

Activity Report of Field Research

Analysis of Policy Implementation of Ghana's water resources management in the White Volta River Basin

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Activity Summary

The Republic of Ghana, situating in West Africa, enjoys abundance of natural resources like any other African Countries. Water resource as one of the abundant resources in Ghana has a significant meaning for the country for its further development, because it generates electricity through hydroelectricity and enhances irrigation. However, Ghana has currently been facing a lot of water-related problems, notably water pollution, land degradation, and flooding.

In order to tackle the above challenges, Ghana has nationalized the whole domestic water resources rights and integrated the management system in the 1990s. The management system of surface water including river flow was principally revised, so that water resources were used more effectively and efficiently. The government established the water-related law and policies, aiming to manage its principal water resources in river basins. One of them is White Volta River basin on which this research focus, a main water resource of the northern part of Ghana.

For example, the river bank protection policy incorporates with a new idea of water management, called Integrated Water Resources Management (IWRM). The notional goal is to achieve the effective management of water through integration of existing water management systems. The idea behind it includes public involvement in decision-making. Public participation is considered as an effective method of improving the quality of policy in developed countries, while some have skeptical eyes towards the adaptation of this notion to developing ones. That is because the right of citizen is not always assured and the education level is relatively low in these areas. There is little information about how Ghana adapts the idea of IWRM and implements its policy.

My field trip to White Volta basin was aimed at clarifying how Ghana realizes the new management policy derived from developed countries and how the policy is taken into practice on site. I conducted fieldworks at the villages of the basin and interviewed with the key relevant institutions. This allowed me to uncover both potentials and challenges of the management project with IWRM conception.

One of the positive remarks is that public involvement in decision-making is well established and embedded in a local context. For example, farmers are willing to participate in the decision-making process as well as the management of water resources. They are given the right to choose the type of government supports for compensation of their losses caused by the implementation of the project.

Meanwhile, the realization of the IWRM policy was still rooted in the traditional top-down decision-making system, rather than a bottom-up approach that its original concept presumes. Some community experienced severe management problems, including uneven distribution of government material supports

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as well as the illegal cultivations hindering the project proceeding. The governmental institutions also struggled to persuade farmers to understand the project and continue the monitoring of it with little financial support.

I plan to develop this research further and to explore how the original IWRM concept was transformed and indigenized in the traditional top-down decision-making system, and why it continues despite the difficulties.

要旨

本論文は、ガーナ共和国の水資源管理政策を通して、先進国で開発された手法が現場レベルでどのように実現されているのか、またそれがどのような影響を参加住民に及ぼしているのかを、その意思決定手法に着目し、参与観察を通して明らかにすることを目的としている。

西アフリカに位置するガーナ共和国では、その豊富な水資源が国の発展に重要な役割を果たしている。それは、国の大部分の電力を水力発電でまかなっているという現状においてだけでなく、「ビジョン2020」と題された国家政策の下で推進されている農業生産高の更なる向上のためにも、灌漑施設などで今後より多くの水資源が必要とされていることからもうかがえる。

しかしながらガーナは一方で、様々な水資源問題にも直面している。地下水に恵まれないガーナにとって、多くの水資源は国内を貫流する河川によってまかなわれているが、乾季には地域によって枯渇してしまう河川の水量確保の問題や、河川沿岸での耕作による、河道を狭める沿岸土壌の河川流入の問題、そして近年問題となっている小規模違法金採掘の影響による河川での違法洗浄作業による水質の悪化の問題など、その具体例は枚挙に暇がない。

そうした背景の下、ガーナでは90年代から2000年代にかけて国内水資源の効率的な管理を政策ベースで進め、特に河川保護に関しては2007年に緩衝地帯政策が制定され、植林による護岸プロジェクトが実施された。その際、2002年の世界水フォーラムで広く提唱された「統合的水管理政策」をプロジェクトの根幹に組み込み、効率利用実現の理念の下、市民参加という近隣住民のプロジェクトへの積極的な参加が推奨された。しかしながら、この統合的水管理政策は、成果指標や定義の曖昧さの点において、その実現可能性が疑問視されていることに加えて、政策の軸の一つを担う市民参加という考えも、先進国において醸成されてきた歴史があるため、途上国においてどのように確立できるのかと疑問が残されている。

