

CERTAIN JURISPRUDENTIAL ISSUES REGARDING THE RIGHT OF ACCESS TO WEATHER FORECASTING INFORMATION AND DATA IN VIETNAM

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ABSTRACT

This article examines the legal framework and the practical implementation of the right to access weather forecasting information and data in Vietnam within the context of digital transformation and climate change. By analyzing the specific characteristics of meteorological information and data, the article evaluates the accessibility of weather-related information under prevailing legislation and the actual exercise of this right in the Vietnamese jurisdiction. Research findings indicate that while the State has demonstrated discernible efforts in implementing transparency measures and providing weather forecasting data, there remain inherent limitations within the legal provisions, and the enforcement mechanisms continue to exhibit systemic inadequacies. Consequently, the authors propose recommendations and solutions for legislative refinement aimed at enhancing the efficacy of enforcing regulations regarding the right to access weather forecasting information and data in Vietnam.

Keyword: *Hydrometeorology; Information and data; Right of access to information; Weather forecasting.*

1. INTRODUCTION

Against the backdrop of increasingly complex and unpredictable global climate change, weather forecasting information and data are no longer merely technical parameters of a cautionary nature; they have emerged as a resource of paramount importance, exerting a direct impact on national security, public safety, and the efficiency of economic activities. The accuracy and timeliness of this information and data constitute prerequisite factors in natural disaster prevention and control, as well as search and rescue operations, while concurrently serving as essential inputs for policy formulation and the management of strategic economic sectors such as agriculture, aviation, maritime affairs, and tourism. Consequently, safeguarding the right of access to weather forecasting information and data is not only a fundamental element in the implementation of legal policies concerning the right to information but also an inherent responsibility of the State in its functions of social governance and development.

In Vietnam, the right of access to information constitutes one of the fundamental rights of citizens, as expressly enshrined in Article 25 of the 2013 Constitution of the Socialist Republic of

Vietnam [6] and has been institutionalized via the 2016 Law on Access to Information, as well as through specialized legal instruments such as the 2015 Law on Hydrometeorology. The prevailing legal system has fundamentally established a legal framework for the collection, processing, and public disclosure of hydrometeorological information and data, thereby providing a statutory basis for social entities to exercise their rights of oversight and utilization of such resources. Nonetheless, the practical implementation of the law reveals that, despite discernible advancements in regulations regarding information disclosure, the enforcement mechanisms remain heavily characterized by a rigid administrative management mindset. The process of requesting the provision of hydrometeorological data and the subsequent reception of such information continue to encounter numerous impediments. These systemic inadequacies result in a significant wastage of information and data resources and further restrict the right of access to information for diverse stakeholders within society.

The article focuses on scrutinizing the prevailing legal regulations and evaluating the current state of the implementation of the right to access

information and data, specifically within the field of weather forecasting and the hydrometeorological sector at large. Through such an assessment, the study identifies limitations inherent in both the legislative framework and the practical exercise of these rights. Consequently, the authors put forward recommendations and strategic orientations aimed at refining the law and ensuring the robust protection of the right to access weather forecasting information and data for all stakeholders.

2. THE LEGAL FRAMEWORK GOVERNING THE RIGHT OF ACCESS TO WEATHER FORECASTING INFORMATION AND DATA

2.1. The concept of weather forecasting information and data

Weather is defined as “the state of the atmosphere at a point of time and in a specific area determined in meteorological factors and phenomena” [7]. This definition accentuates the instantaneous and localized characteristics of atmospheric conditions, thereby establishing a clear demarcation from the concept of climate, which pertains to the synthesis of weather patterns over an extended temporal period.

Information is defined as “news, data created by state agencies, contained in documents, dossiers, materials in forms of hand-writing copies, printed copies, electronic copies, paintings, pictures, drawings, tapes, disks, videos, recordings or other forms” [9]. Accordingly, weather information constitutes the data and news contained in existing documents, files, and records regarding the state of the atmosphere generated by state agencies. Consequently, weather information is a product that has undergone processes of processing, analysis, and synthesis from raw data, thereby possessing specific significance and a certain utility value. This sequence of processing, analysis, and compilation constitutes the act of “creating information” by state agencies as defined by the 2016 Law on Access to Information.

