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## ARTICLE

# E-Participation, Rural Regime, and Network Governance: A Case of Balien River Conservation

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## ABSTRACT

The regime theory has been widely applied to analyze the governing capacity for urban community development. However, it has seldom been translated to the countryside, even though rural communities often reveal some potential for self-governance and a capacity to act. With the emergence of information technology, social network services have become popular and have changed the social interactions between the public and private sectors. By considering the rural case of river conservation in New Taipei City, this paper used the regime theory to investigate the governing capacity of rural collaborative networks and the influence of social network services on coordination. We found that the regime theory can be used to explore rural communities with strong collaborative networks and local identities. The adoption of communication tools based on social network services strengthens informal public-private coordination wherein the power geometry of rural regimes is upgraded from 'power-to' to 'power-amidst', thus, advancing the solidarity of the community networks and prompting the rise of vital coalitions and the governing capacity of rural actors.

## 1. Introduction

Stone's<sup>[1]</sup> regime theory (RT) has been widely applied to analyze the rise of governing coalitions and public-private coordination since the late 1980s. However, RT studies have mostly focused on urban areas. In contrast, rural communities are often located at the human-nature interface with traditional cultures, agricultural production, and ecological landscape. Owing

to the loss of population and agriculture under urbanization, good rural governance relies on coordination between the government and communities. This idea is related to RT<sup>[2]</sup>; however, the explanatory ability must be explored further even if the theory has been applied to a few rural studies<sup>[3-6]</sup>.

Exploring rural regimes can help explain the capacity to act in rural communities. It is useful to audit

whether the participatory action is powerful for community members, whether empowerment is sufficient to shape the community networks, and whether the communication medium is effective for integrating local actions. These questions are associated with the collaborative network of rural communities and the informal arrangement stressed by the RT<sup>[1]</sup>.

RT inspires two critical issues to explore the experience of rural governance. First, most studies on RT have focused on the issues of urban governance in the last five years<sup>[7-12]</sup>. Second, the information society had been premature when the RT emerged in the 1980s. Currently, social network services (SNSs) that work over electronic communication media have become an essential tool for interpersonal interactions. Therefore, we must rethink whether the rise of e-participation through SNSs enables the formation of rural regimes.

Thus, this study explores the case of the Balien River basin conservation in New Taipei City, Taiwan. We focused on the coordinative experience of riverbasin conservation to highlight these issues: (1) How do community members, organizations, and public authorities set up governing agendas to execute riverbasin conservation? (2) Why has the mode of riverbasin conservation been transformed from government-led top-down intervention to communitybased bottom-up governance? (3) How does the power geometry change with the help of SNSs in the process of regime formation? To deal with these issues, we conducted several interviews in the research area and a performed social network analysis by examining the context of group messages on LINE, a popular mobile communication app in Taiwan.

The remainder of this paper is organized as follows. Section 2 reviews key concepts such as community, governance, and regime. Section 3 presents research propositions based on rural regimes and e-participation. Section 4 introduces some background regarding the research area and an outline of community organizations. Section 5 highlights the institutional evolution of rural community conservation. Section 6 examines the social production of rural regimes and the influence of network communities through SNSs. Finally, Section 7 presents the conclusions.

## 2. Community, Governance, and Regime

The community is the basic social place and geographical scale of public affairs as well as an interactive platform between public and private spheres. It is often defined as "people in a specific area who share common ties and interact with one another" Accordingly, the management of community affairs, place-making, and interpersonal interactions reveal complicated social networks and the difficulty of conducting government intervention. Furthermore, people play a key role in community networks because "governments rarely have sufficient means to solve all problems in an area. Local

people can bring additional resources, which are often essential ... [and] create a sense of community. Undoubtedly, the community is the arena of network governance.

Contemporary policy-making processes are usually situated in a complex and ever-changing environment, which covers multiple sectors or boundary-spanning spheres. Unlike 'government', 'governance' can be termed as a flexible policy-making process based on individual networks, especially strong associations between governments and nongovernmental actors. Accordingly, network governance integrates non-formal social networks of non-state actors in addition to formal government systems of actors.

