

**Master's Thesis**



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# **DRINKING WATER AS A SOURCE OF INCOME**

How microentrepreneurs in water business perceive drinking water as a source of income

Master of Science in International Development and Management (LUMID)

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## **ABSTRACT**

This study discovers how the microentrepreneurs running water refill stations (WRSs) assess the income generation potential of drinking water sale in Jakarta including the motivations to start up and sustain the business as well as the challenges they face with in the water market. The study further provides insights on the broader externalities to which WRSs have contributed so far. The design of the research and the paper is inspired by the Theory of Evolutionary Economics and the Institutional Theory. Case study approach was employed and qualitative research methods were used.

The study has found that the main motivations of the microentrepreneurs rely not only on the monetary incentives but also on the appreciation shown in society; which implies a set of factors both from the market and non-market environments. The main challenges, however, occur mainly in the market environment due to the lack of legal regulations specific to WRSs and the competition among microentrepreneurs. Concerning the externalities, WRS have been found to spontaneously contribute to the increased awareness of water quality at the societal level and to the changing consumption patterns in the society.

It can be concluded that the perceptions of market participants are positive and they are satisfied with the dynamics of water market in Jakarta.

**Keywords:** Commercialization of drinking water, water refill stations, Institutional Theory, microentrepreneurs, water market, water as a marketable good, commercialization of water in Jakarta, water supply in Jakarta

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## **ABBREVIATIONS**

**ADB:** Asian Development Bank

**BAPPENAS:** National Development Planning Board of Indonesia

**BPS:** Badan Pusat Statistik, Statistics Indonesia. Non-Departmental Government Institution

**IMF:** International Monetary Fund

**IWRM:** Integrated Water Resource Management

**MNE:** Multinational Enterprises

**OECD:** Organization for Economic Cooperation and Development

**SEA:** South East Asia

**UN:** United Nations

**UNCTAD:** United Nations Conference on Trade and Development

**WRS:** Water Refill Station

## CONTEXT-BASED DEFINITIONS

**Apdamindo:** The association of water suppliers

**Customers:** Customers of water refill stations

**Household:** “*Household is a person or a group who usually live together in a building and eat from the same kitchen*” BPS (2012: 68). This sentence has given the idea that both husband and wife make joint consumptions, which enables them both to have an experience and an idea of the product they consume. Thus, both husband and wife interviewed together.

**Microenterprises:** “*Microenterprises have up to 10 employees, total assets of up to \$10,000 and total annual sales of up to \$100,000<sup>1</sup> while small enterprises consist of up to 50 employees, total assets and total sales of up to \$3 million; medium enterprises have up to 300 employees, total assets and total sales of up to \$15 million*” (World Bank, 2005).

**Non-customers:** Users of groundwater, piped water and branded bottled water

**Water Refill Stations:** They buy water suppliers and deliver it homes

**Water Suppliers:** They take water out of springs and sell to water refill stations

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<sup>1</sup> \$100.000 equals to Rp. 999 million approx.

# 1. INTRODUCTION

## 1.1 Research Problem

There are two main sources of welfare; manmade capital and services of natural capital. Although the scarcity of manmade capital, i.e. consumer goods, has been reduced to a low level for much of the world since the Industrial Revolution, the abundance of the goods and services produced by nature itself is threatened by human attributes that tend to increase consumption while exhausting the resources (Daly & Farley, 2011). Water, one of the products of nature, is a necessity of life for everyone in the world regardless of their gender, income levels, social status or age. The global water consumption has increased by three times over the last 50 years, and researchers claim that almost 50% of the world population will be residing in areas with no sufficient supply of water by 2050, especially in Africa and South Asia (Bruinsma, 2009; Daly & Farley, 2011). It is now of concern to an increasing number of researchers that some parts of the world, especially the developing countries, are already suffering from the lack of clean water supply, which is originated from several factors such as urbanization, population growth and industrialization (Kessides, 2004; Biro, 2012; Dixit, 2008).

Water has been considered as a public and social good for years with the arguments that every human being needs water to survive and everyone is supposed to have access to it regardless of their qualifications (Brei & Böhm, 2011; WHO & UNICEF 2005). Sripad and Osberg (2010) suggest that water has no close substitute and it is vital for life, which gives it a less elastic demand than the demand for other goods. However, the wide recognition of water as an economic good started with the Dublin Conference on Water and the Environment in 1992 (Savenije, 2002). Recent arguments suggest that water is a scarce resource whose management requires a lot to invest in its infrastructure and distribution (McIntyre, 2011; Rodriguez et.al, 2012) and that water is usually misused when the users are not supposed to pay for it (Mackwara, 2011; Savenije & Zaag, 2002).

