

Topic and Research Question

Indonesia and Singapore are two neighboring countries, which face the same climatic conditions. However their water management differs in a great manner. This thesis builds on the premise that our society is composed of an economic, a political and a social-cultural sphere. Sustainable Driven Entrepreneurship (SDE) serves as means to map out the overall modus operandi of each country and its viability for the future of the country.

The main research question is: What are the differences between Singapore's and Indonesian's SDE within the field of water management?

Five sub-questions were raised in order to answer the main question: 1. What are the traits of SDE? 2. What are the characteristics of economic entrepreneurship in Indonesia and Singapore? 3. What are the characteristics of political entrepreneurship in Indonesia and Singapore? 4. What are the characteristics of social-cultural entrepreneurship in Indonesia and Singapore? 5. Can the presented types of entrepreneurship of Indonesia and Singapore be seen as sustainable?

State of the Art

The Integrated Water Resource Management (IWRM) approach is recognized by the UN and thus it gained acceptance worldwide. It is based on the three pillars of institutional framework, enabling environment (politics and law) and suitable management instruments (Jøchen-Clausen 2004).

Tortajada and her colleague Joshi have done the main research on Singaporean water management. Being advocates for IWRM they examine mainly legal and regulatory instruments of the government as well as inter-institutional coordination (Tortajada 2014, Tortajada and Joshi 2014). Biswas stands for a holistic approach towards water in Singapore. He explores the human and environmental characteristics Singapore's water purification.

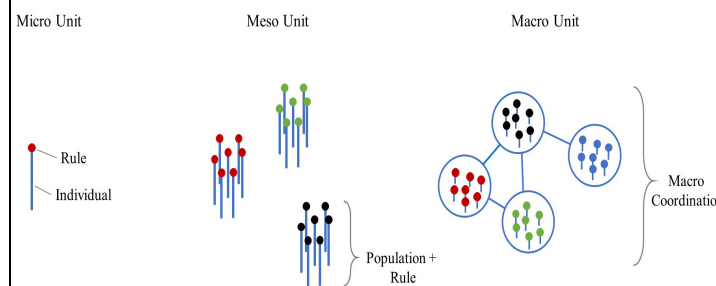
Through the lense of IWRM Fulazzaky examines Indonesia's environmental and water managing problems (Fulazzaky 2014). However, all introduced IWRM projects are not fulfilled or have not been accomplished yet. Hadipuro scrutinizes in depth on Indonesia's legal framework. He argues that Indonesia "is at the crossroads" with its water resource policy and

needs to determine whether it should commercialize water or consider it as a public resource (Hadipuro 2010).

Methodology and Approach

The framework is based on the concept political, economic and social-cultural SDE, which are specified by the notion of strong sustainability and nested model. Co-evolutionary Theory of Economics from Dopfer and Potts is used as theoretical background (Dopfer and Potts 2008). The three levels of mirco, meso and macro serve to explain the dynamics of a societal system, in this case a water management system (Dopfer 2004).

Micro-Meso-Macro Model:



In this thesis all three types of entrepreneurship are examined on the meso and micro level (Foster and Potts 2007, Dopfer and Potts 2008).

On the meso level economic entrepreneurship is examined in form of two case studies through four criteria: 1.governmental requirements, 2.funding and financial latitude, 3.power of decision, 4.sustainability character. Political entrepreneurship is analyzed through 1.allocation of competency, 2.transparency and overlapping responsibilities, 3.interagency collaboration, and 4.logic composition of legislature. Social-cultural entrepreneurship is investigated via the criteria of 1.activities and campaigns, 2.nature of content, 3.media and form of activities, and origin of campaigns. Main findings are summarized in a meso core configuration and serve as a base for on the micro level.