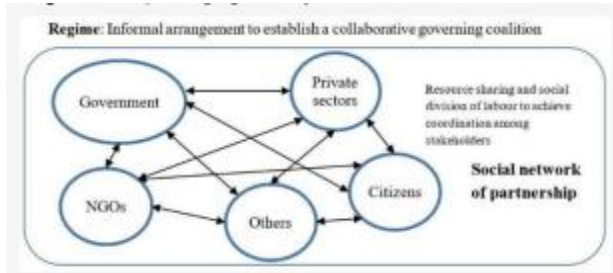
Beyond the market or hierarchy, the network is the agent of governance. It can share resources or knowledge through interpersonal relationships and trust mechanisms to help individual groups cooperate with each other beyond formal procedures or frameworks. Furthermore, the network often spans the boundary and eliminates the restrictions of legislatures. The maintenance of coherence is led by common values and not by a single policy goal. Successful community development relies on informal networks among people, groups, and organizations. The major function of a community network is to "enhance people's ability to cope with difficulties and disaster.

### 2.2. Community as Social Network of Regime Production

Many studies have noted the importance of citizen participation in community development since the 1950s. The most representative studies are from Hunte. Hunter's study is considered elitist because it argues that community affairs are determined by a few local elites with a good reputation and social status. In contrast, Dahl's study is considered pluralist because it stresses that community affairs in a democratic society are not oligarchic politics but are games played by diversified actors. Despite the different viewpoints, both recognize that participation is a measure of sharing power and rectifying the problem of government corruption. However, community affairs have been complicated gradually and have come to rely on information technology. It is difficult to make decisions correctly with either approach. As stated in one study, "even experts were sometimes baffled...[but] participation may not always be such a good thing.

Stone adopted both viewpoints but slightly favors the pluralist perspective. He proposed RT to explain community governance and the pattern of power allocation. A regime is defined as "the informal arrangements by which public bodies and private interests function together to be able to make and carry out governing decisions (6). Governing coalition is a way of regime making to bring together various elements of a community and the different resource. An informal arrangement is crucial in this coalition because

the government alone cannot create effective governance unless non-governmental actors engage in the cooperation with their various resources. Thus, regime theory can be defined as a diffuse and interactive decision-making process based on an informal cooperation between governments and non-governmental agencies to create governing capacities (Figure 1).



**Figure 1:** Conceptualizing regime theory and its framework.

### 3. Research Propositions

Variegated community contexts can generate a variety of governing agendas. RT is useful for analyzing the power structures produced by cooperation between the government and various types of communities and by the evolution of community regimes. However, contemporary regime studies seldom concern rural development and ignore the influence of information and communications technology (ICT) on interpersonal interaction. Considering the application of RT in rural communities and the involvement of ICT in rural life, we address three propositions in this study.

RT mainly originates from urban politics, the exception being a set of rural studies by Horlings and her colleagues<sup>[13-20]</sup>. Their works focused on the public-private cooperation network and governance of rural(urban) regions in the spatial planning system of the European Union and the Netherlands. They considered that owing to the effects of urbanization and regional integration, rural development in the Netherlands is facing the rapid transformation of society, culture, environment, and landscape, thus requiring new network management of public-private partnerships and production-consumption cooperation to deal with challenges. Successful rural sustainable development relies on the ‘vital coalition’ established by community actors—‘the relations between public and private partners that are energizing and productive and can create political power and ‘capacity to act’<sup>[3]</sup>; that is, ‘self-organized networks of actors that occur in ‘niches’ (incubation rooms for innovation)’<sup>[4]</sup>.

