

Water Resources Development, Wetlands-Based Livelihoods and Notions of Wellbeing: Perspectives from Northeast Thailand^{1*}

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ABSTRACT

In recent years, the concept of societal “wellbeing” (*yuu dee mee suk*) has increasingly appeared in policy discourse in Thailand, often embedded in narratives proposing “people-centered” or “participatory” development approaches, and has frequently been associated with the “Sufficiency Economy” philosophy. Over the past decade or so, a limited number of studies have been conducted examining locally situated understandings of wellbeing in communities in Northeast Thailand which have found that a generalized rubric of “water” ranks highly in people’s perceptions of social wellbeing linked to livelihood concerns. However, this broad categorization of “water” does not account for the multiple uses and functions in society in which water and wellbeing play a part, including various economic, ecological, spiritual and cultural values. Moreover, few studies have explored in any detail how people frame perceptions of development around particular water use sectors, especially competitive demands for irrigated agriculture and wetlands ecosystems.

This paper briefly reviews some of the national development literature concerning water resources, wellbeing and livelihoods, and its relevance to the context of Northeast Thailand. Specifically, it refers to a case study of the lower Nam Songkhram Basin (LNSB), an important and extensive wetlands area, to highlight how state water resources policy, planning and development narratives and practice are generally poorly cognizant of the local socio-ecological context, overlook past development outcomes, and tends to promote interventions that often degrade wetlands ecosystem services, thus potentially undermining social wellbeing by making communities and the environment less resilient and more vulnerable to external shocks. The study utilizes both secondary sources and direct research findings, including a survey examining the perceptions of the public regarding regional development issues and framings of water resources management priorities. It raises fundamental questions about social constructions around water resources and the need to better understand and integrate social wellbeing and ecosystems approaches into Northeastern water resources

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development and management policies, planning and practices. The findings could have some relevance to other Lao-speaking societies within the wider lower Mekong Basin.

Keywords: wellbeing, ecosystem services, water resources, wetlands, sustainable development, Northeast Thailand, development discourse

INTRODUCTION

Northeast Thailand, in common with other lowland regions of the lower Mekong Basin (LMB), including much of the river floodplains of Lao PDR, contains significant tracts of wetlands. These wetlands may be either seasonal or permanent, artificial or natural, and covering a wide array of different habitat types, from small swamps and ponds, lakes and reservoirs, and numerous water courses of varying sizes up to the Mekong River itself. They are considered highly productive ecosystems in terms of biodiversity and biomass, both aquatic and terrestrial, supporting numerous human communities that rely on them for part of their livelihoods in terms of household subsistence and income (MRC, 2010; Constanza et al., 2011). The best documented wetlands dependent socio-economic sector are freshwater capture fisheries, which are estimated to yield about 1.9 million tons per annum in 2008, which together with aquaculture production had a first sale value of \$3.9 – 7 billion (MRC, 2010). The Mekong fishery has been described as the “world’s largest freshwater fishery”, with the average per capita fish consumption across the 60 million inhabitants of the LMB estimated at 33.7 kg/person/year (ICEM, 2010: 95). Over 75 % of households have been estimated to be involved in capture fisheries, both for household consumption and sale to markets (MRC, 2003).

Humans benefit from a vast range of resources and processes provided by ecosystems, which collectively are known as “ecosystem services”. Besides capture fisheries, wetlands in the LMB provide numerous other benefits to society, both in terms of livelihood provision and other ecosystem services. Direct uses or “provisioning services” (Millennium Ecosystem Assessment, 2005) include water and land for agriculture (particularly rice cultivation), grazing land for animals, a source of wood and fibrous material for energy, building and handicrafts, a wide variety of wild foodstuffs harvested for consumption and sale, medicinal plants and water for domestic consumption. Additionally, there are numerous other valuable, indirect use services of wetlands, such as their role as carbon sinks, flow regulation, flood mitigation, groundwater recharge, wastewater treatment and climate regulation, which are more difficult qualities to quantify but are understood to provide massive benefits to human communities nevertheless. A Mekong River Commission (MRC) study on the impacts of flow modification of the Mekong mainstream under different development scenarios, found that the baseline value of wetlands (excluding capture fisheries) in the Mekong Basin was estimated at US \$1,802 million, with Thailand having the highest value at US \$1,249 million (King et al., 2005). By comparison, the same study estimated that irrigated agriculture was worth just US \$479 million within the LMB across the four countries involved (Cambodia, Laos, Thailand and Vietnam). At a more localized level, a study of a single peri-urban wetland system on the fringes of Vientiane found that the

combined direct and indirect use value of the That Luang marshes was US \$2,450/ ha/ year (Gerrard, 2004).

Increasingly, regional and global development reports are drawing connections between ecosystem services and human wellbeing as the links are becoming better understood as a bi-directional pattern. McMichael and Scholes (2005) have stressed that there are serious issues of equity involved, such as considering who experiences the gains and losses of ecosystem services under conditions of socio-environmental change. Crucially these authors raised a related question, “if the connection between ecosystem services and human well-being is so strong, why do people behave in an apparently irrational manner by undermining factors necessary for their own good?” (McMichael and Scholes, 2005: 45). This paper partially attempts to address this question in the context of Northeast Thailand, with reference to a case study of a relatively well studied, floodplain wetlands ecosystem. While the ecological health of this and other LMB wetlands have been linked to the social wellbeing of local populations dependent upon this ecosystem and a relatively detailed picture of the interdependencies between the two have been built up, rarely have studies been conducted that explicitly address the question of why development policy makers and planners at various scales invariably seem to prioritize the allocation of available water and wetlands habitats for use in irrigation and agricultural intensification, over conserving the vast array of existing natural ecosystem services for present and future generations sake; and how this conundrum may be related to dominant national interpretations of wellbeing and development.

Starting with a brief examination of the contested concept of “wellbeing” from a theoretical perspective, this paper proceeds to consider how wellbeing has been interpreted in the case of Thailand, where the state has progressively incorporated it into a mainstream national development discourse. Specifically, it considers the role that wellbeing notions have played in recent National Economic and Social Development Plans and how they intersect with water resources development as a key narrative component. The paper then briefly considers the holistic and multi-purpose nature of water resources in local livelihoods and culture linked to the environment, by focusing on a situated case study of the lower Nam Songkhram Basin (LNSB) wetlands. It highlights contradictory framings of a so-called “Isan⁴ problematic” in the local context where the region’s primary development problem has long been defined in terms of water scarcity and linked poverty, (which in turn has circumscribed universally prescriptive solutions). It shows how this phenomenon is partly manifested in dominant public perceptions of water resources management “problems”, by examining the results of a 2010 questionnaire survey. Lastly the paper draws attention to the consistent societal fascination with large-scale water resource schemes proposed for Northeast Thailand, both as an outcome of state-led planning and as part of wider Mekong regional development processes, and what these may imply for future regional water security and general concerns for social wellbeing.

⁴ While recognizing there are several different spellings commonly used, this paper adopts “Isan” to refer to the 17 provinces comprising the Northeast, which forms a geographically, linguistically and culturally distinctive region.

