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A Divergence from 'Sustainable' Development in Central Vietnam?

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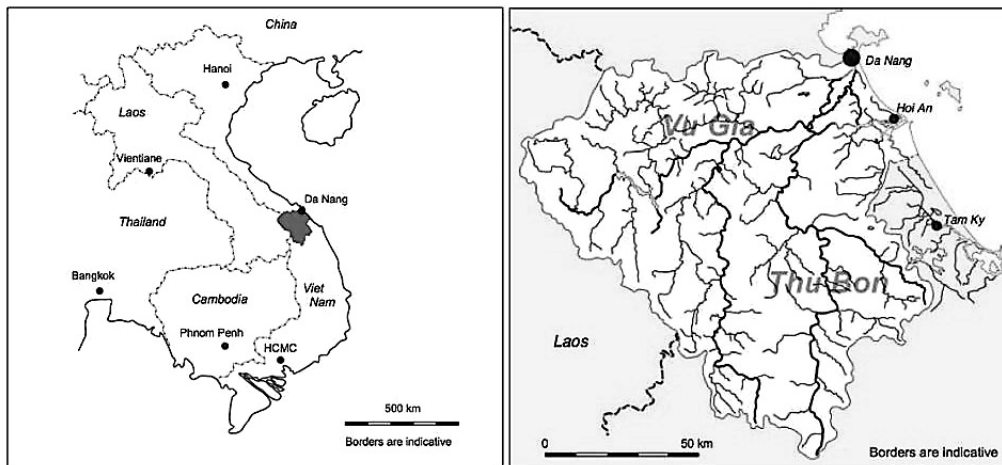
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**Abstract** : Green growth is a concept that arose from Rio Plus 20 to prioritize growth and efficient natural resource use. This new international development framework is starting to play a prominent role in Vietnam, and was adopted through the enactment of both national and local policies since 2012. This article will examine the evolution of green growth, and explore how it is different from sustainable development. Additionally, it will review development policy and its relationship to Integrated Water Resource Management (IWRM), and highlight the challenges of sustainable natural resource management in the face of growth-oriented development. It will draw on the case study of the Vu-Gia-Thu-Bon river basin in central Vietnam, and question the long-term sustainability of regional development patterns under the pretense of green growth.

## I. Introduction

In the face of continued environmental degradation and climate change, water resources are growing increasingly scarce and polluted. Models project that by 2025 two thirds of the world's population will be living under ‘water stressed’ conditions (UN Water 2013). Despite projected scarcity, water is fundamental for economic growth and development (Brown and Lall 2006). This is no different in central Vietnam, where both real and economic water scarcity are becoming the new reality, and may have unintended consequences for the long-term vitality of the nation.

Now more than ever, it is essential to determine and implement potential solutions to govern and preserve precious natural resources, especially water, for future generations. However, it is not clear whether development policies adopted by the Vietnamese government prioritize the preservation of water resources in central Vietnam. This may be evident through recent events in the Vu-Gia-Thu-Bon (VGTB) river basin, which is unique because 90 percent of its catchment area falls within the jurisdictions of DaNang City and the Quang Nam Province (Figure 1). The majority of the watershed is in the Quang Nam Province, but progressively problematic water issues are becoming especially apparent downstream in DaNang City. DaNang is the third largest city in Vietnam with a population of approximately one million residents that rely on the VGTB basin for 70 percent of its water supply (DISED 2013). However, today the basin is facing increased pollution, record-setting saltwater intrusion, and dry season scarcity, while simultaneously the effects from flooding and climate change are becoming increasingly serious. As scarcity escalates, the need for water within the city is expected to increase dramatically, as a result of rapid urbanization and growth in the industrial and tourism sectors (DaNang Green Growth Development Strategy 2013). Therefore, it appears that conventional approaches to water resource management may not result in long-term sustainability.



