carried legal consequences, namely the reinstatement of Law No. 11 of 1974 on Water Resources until a new law was issued—responded to by Law Number 17 of 2019 concerning Water Resources and further refined through the Job Creation Law (UU Cipta Kerja). Despite the new legislation, fundamental issues regarding farmers' priority rights and the implementation of the state control principle within the context of water governance remain unresolved and leave wide room for interpretation, especially in implementing regulations. Farmers, as the largest demographic group using water for primary food production, are often in a vulnerable position during water utilization conflicts with industrial or urban sectors. On the other hand, climate change challenges exacerbate the water crisis, where erratic rainfall patterns, prolonged droughts, and extreme floods become real threats demanding a water resource management system based not only on legal justice but also on an adaptive governance model capable of responding to climate dynamics quickly and effectively. The gap between the constitutional mandate, the spirit of the Constitutional Court's decision to prioritize people's rights, the factual needs of farmers, and the urgent adoption of climate adaptation strategies in national water policy constitutes the primary background driving the need for comprehensive policy reformulation. This study aims to bridge this gap by formulating policy recommendations that explicitly strengthen the position of farmers and integrate climate adaptation aspects into the post-Constitutional Court water governance framework.

Water resource management is a crucial issue facing complex challenges in Indonesia, particularly in the context of climate change and socio-political dynamics triggered by regulations. This research focuses on the Reformulation of Water Resource Management Policy by emphasizing the affirmation of farmers' priority rights and the development of climate-adaptive governance models following the Constitutional Court (MK) ruling on Law Number 7 of 2004, which was subsequently replaced by Law Number 17 of 2019. The MK ruling fundamentally changed the landscape of water policy in Indonesia, restoring the state's central role in water management and implicitly re-emphasizing principles of justice and sustainability. However, the implementation of these principles, particularly in guaranteeing priority rights for farmers who are the backbone of national food security, still faces significant obstacles. Water needs for irrigation often conflict with the needs of other sectors such as industry and urban areas, especially in regions experiencing seasonal water deficits or extreme climate change impacts. Therefore, this research is highly relevant and urgent to formulate policies that not only comply with the constitutional mandate and the MK decision but are also practical, fair, and resilient to future climate challenges. The focus on a climate-adaptive governance model is an acknowledgment that water policy can no longer be static but must be dynamic and capable of adjusting to rainfall patterns, droughts, and floods that are becoming increasingly erratic due to global climate change. This study aims to make a substantive contribution to the formulation of water policies that favor public interest, particularly farmers, and ensure sustainable water availability for all needs.

2. Problem Formulation

Departing from the background and the complexity of issues arising post-Constitutional Court decision, this research formulates three key questions that are interrelated and serve as the primary focus of analysis:

1. What are the legal implications of the Constitutional Court Decision Number 85/PUU-XI/2013 on the regulatory framework of water resource management in Indonesia, specifically regarding the affirmation of priority water rights for smallholder agriculture, and does the current prevailing regulation, including Law No. 17 of 2019, adequately reflect constitutional principles and the spirit of the decision in protecting farmers' interests? This question will dissect, through a juridical-normative approach, the extent to which regulatory changes have internalized the six basic principles of water resource management restrictions established by the MK, particularly regarding the prohibition of water exploitation that interferes with people's rights and the primary priority for State-Owned Enterprises (BUMN)/Regional-Owned Enterprises (BUMD).
2. How can an ideal and climate-adaptive water resource governance model be formulated and implemented post-Constitutional Court decision, especially to ensure sustainable water availability for the smallholder agriculture sector? The focus of this question is to design a governance model that combines the principles of Integrated Water Resources Management (IWRM) with community-based and technology-driven climate adaptation strategies, considering the specific vulnerabilities of river basins in Indonesia, and ensuring the active involvement of farmers in decision-making.
3. What are the concrete and strategic policy and institutional reformulation recommendations needed to effectively affirm priority water rights for farmers and integrate climate-adaptive governance models into the national and regional water resource management systems? This final question aims to produce a practical policy blueprint covering legislation, derivative regulations, water allocation mechanisms, institutional structures, as well as financing mechanisms and incentives for water conservation at the farm level. These three problem formulations will be answered through a series of data analyses and structured arguments within the established methodological framework.

3. Proposed Method

This study will utilize a comprehensive Normative-Empirical (Socio-legal) legal research method. This approach is chosen not only to analyze formal legal texts (normative) but also to examine the implementation and social impact of these policies in the field (empirical).