This paper draws from a range of data sources, including grey literature, more formal academic sources and the authors' own field data, in particular a large body of livelihood and wetlands ecosystem data and project reports accumulated during the IUCN-implemented Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP)⁵ in which both authors were closely involved between 2004-07, and in addition a shorter period of field data collection (involving direct observation, stakeholder interviews and a questionnaire survey) conducted by the first author in 2009-10 for his PhD thesis, focusing on building an understanding of irrigation development drivers and societal power relations (Blake, 2012). The article adopts a critical realist approach (Sayer, 2000) that regards social systems as "open" and indeterminate, and allows for use of discourse analysis to illustrate how commonly-held environmental narratives about a region are often social constructions, produced and reproduced by certain groups in society to create or maintain a given social order and provide material benefits to these groups through privileging particular development solutions, often at the expense of the interests of weaker social groups. At the same time, it allows for an objective material world that is knowable, and suggests that false or partially correct ideas conceived as "development myths" or "orthodoxies" (Leach and Mearns, 1996) are the product of an inevitable "socialness" of the actors or group that created them and reflect underlying power relations.

Wellbeing, Livelihoods and Ecosystems

The term "wellbeing" has crept steadily into the development lexicon during recent decades to become a widely used notion, but is often poorly defined or fuzzy in meaning. As with "sustainable", "participatory" and a few other popular development terms, wellbeing can be highly subjective as to what is implied by its use. McGregor (2009: 5) notes that there is a tendency for wellbeing conceptions "to become overcomplicated, over-philosophized and ultimately they cannot be operationalized." Wellbeing terminology emerged from origins in social psychology and welfare economics (e.g., the "economics of happiness" perspective), but later wellbeing terminology became closely associated with the "capabilities" approach and the "sustainable livelihoods approach" (SLA) by development actors and institutions. A prominent proponent of the wellbeing concept in development literature, Amartya Sen (1999) believes wellbeing is made up of "functioning" (various things a person may value doing or being) and "capability" (the alternative combinations of functionings that are feasible for him/her to achieve), while poverty is conversely understood as capability-deprivation. Although Sen's formulation of wellbeing has been widely acknowledged, it has also been criticized for lacking methodological rigor (e.g., Alkire and Black, 1997). Far from being a generally accepted or universally understood term, "wellbeing" appears to be a contested notion that defies easy definition (Gadrey and Florence, 2006). At a simple level, wellbeing has been identified as a state of health, happiness and comfort (MacKian, 2009), but these are clearly highly subjective indicators. In an attempt to move beyond Sen's somewhat problematic notion of

⁵ Most of the written outputs of MWBP and background information on the LNSB can be accessed at the following website, including English and Thai language reports: <http://www.mekongwetlands.org/>

wellbeing, McGregor (2009) has proposed the following definition as a practical and social compromise: “wellbeing is a state of being with others, where one’s needs are met, where one is able to meaningfully pursue one’s goals, and where one is able to experience a satisfactory quality of life.”

In one sense, the various conceptualizations of wellbeing can be conceived as an attempt to achieve an improved general theory of development, in which both “subjective” as well as “objective” aspects of society are recognized. As development thinking has increasingly become congruent with environmental concerns, precipitated partly by the publication of “Limits to Growth” in 1972 and later seminal Brundtland Report (1987), notions of wellbeing have infiltrated debates around development and sustainability. More recently, the widely quoted United Nations Millennium Ecosystem Assessment (MEA) (2005) key synthesis report, “Ecosystems and Human Well-being”, proposes that there are four basic constituents to wellbeing, ordered under the generic headings: security, basic material for a good life, health, and good social relations. Together these factors contribute to an overall apparent yardstick of wellbeing – freedom of choice and action i.e., “opportunity to be able to achieve what an individual values being and doing”. A linking theme between the environment and human wellbeing is that ecosystems provide “services” that are necessary for the viability of human welfare, whereas the actions of humans will conversely affect, and in many cases degrade, ecosystems both directly and indirectly. In other words, the health of ecosystems and the health and wellbeing of humans are interlinked and interdependent. For example, the MEA report underlines how a continuation of twin trends of increased exploitation of ecosystems and degradation of those ecosystems is unsustainable and likely to lead to irreversible changes that have a disproportional impact on the most vulnerable members of a society (Corvalan et al., 2005). It has been noted how a core component considered necessary by survey respondents for wellbeing derived from ecosystem services is “access to resources for a viable livelihood (including food or building materials) or the income to purchase them” (McMichael and Scholes, 2005: 49).

Water resources, in theory, should provide rich subject matter for wellbeing researchers, imbued as it is with multiple meanings to society, which according to Bakker (2010: 3) includes, “an economic input, an aesthetic reference, a religious symbol, a public service, a private good, a cornerstone of public health, and a bio-physical necessity for humans and ecosystems alike.” Despite this intuitive link between the essential nature of water resources and notions of wellbeing, it was interesting that in one multi-case study book titled, *Wellbeing in Developing Countries: From Theory to Research*, water resources were mentioned just once in the context of water access barriers in the Andes (Gough and MacGregor, 2007: 194), suggesting it has not always been a high priority issue for social wellbeing-focused researchers in the past. Wellbeing in the context of fisheries governance appears to have been better studied in some respects than water and wellbeing per se. Taking up the challenge in a policy paper examining the fisheries sector in South Asia, MacGregor (2009: 2) speculates that “an understanding of the motivations for the way and the extent to which people exploit a fishery, as part of their pursuit of wellbeing, provides a basis for formulating effective systems of governance and policy.” However, MacGregor concedes that while the concept of wellbeing has been widely adopted at the rhetorical level, it has so far not

been translated effectively into policy and practice. As acknowledged in the United Nations Development Programme's Human Development Report 2006, water pervades all aspects of human development, but this should not imply that water scarcity should be the starting point for understanding its management (Watkins, 2006). The UNDP report explicitly recognizes that "the scarcity at the heart of the global water crisis is rooted in power, poverty and inequality, not in physical availability" (Watkins, 2006: 10). This critical observation is offset by an apparent gap in research of water resources development and wellbeing linkages in developing country contexts that looks beyond physical scarcity narratives to examine the power and politics aspects involved. Mehta's research in Gujarat state of India would be one notable exception (see Mehta 2001; 2005).

Wellbeing notions in Thailand and development planning and policy

Thailand is widely recognized as being one of the few countries in Asia that has explicitly placed "wellbeing" (in Thai the term often used is "*yuu dee mee suk*" – literally, "live well, have happiness") concerns within its development agenda over the past few decades (McGregor et al, 2007). Intriguingly, these authors note how, "at the level of casual observation, the pursuit of wellbeing could be regarded as a national pastime. At a more formal level, notions of wellbeing have now found themselves a place in national policy discourses and documents" (McGregor et al, 2007: 2). The roots of this ideological project can be traced back in part to the early 1960s, when plans and policies were being forged by an emerging new national leadership structure. Thailand's national development ethos and direction was to a significant extent guided by the National Economic Development Plans,⁶ first implemented with World Bank input under the dictatorial government of Field Marshall Sarit Thanarat in 1961, which stressed economic growth within a context of national security as the top priority (Chaloemtiarana, 2007). This period saw a bureaucratic and military elite assert its instrumental visions and dominant statist ideology based on the triple pillars of "nation-religion-king" (*chart-satsana-phra mahakasat*), to mould a potent discourse of developmentalism that could be applied to counter the spread of communism across Indochina. Sarit's paternalistic governance inclinations and mistrust of parliamentary democracy were tempered by Western concerns for a stable bulwark state in Southeast Asia which encouraged militarization alongside limited democratization. The communist threat was perceived by conservative elements in society as fundamentally "un-Thai" and a latent danger to the nation's security and monarchy (Baker and Pongpaichit, 2005). Elites regarded it as "a negation of the livelihood, history and civilization of the Thai race", argues Samudavanija (2002: 61).