Source: DONRE Quang Nam Province 2011

Figure 1: The Vu-Gia-Thu-Bon Basin & Sub-Basins in Central Vietnam

Currently, it is not evident that development policies support an agenda to preserve precious natural resources, like water, that are necessary for long-term sustainability throughout the VGTB basin. Since the conclusion of World War II the global development agenda has continuously evolved, and most recently is predicated upon the concept of green growth. The Green Growth agenda was introduced by United Nations Environment Program (UNEP) prior to Rio Plus 20 in 2012, and reflects a change in priorities related to sustainable development (UNEP 2011). In Vietnam, the Prime Minister approved the national Green Growth Strategy in 2012 to guide policy decisions that prioritize economic growth and efficiency, while making an effort to maximize the use of natural resources (Socialist Republic of Vietnam, 2012). This reflects a global trend in development towards policies that emphasize growth over balanced development that encompasses social, environmental and economic factors. Recent events in the Vu-Gia-Thu-Bon basin raise questions regarding green growth, sustainable development and water management practices. This article will examine the evolution of development and water management policies, and explore their implications in Vietnam. Specifically, it will raise questions about the concept of green growth as a tool to promote sustainable development through analyzing local water management practices. Conclusions will be drawn based on fieldwork in central Vietnam between 2011 and 2014.

## II. The Evolution of the Global Development Agenda

Development has often been described as a linear process to promote ‘good change’. Since the end of World War II the concept of development has evolved from policies that promote solely economic growth, to strategies that also attempt to encompass human development indicators (Esteva 2012). For example, the development agenda of the 1980s and 90s was arguably put in place to promote the diffusion of neoliberal economic policies through international development (Shani 2012, 100). Arguments have been made that these policies were not adopted to improve the livelihoods of individuals, but as part of a broader state security agenda. In effect, promoting self-reliance through development has been viewed as a means to maintain global order, and a way to cede power to the West through the continued growth of the neoliberal economic system (Duffield 2007). However, more recently human development has evolved, in order to put

people back into the center of the development process. Human development is often defined as “a process of enlarging human choice and strengthening capabilities (UNDP 1990 in Shani 2012, 102).” It has been institutionalized in the practice of development by UNDP, and is often viewed by practitioners as one of the central international development paradigms.

According to Amartya Sen, “An adequate conception of development must go much beyond the accumulation of wealth, without ignoring the importance of economic growth (Sen 1999, 14).” Development as growth often prioritizes economic development at the initial cost of the environment. This is demonstrated in the Environmental Kuznets Curve hypothesis, which asserts: “environmental pollution and degradation worsen in the early stages of economic growth but slow down as the economy grows beyond a certain income level (Shafik 1994; Grossman and Kruegar 1995 in Mori 2013, 4).” However, growth-based development paradigms claim that growth is possible without extensive environmental damage. Sustainable development aims to empower individuals and communities through focusing on environmental, social and economic factors in the development process. It comes from the term sustainability, which reconciles “the demands of human systems and the health and continuation of the biosphere that supports them (Dovers and Handmer 1996, 483).” Thus, prioritizing local ecosystems as an essential factor in development. Simply, sustainable development is “a pathway of deliberate change and improvement which maintains or enhances the attribute of systems, while answering the needs of the present population (Dovers and Handmer 1992, 275).” In theory, sustainable development encompasses a systems thinking approach, which assesses the costs and benefits of proposed actions and ensures the long-term vitality of the system.

Despite the evolution of sustainable development, the development process is still generally linked to GDP growth and technological innovation, rather than the relationship between humans and the environment. Conventional development policies prioritize economic growth, often at the expense of ecosystem services (Berkes et al. 1998, 433). The fact is “human society still relies on ecosystem services and support,” and the “major challenge is to manage our interconnected environmental assets in a fashion that secures their capacity to support societal development for a long time into the future (Costanza et al. 2000 in Folke et al. 2002, 1).” However, some have argued that this is not possible within the confines of the global neoliberal economic system because the prioritization of “economic profitability” will always come at the cost of local ecosystems (Reid 2012, 68). Post-development theorists go one step further and assert that sustainable development is in fact a form of ‘redevelopment,’ and “redevelopment implies the economic colonization of the so-called informal sector (Esteva 2012).” Essentially, creating a new market that benefits the global north, and is disguised as modernization, the war on poverty or perhaps green growth.