1. Normative Approach (Literature and Regulatory Review): The normative section will focus on an in-depth analysis of the hierarchy of legislation. Primary legal sources to be examined include: 1) The 1945 Constitution of the Republic of Indonesia, specifically Article 33; 2) Constitutional Court Decision Number 85/PUU-XI/2013; 3) Law Number 17 of 2019 concerning Water Resources; and 4) Various implementing regulations (Government Regulations, Presidential Regulations, and Ministerial Regulations) related to licensing, allocation, and water conservation. This review will also involve a comparative legal analysis of water policies in countries facing similar climate challenges, such as Australia or the Netherlands, to identify best practices in climate-adaptive governance.
2. Empirical Approach (Field Study): The empirical section will be conducted through case studies in two to three water-stressed regions with high water allocation conflicts between agricultural and non-agricultural sectors, which also face significant climate change risks. Field data collection will use in-depth interview techniques with key stakeholders: 1) Regulatory officials (Ministry/Agencies related to Water Resources, BMKG); 2) Technical implementers (River Basin Organizations - BBWS); 3) Farmer representatives (Water User Associations - P3A, Federations of P3A); 4) Non-agricultural sector representatives (Industry, PDAM); and 5) Academics/experts in law and hydrology. In addition to interviews, participatory observation of water governance practices at the irrigation channel level and secondary data collection (rainfall data, water discharge, and water conflict reports) will be conducted.
3. Data Analysis: Normative data will be analyzed using a descriptive-analytical method to evaluate the philosophical, juridical, and sociological consistency between Law 17/2019 and the MK Decision, and to identify legal loopholes in the affirmation of farmers' priority rights. Empirical data will be analyzed using thematic qualitative analysis to identify patterns, obstacles, and best practices of adaptive water governance in the field.

The results of these two approaches will then be synthesized through triangulation analysis (data and method) to formulate a comprehensive policy model that bridges legal idealism and implementation reality. The entire methodology is designed to produce valid and relevant policy recommendations.

4. Results and Discussion

Affirmation of Farmers' Priority Rights Post-Constitutional Court Decision The 85/PUU-XI/2013 Constitutional Court (MK) decision restored the state's right of control over water, interpreted as the state's obligation to guarantee water availability for the people, particularly for basic needs and smallholder agriculture as a human right and an element of food security. Law Number 17 of 2019 (Law 17/2019) responded to this by establishing a priority order for water utilization, where basic daily needs and smallholder agriculture (irrigation) occupy the highest rank. However, analysis of derivative regulations and their implementation indicates that the affirmation of these priority rights remains weak at the operational level.

Normatively, Article 6 of Law 17/2019 is clear, but in water allocation practices, especially in River Basins (DAS) experiencing high water stress, the economic and political power of industrial and urban sectors often dominates the licensing and allocation process. Identified implementation barriers include: a) Lack of clarity in definitional boundaries between "smallholder agriculture" water needs and non-smallholder agriculture (large-scale plantation companies), allowing loopholes for misuse; b) Centralized licensing mechanisms at the River Basin Organization (BBWS) that are often unresponsive to the dynamic water needs of farmers at the village level; and c) Lack of practical legal power for Water User Associations (P3A) or Federations of P3A (GP3A) to claim their priority rights amidst conflicts. To strengthen this affirmation, policy reformulation must include amendments to implementing regulations to grant more definitive allocation authority to P3A/GP3A within primary irrigation operation areas, and introduce a water court or water adjudication mechanism that is fast and affordable to resolve water disputes, providing farmers with effective legal means to protect their priority rights.

Climate-Adaptive Governance Model for Water Resources Climate-adaptive governance is an inevitability in facing the uncertainty of hydrological patterns due to climate change, manifested in increased intensity of droughts and floods. The current governance model tends to be top-down and based on historical data, which is becoming less relevant in the climate change era. The Climate-Adaptive Governance Model proposed in this study is based on three main pillars:

1. Data Integration and Forecasting: Water management must move from historical data toward real-time data and short-to-medium-term climate predictions. The policy framework must mandate BBWS and water authorities to routinely integrate rainfall and water discharge data updated by the Meteorology, Climatology, and Geophysics Agency (BMKG) into allocation decisions. This enables dynamic water allocation rather than static allocation.
2. Decentralization and Adaptive Participation: Shifting operational water decision-making to lower levels (Irrigation Areas/Sub-DAS) by involving P3A as key partners. P3A involvement is vital as they possess invaluable local knowledge regarding irrigation patterns, local water storage capacity, and traditional water conservation practices. Policies must empower P3A with technical training and formal authority to conduct water rotation and climate-adaptive cropping pattern adjustments.
3. Green and Resilient Infrastructure: In addition to the construction of conventional dams and irrigation channels (grey infrastructure), policies must prioritize investment in Nature-Based Solutions (NbS) such as catchment area rehabilitation, construction of small-scale retention basins (embung), and managed aquifer recharge.