These studies indicate that translating RT from urban to rural areas can help clarify the problem of regional policy and self-governing organizations, thereby making interactions among coalition members more feasible<sup>[3,4]</sup>. In fact, either a regime or a vital coalition is characterized as the policy network with reference to the ‘informal gatherings of semiautonomous actors or

individuals that come together for a common purpose and use resources to achieve it. The differences between the two are that the regime is conceptually more extensive and stresses the specific integration and coevolution between public and private sectors at the system level, whereas the vital coalition involves actors, projects, and networks at the grassroots level exercising energetic and productive capacity to act between public and private partners. Hermans noted that rural regimes represent not only the actor coalition and the rule of achieving goals but also collective knowledge and future visions. This is particularly true in the framework of sustainable development in which no single solution exists among various stakeholders; instead, the common collaborative foundation is pursued under a set of varied discourses.

However, these studies focus on the experiences of rural governance or urban-rural coordination at the regional scale and even elevate the concept into a regional regime at the macro level. Because the community level is still the major research field of RT, our paper intends to examine the explanatory ability of RT in the context of rural communities.

RT emerged in the 1980s when ICT and the Internet were less mature and popular than they are today. Nowadays, the Internet can facilitate social activities, interactions, negotiations, and communications in physical places. Horan noted that digital places at the grassroots level can promote positive interactions between the place community and the interested community. The place community can gather people together at a specific location, and the interested community can transcend a specific location to form a community based on common interests and link physical places. Various community activities such as information sharing, social and professional interactions, networking, and sponsorships can be performed over electronic media (e.g., Internet) that are not bound to fixed places. Mitchell noted that the traditional meaning of community is challenged as the Internet becomes more popular and pervasive. If computers and the Internet are readily accessible, citizens can enter virtual places to perform social, economic, cultural, and political activities.

Furthermore, the birth of mobile communication devices and the popularity of SNS media have made participation platforms more crucial in the field of urban planning and community development. Frick’s comparative study in Atlanta, Georgia, and the San Francisco Bay Area showed that ICT-based communication platforms have formed a new public virtual sphere that helps citizens setup an alternative channel separate from the official channel for participation and mobilization. Through these alternative media, a leader can instantly consolidate various emotions, connect people with similar viewpoints, create opposing discourses against official regional planning, and mobilize public voices. Digital platforms can also enable participants to produce materials using YouTube,

videos, blogs, Facebook, and Twitter and to integrate directly with traditional media such as TV news and newspapers. Grabkowska noted the experience of edemocracy in Poland in terms of the use of e-media for participation on urban issues to establish a coalition among a set of small NGOs, improve the capacity of bottom-up activist mobilization, promote interactions among members, and consolidate the social network in real life. Peng focused on preserving the rural social-ecological-productive landscape in Taiwan. Highlighting the popularity of ICT in Taiwanese society, they explored the case of river preservation in the countryside by using a messenger application to enable communication between community actors and public authorities. They found that the messenger application, serving as a digital medium, promoted social interactions, expression of opinions, and effective social learning among actors, thereby helping to build a closer collaborative network for community participants.

#### 4. Research Area and Methods

This case focuses on four rural communities along the Balien River basin of New Taipei City. We conduct fieldwork in the research area as well as interviews with governmental agencies, community leaders, and residents to explore whether river conservation actions based on community self-governance have stimulated the social production of rural regimes. We also analyze whether the application of SNS media has strengthened the governing capacity of rural collaborative networks. As shown in Figure 3, the research area is in Sanzhi District in the northern New Taipei City, Taiwan. New Taipei City is currently a special municipality; its predecessor before 2010 was Taipei County. Unlike in Taipei City, the capital of Taiwan, administrative resources at the county level were deficient. Moreover, New Taipei City has an extremely large jurisdiction. Sanzhi District is in a peripheral area with sharp urban-rural disparity. According to official information obtained from the Sanzhi District Office, agriculture is still the paramount local economic base. Although many factories were built in the 1980s, the manufacturing sector has declined owing to industrial outflows since the 2000s. Most of the non-agricultural population includes commuters working in Taipei City. Therefore, the research area is geographically characterized as 'rural' although it is jurisdictionally labelled as apart of an urban area.



Figure 2: Map of the research area.