Constituting probably the earliest, yet still inspiring discussions on the value of water, Adam Smith brought up the comparison between water and diamond trying to answer the question of why water has no value in exchange while it has great value in use unlike a diamond with great



value in exchange but no value in use. David Ricardo, in response to Smith, raised the question of “Why is water without value, but because of its abundance?” implying that the value of water is determined by its scarcity and the equilibrium between supply and demand. Although scholars provide answers from the perspectives ecological economy and marginal utility theory, the available amount of supply and the complexity of access remain the fundamental factors in determining the value of water. However, the recently increasing complexity of the relationship between the suppliers and consumers of water signifies that the issue are now to be addressed using multiple perspectives from different scientific disciplines. (White, 2002).

Commercialization of water in Asia, as an example of such complexity, has been in place for years due to the governments’ failure in management of water resources and it was prompted by the wave of economic liberalization in 1990s as well as the financial crisis in 1997 (Kanbur, 2007). The ADB approved the new Water Policy in 2001 that considers water as “*socially vital economic good*”, and this has led water sector reforms encouraging private entrepreneurs to invest in IWRM in Asian countries such as Indonesia, The Philippines, Sri Lanka and Nepal (Corral, 2007). Although the privatization of water resources to multinational companies has attracted the biggest attention so far, it is not the only way that water is treated as an economic good. Having a much longer history in Asia, bottled water is a cross-cutting issue between the debates considering the commodification of nature and the free movement of capital shaping the provision of public services. Jaffee and Newman (2013) suggest that the expansion of bottled water changes the prospects for piped water and that the growth of this relatively new commodity creates a more serious effect in the long term than that generated by piped water privatization. The business pattern seen in bottled water sector is that multinational companies enter the water market in developing countries by targeting upper/upper-middle class consumers, while the remaining consumers are served by local vendors and WRSs with unbranded bottled water (Gleick, 2004).

Involvement of private sector in water distribution in Jakarta can be considered as a representative case as it provides an example of water sale in developing countries, especially in South East Asia known with rapidly increasing population rates. Although four different sources of water (ground water, pipe water, branded bottled water and WRSs) are available for the use of the consumers in Jakarta; the natural water resources (rivers, lakes and groundwater) are neither

abundant nor safe for drinking. The case of WRSs is especially of importance in such cases where the majority of the population depend on bottled water for at least a part of their drinking water supply, rather than tap water that has been privately managed and distributed (Jaffee & Newman, 2013). This paper, in this regard, sheds light on an overlooked yet important piece of the picture.

## **1.2 Objectives and Research Questions**

The main objective of this study is to contribute to the knowledge of economic conception of safe drinking water. WHO (2011: 2) defines safe drinking water as required for all domestic activities including drinking, cooking and personal hygiene, because it does not pose any significant risk to health over a lifetime of consumption. The research particularly focuses on figuring out the perceptions of microentrepreneurs on drinking water as a marketable good and a means of income generation. The engagement of WRSs with the institutions in market and non-market environment and their interaction in assessing the income generation potential of water sale are of particular importance. The paper further investigates about the externalities in water market and the ways WRSs prompt changes in market and society as a whole.

### *Research Questions*

1. How do the owners of water refill stations –microentrepreneurs, assess the income generation potential of drinking water sale in Jakarta?
  - 1.a What are the motivations that encourage microentrepreneurs to run a WRS?
  - 1.b What are the challenges in water market experienced by microentrepreneurs?
2. To what extent do the externalities generated by water refill stations promote change in water market and society?

### **1.3 Demarcations**

The research was designed and conducted in accordance with the Evolutionary Theory of Economics and the Institutional Theory. The paper provides insights into the understanding of the water market including its participants and the institutions that either motivate or challenge the utilization of drinking water as a marketable good. The scope of the research is limited to the WRSs and the households from middle-income class. The research was carried out in compliance with the methods of case study. Semi-structured interviews and focus group discussions were conducted with the following groups of informants: microentrepreneurs, households, and an academician. Observations and discussion with government official and an NGO officer were carried out throughout the whole data collection.