The operational principle of this model is a continuous learning cycle: Policies are implemented, results are monitored against climatic and social indicators, evaluated, and policies are readjusted within short timeframes (annual or seasonal). Integrating this model into the Water Resources Management Plan (RPSDA) at the DAS level will be key to its success.

Policy Reformulation and Recommendations The synthesis of the two main discussions—affirming farmers' rights and adaptive climate models—points to the need for an integrated Reformulation of Water Resource Management Policy. This reformulation must focus on three dimensions:

a) Legal and Institutional Dimension: Amendments or the drafting of new Government Regulations (PP) are needed to explicitly regulate: 1) Operational Definition of Farmers' Priority Rights: This right must be attached to technical/semi-technical irrigated rice fields that are registered and possess a legally guaranteed water allocation (water use right certification) which cannot be unilaterally cancelled by non-legal regulators; 2) Institutional Strengthening of P3A/GP3A: Granting stronger legal status (e.g., as a Local Legal Entity) and transferring partial operational water management authority from BBWS to P3A at the primary/secondary level, including authority to set water rotation schedules and manage micro-irrigation maintenance.
b) Technical and Operational Dimension: The implementation of an Adaptive Decision Support System (ADSS) integrating climate data (BMKG), hydrological data (BBWS), and agricultural data (Ministry of Agriculture) is urgent. This ADSS must be capable of generating Agricultural Drought and Flood Early Warnings and recommending real-time water allocation adjustments or cropping pattern changes. Furthermore, policy must encourage balanced investment between new irrigation infrastructure and the modernization of old infrastructure with water-saving technology (e.g., drip irrigation or piping) as well as green infrastructure development.
c) Financial and Incentive Dimension: Reformulation must introduce incentive mechanisms for farmers adopting water conservation practices and climate-adaptive cropping patterns. This could take the form of drought-resistant seed subsidies, water tax reductions, or Payment for Environmental Services (PES) schemes for groups contributing to catchment area conservation. Water licensing policies for non-agricultural sectors must also be revised to ensure stricter compensatory action obligations (e.g., obligation to build reservoirs or contribute recycled water) if their water usage threatens farmers' priority rights. This holistic and integrated reformulation is a prerequisite for creating a fair, sustainable, and resilient water resource management system amidst climate pressures and increasing food demands.

5. Conclusions

This research unequivocally concludes that the Reformulation of Water Resource Management Policy post-Constitutional Court Decision and the formation of Law Number 17 of 2019 is an urgent imperative. This reformulation must rest on two main pillars: The Absolute Affirmation of Farmers' Priority Rights and the Integration of Climate-Adaptive Governance Models.

First, although Law 17/2019 has established priorities for smallholder agriculture, field implementation is still hindered by regulatory gaps, centralization of allocation authority at BBWS, and pressure from non-agricultural sectors. Therefore, the drafting of more detailed and legally robust derivative regulations is necessary to provide legalized water use rights to P3A/GP3A, decentralize operational water management authority, and establish water dispute adjudication mechanisms accessible to farmers.

Second, the current water governance model is no longer adequate to face hydrological shocks due to climate change. The proposed Climate-Adaptive Governance Model emphasizes the adoption of an Adaptive Decision Support System (ADSS) based on real-time data integration and climate forecasting, institutional empowerment of P3A in operational decision-making, and a shift in investment from purely grey infrastructure toward Nature-Based Solutions that strengthen catchment area resilience.

Integrating these two pillars within the national and regional water management policy framework, particularly through the revision of the Water Resources Management Plan (RPSDA) and adequate budget allocation for green infrastructure and water-saving irrigation modernization, will be key to achieving national food security and the sustainability of Indonesia's water resources in the future. This study recommends that the government immediately formulate a Water Policy Reform Roadmap covering legislative agendas, institutional restructuring, and the implementation of watershed-based climate adaptation programs.

Author Contributions: A short paragraph specifying their individual contributions must be provided for research articles with several authors **(mandatory for more than 1 author)**. The following statements should be used "Conceptualization: X.X. and Y.Y.; Methodology: X.X.; Software: X.X.; Validation: X.X., Y.Y. and Z.Z.; Formal analysis: X.X.; Investigation: X.X.; Resources: X.X.; Data curation: X.X.; Writing—original draft preparation: X.X.; Writing—review and editing: X.X.; Visualization: X.X.; Supervision: X.X.; Project administration: X.X.; Funding acquisition: Y.Y."

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Data Availability Statement: We encourage all authors of articles published in FAITH journals to share their research data. This section provides details regarding where data supporting reported results can be found, including links to publicly archived datasets analyzed or generated during the study. Where no new data were created or data unavailable due to privacy or ethical restrictions, a statement is still required.

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