そこで、途上国の中でも比較的新しくこの統合的水資源管理の考えを政策に組み込んだガーナを事例研究の対象とし、その中でも2011年に政策レベルで制定され、今なおプロジェクトが継続中の河川保護政策に焦点を当て、そのミクロレベルでの政策実現の定性的評価を試みた。その際、アーンスタインの「市民参加のはしご」理論に依拠しながら、政策の意思決定手法に着目した。特に、a)ガーナは統合的水資源管理をその政策の中でどのように実現させているのか b) 政策は現場レベルにおいてどのような影響を参加住民に与えているのだろうか、という2つの疑問点をあげ、ガーナ北部一帯の主要水資源であるWhite Volta Riverの流域で調査を行った。調査の方法としては主に資料調査、政策関係者へのインタビュー、そして政策が行われている農村において、インタビューや現状確認のためのフィールドワークを行った。

その結果、フィールドワークや聞き取りの結果、現場レベルにおいて従来理論やIWRMが想定している市民の積極的な参加が実施・担保されていることがわかった。しかしながら制度の骨組みに着目すると、当初意図されていた「下からの意思決定」ではなく、トップダウン式の意思決定手法でプロジェクトが進行していることがわかった。すなわち、プロジェクト自体は成功裏に進行しているように見えるが、実際の選択権は政府関係者が持ち、場所によっては農村の特定の人びとの意思決定への参加の阻害や管理不十分の問題など、課題が多く残る状態であった。

そこで以上のような発見の結果、今後の自分の研究としては、なぜこのトップダウン的な意思決定方式およびプロジェクトが政策的に許容され、継続されているのかを政策の経済的側面からも捉え、補足していくことで、事象を包括的に明らかにしていくことだと考えている。

Research Activity

1. Introduction

1.1 Background and Research Question

Water is a significant element for development, because it plays an important role in our live, production of foods, generation of electricity, creation of landscape, and so on. The action plan for Sustainable Development Goals (SDGs), which all around the world adopted in 2015, states the importance of water as one achievement goal.² It clearly proclaims that our society cannot develop without water.

The Republic of Ghana, one of the West African countries, is not exceptional. Water is actually an important element for the country because Ghana heavily relies on its domestic water resources. It is used not only for the hydroelectricity that produces over 90% of the domestic electricity.³ It is essential but also for irrigation for the development of its agriculture that represents nearly 40% of its GDP.⁴ In contrast, Ghana's water resource had been the last un-nationalized resources until the 1990s due to complexity of its stake holders as well as political instability.

In the early 1990s, Ghana initiated to nationalize the whole domestic water resources and integrated the former water-related acts under one single national law. It inaugurated the National Water Policy in 2007, whose objective is to integrate all water resources of the country in order to accomplish the future development under the long-term scheme called "Vision 2020." At the same time, Ghana established an organization named Water Resources Commission (WRC) to handle all domestic water resources in 1992 and finally activated it in 1999. Since this dramatic reform, the government has enacted various water-related laws that enable WRC to tackle water resources issues more activity in a legal term. The river bank protection policy "National Buffer Zone Policy" was enacted in 2011. The aim of this policy is to protect river bank, on which Ghana deeply relies as a main water resource, against flooding, land degradation, and pollution. In terms of water security, the policy was intended to be implemented in important rivers of Ghana, including White Volta River, which is one of the principal water resources of Northern area of the country.