Weather data comprises numerical values and information gathered through hydrometeorological observation activities. Accordingly, hydrometeorological observation is defined as “the direct or indirect systematic observation and measurement of parameters demonstrating the state, phenomena and process...” [7]. In other terms, weather data is understood as raw, original, and unprocessed data

derived from the observation and measurement of meteorological elements. These represent primary figures and physical measurements that serve as raw inputs, existing prior to the execution of the act of “creating information”.

Synthesizing the aforementioned concepts, weather information and data may be conceptualized as an aggregate of news, data, and numerical values manifesting the state of the atmosphere at a specific point in time and within a particular geographic area. Such resources are gathered through systematic meteorological observation activities and are subsequently stored and managed in diverse formats-including written documents, electronic records, tables, and charts-to serve the purposes of forecasting, early warning, research, and the facilitation of decision-making processes. This constitutes the foundational and prerequisite source of information and data for all hydrometeorological forecasting and warning operations.

While legislation does not furnish a specific definition of the concept of weather forecasting, it provides a definition for the broader scope of hydrometeorological forecasting activities, characterized as “the bringing out of information and data on the future hydrometeorological state, development process and phenomena in an area or at a position over a specified period of time” [7]. Weather forecasting, therefore, is not merely a description of the prevailing atmospheric state but constitutes a process of analyzing and processing observational information and data to formulate assessments regarding future weather developments. In other words, forecasting establishes the prospective nature of information, clearly distinguishing it from observation activities (which involve the recording of present or past realities). The legal framework conceptualizes “forecasting” as either an activity or a procedure.

Legislation does not furnish a formal definition for the concept of weather forecasting information and data; however, it defines the product in which such information is encapsulated. Accordingly, the law stipulates that a “hydro-meteorological forecast or warning bulletin means the product of forecasting or warning organizations or individuals presenting hydro-meteorological forecast and warning information and data...” [7]. Consequently, from a legal perspective, weather forecasting information and data may be defined

as the content derived from forecasting activities and manifested in the form of specific products.

From the standpoint of the right of access to information, it is imperative to distinguish clearly between weather forecasting information and weather forecasting data:

- Weather forecasting information: These are finished products that have undergone processing, analysis, visualization, and editorial refinement to ensure they are readily accessible and usable (e.g., televised weather bulletins, storm trajectory forecast maps, and precautionary advisories).

- Weather forecasting data: This refers to raw data in numerical formats, serving as the direct outputs from numerical forecasting models or unedited specialized datasets. Such data possesses substantial commercial and research value. It is typically the subject of the mechanism for providing information upon request and represents the primary domain where legal issues regarding fee collection, intellectual property rights, and state data commercialization policies arise.

2.2. Legal provisions governing the right of access to weather forecasting information and data

Article 25 of the 2013 Constitution affirms the right of access to information as a fundamental right of citizens. Within this constitutional framework, access to weather forecasting information and data is substantiated through various normative legal documents, most explicitly manifested in the provisions of the Law on Hydrometeorology 2015 and the Law on Access to Information 2016. These regulations stipulate the statutory obligation for the public disclosure of information and data, as well as the right to request the provision of such information for diverse stakeholders, including regulatory authorities at all levels, enterprises, citizens, and social organizations.

The substance of the right of access to weather forecasting information and data is articulated through the following elements:

- The scope of weather forecasting information and data: The ambit of weather forecasting information and data encompasses (1) information and data on monitoring, investigation and surveys of hydrometeorological parameters,

air and water environment; (2) hydrometeorological information and data achieved from foreign countries and international organizations; (3) charts, maps and images received from satellites; videos and images of subjects of hydrometeorological research; (4) Hydrometeorological forecasts and warnings; hydro-meteorological notifications; (5) Technical documentation of hydrometeorological measurement stations/works/facilities; (6) Dossiers pertaining to the issuance, extension, suspension, or revocation of licenses for hydrometeorological forecasting and warning activities; (7) Scientific research findings, programs, and projects related to hydrometeorology; plans and the outcomes of weather modification efforts; (8) Normative legal documents and technical guidelines concerning hydrometeorology [2, 7]. While these provisions are notably comprehensive, from the perspective of the right of access to information, it remains challenging to ascertain precisely which categories of information and data are permitted for access or are subject to mandatory public disclosure.