Significantly, a key constitutive facet of Sarit's newly popularized term "development" (*kan phattana*) closely equated an elite-centric view of ordinary citizens' wellbeing needs with a strong emphasis on "having money" as a yardstick. This is attested to by a propaganda slogan played by government radio programs broadcasting throughout Thailand during the 1960s: "*ngan kue ngeun, ngeun kue ngan, bandarn suk*"

⁶ These later evolved to become known as National Economic and Social Development Plans.

– “work is money and money is work; such is happiness”. Over subsequent decades the National Economic and Social Development Board (NESDB), responsible for formulating the five yearly national development plans, placed strong emphasis on modernization, economic progress and reform of society through the incorporation of Sarit’s visions. A similar widely disseminated catchy slogan stressing wellbeing he was said to have coined for a government publicity campaign to promote his development mission was “*nam lai, fai sawang, thang di, mi ngan tham, bandarn suk*” (flowing water, bright lights, good roads, work for the people; such is happiness) (Chaloemtiarana, 2007: xiv).

Since the paternalistic and militaristic regime of Sarit, successive development plans, policies and strategies prioritized the goal of maximizing economic growth, juxtaposed with vague references to the importance of ensuring citizen’s “happiness”. But by the Eighth National Development Plan (1997-2001), rhetorical recognition was made by policy makers that the previous national development plans had placed too much emphasis on material aspects and a changed of tack occurred through a specific focus on the idea of “people centered development” and desire to achieve a society marked by “greater happiness and better quality of life” (NESDB, 2007: 1). The start of this plan coincided with the Asian Economic Crash and many of the original goals had to be temporarily laid aside in favor of short-term economic pragmatism. The Ninth Plan (2002-2006) was the first to officially “adopt” the concept of “Sufficiency Economy”⁷ (*settakit por piang*) (Isager and Ivarsson, 2011). It was said to seek to build “an economy with strong internal foundations and resilient to external changes, while aiming for balanced development with respect to people, society, economy and environment in order to achieve sustainable development and the wellbeing of the Thai people” (NESDB, 2007: 1). In terms of water resources management, and reflecting a commonly held instrumental view of management, the Ninth Plan proposed “to solve the problems of shortage, flooding and contamination in a holistic manner” (NESDB, 2002: 5). The same document also planned to increase water storage capacity by building “small reservoirs and developing a fair and sufficient water distribution system”. This period saw steady economic growth of over five per cent annually and a supposed decline in absolute poverty, as improvements in health care and economic diversification became apparent. It was also a period marked by continuing high state investments in hydraulic infrastructure construction nationwide, especially in irrigation schemes, even as the agrarian shift intensified (Rigg, 2005) and rural labor became considerably scarcer (Floch et al., 2007; Floch and Molle, 2009a).

While Sufficiency Economy and related ideas (e.g., the king’s “Moderation Society” and “New Theory of Agriculture”) were primarily monarchical, military and state agency promoted concepts, they mesh closely with a broad-based civil society interest in alternative development models that seek to promote greater economic sovereignty and endogenous development ideas (e.g., van t’Hooft, 2006), alongside a new agricultural paradigm that tends to reject high external input, industrial farming

⁷ According to the NESDB (2007), “Sufficiency Economy lies at the heart of Thailand’s development thinking, and indeed it can serve as guidance for the country’s economic and social developments”. It is invariably credited as being derived from a philosophy espoused by King Bhumibol, as is the related “Moderation Society” (usually abbreviated to *MoSo*) concept.

models as socially inequitable, environmentally damaging and wasteful of natural resources. There is some congruence in these Thai models with that of the “economics of happiness” approaches to wellbeing, which focus on subjective measures such as happiness and life satisfaction (Weeratunge et al., 2013) and the “Gross National Happiness” concept of Bhutan, with similar philosophical references to Buddhist ideas (Isarangkun and Pootrakool, n.d; Jongudomkarn and Camfield, 2005). There is reported to be a “Sufficiency Economy Unit” housed within the National Economic and Social Development Board’s offices (Curry and Sura, 2007), as testimony to the apparent seriousness the government has attached to this concept. The Tenth National Economic and Social Development Plan (2007-11) inherently recognized that Thailand would face growing uncertainty due to transformations in the global and regional context, and recommended that Thailand should “reorient its development program to have greater self-reliance and resilience by following the Sufficiency Economy philosophy in conjunction with a holistic approach to people-centered development” (NESDB, 2007: 7). Further, the United Nations Development Programme’s 2007 Thailand Human Development Report (titled “Sufficiency Economy and Human Development”), was devoted to promoting the Sufficiency Economy, “in recognition of the 60th anniversary of King Bhumipol Aduladej’s reign” (Baker, 2007). The report expounds upon the King’s theory, drawing on numerous examples from Royal projects to illustrate the application of the principles in actual practice at locations around the country.

Advocates perceive Sufficiency Economy as a visionary concept in response to depleting worldwide natural resources, climate change, global financial instability and new understandings of the limits to economic growth (Mongsawad, 2010), while others have roundly criticized the theory on a number of grounds. For example, some have equated it with “localism” (see Hewison, 1999) and dismissed it as unrealistic, utopian, antithetical to the successful capitalist economic model and contradictory to Thailand’s existing development paradigm (Rigg and Ritchie, 2002). It can be traced back to nationalistic myths constructed around happy, egalitarian peasants living subsistence lifestyles under a benevolent monarch (see Bowie, 1992). Others have criticized the concept for its ringing endorsement by the military regime that ousted Prime Minister Thaksin Shinawatra in a coup in September 2006, following the submission of the Tenth NESDP to the King for approval and the announcement by General Surayud Chulanond⁸ that 10 billion baht would be made available for projects to promote wellbeing in-line with the Sufficiency Economy principle (The Bangkok Post 2007). Some have questioned whether Sufficiency Economy could be correlated with proxy indicators of poverty (Walker, 2007). Such skeptics have derided the concept as being little more than a discursive hobby of the powerful elite, but without practical application for the poor who have more basic daily concerns to attend to than merely “sufficiency” (Walker, 2008). Further, Sufficiency Economy is viewed as an ideological tool of state-linked elites to deflect pressure from the government to introduce redistribution of wealth or resources.

Having considered the rhetorical importance placed on wellbeing notions in state planning and policy narratives, we now move on to briefly consider the

⁸ General Surayud Chulanond, as acting Prime Minister following the coup of September 2006, contributed the foreword to the UNDP Thailand Human Development Report.

significance of water resources as a complex socio-natural object to notions of societal wellbeing in the Northeast.