In the buffer zone policy, the government adopted the idea of Integrated Water Resources Management, often abbreviated as IWRM,⁵ which is a notion of effective management system on water resources, widely acknowledged at World Water Forum in StockHolm, 2002. This concept is an idea of integrating the former water management systems separately existed in various domains, such as water distribution, purification, protection, and consumption sectors of the country. In addition, this idea promotes public involvement in decision-making as a tool of effective and democratic management of a relevant project.

² Sustainable Development goal 6 indicates the importance of "*Ensuring availability and sustainable management of water and sanitation for all*" (Cited from <https://sustainabledevelopment.un.org/sdg6>, accessed 3rd January, 2017)

³ A percentage of hydroelectricity in primary electricity generation of Ghana, 2000 (Samuel. A et al, 2016).

⁴ "Ghana; Statistical Appendix", International Monetary Fund, 2005, IMF Country Report No.5/286, August 2005

⁵ The definition most frequently cited of IWRM is the definition of Global Water Partnership as follows "Integrated Water Resources Management (IWRM) is a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems."

In other words, the policy is supposed to be implemented through public involvement in decision-making as well as management of the project. Participation of many farmers and reflection of their opinions are thus highly encouraged through the entire process of the project under supports of foreign donors. Civil participants are also required to participate in the project.

However, while Ghana is one of the developing countries which newly adapted IWRM concept, little is known about the actual implementation of Ghana's buffer zone policy. That is because the policy has recently been implemented. In addition, since the concept of IWRM as such is ambiguous and the level of its accomplishment basically depends on a local context, more detailed research is highly required to understand how developing countries implement this conceptualization.

1.2 Research Questions and Objective

This research explores how Ghana develops IWRM policy through its river bank protection policy. It is widely believed that IWRM concept is the most effective method to solve the complex management of water resources, especially in developing countries where people have limited knowledge and capacity to deal with. However, it is still unclear how developing countries embrace and implement IWRM in collaboration with mainly donor countries as well as international organizations. Also, we know little of how developing countries develop IWRM in their own domestic policies; in fact, many donor and international organizations have claimed the importance of implementation of IWRM in developing countries.

My filed research was aimed at clarifying an implementation case of IWRM in Ghana and illustrating how Ghana incorporates with such a developed-country method, particularly in a public-involvement idea. I explored the case of Ghana's water management in White Volta Basin, stretching away from Northern to Upper East regions.

This study presumes that public participation in a decision-making process, as a core of the IWRM idea, is partially implemented in terms of the involvement of stakeholders in Ghana. Most theories regarding public participation have been elaborated in developed countries where citizen right to participate in governmental policy is normally assured. I assumed that in practice, the situation of public participation of Ghana is likely to be different from the theory.

The following hypothesis underlies this study; IWRM has some positive incentives that drives Ghana to incorporate its conception into the water resources policy, regardless of the technical difficulties of IWRM. I am interested in scrutinizing the fact that despite differences of preconditions developed and developing countries have, Ghana has continued to pursue the implementation of IWRM concept through its water management policy. In other words, this hypothesis helps me to understand how Ghana incorporates the concept of IWRM into its unique way, which developed countries might not expect.

2. Study Area

2.1 Buffer Zone Policy

In order to manage the domestic water resources more effectively, Ghana adapted National Water Policy and National Buffer Zone policy in 2007 and 2011 respectively. Both policies indicate the need of protection of domestic water resources for the future development. In addition, the 2011 policy stresses the adaptation of buffer zone which aims to preserve the river bank by planting vegetation alongside of rivers.

The notion of Buffer Zone is defined as “Any area, often peripheral to a protected area, inside or outside, in which activities are implemented or the area managed with the aim of enhancing the positive and reducing the negative impacts of conservation on neighbouring communities and neighbouring communities on conservation” (Arthur Ebregt et al, 2000). Its conceptualization is intended to protect, regenerate and maintain native, established vegetation in riparian zones through planting vegetation along with river lands. It presumes the promotion of the improvement of water quality as well as resilience capacity of communities against natural disasters like flooding. Figure 1 shows the basic models of buffer zone idea. The right is the model that Ghana adopted to its buffer zone policy, aiming to preserve the conservation zone by creating buffer zone through vegetation planting.