Meanwhile, the 2016 Law on Access to Information governs the access to information in general, encompassing weather forecasting information and data, by stipulating that citizens are entitled to access information held by State agencies, with the exception of information restricted under Article 6 and information accessible under specific conditions as prescribed in Article 7 of this Law. Nevertheless, Article 16 of the 2016 Law on Access to Information, regarding the application of laws, provides that: "This Law shall apply to access to information of citizens in general. If the provisions on access to information of other laws do not contrast to Article 3 of this Law, the provisions of those laws shall apply" [9]. Consequently, as a matter of principle, the provisions of the 2015 Law on Hydrometeorology are applicable. Therefore, the determination of which weather forecasting information and data are accessible or subject to mandatory public disclosure is not established through an exhaustive listing principle but is instead identified via specific exclusionary clauses.

- Weather forecasting information and data subject to mandatory public disclosure: The legal framework does not provide an exhaustive list of weather forecasting information and data that

must be disclosed; instead, it adopts an exclusionary approach by specifying particular circumstances in which public disclosure or access is prohibited. This principle aligns with the prevailing international trend regarding the implementation of the right of access to information. Accordingly, any weather forecasting information or data categorized under the list of information inaccessible to citizens pursuant to Article 6 of the 2016 Law on Access to Information and Decision No. 562/QĐ-TTg on the list of state secrets in the sector of natural resources and environment shall be exempt from public disclosure and access [9, 10]. This position is further reinforced by the principles governing the collection, management, exploitation, and utilization of natural resources and environmental information and data as stipulated in clause 5 Article 5 of Decree No. 73/2017/ND-CP: “Data and information can be published and accessed in accordance with regulations of the Law on Access to Information, excluding information and data of the state secrets and restricted from accessing” [2].

In other words, with the exception of weather forecasting information and data that are statutorily restricted from public disclosure or access, all other such information and data, from a legal theoretical perspective, are deemed subject to public disclosure or shall be provided in accordance with prevailing regulations or upon specific request.

- Entities obligated to provide weather forecasting information and data as prescribed: The obligation to provide weather forecasting information and data according to regulations constitutes an unconditional and inherent legal duty. This obligation arises *ipso jure* (by operation of law) when an entity owns or operates a facility categorized within the statutory list of mandatory observation works. This is not a reciprocal or contractual obligation based on mutual agreement; rather, it is an administrative mandate that manifests state intervention aimed at achieving public policy objectives. The purpose of this mechanism is to socialize the collection of raw data by leveraging the existing observation infrastructure of specialized facilities. Such data is subsequently required to be integrated into the national hydrometeorological database, thereby enriching the input data stream for the national forecasting and warning system. Pursuant to

clause 1 Article 9 of the 2016 Law on Access to Information: “State agencies creating information shall be responsible for information provision, except for the cases regulated in Article 6 of this Law” [9].

Regarding weather forecasting information and data, the primary entities mandated to provide such information and data as prescribed include: (1) The Ministry of Agriculture and Environment; (2) The Vietnam Meteorological and Hydrological Administration; (3) Organizations and individuals managing specialized hydrometeorological stations; and (4) Agricultural and environmental management agencies at all levels, along with People’s Committees at all levels [1, 3].

- Entities entitled to the right to request the provision of weather forecasting information and data: This entitlement does not constitute an absolute or uniform right applicable to all subjects; rather, it is clearly demarcated into distinct categories of rights:

(1) Universal exploitation rights predicated on civil transactions (fee-based) or administrative procedures: clause 1 Article 32 of the 2015 Law on Hydrometeorology explicitly stipulates: “Agencies, organizations and individuals may exploit the national hydro-meteorological database...” [7]. In essence, this constitutes a formal recognition of the right of access to information for diverse stakeholders. However, the exercise of this right is governed by market mechanisms, financial obligations, and administrative procedures. Clause 4 Article 32 of the 2015 Law on Hydrometeorology provides that these entities “shall pay charges in accordance with law, except the cases prescribed” [7]. Consequently, the right to request in this context is understood as an entitlement arising from a civil transaction or an administrative procedure. The requesting party (any agency, organization, or individual) fulfills the obligation to pay fees, while the database management authority (the providing entity) bears a reciprocal obligation to provide the requested information and data in a comprehensive and accurate manner.

(2) Rights arising from specialized service provision contracts: Legislation recognizes hydrometeorological activities as a service sector characterized by mutual agreements between providers and users. Organizations and individuals providing hydrometeorological

services (revenue-generating activities) are legally entitled to enter into contracts, joint ventures, or partnerships. In this context, the entity holding the right to request is the client (the service user), whose entitlements are established and circumscribed by the specific terms and conditions stipulated within the contract. The service provider bears both legal and contractual liability to the client regarding the quality of the services rendered. Consequently, the right to request in this instance is essentially the right of a party within a commercial contractual relationship to demand that the counterparty fulfill its committed obligations.