The multiple dimensions of water resources in the daily lives of Isan people

As elsewhere, water clearly fulfills a number of important functions in Isan people's daily livelihoods and wellbeing, which incorporate socio-economic, bio-physical, spiritual and cultural dimensions. Stott (1992) has argued that water, not land, is a central element in Southeast Asia cultures and it is human-water, and not human-land relationships that are determining. Water resources, in the broadest material and discursive sense, have historically provided a strong link between people, cultures and environment, which is readily apparent in the village names of Northeast Thailand which are frequently based on water and wetlands themes. For example, it is common for compound village names to begin with a specific wetland habitat or feature (e.g., lake - *nong*, swamp - *beung*, oxbow lake - *kud*, stream - *huay*, spring - *kham*, pond - *bor*, rapids - *gaeng*, river pool - *wang*) or an aquatic animal or plant (e.g., crocodile - *khae*, fish - *pla*, lotus - *bu*, turtle - *tao*, duck - *bet*), prior to a more localized name. Water-related themes are intimately infused throughout many of the region's spiritual and cultural festivals, such as the Buddhist new year celebration (*boon pee mai* (Lao) or *Songkran* (Thai)); local rice field spirit propitiation rites; the rocket festivals calling to the sky god Phaya Thaen to deliver rain (*boon bangfai*), elements of the Ghost Mask Festival in Loei Province (*phi ta khon* or *boon luang*); the annual river boat races (*boon suang heua*) and Mekong River *naga* fireballs phenomenon (*bangfai payanak*)⁹ at the end of Buddhist lent.

More pragmatically, in a material sense, water is the central element in the cultivation of Thailand's staple food crop, rice – and thus forms a pivotal role in the lives of millions of farmers still reliant on rice farming for at least some of their livelihood mix and indirectly, on the daily nutrition of millions of other consumers, both domestically and abroad. Thailand prides itself on being the number one rice exporter in the world, as well as a nation with strong historical links between water, rice, culture and monarchical traditions, idealized through the contested Ramkhamhaeng inscription (Falvey, 2000; Ritchie and Rigg, 2002). As well as direct consumptive links locally, there are myriad indirect linkages between water security and food security as well. For example, many Isan farmers still share a portion of their rice crop with relatives (especially children) living in other parts of the country or even abroad, who are thus intimately connected culturally and materially with the paddy fields of their native village. Rice yields fluctuate from year to year as a result of many factors, but climatic events leading to water scarcity or flooding, are a prime limiting factor of production. However, it does not necessarily follow in a diverse economy with plentiful off-farm work opportunities that climatic factors are determinants of poverty, as has often been implied in state-centric narratives.

⁹ The "*bangfai payanak*" festival takes place every year at the end of the Buddhist lent in late October at several locations along the Mekong River downstream of Vientiane. This timing usually coincides with the conclusion of the rainy season and start of falling water levels.

Most general studies of water resources and wellbeing, cite “access to clean water” as a *sine qua non* of basic human wellbeing in developing nations (e.g., Murphy, 2006), but often do not explore beyond this category as what makes water a fundamentally unique and indispensable natural resource that presents “wicked problems” in its management, especially in regimes where *de facto* or *de jure* rights over resources are weak. It has become apparent from the authors’ empirical observations in Northeast Thailand that collective societal understandings of the changing nature of the rural population’s water resources needs and expectations are relatively poor, across sectors and scales. This point is especially salient as Thai society continues to witness fundamental transformations in the rural sector, with increasing dependence on off-farm income sources and multi-activity livelihoods in a new mixed socio-economic landscape (Rigg, 2001; 2003; 2005). These agrarian transitions raise fundamental questions about changing needs, demands and priorities with regards to water resources provision and wellbeing, now and projections into the future, that so far have not not been seriously addressed. For example, a study carried out by the Wellbeing in Developing Countries Project (WeDCP) found that “having water” (with water lumped as a generic category) was ranked fourth in perceived necessity of particular categories importance for “quality of life”, resulting from a survey of villagers in Southern and Northeastern Thailand (McGregor et al, 2007; Jongudomkarn and Camfield, 2005). The results indicated that “water” was considered a more important need than “health”, but less important than electricity, family relations and food for subjective wellbeing. Further analysis suggested that “access to clean water” for domestic purposes was the main wellbeing concern of those surveyed in areas of highest deprivation (Camfield et al, 2012), suggesting that absolute scarcity was not an issue of major concern. Water availability and cleanliness turned out to be more of an issue in the Southern villages surveyed than those in the Northeast (Guillén Royo and Velazco, 2006). Interestingly, a “good living environment” (the only category relating to the environment), did not rank very highly in respondent’s wellbeing aspirations. But in the absence of any disaggregation of “water” into its constituent sectoral uses and multiple functions, basic questions about the meaning of water and wellbeing to individual’s, household’s and community wellbeing needs and aspirations remains unanswered.

Since the widespread incursion of state-led development and modernization programs into Thai rural areas, most Northeast villages have been connected to a domestic water supply, replacing traditional labor-intensive gathering of water from wells and surface water sources. Drinking water is often harvested in tanks and jars from rainwater. However, it should be noted that the quantity, quality and reliability of the water supplied varies enormously by village and it is not uncommon to encounter non-functional or abandoned village tap water systems, with villagers reliant on a mix of public and privately-built infrastructure for domestic water needs. At the same time, irrigation projects built by state agencies over the past few decades may be similarly abandoned or inoperable, including both the water storage and delivery systems (Floch and Molle, 2009b; Blake, 2012). These systems often run short of water in the dry season and are not able to deliver sufficient water for farmers to grow a second crop of rice or meet growing demand from competing users, such as municipal authorities utilizing irrigation systems for urban domestic supplies. The shortage of water available for farmers and domestic consumers is often blamed on “drought” by state water

agencies, rather than examining more systemic management and structural failures for shortages or considering imbalances between local water demands and supplies (cf. Forsyth and Walker, 2008). Thus, there is often a tendency for state authorities to declare a “drought disaster” in many provinces of Isan during extended periods of low rainfall, as it did in the 2010 dry season, when numerous villages were reported in the press to be water scarce and relying on government assistance for domestic water¹⁰ (Saelee, 2010). Despite the seemingly annual media proclamations of drought gripping Isan during the normal dry season period, “drought” is rarely defined by state agencies, neither is there an explanation given of the criteria employed to announce a “natural disaster” (Blake, 2012). Interviews conducted with senior bureaucrats and consultants working in the water resources sector confirmed that state definitions of drought are often confused or misunderstood by officials and the public (ibid.) Furthermore, while precise numbers of villages experiencing seasonal drought or flood are usually provided to the media after each event alongside a gross figure to the nearest baht for economic losses suffered, the derivation of these statistics is often obscure and it is hard to elicit a reasonable explanation from state officials.

As a way to open up new understandings of the importance of water in a holistic sense to Northeasterners, the paper now proceeds to discuss the complex interactions of humans, water and ecosystems and its relevance to wellbeing notions from a case study of an important wetlands area in upper Northeast Thailand.

Wetlands and human wellbeing in Northeast Thailand - Case Study of the lower Nam Songkhram Basin

As earlier intimated, the lower Mekong Basin harbors a complex series of wetlands ecosystems that are interconnected hydrologically and ecologically through a phenomenon known as a “flood pulse” (Lamberts, 2008; MRC, 2010), which underpins the rich productivity of the ecosystem services found in the floodplains of the LMB. Furthermore, it is recognized that these wetlands are coming under increasing threat to their integrity from a wide range of anthropogenic causes, especially upstream dam construction and changes in season flow patterns. Amongst the Millennium Ecosystem Assessment (2005) report’s main conclusions is that the loss and degradation of wetlands ecosystem services, “harms the health and well-being of individuals and communities and diminishes the development prospects of all nations” (Millennium Ecosystem Assessment, 2005: 47). In particular, freshwater capture fisheries have been identified as particularly vulnerable to external changes to the ecosystem, such as changes in land use, alterations in water flow, sediment and nutrient transport. Thus, it would be helpful to comprehend in a bit more detail how wetlands loss and degradation might impact people’s livelihoods and what this might imply to wellbeing.

