Revealing the deep structure of Rotiklot Dam, Belu-Indonesia

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Abstract. The existence of infrastructure is very important to support economic development. The current infrastructure development has not considered much of the meaning of the development object. Research uses Levi Strauss structuralism approach. The revelation of meaning begins with tracing the surface structure which is composed of form and function aspects. The method of revelation of meaning begins with examining the syntagmatic relationships between dam and custom elements. The search for paradigmatic relations between the two surface structures is to be done in order to reveal the deep structure of the Rotiklot Dam. Meaning is obtained through the interpretation of deep structure. The paper concludes that the expression of the deep structure derived from the Rotiklot Dam is the balance and harmonization of the materialization of relations between the fields forming Rotiklot Dam. Finally, to reveal the deep structure of infrastructure with the case of the numinous unity in order to maintain reciprocity between humans and humans, humans and creators, and humans and nature.

1. Introduction

Belu is one of the regencies in East Nusa Tenggara Province in Indonesia that is potential for the development of dryland farming. In accordance with the national food security plan, annual flood mitigation downstream (on the Rotiklot plain), dam building is urgently needed. Rotiklot Dam is administratively located in Fatuketi Village, Kakuluk Mesak District, Belu Regency and directly adjacent to Timor Leste State in Mota Rotiklot River. Rotiklot Dam is located in Fatuketi Village as one of traditional community, consisting of five hamlets such as Ainiba, Rotiklot, Kalitin, Sureu, and Obiki. In the perspective of customary law in Fatuketi, the basic principles of kneter and ktaek as the philosophy and norm of custom is to build and foster balance and harmonization of reciprocal relationship between human and human (ema no ema), human and God (ema no maro-mak), and human and nature (ema no raiklaran).

In relation to the nature, badu is a source of cultural legitimacy towards the mastery of nature and the recognition of the nature existence as a sacred medium. At least through badu, there is a customary reason that nature (land, water, big rocks, big trees, mountains, etc.) is part of the custom. Nature has Nain (master or "owner"). All activities within the sacred land area (rai lulik) are preceded by traditional rituals as the "lou no sudur" medium (prostration and worship) and "husuh no seti" (asking and begging). In relation to land ownership, the right to the forest or land is possessed by the tribe / head of the tribe (foho bot nain rai bot anin: the owner of the mountain and the landowner) and becomes a communal property so that it can be cultivated by all tribal members. Especially for sacred lands that
are legitimized as customary forest, these belong to or under the supervision of uma metan (the highest tribe's house - nai: king) [1].

The paradigm of structuralism was first introduced by Claude Levi-Strauss [2-5]. Phenomenological structuralism, therefore, seeks to highlight the ontological universal modes of embodied human existence with others, which relationally has emerged out of the phenomenological processes of the transcendental ego, experiencing, interpreting, and using the representational facts of it is embodiment vis-a-vis the world as defined by, and how these modes of human existence come to shape practical consciousness and constitute social structure or societal constitution [4]. Structuralism is presented as a method whose scope includes all human social phenomena, social sciences, humanities, and the fine arts. This is made possible by the belief that all manifestations of social activity [6]. The matters of residence, relation, and difference I have discussed today are what matters in structuralism; they fuel the give and take from which what look like structures are made [7].

Previous research stated that structuralism approach used in the field of anthropology, architectural, landscape planning, etc. In the anthropology field, structuralism approach used to the interpretation of texts differ [8]. Most structuralisms consider the binary opposition as the ideal way of interpretation and textual analysis [9]. In the architecture field, structuralism is used to explore the persistence of traditional Javanese society maintain the house [9]. There are three overarching insights from the structuralism studies of Eastern Indonesia. Firstly, culture as a totalized system of symbols shaping every aspect of social phenomena was first developed within anthropology in the Leiden School from studies of Eastern Indonesia. Secondly, the type of marriage arrangements structured other cultural forms that altered society. Finally, the asymmetric marriage system was an alternative ordering of reality creating different forms of concepts about how the world was ordered: concentric dualism, symmetric dualism, asymmetric dualism, triadic relations and unity between and among these concepts [10]. How is the structuralism approach used in the field of infrastructure development?

The Rotiklot Dam construction is located in a multi-ethnic area and has particular local wisdom and culture held by local community in carrying out activities. It is important and significant of its influence in creating sustainable dam development by taking into account the local wisdom and local culture. In order to realize the construction of Rotiklot Dam there should be done the revelation of meaning of the deep structure, from which it is expected to provide a way to implement the management of dams across the multiethnic border so that development can be sustainable by paying attention to local wisdom and culture of the society in the state border.