Figure 2.1. Two buffer zone situations

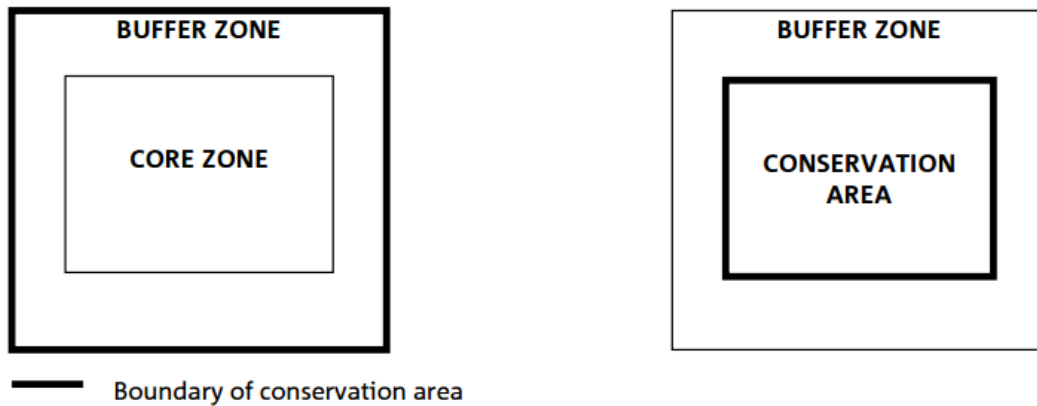


Figure 1 (Arthur Ebregt et al, 2000, pp13)

2.2 Review of Previous Studies

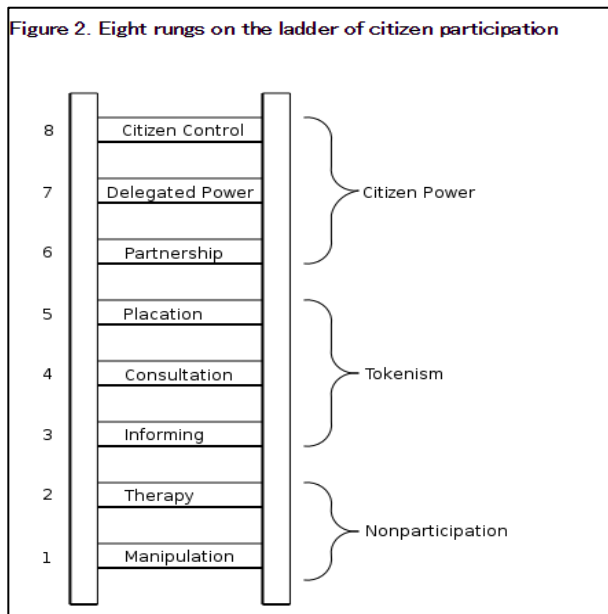


Figure 2 (Arnstain 1969, pp217)

This research draws primarily on the theory “A Ladder of Citizen Participation” (Arnstain 1969). It has widely been accepted in the domain of sociology, proclaiming the levels of public involvement in public policy. The Ladder represents the graduation of public participation from low to high levels. For example, as a level of citizens’ involvement goes up to the upper ladder, effectiveness and public acceptance of policy increases and *vice versa* as Figure 2 demonstrates.