To provide an empirical example of a wetlands ecosystem that has undergone rapid socio-ecological transformations in recent decades (Blake et al., 2009), we take the case of the 13,128 km sq. Nam Songkhram Basin, covering parts of Udon Thani,

¹⁰ The Bangkok Post article reported that in early June 2010, 53 provinces nationwide had been declared “disaster zones” and 1,750,100 households had been reported as affected by the “extreme dry season”, according to the Interior Ministry’s Disaster Mitigation and Prevention Department.

Sakhon Nakhon, Nong Khai and Nakon Phanom provinces. The Lower Nam Songkhram Basin (LNSB) forms a large floodplain wetland mosaic containing a diverse range of habitat types and possessing an eco-hydrology intimately linked to the mainstream Mekong (Blake and Pitakthepsombut, 2006a). Each year during the rainy season, on average 960 km sq. of land were inundated by flooding, partly caused by a blocking effect to within basin drainage and occasional backflows by the Mekong River. The LNSB covers an area in excess of 4,000 km sq., which includes a mosaic of paddy land, grasslands, field crops, degraded forest and a mix of temporary and permanent wetlands with poorly defined boundaries. The latter category includes numerous artificial reservoirs, as well as areas of river, backwater, marsh and swamp. Using GIS techniques, Hortle and Suntornratana (2008) have estimated that 88.7% of the LNSB can be classified as “wetlands”. It has been recognized as a wetlands of international conservation significance (Office of Environmental Policy and Planning, 1999) due to its rich biodiversity and ecosystem services that supports a productive seasonal capture fishery (see Hortle and Suntornratana, 2007) utilized by local residents, who harvest an impressive range of wild wetlands products that have long underpinned local livelihoods¹¹ (Blake and Pitakthepsombut, 2006a; 2006b; Blake et al., 2009). A socio-economic survey of 404 households in the LNSB in 2007 found that the direct-use value of wetlands products collected was on average 26,521 Baht per household, equivalent to US \$806/HH,¹² of which 71.8% of the total value was derived from fish and other aquatic animals (Office of Natural Resources and Environment Policy and Planning, 2007).

However, with multiple development pressures dating back to the 1960s, including gradual conversion of natural forest to agricultural and industrial forestry uses, extensive simplification and alteration of natural watercourses by state infrastructure projects (e.g., dredging, weirs, dams and irrigation schemes), industrialization (e.g., salt mining and sugar refining) and significant in-migration of people from other parts of Isan, the LNSB wetlands (especially the undervalued seasonally flooded forests), have been in a state of ecological degradation and socio-political conflict over many years (Blake and Pitakthepsombut, 2006a; Blake et al., 2009). Between 2005-2010, the last remnant stands of natural floodplain vegetation were cleared for agricultural intensification (principally dry season rice cultivation) and eucalyptus plantation expansion, leaving an ecologically simplified and degraded landscape with fewer natural resource-based livelihood opportunities open to local residents (Suwanwerakamtorn et al., 2007; Blake et al., 2009; Blake, 2012). A similar process of wetlands ecosystem services decline and functional loss occurred along the Mun and Chi river floodplains a decade or two prior to it happening in the LNSB, with similar socio-ecological transformations and societal conflicts precipitated as natural resources became scarcer (Khamkongsak and Law, 2001; Chusakul, 2001, no date; Sneddon, 2002).

¹¹ The LNSB wetlands have been classified as a “Wetlands of International Significance” by the Thai government (Office of Environmental Policy and Planning, 1999). Despite this status, only a tiny fraction of the overall area is protected by state conservation areas or local *de facto* management practices.

¹² This figure assumes a prevailing exchange rate in June 2007 of 32.9 THB / US\$.

Processes of water-landscape transformation, wetlands ecosystem degradation and biodiversity decline have been causally linked to diminished perceptions of wellbeing through livelihood loss by local wetlands users (Breukers, 1998), although such reports tend to be largely anecdotal and qualitative in scope. A more thorough and systematic approach to collection of local ecological knowledge and wetlands cultural and economic value was applied with the support of the MWBP Thailand “Demonstration Site”¹³ in the LNSB, known as “Tai Baan Research” (conducted between 2004-2007), that involved the participation of several hundred households in eight villages (Blake and Pitakthepsombut, 2006b). Following a distinct methodological approach trialed at sites elsewhere in Northeast Thailand (Scurrah, 2013), this research allowed villagers themselves to decide on the issues they wanted to research, according to what they perceived as valuable to their culture, knowledge and livelihoods¹⁴. In practice, the Tai Baan Researchers conducted detailed field study in small groups into the following areas: fish species and fish ecology; fishing gear; flooded forest vegetation; floodplain agricultural systems; large livestock raising; and local wetlands habitats. The results of their research were published in two Thai language books (Tai Baan Research Network of Lower Nam Songkhram Basin, 2005a; 2005b), amongst various means of public dissemination (Blake and Pitakthepsombut, 2006b).

It emerged from these findings that the key wetland habitat that linked together provision of ecosystem services with local natural resources-based livelihoods and had most significance to household and community wellbeing in the perceptions of researchers was the seasonally-flooded forest, known locally as *paa boong paa thaam*. And ironically this was also the most threatened wetland habitat due to wholesale clearance and over-exploitation (Blake and Pitakthepsombut, 2006a), so in some respects, Tai Baan Research was recording a nostalgic yearning by some villagers for a rapidly degrading environment and disappearing source of livelihood benefits. Further research under MWBP found that both external factors, including government development policies, strategies and projects, alongside more local factors such as increased competition for scarce wetlands resources (including land and water) were leading to ecosystem degradation and loss (Blake, 2008). This was precipitating increased conflicts over resources and different development visions that were observed both amongst and between sectoral water users (i.e., agriculture, industry, domestic and cultural/spiritual) at different geographical scales (i.e., individual, household, community, sub-district, district, province, regional, national) and locations (see Sneddon, 2002; and Lebel et al., 2005 for further discussion about the importance of scale in Mekong Basin natural resources conflicts).

The clearest line of tension and conflict locally was related to state agency plans to regulate the Nam Songkhram river, both with a large dam planned near its confluence with the Mekong for a dual-purpose flood control and irrigation scheme, and also a series of smaller hydraulic engineering structures at different locations within the LNSB. These were part of a long-running regional paradigm of water resources

¹³ The “Demonstration Site” office was located in Sri Songkhram District, Nakhon Phanom and the project mostly worked in villages within five nearby districts.