Green growth is a new development paradigm that claims to prioritize efficiency and ‘pro-poor’ policies. The concept of green growth is a relatively new term that arose from Rio Plus 20 in 2012. It alleges to simultaneously support “economic expansion, improvement of welfare, poverty reduction and environmental protection, and emphasizes eco-efficiency of consumption as well as production (Chung 2010 in Mori 2013, 5).” Thus, prioritizing economic growth as the driver for development, while claiming to address environmental and social factors. This new framework demonstrates the recent shift from ‘balanced’ or ‘sustainable’ development (across social, environmental and economic pillars) to one that prioritizes the importance of growth (The World Bank 2011). Green growth policies are intended to open the door for empowerment for ‘poor’ groups “to claim and protect their rights, solve problems independently and negotiate cooperation with outside agencies (UNDP Thailand, 2003 in Mori 2013, 5).” However, the state often has little incentive to foster policies for empowerment because it would actually require significant change and challenge vested interests with large stakes in the economic system. This would undermine the

pattern of economic growth that has been seen in East Asian countries in the past, which has provided incentives for high-growth sectors and maintained state legitimacy (Mori 2013). Therefore, it is not clear whether green growth offers the development solutions to reduce poverty that it promises, or if power and wealth will remain in the hands of the elite. Therefore, this brand of ‘redevelopment’ may provide a platform for a new type of economic colonization of developing countries in the name of environmental preservation.

### III. Integrated Water Resource Management, Green Growth & Sustainable Development

Water is the single most important resource needed to support the goals of economic development and green growth; and Integrated Water Resource Management (IWRM) is recognized globally as the primary tool to manage water resources. This may be because sustainable development and green growth evolved simultaneously to the discourse on IWRM, which began with the Brundtland Commission in 1972 and continuously transformed through Rio Plus 20 in 2012. IWRM is a concept that purports the tenets of sustainable development, and was agreed upon in 1992 in preparation for the United Nations Conference on Environment and Development (UNCED). The IWRM policy framework was first outlined by the Dublin Principles,<sup>1</sup> and is now commonly defined as:

A process that 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 (GWP 2000).

Ideally policies that utilize this framework aim to provide direction and flexibility, while striving to take watersheds, land use, economic development, and environmental protection into account (Feldman 2007, 57). Thus, it aims to provide an integrated framework to guide local and national decision-making processes regarding water resources to better reach their development goals and preserve social and ecological systems.

Globally stakeholders recognize “that unless we manage our water better, we will not achieve our broader development goals (Lenton and Muller 2009, 1).” That is because despite the fact that water is a renewable resource overexploitation will cause irreversible damage to the earth's ecosystems. This is not desirable because societies and economies are reliant on the relatively predictable availability of water resources, which they often take for granted (Lenton and Muller 2009). For example, studies have shown that streamflow is correlated to economic development; countries facing reduced stream flows see negative implications on food production, trade and infrastructure development (Brown and Lall 2006). This demonstrates how water is inherently tied to development goals, and thus a key aspect of both the sustainable development and green growth paradigms. However, it is not clear IWRM, which encompasses the principles of adaptive ecosystem management and long-term sustainability, can trump societies need for cheap energy and short-term economic growth.

Both water and energy have been the primary drivers of unprecedented economic development. Therefore, they may be two of the most important factors when discussing long-term sustainability. This is

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<sup>1</sup> The Dublin Principles were adopted at the International Conference on Water and the Environment in 1992, prior to UNCED. They state: “(1) Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment; (2) Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels; (3) Women play a central role in the provision, management and safeguarding of water; (4) Water is a public good and has a social and economic value in all its competing uses (GWP 2014).”

especially apparent in the case of hydropower. However, in reality energy and water management are often dealt with separately, as a result of various political and operational constraints. Adversaries of IWRM contend,

“These two resources cannot be separately planned in an ‘integrative’ manner, irrespective of how integration is defined. Optimizing the benefits of IWRM...will not result in the maximization of the benefits of integrated energy management and vice versa (Biswas 2008, 18).”

Water is not only necessary for human survival, but it is also a necessary component of the energy sector. This makes it difficult to maximize economic potential and simultaneously safeguard local ecosystems, which is becoming increasingly apparent in central Vietnam.