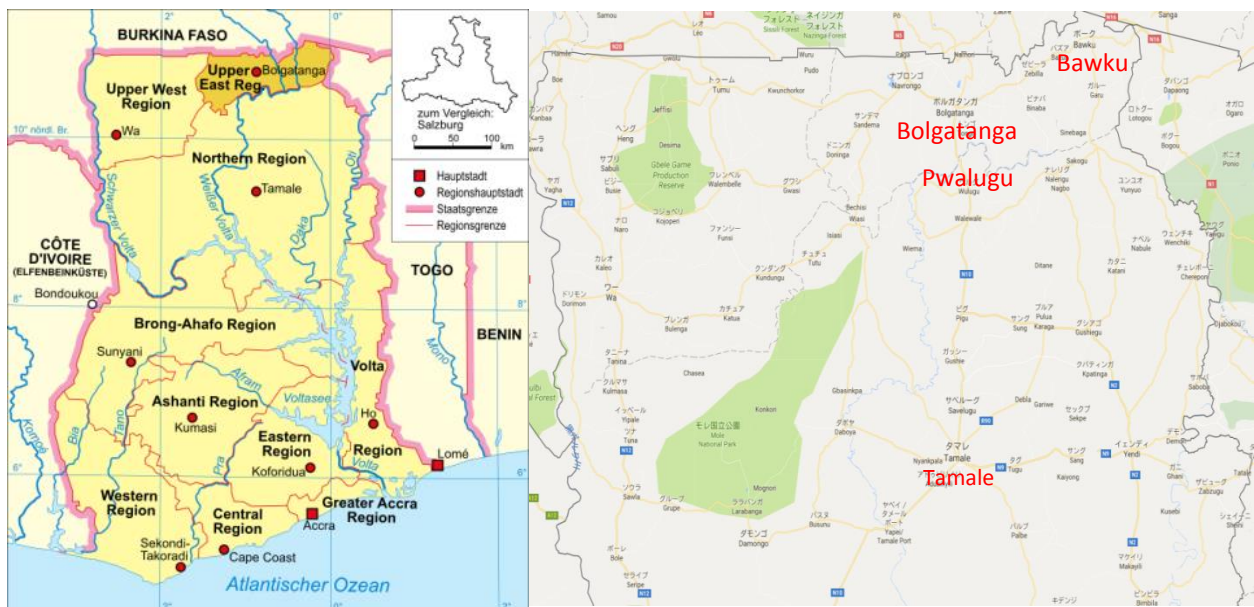
IWRM, one of the natural resource management concept, also conceptualize the idea of public participation as a main pillar. However, since the implementation of IWRM basically depends on a local context and has no universal criteria to be evaluated, it is unclear how each organization implements IWRM in terms of public involvement.

There is little research on how developing countries adapt public participation underlying

IWRM and how IWRM as such is developed in developing countries through the implementation of national resource management. In addition, since its theoretical framework was sophisticated in developed countries where the concept of citizenship is highly assured and the level of education is matured, there should be a question about how public participation is embodied in developing countries.

2.3 Research Site

My fieldwork was mainly conducted in Northern and Upper East regions of Ghana, where White Volta River flows. Tamale, the capital of Northern region, is the city in which I basically stayed. The study sites were mostly located in Upper East region. One of them, Bolgatanga, has a lot of the ministry offices involved in water management policy in the northern part of Ghana and was therefore a significant place for my interview. Two more towns of Upper East region, Bawku and Pwalugu, were also my fieldwork sites where I collected voices from farmers and staffs of the government institutions. In this way, I examined the reality of the actual implementation of Buffer Zone policy.



(Left: The map of Ghana⁶, including Upper East in deep yellow and Northern Region at the center)

(Right: The map of my field site⁷, Bolgatanga, Pwalugu, Bawku, and Tamale)

3. Methodology

My fieldwork was designed for data collection through interviews and access to archives. In many cases, the local professors of the University for Development Studies served as the main informants who introduced me to other informants, including the institution staffs and farmers. They played a key role in my fieldwork, because they have a plenty of experiences, deep knowledge, and insights into the study sites.