¹⁴ A summary of the methodological steps in the Tai Baan Research process can be found in Blake and Pitakthepsombut (2006b).

development policies and plans that have socially constructed the Northeast as a water scarce region that conversely also has occasional problems with flooding, both of which are treated as “natural disasters” that need solving by external expertise and institutions (Molle et al., 2009). In the LNSB the top-down infrastructural “solutions” applied are particularly inappropriately sited and poorly designed for the prevailing hydrological and ecological conditions (Breukers, 1998; Blake and Pitakthepsombut, 2006a). This mismatch leads to significant environmental and social externalities that contributes to local (and regional) conflicts over development visions and values alluded to above, which tend to pit traditional capture fishing and wetlands product harvesting derived livelihoods (loosely represented by the Tai Baan Research narrative) against a more functional, modernist, statist vision of hydrological control, land-waterscape transformation and agricultural intensification, based on irrigation technology. It would appear that the latter vision has prevailed over the former, judging by socio-ecological outcomes observed in the LSNB (Blake et al., 2009; Blake, 2012), although the implications to perceptions and experiences of social wellbeing can only be a matter of speculation without dedicated research. Within the present research, we have attempted to measure individual perceptions regarding local and regional development problems and proposed solutions, providing an interesting perspective on the predominance of one contrasting development vision against another.

Regional perceptions of Isan and the “Isan problematic”

As has previously been touched upon, the Northeast region has been closely associated in development narratives with notions of interlinked drought, natural resource scarcity and poverty. Such narratives are pervasive and ubiquitous in the dominant development discourse of the modern Thai nation-state (Molle et al., 2009). Poverty has frequently been causally linked with water scarcity and it is often implied that the region’s relative poverty status to the rest of Thailand is a result of particular bio-geographical factors, suggesting environmental determinism (e.g., NESDB and the World Bank, 2005). This is by no means a modern phenomenon, with precedents stretching back for at least a century to interactions between the court of King Rama V and Western advisors contracted to document the hinterlands and report back to Bangkok on suitable means to develop it (see Brummelhuis, 2007; Blake, 2012). The region was most frequently described in terms of the people as impoverished, backward, unhealthy and uneducated, living in a hot, arid, resource-poor and unforgiving environment. Interestingly, the same popular image of a drought stricken region beleaguered by poverty and lack of development persists today expressed through a wide cross-section of societal actors and mainstream media (Blake, 2010), despite significant socio-economic improvements, livelihood diversification beyond subsistence agriculture and overall major strides in poverty reduction occurring (Rigg, 2005; NESDB and the World Bank, 2005).

To illustrate how modern regional narrative accounts invariably incorporate climatic factors and environmental degradation as causal mechanisms for poverty, often encapsulated in an opening problem framing statement, we provide a few

examples. The following quote from a Thammasat University economist is emblematic: “[B]ecause of its unfavourable climate conditions and depleted environmental conditions, the Northeast has become the poorest and most backward region of Thailand over time” (Hirunruk 1999: 249). Others have invoked nationalistic economic and food security concerns related to conditions of the Northeast’s assumed chronic water scarcity, rarely justifying such crisis narratives with empirical evidence. For example, a group of Khon Kaen University academics, maintained: “[I]n Northeast Thailand, drought has the most profound effect on the way of living and regional economy. It is also a major menace to regional food supplies. By its severity and duration these events can be disastrous not only locally, but for the whole economic structure” (Mongkolsawat et al., 2001: 33). Another rather typical news media account invokes simultaneous visions of endemic poverty and environmental crisis, whilst marveling that any life can survive in such an inhospitable environment at all: “The first thing that strikes visitors to Thailand's far Northeast -- a vast plain of stunted trees, spindly tussocks and grazing water buffalo -- is its dryness. It seems impossible that a landscape whose main features are salt pans, brackish ponds and devastated forests could support any form of animal or vegetable life, let alone human communities” (Mansfield, 2000).

These dominant development and environmental crisis narratives (see Leach and Mearns, 1996; Forsyth, 2003), it is argued, have been produced and reproduced by state elites for many decades, perhaps even strengthening in recent years as mass media and state-centric development propaganda have proliferated and colonized public perceptions of a distinctive “Isan problematic” to take on a commonsense-like veracity. While Isan has been routinely stereotyped as “*yak jon lae haeng laeng*” (i.e., “poor and dry”) by government officials, the popular media and mainstream development institutions, there seem to be few published studies of how the general Thai public perceive the region in terms of development challenges and their visions, particularly in terms of water resources development. Thus, interested to see how perceptions held by various groups of people within Thai society differ from the dominant narratives, a survey was conducted to partially address this research lacuna.¹⁵ Randomly selected members of the public were interviewed using a questionnaire survey at three locations (urban Khon Kaen (n = 121), a park in central Bangkok (n = 107), and a LNSB village (n = 109)) and asked a number of questions pertaining to their general perceptions of the region and more specific water resources development related issues. The results revealed both similarities and differences in perception between people at each location and a number of interesting observations (refer to **tables 1 and 2** in the **appendix**).

There is not the space here to discuss all the findings revealed by the tables, so we shall limit ourselves to highlighting just a few key points regarding each table of relevance to the overall argument. The first point to mention is that when respondents were asked what they thought the primary development problems of the region were (**table 1**) there was relatively close agreement by location, with people in Bangkok

¹⁵ This survey was one sub-component of the fieldwork for Blake’s (2012) PhD thesis, the full findings of which can be accessed by request from the first author. There were twelve questions in total put to respondents and only the results from the first two are shown here.

(46%) and the LNSB village (54%) ranking “water scarcity and drought” issues as the top problem, while in Khon Kaen (31%) it was ranked second from top. Overall across the samples, however, drought and water scarcity were perceived to be the top ranked problem, with 43% of respondents listing it. This result could be interpreted in a realist sense that this is actually the main problem that people experience, or that their perceptions are guided by the dominant development narrative, which fits in with the dominant state developmental ideology (Blake, 2012). This interpretation is supported by the finding that a higher percentage of respondents in the LNSB village identified “drought and water scarcity” as the prime development problem than the other two samples, despite the observation that this village is located in one of the wettest parts of the region both in terms of precipitation and the surrounding wetlands landscape, and most of the answers they provided tended to correlate with a rather parochial view of problems, rather than a wider regional view as tended to be the case in the other two locations. In Khon Kaen, the most frequently cited development problem affecting the region, raised by 53% of respondents, compared to only 13% of respondents in the Nam Songkhram village and 37% in Bangkok, were “education” issues, which may partially be explained by the presence in Khon Kaen of many tertiary education institutes and a high value put on education by residents and visitors to the city for study purposes. Apart from “education”, other high-ranking problem categories cited often across all three locations were “poverty and low income” (34.2%) and “livelihoods and employment” (33.9%) issues. Significantly, perhaps, people did not generally perceive the category “water resources management” to be a major regional problem, with it being raised by just 2.7% of the overall sample, putting it in eleventh place in terms of importance. While these results tell us little about people’s subjective or material wellbeing, they do hint at a generally close correlation between official narratives of the Isan development problematic and the perceptions of ordinary people, whether inhabitants or external citizens looking from the outside in. We hypothesize that these development narratives reinforced over decades in the media, in official speeches, documents, popular culture, music, literature and every day encounters with state (including village heads) or business actors would tend to make it easier for powerful groups to prescribe development solutions and strategies that primarily serve their own interests, while ignoring more fundamental questions such as resource access, sustainability and equity.

When respondents were asked what they thought the most important development problems specifically related to water resources management in the Northeast (**table 2**), the most frequently cited response repeated the result in Question 2, namely that “water scarcity” was the main perceived problem at all three locations, which was found on further probing to include both agricultural and domestic supply issues. In the LNSB village (61%), it surpassed other response categories by a large margin, with “poor irrigation and water distribution systems” (42%) coming second. The third ranked response for Khon Kaen (22%) and the LNSB village (24%) was “insufficient or poor water storage sources (e.g., dams, weirs, etc.)” which mostly related to agricultural water supply problems. This was a clear example of respondents in the LNSB village citing parochial problems, as the survey coincided with a pump breakdown with their own irrigation system and declining water levels for dry season rice cultivation, rather than addressing a wider regional perspective in their answers.