#### ***IV. The Manifestation of Water Management and Development Policies in Vietnam***

The evolution of development and IWRM policies is very pronounced in Vietnam. The national government has taken many steps to follow the lead of the international community, and adopt policies as they have been prescribed by external actors. All three strategies discussed previously, green growth, IWRM and sustainable development, have been implemented based on recommendations from the international organizations that fund development projects in Vietnam. This has led to an increased awareness among national and local leaders of environmental issues that currently plague the country. However, it is unclear how effective these policies have been as a means to achieve the vision of local stakeholders to alleviate poverty and cultivate long-term sustainability.

For example, Vietnam put laws into place to foster IWRM when the government was forced to evaluate its water law after it implemented an ambitious reform program to open up its economy in the 80's. Water resource law, as seen today took ten years to develop before it was first established in 1998, and it has continued to evolve to reflect international IWRM standards (Malano et al. 1999, 310). This process began in 1989 when Doi Moi changed the way natural resources had historically been managed, and prioritized the development of the agricultural and industrial sectors (Waibel 2010, 6). This increased the need for water storage to supply irrigated agriculture, as well as hydropower development to produce the necessary electricity (Malano et al. 1999, 310). As a result, water was seen as an economic good for the first time, and a necessary component for the future development of Vietnam. It is unclear whether IWRM policies have been a successful method to foster conservation and improved management, or if it has just been a means to ensure water is available for economic growth.

More recently, Vietnam has continued to update its development strategy to reflect international best practices. First, in August of 2004 the Prime Minister of Vietnam issued Decision 153/2004QD-TTg. The legislation called for the implementation of sustainable development strategies to address many of the economic, social and environmental issues facing the country. This policy framework has been embraced by localities and been a primary factor in a series of five-year planning processes completed under Agenda 21 to achieve more balanced development (Quang Nam Province Development Strategy 2011). However, it is relatively new, and many government officials were just beginning to understand and accept the concept of sustainable development, when the green growth paradigm was introduced and adopted by the national government.<sup>2</sup>

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<sup>2</sup> Anonymous Technical Advisor, interviews by author, DaNang, Vietnam, Summer 2013.

Vietnam was one of the first countries to enact a national green growth policy to guide future development. The government of South Korea first propagated the strategy as part of the UN Economic and Social Commission for Asia and the Pacific's Regional Implementation Plan for Sustainable Development 2006-2010, and later through the commencement of the Global Green Growth Institute (GGGI) as an international agency in October 2012 (Mori 2013, 5; Global Green Growth Institute 2014). Most recently these policies have been implemented in Vietnam through the adoption of the National Green Growth Strategy in 2012 in partnership with GGGI, which have translated more recently to local policies in the VGTB basin.<sup>3</sup>

Table 1: The National Green Growth Development Strategy of Vietnam

<p><u>Strategic Objectives</u></p> <ol style="list-style-type: none"><li>1. Restructure the economy and optimize economic institutions by greening existing sectors and encouraging the development of economic sectors to use energy and natural resources efficiently with higher added values;</li><li>2. Conduct research and enhance application of appropriate advanced technologies to more efficiently use natural resources, reduce greenhouse gas emissions intensity and to contribute to an effective response to climate change;</li><li>3. Improve living standards of the people, creating an environment friendly lifestyle through employment generation from green industry, agriculture and services; investment in natural capital; and development of green infrastructure.</li></ol>
<p><u>Strategic Tasks</u></p> <ol style="list-style-type: none"><li>1. Reduce the intensity of greenhouse gas emissions and promote the use of clean and renewable energy</li><li>2. Green production</li><li>3. Promote sustainable consumption and green lifestyles</li></ol>
<p><u>Proposed Solutions</u></p> <ol style="list-style-type: none"><li>1. Communication, awareness raising and encouragement of support to implementation</li><li>2. Improving effectiveness and efficiency of energy use, reduce energy consumption in production activities, transportation and trade</li><li>3. Changing the fuel structure in industry and transportation</li><li>4. Promote effective exploitation and increase the proportion of new and renewable energy sources in the nation's energy production and consumption.</li><li>5. Reduce greenhouse gas emissions through the development of sustainable organic agriculture, improved competitiveness of agricultural production</li><li>6. Review and adjust master plans for the production sectors and gradually limit the development of economic sectors that generate large amount of waste, significant environmental pollution and degradation of natural resources, while creating favorable conditions for the development of new green production sectors</li><li>7. Economic and efficient utilization of natural resources</li><li>8. Promote fast development of green economic sectors to create jobs, increase income and enrich natural capital</li><li>9. Development of key sustainable infrastructure including: transportation, energy, irrigation and urban works</li><li>10. Promote technological innovation and wide application of cleaner production</li><li>11. Sustainable Urbanization</li><li>12. Develop the new rural model with lifestyles in harmony with environment</li><li>13. Promoting sustainable consumption and building green lifestyles</li><li>14. Mobilize resources to implement the Green Growth Strategy</li><li>15. Human resource training and development</li><li>16. Study to develop science and technology, issuing a system of economic and technical standards as well as information /data on green growth</li><li>17. International cooperation</li></ol>