(3) Special rights of request by competent state authorities: Clause 5 Article 32 of the 2015 Law on Hydrometeorology enumerates the public purposes under which state agencies are granted fee exemptions for data exploitation [7]. This right of request is inherently intertwined with the discharge of state functions and duties aimed at serving the direct public interest. Notably, the legislation establishes a mandatory request mechanism under point d clause 5 Article 32 of the 2015 Law on Hydrometeorology, which permits gratuitous exploitation for “other purposes at the request of competent state agencies” as specifically delineated in clause 2 Article 23 of Decree No. 38/2016/ND-CP [1, 7]. Consequently, the circle of entities vested with this special right of request is strictly circumscribed. In this context, the right to request transcends the realm of civil transactions or commercial contracts, manifesting instead as the exercise of State power. The requests issued by these entities bear the character of an administrative command, obliging data-holding agencies to comply in furtherance of the State's paramount objectives.

- Modalities for the provision of weather forecasting information and data: Regarding the provision of information and data of a technical nature (typically applicable to specialized stations), the law prescribes modern transmission modalities, encompassing provision via the Internet through File Transfer Protocol or electronic mail. Concurrently, physical and traditional formats remain statutorily recognized as supplementary methods or are applied within specific civil or administrative transactions, typified by the provision of written documents and data carriers through direct submission at the

designated receiving authorities. Furthermore, with respect to the dissemination of information and data intended for public purposes or gratuitous exploitation, the legal framework broadens the scope of provision through mass media (television, radio, and the press), electronic information portals (websites), public postings at the headquarters of competent agencies, or via other communication channels such as social media and mobile applications.

- Procedural sequence: The procedural sequence for the provision of weather forecasting information and data is systematically structured and clearly demarcated based on the nature of the requesting entity and the intended purpose of exploitation, encompassing (1) the exploitation and utilization of weather forecasting information and data publicly disclosed on information pages and electronic portals; (2) The submission of formal request forms or written applications and (3) The execution of weather forecasting information and data provision contracts.

- Administrative sanctions for violations concerning the right of access to weather forecasting information and data: Administrative law strictly prohibits two primary categories of conduct directly pertaining to the right of access to weather forecasting information and data: (1) Acts infringing upon the obligation to provide information by data management entities; and (2) Acts involving the abuse of rights by exploiting entities. Pursuant to Decree No. 155/2024/ND-CP on administrative sanctions in the field of hydrometeorology, specific provisions-namely Articles 11 and 13-are dedicated to regulating these issues [4].

In addition to pecuniary fines, Decree No. 155/2024/ND-CP stipulates supplementary sanctions, which include (1) Deprivation of the right to use hydrometeorological forecasting and warning licenses for a duration of 01 to 12 months, commensurate with the severity of the violation and (2) Confiscation of exhibits and means employed in the commission of the administrative violation [4].

Furthermore, remedial measures comprise (1) Compulsory revocation or destruction of results, products, data, bulletins, and publications derived from the commission of the violation; (2) Mandatory addition or installation of hydrometeorological observation stations and

measuring instruments; (3) Compulsory reporting or provision of information and data as prescribed and (4) Compulsory restitution of illicit gains obtained through the commission of the violation [4].

- Criminal liability: While the 2015 Penal Code does not feature specific provisions directly addressing violations of the right of access to weather forecasting information and data, it contains Article 167, which stipulates the Crime of Infringement upon freedom of speech, freedom of the press, the right of access to information, and the right to protest of citizens. This article provides that: "Any person who uses violence, threat to use violence, or other tricks to obstruct a citizen from exercising his/her freedom of speech, freedom of the press, right of access to information, or right to protest despite the fact that he/she was disciplined or incurred a civil penalty for the same offence shall face a penalty of up to 02 years community sentence or 03 - 24 months imprisonment..." [8]. Pursuant to this provision, it is understood that acts of obstructing citizens in the exercise of their right to access weather forecasting information and data-provided they involve the use of force, threats of force, or other deceitful methods-are likewise subject to criminal prosecution.