Particular attention is given to the discussion of the institutions' role in the conversion process of perceptions of drinking water, from a public good that is expected to be free for everyone, to a marketable good that fits to be offered for sale. The larger contribution of the paper to the existing literature is related to its supplementary role. Commercialization of water is often seen limited to the privatization of piped water to MNEs, while small investors are paid little attention, if not ignored. Therefore, this study provides insights on an overlooked issue by focusing on water business from the microentrepreneurs' perspective and it serves as an exemplary case study digging out the ways in which the microentrepreneurs assess the income generation potential of drinking water and the extent to which the externalities generated by WRSs create larger impact in society.

### **1.4 Disposition**

The first section started with the introduction of the study from a global perspective. The following section provides background information on the field site. The third section is comprised of the methodological discussion about the research. The fourth section presents theoretical discussions in three parts: Evolutionary Theory of Economics, Institutional Theory and the characteristics of water as a marketable good. The fifth section introduces the analysis of the findings and it is followed by the conclusion providing insights in a broader perspective.

## 2. BACKGROUND AND LITERATURE REVIEW

### 2.1 The Study Area

Indonesia is composed of nearly 18,000 islands with a total population of 242 million. It is a lower-middle income country with a GDP level of \$846.8 billion for the year 2011 (World Bank, 2013; Bappenas, 2013). Indonesia was governed by protectionist government policies until 1997 and state-owned enterprises used to provide main public services such as water, electricity, transportation. However, the volume of private sector participation in the provision of public services has been on the rise since 1997. According to the Portal of National Republic of Indonesia<sup>2</sup>, the recent government launched the Eleven Programmes of Action to address 13 most challenging problems experienced by the nation such as, education, health, employment, food and security. The Action on Basic Infrastructure Development, including water infrastructure and less-advantaged households' access to clean water comes in the 5th place with an emphasis on the desired participation of private sector. It is a long-standing issue that the public sector alone cannot afford the funding of infrastructure investments, hence it needs support from private sector to fill the gap.

Middle-class households in Indonesia, Kadomae (2012: 4) defines, are those with a yearly income from \$3.000 to \$20.000<sup>3</sup>, and it constitutes the highest middle class population with the fastest growth rate in Southeast Asia, excluding China. This study focuses on the consumers from middle-income level because it is getting more important to analyze their consumption patterns due to their increasing capacity to affect market conditions. The table below depicts the middle-income populations in SEA countries among which Indonesia has the highest number with 149.7 million.

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<sup>2</sup> <http://indonesia.go.id/en/indonesia-glance/vision-mission-and-strategy>

<sup>3</sup> Rp. 30 million – Rp. 200 million

*Table 1. Middle Income Class Populations (Kadomae, 2012: 4)*

Middle Income Class Populations in SEA			
Countries	2004	2009	2014 (estimated)
Indonesia	1,6	50,4	149,7
Philippines	3	20,3	47,7
Thailand	21	32,9	39,9
Vietnam		1,8	28,4
Malaysia	14,7	21,3	27
Singapore	3,7	3,9	4,3

This focal area of the research is Jakarta, the capital of Indonesia. Jakarta had a population of 10,1 million for the year 2011 with annual growth rate of 1,42 in a total area of 48,13 km<sup>2</sup>. It scores 77.85 in the human development index and 0,38 in the GINI index. The city has 27 rivers, waterways and canals, but only three of them (Krukut, Mookervart and Kalibaru Barat) are the core sources of safe drinking water. The others are used by urban businesses or with fishery purposes. (BPS, 2012)

While the population of Jakarta increased from 7,6 million to 10,1 million between 1996 and 2011, the number of customers provided water by the public water service company PDAM grew from 396,707 to 802,636 (BPS, 1997: 44; BPS, 2012: 332). It indicates an improvement in percentages, yet the increasing number of households without being provided by public service implies a bigger market looking for alternative water sources. Furthermore, the amount of water consumption from wells declined from 21.464,646 m<sup>3</sup> to 7.864,787 m<sup>3</sup> between 2002<sup>4</sup> and 2011. This decline is attributable to deteriorating water resources, which resulted in the involvement of private enterprises providing water as an alternative to city water and ground water. Based on the statistics again, 3621 drilling and exploitation licenses regarding water resources have been given to entrepreneurs over the last 8 years (BPS, 2012: 340).