Source: National Green Growth Strategy (No. 1393/QĐ-TTg 2012)

<sup>3</sup> Both the Quang Nam Province and DaNang City are addressing Green Growth independently of one another. In 2013 DaNang City authored the Green Growth Development Strategy in partnership with GGGI and UNHabitat, while the Quang Nam Province held the Green Growth Investment Forum to advertise its own provincial wide development strategy to potential investors (Hoi An and DaNang, Vietnam, Summer 2013).

The national policy framework includes three specific objectives and strategic tasks that prioritize technological innovation and efficiency in development, and lays out seventeen proposed solutions to achieve green growth (Table 1). However, the national strategy may discount socio-ecological systems in a quest for efficiency and growth. For example, the first proposed solution highlights the need for 'communication and awareness raising' to implement policies. However, it fails to mention that policies and processes should include local voices in decision making, thus weakening the ability of the government to respond to environmental issues on the ground (Brinkerhoff and Crosby 2002). In fact, there are very limited references to who the stakeholders might be, which makes one question who it will serve in the long-run. Policies may have unintended consequences that concentrate wealth in the hands of the few and come at a substantial cost to the poor (Gupta and Label 2010, 378). Arguably, the lack of attempts to meaningfully incorporate equity, social justice, and socio-ecological systems may undermine opportunities to facilitate sustainable development in the future.

In addition, natural resources are depicted as a commodity in the Green Growth Strategy. For example, the plan calls for the 'efficient utilization of natural resources,' and additional renewable energy sources to support economic development. However, it does not mention that Vietnam's primary energy source is renewable hydropower, which is reliant on surface water and has had many unintended consequences on socio-ecological systems throughout the country (DISED 2013). According to new development plans and policies overseeing water resource management in the VGTB basin, water resources need to be reallocated from agricultural uses to support economic development goals.<sup>4</sup> Water redistribution may have negative side effects that cause living conditions of poor, rural citizens to be further degraded because they depend on agricultural ecosystem services to survive (Toan 2011, i). Further, the green growth strategy fails to consider basin-wide demand and supply side management. That is because it addresses DaNang and the Quang Nam Province as two separate entities instead of as a single watershed, which is mandated by IWRM policies (Biltonen et al. 2010, 7). Therefore, undermining any attempts for the implementation of IWRM policies or long-term sustainability. Green growth strategies are intended to maximize the use of natural resources to support efficient economic growth. However, it remains to be seen if these policies will engender efficient resource use, or merely justify continued extraction and over-exploitation.<sup>5</sup>

IWRM is related to sustainable development because it mandates decisions be made using an integrated framework that looks at the entire system through an adaptive management process. In theory this encompasses: "the carrying capacity of the area in question, a strong commitment to policies that rectify concerns regarding the quality of life with economic development, and includes strategies for participation, equity and fairness, as well ecological protection (Feldman 2007, 2)." Despite these intentions, the institution of the nation-state has arguably played "a prominent role in the emergence of ecological problems." Instead of looking at the whole picture, it acts as the "development machine" that prioritizes capital growth in a neoliberal economic system (Mori 2013, 1). This may especially be true through new development paradigms, such as green growth, that appear to prioritize economic development over social and environmental systems.