3. THE PRACTICAL IMPLEMENTATION OF THE RIGHT OF ACCESS TO WEATHER FORECASTING INFORMATION AND DATA

3.1. The practical exercise of the right to request the provision of weather forecasting information and data

At present, competent authorities responsible for the provision of environmental information and data in general have publicized the procedural sequences for electronic information requests, notably on the electronic portals of the Departments of Agriculture and Environment under the Ministry of Agriculture and Environment.

However, the vast majority of prevailing regulations concerning the procedures for requesting weather forecasting information and data necessitate an explicit statement of the intended purpose of use; furthermore, such information and data must be utilized strictly for the designated purpose. State agencies possess the right to refuse the provision of information and data if such content constitutes state secrets or if

the disclosure is deemed to jeopardize national interests, social order and safety, public ethics, health, or the community. In the event of a refusal, the agency must furnish a written response or clearly articulate the legal grounds for such a decision [5].

The aforementioned regulations exhibit the following inadequacies:

(1) While there is a requirement for information and data to be used strictly for its designated purpose, the absence of regulatory frameworks or enforcement measures to verify compliance makes it exceedingly difficult for competent authorities to ensure adherence. Furthermore, in practice, this requirement vests providing authorities with the discretionary power to vet the intended use, rather than merely fulfilling the administrative obligation to provide information. This, in effect, inadvertently shifts the nature of the right of access to information from a rights-based enforcement mechanism-wherein the State is obligated to provide information and data-to an "ask-and-grant" mechanism.

Furthermore, the statutory requirement for subjects to specify and strictly adhere to a designated purpose for utilizing weather forecasting information and data acts as a significant legal impediment to the socialization and commercialization of both weather forecasting information and hydrometeorological data at large. From the perspective of commercialization and socialization within the hydrometeorological sector, the legal conditions accompanying the use of such information and data are engineered for regulatory control rather than the facilitation of market advancement. At the core of this barrier lies the mandate that information and data must be utilized solely for the predefined purpose. Consequently, individuals or organizations seeking to repurpose extracted datasets for novel objectives or to expand the scope of their commercial activities immediately confront the risk of breaching their registered commitments. To regularize such re-utilization, they are compelled to reiterate the entire administrative application process from its inception, resulting in substantial temporal and financial costs while stifling operational flexibility-a critical element for technological innovation and market viability. Moreover, regarding information and data accessed without a fee, legislation prohibits its use for profit-seeking purposes,

further constricting the avenues for socialization and Public-Private Partnerships.

(2) The deficiency of clear criteria and evaluative bases for determining when the “provision of information would be prejudicial to interests” renders the refusal of such requests ambiguous and susceptible to arbitrary application, thereby diminishing the citizens' right of access to information. In practice, competent authorities may rely on subjective assessments to deny requests without the necessity of demonstrating the specific degree of harm or prejudice arising from the disclosure of the information and data.

In point of fact, the number of individuals and organizations exercising their right to request weather forecasting information and data remains modest and fails to accurately reflect actual societal demand. The current dissemination of weather forecasting information and data by the relevant agencies has only partially met the requirements for inquiry and exploitation by various stakeholders.

The aforementioned limitations are directly attributable to legal provisions governing the provision of weather forecasting information and data that lack sufficient specificity and fail to clearly delineate the mandates and jurisdictions of providing authorities, as well as the responsibilities of entities mandated to provide such data. Furthermore, the extant repository of weather forecasting information and data possesses insufficient coverage and depth to satisfy the multifaceted demands of society. The relatively low volume of information requests may be ascribed to a lack of public awareness, the absence of established practices for seeking such data, or economic constraints that preclude individuals from accessing specialized information. Simultaneously, the inconsistency in material conditions, technical infrastructure, and professional equipment within regulatory and providing agencies remains non-synchronous, thereby compromising the efficiency with which the right to request weather forecasting information and data is exercised.

3.2. The practical organization and implementation of the right to receive weather forecasting information and data

The practical implementation of the right to receive weather forecasting information and data encompasses the following aspects:

First, the proactivity of State agencies in fulfilling their obligations regarding the public disclosure of weather forecasting information and data. Against the backdrop of developing E-government and the information society, competent state authorities—specifically the national hydrometeorological system—have begun to exhibit proactivity in discharging their statutory obligations for the public disclosure of weather forecasting information and data. This initiative extends beyond mere compliance with legal norms on access to information; it reflects a fundamental paradigm shift in the philosophy of state management, transitioning from an administrative-command mechanism to a service-oriented and enabling governance model. Information concerning natural disasters and hydrometeorological observations is regularly and continuously updated on official electronic portals, thereby establishing critical legal and practical prerequisites for social stakeholders to exercise their right of access to information in an effective, transparent, and equitable manner.