⁶ http://www.wikiwand.com/de/Upper_East_Region, accessed 3rd January 2017

⁷ <https://www.google.co.jp/maps/@10.171109,-0.9192711,9z>, accessed 3rd January 2017

The local NPO, Farmers Training Center, acted as a guide to visit the study sites. When I interviewed with farmers, I confirmed their incomes, social statuses, and genders. The relevant government institutions and organizations I visited to talk with the staffs included White Volta River basin branch of the Water Resources Commission.⁸ It is involved in water resource registration and management of the whole basin. In addition, I interviewed with the Forestry Department, Water Research Institute, and Environment Protection Agency which plays a role in buffer zone policies as a stake holder.

Apart from these interviews, I conducted archival research, to obtain governmental documents relevant to water policy. While this trip is in terms of the National Water Policy and Buffer Zone policy, some journalistic articles as well as archives on the National Development Policy helped me to fully identify the actual locations of the study sites for the fieldwork.

4. Research Findings

4.1 Decision Making

As some previous studies have pointed out (e.g. Rebekah H.J, 2015), the decision-making system of White Volta Basin Board (WVBB), the organization dealing with the whole water-related activities in White Volta Basin, is highly government-oriented. In other words, there is no room for citizens to express their ideas on a decision-making process. For instance, Rebekah (2015) indicates that “Given that WVBB decisions are subject to approval or revision by the WRC, the decision-making structure appears to be aligned more closely with a hierarchical model, rather than a truly distributed approach.”⁹ As long as water resource management is part of the jurisdiction of the national government, the committee of WVBB includes its members from administrative and ministry institutions. Apparently, this sets up a hierarchical structure for decision-making. However, only a few selected civil participants are allowed to attend places for actual decision-making in practice whereas the government statement assures the significance of public participation and decision-making by multi stakeholders.

4.2 Implementation

The fieldwork enabled me to understand both positive and negative aspects of the Buffer Zone policy, in terms of decision-making as well as management system. In collaboration with international organizations including the Global Water Partnership (GWP), Ghana has implemented its project through multi-stakeholder participation.

The Buffer Zone policy often entails land exchange, to protect vegetation along the river. Some farmers are asked to forest rather than cultivate river banks, and participate in the management of trees after planting. Poor and female farmers were traditionally excluded from any type of decision-making, but the government has frequently organized community meetings in which they are allowed to get involved. Their voices have constantly been reported to the leading institutions and reflected in relevant national policy schemes. When the project is complete, compensations are provided according to local demands as well as losses caused by its implementation.

Contrary to the bottom-up approach conceptually underlying IWRM, the decision-making system that the Buffer Zone policy employs can be interpreted as a traditional top-down decision-making system. For example, the compensation for the cost of buffer-zone management and relocation of houses is not

⁸ The Address of the Branch: P.O.BOX 489 Bolgatanga, Ghana

⁹ “Multistakeholder Approaches to Water Resource Management in the White Volta River Basin”, Rebekah Heacock Jones, Ryan Budish, Sergio Alves, Jr., Sarah Myers West, Rex Troumbley, Sarah Al Saleh, and JeeYoung Oh, The Berkman Center for Internet & Society at Harvard University

necessarily paid to farmers instantly. Instead, they usually receive it according to the progress of planting trees, which usually takes a lot of time. The types of compensations that they are supposed to get are previously determined by the government.

Another example is of a community of Pwalugu where I visited in November 2016. It has experienced the similar situation; the female farmers are excluded from a decision-making process, because the government supports, including water pump and seedling, are not considered to be given to those without any qualification of land ownership, like women. This leads to illegal river bank cultivation is the relevant challenge, which hinders the project proceeding. It is said that these illegal activities are mostly by poor female farmers, who are not eligible for compensation. The community members are responsible for monitoring the progress of the bank vegetation protection, but show pessimistic attitudes towards this situation. The mutually complementary relationship among them as such loosens the degree of control over unlawful behaviors; rather, it is taken for granted that poor female farmers without government support are involved in illegal cultivation for a living.

In short, my field research indicates both possibilities and challenges of IWRM in Ghana, especially in terms of its multi-stakeholder participation system as well as the management. Moreover, it could be said that a conventional top-down decision-making system is still observed, but not always applicable in all project sites.