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<sup>4</sup> Anonymous Technical Advisor, interviews by author, DaNang, Vietnam, Summer 2013.

<sup>5</sup> Anonymous Technical Advisor, interviews by author, DaNang, Vietnam, Summer 2013.

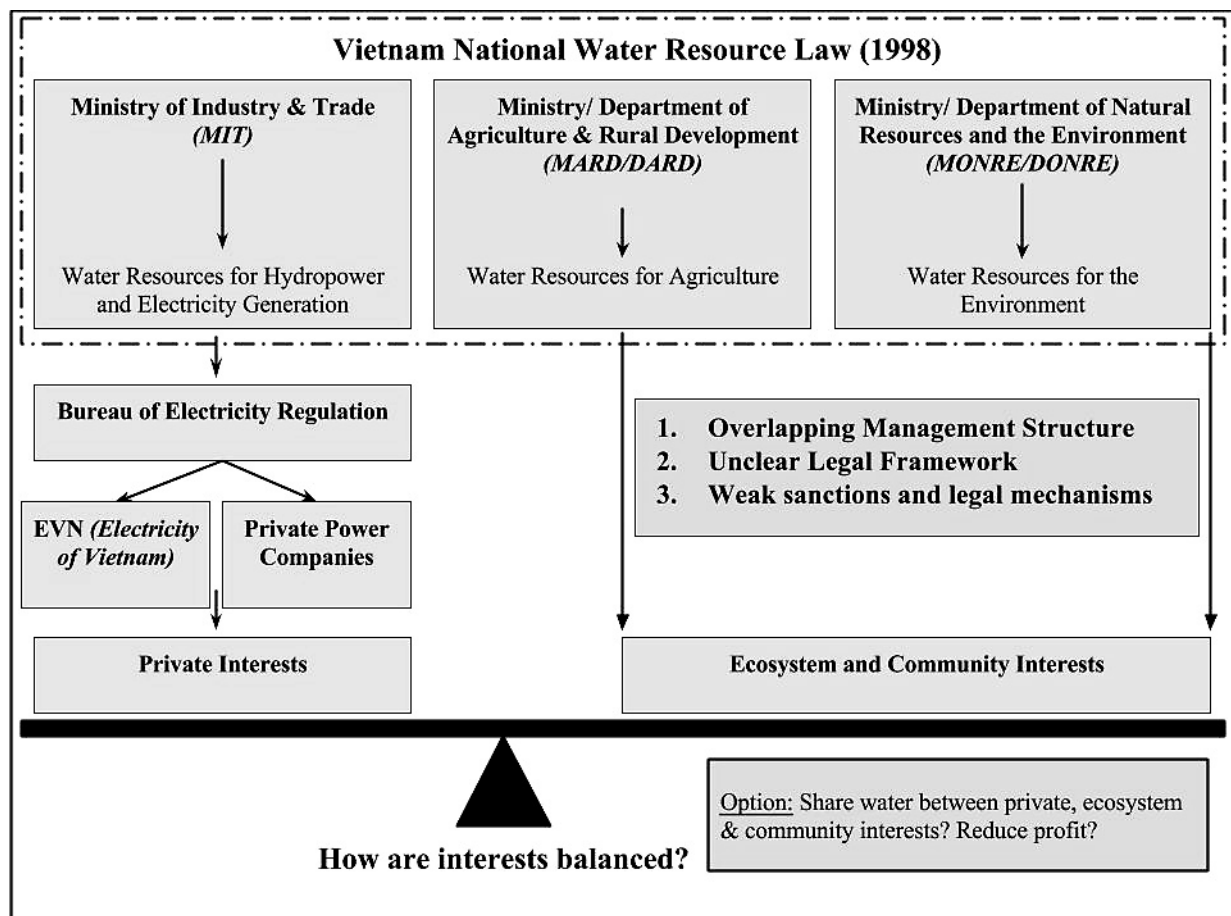


## V. Water Management as ‘Growth’ in the VGTB Basin

Water and energy have been the primary drivers of unprecedented economic growth in Vietnam. However, the availability of these resources is limited by population growth and continued environmental degradation (Feldman 2007, 19). Therefore, it is unclear whether finite resources can be balanced between ecological and economic needs, especially if growth remains the number one determinant illustrative of progress and development. The struggle between ecological preservation and economic development can be seen through examining the relationship between water and energy in the context of hydropower development and management.