The second most cited category across the locations was “poor water management practice/knowledge at the local level” (27%), although this was perceived as being more important in Khon Kaen (ranked 2nd) and Bangkok (ranked 3rd), compared to the LNSB village (ranked 4th). It is suggested that this category, too, is consistent with the dominant narrative, which has consistently tended to blame the end user for management problems (e.g., ignorant or uneducated farmers lack knowledge), rather than consider more structural problems, such as policy failure, lack of water rights or unequal power relations. In addressing Question 3, there was less agreement between locations than with Question 2, with the exception of the top ranked response of “water scarcity”. Significantly, relatively few people perceived problems related to “environmental decline and degradation” or “demand-side issues and conflicts” as being problematic issues for water resources management, as these two categories were ranked 11th and 12th, respectively, suggesting such proximate causes of water resources management conflicts are poorly recognized (cf. Forsyth and Walker, 2008).

This paper argues that contrary to the Northeast’s dominant and popular image as constituting a “dryland” region with a water crisis, as might be suggested by the responses to the survey above which closely mirror the developmental orthodoxy of water scarcity and drought-related narratives constituting the “Isan problematic”, in reality, large parts of the Northeast’s land surface can actually be classified as a “wetland”, most especially in the lowland areas along river floodplains and terraces. More accurately, it would be preferable to conceive of the Northeast being comprised of a complex, seasonal “wetland-dryland” landscape mosaic. The Ramsar Convention on Wetlands definition of wetlands¹⁶ indicates that wet rice paddies should be considered seasonal wetlands (REF), thus supporting the assertion that much of Isan qualifies as a wetland environment. Floch et al (2007) report that 44% of the region’s land area is devoted to paddy fields, with grasslands, floodplains and rivers and reservoirs combined making up a further 3.8% of the total. In certain river basins of Northeast Thailand, including the Nam Songkhram Basin, the proportion of land classified as wetlands is well over half the total land area. Surprisingly perhaps, the Northeast is recognized by the Office of Environmental Policy and Planning (1999) to contain 14,750 individual wetland sites,¹⁷ greater than any other region in Thailand.

Taking into account the dominant development narratives identified and given the assumed importance of Northeast Thailand’s wetlands ecosystems to the social, cultural, historical and ecological land-waterscape (see Blake and Pitakthepsombut, 2006b; Blake et al., 2009), set within the context of the wider LMB development paradigm (Constanza et al., 2010; MRC, 2010), what does this imply for understanding actual water resources development outcomes and practices? Taking the case of the LNSB once more, it is observed that the development solutions proposed and materialized, are primarily hardware and infrastructural-based, not that different from the *kan phattana* solutions proposed by Sarit Thanarat back in the early 1960s (i.e., roads, dams, irrigation systems, etc). In the case of water resources development, such

¹⁶ Wetlands are defined as, “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 metres” (Millennium Ecosystem Assessment, 2005).

¹⁷ This figure excludes paddies (i.e., wet rice fields) that spatially constitute the largest agricultural landuse category in the Northeast (Floch and Molle, 2009).

hydraulic engineering-based solutions were being applied by state agencies at each level of the bureaucratic hierarchy, irrespective of scale, from sub-districts up to the largest national hydraulic bureaucracies, such as the Royal Irrigation Department (RID) and the Department of Water Resources (DWR) (Blake, 2012). Indeed, these two agencies were seen to compete for national budget funding to build many medium and large-scale irrigation and flood control projects within the Nam Songkhram Basin, which in practice paid mere lip service to participation principles (see Floch and Blake, 2011) and proved textbook cases in poor planning and execution, and tended to increase the incidents of environmental conflict locally (Blake, 2012). Superficially, however, it appeared that agricultural output was increasing due to a boom in cultivation of dry season rice (*naa prang*),¹⁸ facilitated by central policies (e.g., rice mortgage scheme and loans offered from Bank for Agriculture and Cooperatives) and local practices of wetlands conversion to rice fields and small irrigation pump projects. In Sri Songkhram District alone, the planted dry season rice area increased from 15,902 *rai* in 2008/09 to 44,510 *rai* in the 2009/10 season, a 180% rise, coupled with a 123% rise in the number of households involved, reported Blake (2012).

Encouraged by guaranteed rice prices above market prices, villagers throughout the LNSB wetlands rapidly cleared remaining stands of seasonally flooded forest to expand their agricultural land holding for *naa prang*. Despite the government subsidy, however, many farmers interviewed made economic losses on the rice crop due to a range of factors leading to low yields (e.g., disease and pest problems, unsuitable soil, on-farm water management problems), raising questions about economic and ecological sustainability. Many farmers interviewed expected state authorities to provide them with subsidised or free irrigation water both as a corollary of the switch to dry season rice cultivation and precedents set elsewhere by the RID and other agencies, with numerous projects being planned to satisfy the demand. Hence, a policy-induced element from locally increased demand for irrigation infrastructure resulting in water scarcity was evident, which was perhaps of greater relevance to experiences of drought and water scarcity seen in the LNSB villages than any natural meteorological or hydrological drought explanation, that is most frequently cited as the cause of scarcity in the dominant and popular narrative.

CONCLUSION

At the global level, the Millennium Ecosystem Assessment (2005) has projected that, “the continued loss and degradation of wetlands will reduce the capacity of wetlands to mitigate impacts and result in further reduction in human well-being” on top of impacts related to diminishment of direct ecosystem services provided by wetlands, especially where rivers, lakes and marshes are appropriated for irrigated agriculture. It is predicted that the resulting impacts of wetlands degradation disproportionately hurt the poor in developing countries, as they tend to be the people most reliant on the ecosystem services provided by wetlands and are least resilient to

¹⁸ “*Naa prang*” was the favored name locally for contemporary dry season rice cultivation. It is to be distinguished from a less intensive and more traditional form of dry season rice grown in the LNSB wetlands, referred to by the Lao term as “*naa saeng*”.

changes and shocks to the system. At the Mekong Basin level also, increasing numbers of reports have expressed concerns about present development policies, especially around water resources development that promote increasing hydropower, irrigation expansion and flood control schemes, leading to loss and degradation of wetlands ecosystem services, compromising the interests of the poorest segments of society in the process (e.g., MRC, 2010; Constanza et al., 2011). Indeed, it was noted in the LNSB, that poorer households were those least able to take advantage of opportunities arising from conversion of (semi-) natural wetlands to irrigated agriculture, as they had least natural and social capital to draw upon and were often the ones most likely to accrue debt from dry season rice cultivation attempts.