5. Discussion

This fieldwork raised a question as follows; why the traditional top-down decision-making system is socially accepted in a policy implementation in Ghana. In general, Global Water Partnership's definition of IWRM is widely accepted in the world, stating that "a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems."¹⁰ This implies that IWRM could be deliberately interpreted as our own term, and it does not assure a bottom-up approach for decision-making. This type of water resources management policy is often classified as an environment policy, which many developed countries recognize as a significant means for the accomplishment of sustainable development. Yet, an environment policy is differently interpreted in the context of developing countries, which are eager to improve and archive their own development plans. Therefore, it is important to take into account that the economic benefit of Buffer Zone policy could be a key driver of encouraging Ghana to get involved it continuously.

6. Conclusion

As previously discussed, Ghanaian adaptation of the concept of IWRM is unlike the way generally imagined, because it incorporates with its ordinarily decision-making system with which local people are very familiar. At the beginning of the implementation as well as the management of the project, the government and other organizations begin with the classification of farmers. That is because there is an assumption that ordinary people could easily participate in a decision-making process without considering the traditional one by which some older members of a community are strong influenced. My field trip revealed that some projects relevant to the Buffer Zone policy provides farmers with opportunities to choose types of compensation, which seem to be suitable for their preferences as well as lifestyles.

¹⁰ An citation from GWP official page "What is IWRM?" (URL: <http://www.gwp.org/the-challenge/what-is-iwrm/>, accessed 4th January 2017

Meanwhile, I focused on other aspects regarding a policy implementation. While the top-down decision-making system is apparently popular in Ghana's water management policy, especially Buffer Zone policy on White Volta River basin, I observed several challenges that local stakeholders have currently been confronting. Given that both farmers and institutions are struggling to manage decision-making processes, Ghana's top-down tradition is unlikely to enhance the quality of relevant projects as well as the utility of stakeholders. In other words, while the top-down decision-making system seems to be effective in social inclusion of people without knowledge on the Buffer Zone policy, it remains unclear why it has brought numerous challenges in practice. Perhaps, Ghana's decision-making system has a potential of recognizing IWRM as a mechanism to encourage multi-stakeholder participation. Therefore, the low level of citizen's right as well as education in developing countries has to be taken into account, in order to examine how to incorporate these factors with IWRM and develop the way of implement it effectively. The fieldwork also allowed me to realize the significance of understanding how Ghana considers current challenges about public participation.

This field trip to Ghana leads me to explore why the conventional decision-making approach is transformed to a different system from what international organizations expect; what factors encourage Ghana to continue the Buffer Zone policy and overcome its current numerous challenges. In order to reveal the cause of the challenges from various aspects, I plan to observe not only the perceptions of policy makers, but also of local farmers and citizens towards the relevant projects. IWRM entails the concept of public involvement, and I believe this could bring an opportunity for uneducated people to get involved in capacity development.

Reflection to the GLTP in Africa

GLTP (Global Leadership Training Program) provide me with an opportunity to discover another aspect of Africa that I hadn't known before. The actual field was beyond my expectation and that always made me modify the research questions and hypothesis because the theory that I used to refer to was established in the context of developed countries, not developing countries such as Ghana.

However, the program in fact enabled me to dive deeply into the field that usually takes a long time and cost. In addition, the program offered me to stay in a long time in a university that has plenty of latest information that is unavailable in outside of Ghana. These advantages drove me to apply for the program.

Looking back my research activity, the program really enables me more active and positive toward what I'm supposed to do. Moreover, the experience in Ghana made me think more profoundly about any subjects.

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I would like to express my gratitude to all the involved people, especially all the organizer of GLTP, UNU-IAS. In addition, I would like to thank Dr. Richard Yeboah, who kindly helped my field work in terms of suggestions as well as knowledge, and to Dr. Courage Saba who entirely supported my stay in Ghana.

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