On the micro level the emphasis is on the individual's perception (Foster and Potts 2007, Dopfer and Potts 2008). This is achieved through qualitative research in form of semi-structured interviews of a political, economic and social-cultural entrepreneur (Bryman 2012, Mitchell 1983). The first three questions seek to reveal the perception of each type of entrepreneurship, while the last question aims to capture the individual's

perspective on the water situation in the particular country.

Main Facts

In 1965 Singapore's rivers were dirty and the people suffered from water shortages. Due to the small size of the country Singapore has no space to collect and storage water. Singapore signed three contracts with Malaysia (1961,1961,1990) to be able to extract water from its neighbor. From the beginning of its foundation in 1965 Singapore aimed for self-sufficient water supply. In 1969 the government initiated a nationwide clean up. Agencies needed to work closely, new laws were made, new reservoirs were built, and relocations of businesses and prosecution of litterers were made publicly (Tan Yong Soon). The government pursued a strategy to become a hydro hub (PUB 2014). The government decides which technology is used for water treatment, when it is implemented and how much capital (R&D) is invested into this technology. The government contracts out water treatment to private companies for duration of 20-25 year. The overall control of water stays with the government. Media is another tool the government uses to appeal to its people to save water and take ownership.

Although Indonesia has 6% of the world's water sources, its size is a problem for equal distribution of water. Indonesia's history is marked by political change and legal turmoil. A pattern of decentralization and centralization is characteristic for Indonesia. This back and forth of legislature created uncertainty of competencies between governmental agencies. Additionally, the semi-state owned PDAMs, which are responsible for water treatment, are often accountable not only for one region. Turmoil between regions arose due to unequal power distribution over PDAM's water management. Because of the last decentralization the general government has no power to intervene in regional affairs in regard to water. Currently, the legal situation is even less stable because of the annulment of a key water law (No.7/2004) upon which many other regulations have been made. Indonesia is at the crossroads of water commercialization and its status as a public good (Hadipuro 2010). Jakarta's water, for instance, is completely privatized. However, the performance of the concessionaires is poor, due to low water quality, high pricing, and low coverage. But also PDAMS have difficulties to expand water rcoverage. Further, PDAM's face a clash of norms, as they are obliged to generate profit and supply water to everyone. The attempt to change people's attitude towards water

is predominantly made by NGOs, while the government refrains from social engagement.

Results

In essence this thesis shows that the major difference between two countries is that Singaporean approach to water management is holistic and sustainable due to collaboration between economic, political and social-cultural sphere, while Indonesian approach lacks the sustainable characteristics due to less collaboration of those three spheres.

Major Findings

	Singapore	Indonesia
Economic Entrepreneurship	<ul style="list-style-type: none"> artificially created water supply market via temporary contracts government oversees finances of contractors (private companies) water tariffs cover production costs of water extensive investments into R&D substantial technical development 	<ul style="list-style-type: none"> semi-private companies (PDAMs) or private companies responsible for water supply national government has no authority to intervene water tariffs do not cover production costs no particular investments into R&D no substantial technical development
Political Entrepreneurship	<ul style="list-style-type: none"> government continuously engaged with water problems laws are constitutive agencies collaborate with each other no competition between agencies 	<ul style="list-style-type: none"> government has no particular focus on water problems laws change and are not fully established (back and forth between centralization & decentralization) -> law situation is not clear no collaboration between agencies competition between agencies
Social-cultural Entrepreneurship	<ul style="list-style-type: none"> government heavily engaged in water education and promoting water ownership a few domestic NGOs NGOs support the government with their work government & NGOs are very active on social media 	<ul style="list-style-type: none"> government almost no engagement many domestic and international NGOs NGOs take over government's role, and sometimes even work against the government government is not active on social media, NGOs are very active on social media

References

All references can be found in the full version of the MA thesis available at <http://others.univie.ac.at>.

About the Author

Elena Popov holds a BA degree in Governmental Science from the University of Erfurt, Germany. Her research interests include territorial conflicts and security issues, as well as financial regionalism in East Asia.

Contact information:
ep.elenapopov@gmail.com

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