Vietnam has a large amount of hydropower potential, and therefore energy should be addressed as a component of IWRM through a multilateral system of governance. However, in reality energy and water management are often dealt with separately, as a result of local politics and national laws on water resources. In Vietnam, issues related to hydropower production are managed by the Ministry of Industry and Trade (MIT), while those related to water resources and ecosystem protection are under the oversight of the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Natural Resource and the Environment (MONRE) (Figure 2). Water is a necessary component of the energy sector, which makes it difficult to maximize economic potential and simultaneously safeguard local ecosystems (Biswas 2008).

Figure 2: Government Oversight of Hydropower Operation and Development



Source: Cong 2013

Therefore, this division of labor may not result in sustainable natural resource management, and consequently may further prioritize economic growth because there are not incentives in place to promote preservation.

Industrial growth has led to increased energy demand, and hydropower is the least expensive way to meet need. Vietnam has capitalized on hydropower through the implementation of the Master Plan for Hydropower Development to meet electricity demand (MIT Master Plan XII 2011). The plan is justified because hydropower is seen as a means to provide: national energy security, socioeconomic development through job creation, the primary means to control floods and droughts, and a mechanism to ensure a sufficient and consistent water supply. To date hydropower accounts for 48% of Vietnam's capacity for energy generation, so it has a substantial impact on the country's capacity for economic development (Vietnam Plus 2013). It is estimated that the VGTB basin has a total hydropower potential of 1,500 MW, which makes the VGTB the fourth largest energy producer in the country (Toan 2011, 1). Hydropower capacity in the watershed is expected to increase by 275 percent by 2025, which will supply 88 percent of total industrial energy in the region (DONRE Quang Nam Province 2011, 1). Advocates contend increased hydropower generation will help meet energy requirements, which is growing at over twice the rate of GDP (Tranh 2011, 1). This demonstrates how difficult it is to integrate IWRM and development policies in a balanced manner. If growth further outweighs balanced development in the future, the situation may continue to worsen in the VGTB basin and perhaps throughout the entire country.

## VI. A Divergence from Sustainable Development?

Regardless of the progress that has been made regarding 'sustainable' development and water management, it is clear that potential business opportunities and financial gains are still a primary factor in decision-making. Aggressive economic development is evidenced by exports, foreign investment and GDP growth. Economic growth since 1989 has resulted in a threatening level of industrial production, new construction and a fast rate of urbanization (Bolay et al. 1997, 187). This rapid change has increased stress on both social and environmental systems, and led to many unforeseen consequences that can be seen in the VGTB basin. The divergence between water and energy management demonstrates some of the challenges related to sustainable natural resource management and long-term sustainability. It is clear that a new development paradigm is needed, but it remains to be seen whether green growth is actually 'green' in Vietnam or simply another 'growth' oriented strategy to realize local economic aspirations.

History has demonstrated that growth-orientated strategies "have allowed states to initiate development projects without taking into consideration their environmental implications (Mori 2013, 25)." The concept of green growth makes resources, including water, needless to say, a central component to economic development. Instead of making an effort to integrate water and energy management, it prioritizes the efficient utilization of water resources without adequately focusing on ecosystem health and impeding water scarcity. Even though Vietnam has adopted various development and water management policies, "changing the course of development requires more than the "import" of standards, regulations, policy instruments and technological solutions...it requires stronger political will in changing policy goals, policy

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<sup>6</sup> The plan outlines 815 different hydropower projects throughout Vietnam, including, 268 that are currently operational and 205 that are under construction.

paradigms, and the role of the state (Mori 2013, 6).” In the absence of political will environmental degradation and ‘redevelopment’ are inevitable, which will come at the cost to local people and ecosystems (Esteva 2012; Moser 2013). It is too early to determine what the impacts of green growth will be in Vietnam, but current development efforts should be studied and questioned to ensure the long-term sustainable development and vitality of Vietnam and the VGTB river basin.

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