2. Methods of the research
To explore the meaning in the deep structure of the Rotiklot Dam, research uses structuralism approach. It was conducted through four stages [9], namely: firstly, describe functional aspects into social interactions in indigenous & life cycle ceremonies as empirical cultural phenomena. Describe form aspect into the public zone of the dam as empirical cultural phenomenon. From phenomena are seen in the context of social status and social system. Secondly, categorize to identify elements and each empirical cultural phenomenon, reveal syntagmatic relationships between elements, and reveal paradigmatic structures between elements of the aspect of functions and aspects of forms. Thirdly, reveal paradigmatic relations between elements of the aspects of functions and aspects of forms and reveal the structure in the dam and public zone. Fourthly, interpret the structure in public zones as aspects of meaning and their persistence in the context of differences in social status and social systems. The meaning will be traced through the process of interpretation of relations in that deep structure so that the deep structure in the Rotiklot Dam can be determined. Revelation of deep structure is done by tracing and identifying all the function, shape and meaning relationships of Rotiklot Dam.
3. Results and discussion

3.1. Deep structure of Rotiklot Dam
Between surface structure of shape aspect and surface structure of function aspect there are three orientations, namely ancestral spirits, norm and value, and clan sub ethnic. These three orientations are collectively relates the first surface structure (dams, plantations, agriculture) and second surface structures (water springs, ceremonies, place of offerings, and collective customary villages). The unity of these ancestral spirits, norms and clan sub ethnic is the deep structure of the dam (figure 1).

![Figure 1. Orientation conformity between elements of two surface structure.](image)

3.2. The phenomenon of custom as the expression of balance and harmonization of materialization of relations between reality areas
Through custom phenomena it can be developed diagram to show the position of dam (aspect of form) and customs and ceremonies (aspects of function) in the structure of thinking of community around the dam. Dams and springs as well as traditional ceremonies are the expression of balance and harmonization to the ancestral spirits. Plantations and place of offerings near the dam are the expression of balance and harmonization of norms and values. Indigenous agriculture and collective customary village are the expression of balance and harmonization of the clan sub-ethnic (figure 2).
Figure 2. Dam and its supporting elements and custom expression of balance and harmony to maintain reciprocity between the elements.

Dam in the border area has significant meaning for the community. Dam as a water source is considered as important as springs so not everyone can have equal access to the springs. Furthermore it can be explained that dam, plantations and agriculture as representations of shape aspect, and water spring, places of offerings, customary ceremonies and customary villages as representations of function aspect are the expression of balance and harmonization to maintain reciprocity between human and human, human and creator and human and nature as a numinous unity.

Revelation can be found from disclosing the structure that of form aspect and structure that of function aspect based on the elements that have been formed. Firstly, Rotiklot Dam structures of shape aspect one are composed from dam, plantations and agriculture area. Dam is the source of water from where community can meet the water needs. For any damage to the ecosystem around the dam done by community, the community will get sanction of animal sacrifice. Agricultural areas located nearby the dam are used by the community to interact in the interest of irrigation, livestock farming and traditional farming. Meanwhile plantation area is used by the community to cultivate crops and used as a conserved area around the dam.
Secondly, dam structures of function aspect one are composed from water springs and ceremonies, places of offerings and collective customary village. The sacred spring is one of the ways to maintain the balance of nature, while the customary ceremony is the bridge of humanity as an expression of gratitude to the ancestral spirits over every harvest that was abundant upon the community. Place of offerings around the dam reflects the way done by the community to get rid of the disaster on the construction of the dam. While the collective customary village is a place to settle for the community where the sub-ethnic clan live together of which the clan leader is as the leader for customary rituals.

4. Conclusion
This result of revelation of the structure of both form aspect and function aspect one become the deep structure. The deep structure discovered shows that the dam and water springs and customary ceremonies are the expression of balance and harmonization of the ancestral spirits. Plantations and places of offering nearby the dam are the expression of harmonization of norms and values. The agriculture area and collective custom village are the expression of harmonization on the clan’s sub-ethnicity. The meaning generated from the deep structure of Rotiklot Dam is that the overall elements that compose this deep structure demonstrate a meaning as balance and harmonization to keep reciprocity between humans and humans, humans and creators and humans and nature as numinous unity former.

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