Second, the escalation of demand and the diversification of modalities for accessing weather forecasting information and data. Concomitant with state initiatives, practical evidence indicates a substantial surge in the demand and the active exercise of the right to receive weather forecasting information and data by citizens and enterprises, facilitated through an array of distinct legal channels. In addition to conventional access modalities such as monitoring mass media, stakeholders are increasingly optimizing their statutory right to request information via written petitions or direct exploitation from the national database and digitized applications. The proliferation of these access modalities underscores the critical significance of hydrometeorological information and data to socio-economic relations, while concurrently imposing more stringent requirements for availability, precision, and responsiveness upon the public information provision system to meet the escalating societal demands.

Third, shortcomings in the timeliness and proactivity of certain regulatory authorities. Notwithstanding the progress achieved, persistent constraints remain as a segment of state agencies has yet to rigorously adhere to statutory timeframes and procedural requirements for the provision of weather forecasting information and

data. Instances of protracted response times to requests from citizens and organizations, coupled with a lack of proactivity in periodic data disclosure, continue to manifest. These deficiencies not only diminish the practical efficacy of the right of access to information but also exert a direct impact on the temporal relevance of forecasting data-the pivotal factor determining the utility of hydrometeorological information in disaster mitigation and socio-economic planning.

Fourth, inadequacies arising from the fragmented and non-synchronous nature of the data system. Another substantial legal and technical impediment in current practice is the situation in which weather forecasting information and data remain dispersed across various specialized regulatory authorities and are disclosed without systematicity across multiple platforms. The public disclosure of information and data is executed in a scattered fashion-ranging from the individual electronic portals of various units and physical postings at agency headquarters to specialized publications-yet lacks a centralized data integration and connectivity mechanism. This lack of synchronization and fragmentation poses significant challenges for unified collection, synthesis, and management; concurrently, it exacerbates compliance costs and creates undue burdens for citizens and enterprises in the process of identifying and comprehensively exploiting these information and data resources.

4. PROPOSED RECOMMENDATIONS FOR JURISPRUDENTIAL AND REGULATORY REFINEMENT

Practice indicates that the legal framework governing the assurance of the right of access to weather forecasting information and data remains fraught with various impediments and constraints. Consequently, the authors propose several recommendations aimed at amending the following contents:

First, it is imperative to standardize and differentiate between the concepts of "information" and "data" within the hydrometeorological sector in general, and the weather forecasting field in particular. The clear delineation between "information" and "data" serves as the most pivotal legal prerequisite for establishing a transparent and efficient access mechanism. Currently, the 2016 Law on Access to

Information and the 2015 Law on Hydrometeorology frequently employ the compound term "information and data" in conjunction, leading to significant jurisprudential overlap in both interpretation and implementation.

Regarding terminological precision, it is imperative for the legislation to redefine "hydrometeorological data" as original observational values and raw figures sourced from measuring stations and numerical models, recognized as assets of high commercial value suitable for economic exploitation and specialized research. In contrast, "hydrometeorological information" should be construed as value-added products that have undergone analysis and editorial refinement into forecasting bulletins, natural disaster warnings, or environmental services. The current ambiguity and conflation of these two concepts within existing legislative instruments have precipitated a management mechanism characterized by a lack of uniformity and synchronization, effectively stifling the prospects for the commercialization and socialization of the hydrometeorological sector.

Second, perfecting the legal framework governing the right to request the provision of weather forecasting information and data. It is imperative to clearly stipulate the specific categories of information and data for which state agencies may refuse provision, ensuring that such refusals are predicated on objective legal grounds rather than the subjective discretion of state authorities. To this end, detailed guiding instruments should be promulgated, incorporating specific schedules or establishing a set of clear quantitative criteria to define the circumstances warranting refusal. Furthermore, the refusal procedure must be coupled with an obligation to provide a written justification and the burden of proof from the state agency, thereby ensuring transparency and safeguarding the citizen's right of appeal in instances where the right of access to information is infringed.