### 5. From Government to Governance: Evolution of Community-led Conservation Action

We consider whether this case conforms to the concept of the regime. The community-led reinvention of BRCG indicates the rise of rural regimes in the intercommunity collaborative network. Before 2005, no evidence about governance was available. The major institution of river management was government-led 'social control' focusing on the mode of 'power-over'. Though BRCG was established during 2005-2009, the institutional legacy of the bureaucratic system was still deeply inherited in the process of policy implementation. Constrained by the ideas of jurisdiction and political consideration, river conservation underperformed under formalist governance. After 2009, the reinvention of BRCG contributed to the emergence of community self-governance and agenda set by locals. Hereafter, positive interactions between the government and communities increased. Because of the rise of community division of labor, diversified agendas, including environmental education, knowledge dispersion, rural regeneration, local revitalization, and tourism branding, were created or imagined. The inter-community collaborative network went beyond the scope of environmental conservation and additionally sought comprehensive rural sustainable development with balanced social, environmental, and economic values. The new governing capacity has turned the actions of river conservation into a synergetic vital coalition. The center of community affairs has developed the model of 'social production' with the basic features of regimes, namely, the mode of 'power-to', informal arrangement, and governing capacity for inter-community cooperation.

In addition, the application of SNS media has facilitated the social production of rural regimes. An analysis of the content of messages on the LINE group of BRCG after 2014 shows that the messages focused on everyday routine patrols, environmental surveys after natural disasters, and engineering supervision. Dividing the experience of using the LINE group into three stages, the number of messages and magnitude of user interaction, revealed that interactions were more frequent in the later period. The social network in the virtual place became more energetic. In particular, the chief leaders

of BRCG and Agricultural Economy Division staff interacted with each other actively.

Social network analysis of the LINE group shows that the betweenness centrality increased from the early to the later periods. The data indicated that the solidarity among coalition members improved with frequent interactions on the Internet community, wherein the most intensive interactions came from the community leaders and Agricultural Economy Division staff. This indicates that the informal public-private coordination is improving as it pushes forward the governing capacity of community-led river conservation.

Finally, qualitative interviews on the user experience of SNS media clearly indicate that the LINE group was an effective platform for social interactions. It can improve the quality of communications and discussions and facilitate the reporting of routine patrols or environmental surveys. The social distance between the public and private sectors has decreased. In addition, Facebook, unlike LINE, is much more public and transparent about the posted information; this can force public authorities to listen to public voices. Therefore, these ICT tools help to establish a gateway for informal arrangements complementary to problems the formal administrative system cannot solve. The Internet community can do things in a public and instant manner, thus advancing the governing structure from 'power-to' to 'power-amidst' and prompting the government to reply to citizens' opinions in time and fully empower the grassroots level. The Internet community has strengthened the coherence of the governing coalition between the authorities and physical communities. The phenomenon of 'power-amidst' brings about the social production of the inter-community collaborative network. Within the new power geometry, the rural regime has been stabilized in the collaborative communities along the Balien River basin.

The institutional transformation of community development evolves gradually and is not observed immediately in the short-term. Our study focuses on the primary stage of BRCG reinvention and the influence of SNS media on community-led river conservation. 2014-2015 is an infancy period for the community actors to adopt in SNS media to operate their coalition. This period provides the key timing to observe the sociopolitical change of BRCG and the emergence of a governing coalition. However, it is also our limitation in this research. Considering the importance of long-term tracking, the focus of our further research will collect and follow up more long-term data of SNS messages among the stakeholders in the regime to investigate the advanced transformation of existent members and newcomers. Even if the data we used have not covered longer period at this moment, the primary result of this study has revealed the policy implication that the locals are the key actors and central partners for public authorities to achieve better policy effectiveness. The governments should reduce the extent of top-down

intervention and empower the locals to self-govern their localities. The vitality of rural communities can energize governing capacities and the use of SNS media advances the progress of governing coalitions. The non-agricultural population includes commuters working in Taipei City. Therefore, the research area is geographically characterized as 'rural' although it is jurisdictionally labelled as apart of an urban area.

### Conflict of interest

The authors declare no conflict of interest.

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