The prevalence of a development narrative depicting Northeast Thailand as a poverty-stricken, water resource-scarce “dryland”, suggests that the region has consistently been misrepresented through over-simplification of a complex and diverse socio-ecologically reality. An alternative, locally situated and culturally contextualized set of narratives has been provided by civil society and grassroots village groups attempts to document local knowledge and management of wetlands habitats, such as the Tai Baan Research initiative conducted in the LNSB (see Blake and Pitakthepsombut, 2006b) and similar approaches at other locations (Chusakul, no date; Scurrah, 2013). Such initiatives, also replete with their own narrative simplifications and essentializations, can be conceived as a counter-hegemonic strategy employed to resist state-led, top-down natural resources management and development policies and schemes (Scurrah, 2013). From a critical realist perspective, the present research would tend to support the arguments of Mehta (2001; 2005) that there would appear to be identifiable “real” and “manufactured” aspects to the water scarcity discourse, where narratives of drought have been socially constructed to serve the interests of certain powerful groups in society (although space has not permitted a full characterization of these groups or the narrative distinctions in this paper). However, observations in the LNSB and elsewhere in the Northeast, tend to suggest that the alternative narratives have only had limited agency in altering outcomes on the ground (as opposed to direct protest actions used elsewhere, for instance), precisely because the dominant development narratives are so powerful. This conclusion was supported by the findings of the questionnaire survey which showed the public perceptions matched closely those of the dominant narrative (**tables 1 and 2** in the **appendix**). In practice, narratives of water resources crisis, perennial scarcity and concomitant demands for further (and larger scale) hydraulic infrastructure appear to be undiminished over time, often rising notably prior to general elections, suggesting a pork-barreling aspect to the development paradigm (Molle et al., 2009; Blake, 2012).

Wellbeing concepts, while mainstreamed into the Thai national development plans through an ostensibly top-down approach that has prioritized the king’s “sufficiency economy” philosophy (which interestingly has enjoyed robust support from a mix of civil society groups and grassroots level organizations), have thus far apparently failed to successfully integrate the complex logics of water resources management within an overall “wellbeing” rubric. This may partly be attributable to an ideological attachment to the notion of “Thai-ness” being commensurate with rice farming and irrigated agriculture based livelihoods as a core component of a national identity, thus allowing state-led irrigation development projects to proceed relatively

unopposed (see Blake, 2012). As Winichakul (1995) has maintained, Bangkok elite conceptions of Thainess have long trumped local identities in the state's peripheries, including Lao and other ethnicities found in Isan. Thus, most debates in Thai society over water resources management pathways are mostly waged over dichotomous questions of scale and irrigation technology best suited to the needs of farmers (with both sides idealizing rice cultivators as the "backbone" of the nation) – i.e., small, low cost, participatory and decentralized (primarily civil society narratives) or large-scale, large-budget, centrally planned schemes that entail utopian promises to voters/users (primarily elite group narratives).¹⁹ However, this polarized debate excludes other more fundamental questions such as the relationship between water supply and demand, the changing needs of farmers in the agrarian shift *vis à vis* other wetlands-based livelihood occupations, to be disregarded by development planners. At the same time, the past generic approach to "water" and a failure within the wellbeing research community to conceptualize water resources more subtly as a series of inter-linked sub-sectors that each require attention, is another area that requires closer critical scrutiny in future.

As a potential next step in challenging the dominant narratives or development myths outlined, critical researchers might consider questioning some of the deeply-held assumptions surrounding water resources management, irrigation and rice cultivation in the Northeast, conducted within the context of the historical hydraulic development paradigm. Such research could also critically examine the underlying logics of Sufficiency Economy and wellbeing notions, juxtaposed against present water resources development policies, plans and practices, in particular the periodically revived plans of state elites to transform Isan by "greening" it via Edenic "mega-project" irrigation expansion plans reliant on exploiting trans-boundary water sources (Molle et al., 2009; Floch and Blake, 2011). Without such critical research and given the importance of wetlands ecosystems to the region, a case could be made that Thailand's development paradigm supports the arguments of Scott (1998: 7), "that certain kinds of states, driven by utopian plans and an authoritarian disregard for the values, desires, and objections of their subjects, are indeed a mortal threat to human well-being."

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¹⁹ These elites may contain a complex alliance of actors and groups from bureaucratic, business military, politician and royal strategic interests, as outlined in Blake (2012).

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APPENDIX: Tables derived from responses given in a questionnaire survey conducted at three locations in Thailand (Khon Kaen city, central Bangkok, a village in the lower Nam Songkhram Basin) during February 2010. The total number of respondents interviewed was 327 individuals.

TABLE 1: Responses to Question 2: “What do you think are the primary development problems that affect the Isan region?” (respondents may list up to three answers).

Response categories	Interview Location						TOTAL		Rank
	Khon Kaen		Bangkok		Nam Song		#	%	
	#	%	#	%	#	%			
2.1 Education	63 (1)	53.4	40 (2)	37.4	14	13.3	117	35.5	2
2.2 Drought; water scarcity	37 (2)	31.4	49 (1)	45.8	56 (1)	53.8	142	43.0	1
2.3 Poverty; low income	36 (3)	30.5	31	29.0	46 (2)	43.8	113	34.2	3
2.4 Politics; governance	10	8.5	22	20.6	20	19.0	52	15.8	7
2.5 Climate & weather events	4	3.4	13	12.1	9	8.6	26	7.9	8
2.6 Environment related	12	10.2	13	12.1	8	7.6	33	10.0	9
2.7 Livelihoods and employment	30	25.4	37 (3)	34.6	45 (3)	42.9	112	33.9	4
2.8 Migration	1	0.8	10	9.3	10	9.5	21	6.4	10
2.9 Culture; religion; morality; family	4	3.4	2	1.9	0	0	6	1.8	12
2.10 Water resources management	0	0	5	4.7	4	1.2	9	2.7	11
2.11 Transport; communications	15	12.7	21	19.6	17	16.2	53	16.1	6
2.12 Others	3	2.5	38	35.5	38	36.2	79	23.9	5

TABLE 2. Responses given to Question 3: “What do you think are the primary development problems related to water resources management in Isaan?” (respondents may list up to three answers).

Response categories	Interview Location						TOTAL		Rank
	Khon Kaen		Bangkok		Nam Song		#	%	
	#	%	#	%	#	%			
3.1 Water scarcity problems (agricultural and domestic)	51 (1)	44.3	43 (1)	40.6	66 (1)	61.1	160	48.6	1
3.2 Insufficient or poor water storage sources (e.g., dams, weirs, etc)	25 (3)	21.7	28	26.4	26 (3)	24.1	79	24.0	4
3.3 Climate-related drought, unpredictable rainfall & unusual weather events	22	19.1	24	22.6	14	13.0	60	18.2	6
3.4 Water quality or pollution problems	22	19.1	38 (2)	35.8	1	0.9	61	18.5	5
3.5 Floods	10	8.7	7	6.6	16	14.8	33	10.0	9
3.6 Poor water management practice/knowledge at the local level	34 (2)	29.6	34 (3)	32.1	21	19.4	89	27.1	2
3.7 Poor irrigation & water delivery systems	20	17.4	21	19.8	45 (2)	41.7	86	26.1	3
3.8 Demand-side problems and conflict	4	3.5	1	0.9	5	4.6	10	3.0	12
3.9 Environmental decline e.g., biodiversity loss, watershed destruction or deforestation	6	5.2	12	11.3	11	10.2	29	8.8	11
3.10 Problems with tap water provision	16	13.9	10	9.4	6	5.6	32	9.7	10
3.11 State policy or project planning & implementation problems	20	17.4	10	9.4	10	9.3	40	12.2	8
3.12 Others	14	12.2	22	20.8	15	13.9	51	15.5	7