Third, the State should prioritize synchronized investment in technical infrastructure and the development of a centralized national hydrometeorological database to mitigate the prevailing fragmentation of information and data. Empirical evidence suggests that these resources are currently dispersed across various authorities

and lack necessary interoperability, thereby hindering effective exploitation. The establishment of an integrated national data portal, capable of ensuring seamless cross-agency connectivity, would not only minimize compliance costs for citizens and enterprises but also significantly enhance the temporal relevance of forecasting information. Furthermore, this system must incorporate advanced online retrieval tools, facilitating rapid data access as a modernized alternative to the traditional manual and paper-based procedures currently in effect.

Fourth, it is essential to intensify legal dissemination and education initiatives, alongside administrative procedure reforms, to enhance the practical effectiveness of the right of access to information. The modest volume of requests for information and data is partly attributable to a lack of public awareness regarding legal entitlements or an apprehension toward cumbersome procedural requirements. State agencies ought to streamline processes, facilitating the end-to-end execution of request and provision procedures within a digital environment. Furthermore, public awareness programs concerning the intrinsic value of hydrometeorological information and data in both daily life and production activities should be implemented to stimulate the lawful demand for and exploitation of such information by society.

Fifth, it is imperative to establish and refine a specialized legal framework governing Public-Private Partnership mechanisms within the field of weather forecasting information and data, aimed at maximizing the mobilization of private sector resources. Empirical evidence indicates that prevailing legislation encompasses significant impediments to socialization, notably the prohibition against utilizing gratuitously exploited information and data for profit-seeking purposes. This regulatory constraint inadvertently constricts the scope of cooperation and stifles the investment incentives of private enterprises within the hydrometeorological sector. Consequently, the State should promulgate regulations enabling the establishment of flexible cooperation models, wherein the private sector is entitled to exploit state-owned raw data to generate specialized, high-value-added forecasting products for the market, while concurrently fulfilling obligations regarding

benefit-sharing or reciprocal data contribution to the national database.

Furthermore, it is imperative to clearly delineate the legal mechanism regarding the rights and obligations within Public-Private Partnership frameworks to rectify prevailing deficiencies in the regulation of data usage purposes. Rather than employing a rigid administrative control regime that stifles commercialization, the legislative framework should pivot toward a management model predicated on contractual arrangements and technical standards. Specifically, the State shall assume the role of the regulatory authority, providing foundational data infrastructure and promulgating technical regulations; concurrently, the private sector shall be vested with the autonomy to invest in processing and analytical technologies and the subsequent commercialization of output products. This delineation not only alleviates the budgetary burden associated with state observation and forecasting activities but also addresses the inadequacy of existing information repositories, which currently lack the requisite coverage and depth to satisfy multifaceted societal demands.

5. CONCLUSION

In the contemporary landscape, the right of access to weather forecasting information and data transcends the significance of a fundamental civil and political right as enshrined in the Constitution, evolving into an entitlement to access essential digital resources for socio-economic advancement. Although the Vietnamese legal system has established a foundational jurisprudential framework via the Law on Access to Information and the Law on Hydrometeorology, it fundamentally persists in reflecting traditional administrative-command management philosophies. The extant legal architecture is predisposed toward regulatory control rather than facilitating data openness and commercialization, thereby precipitating a conflict between the escalating societal demand for data exploitation and the "ask-and-grant" monopolistic provision mechanisms employed by state authorities.

The current divergence between statutory provisions and their practical implementation reveals profound systemic limitations. Regulatory barriers concerning the control of information and data usage purposes have constrained the

capacity for socialization and stifled private sector participation within the hydrometeorological service market. The fragmentation and lack of connectivity in information and data resources-coupled with inefficient exploitation-not only result in the dissipation of national resources but also diminish proactivity in climate change adaptation and disaster mitigation efforts.

Consequently, the imperative to perfect the legal framework governing the right of access to weather forecasting information and data cannot be confined merely to local procedural adjustments; rather, it necessitates a fundamental paradigm shift in legislative philosophy. This entails transitioning from a model of state monopoly across all stages of the value chain to an “enabling state” role-focusing on the construction of foundational data infrastructure and a robust legal corridor, while simultaneously expanding the landscape for Public-Private Partnership mechanisms. Ultimately, ensuring the right of access to weather forecasting information and data constitutes the establishment of a dynamic balance between safeguarding national information security, serving the public interest, and optimizing the economic value of data within the digital economy.

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