In 2004, the central government of Indonesia enacted revisions to decentralization laws legislated in 1999, and it gave the regional autonomy on natural resource management. However, giving “*the widest authority to hundreds of regional governments*” has generated a set of diverse systems that do not support each (Fox et.al, 2005: 92). Instead, it has resulted in greater

<sup>4</sup> no data available for the years before 2002

exploitation at the regional level, corruption among regional parliaments and less transparency (Patlis, 2005). Returning back to the issue of WRSs, it should be emphasized that there are no specific institutions dealing with commercialization of water in particular to the WRSs. While, the Ministry of Mines and Energy deals with the issues related to groundwater and the Ministry of Public Works deals with surface water (Marifa, 2005), WRSs are paid attention by the Ministry of Health only for the quality of water they sell<sup>5</sup>.

With regard to the entrepreneurship patterns in Indonesia, Vial (2011) finds that large urban households holding financial and social capital, and whose members have an elementary or secondary education, are more likely to involve in microentrepreneurship. The period is marked by a rise in participation in 2000; however, individuals who experienced a loss in well-being due to the crisis in 1997 are less likely to participate in microentrepreneurship.

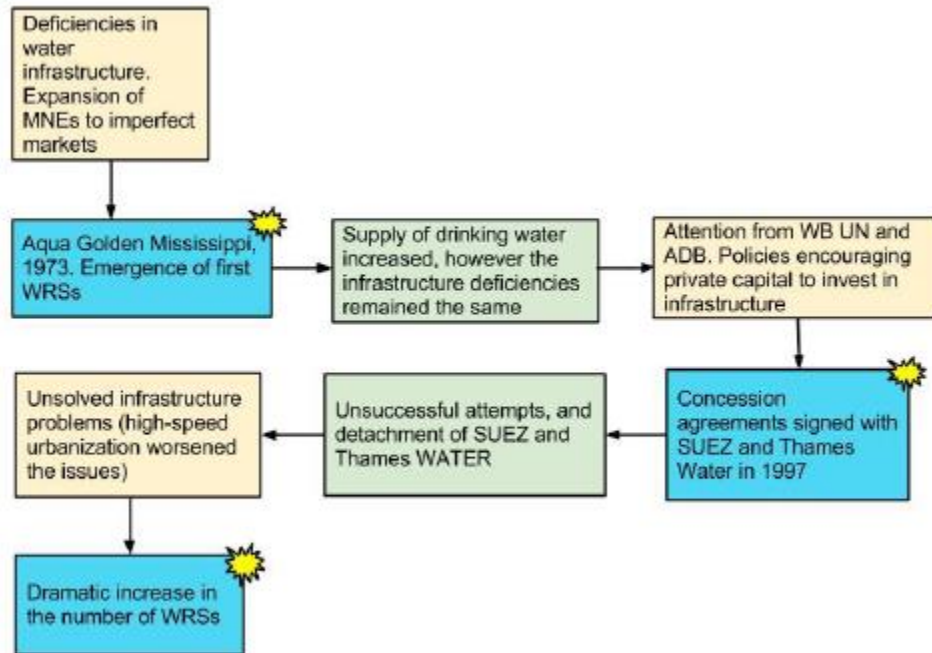
## **2.2 Commercialization of Water in Jakarta**

The roots of commercialization of water in Jakarta lie both in the bottled water initiatives and in the privatization of piped water. The commercial use of drinking water dates back to 19th century. One of the oldest observations recorded is the sale of groundwater in 1882 in Tanah Abang, Jakarta. The first water infrastructure (PAM DKI) was constructed in 1922 while the country was a Dutch colony, and it was followed by the installment of four water treatment centers from 1957 to 1980s. Upon the fact that there were still many households without piped water connections, the government allowed people who had pipe connections in their houses to sell water to others. (BAPPENAS & UNICEF, 1990)

The figure below is derived from the literature review and drawn with visualization purposes. It depicts the development of water commercialization in Jakarta starting from 1970s including the underlying factors that have triggered the process.

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<sup>5</sup> The law is regulated under the Ministry of Health, Rules of Governance on Drinking Water Quality Surveillance. Chapter 1. General Provisions, article 8: *"The periodical internal controls shall be carried in the production of galloon water."* (NO:736/MENKES/PER/VI/2010) .



*Figure 1. The Process of Commercialization of Water in Jakarta*

Agmon and Hirsh (1979) discuss that MNEs emerge as a result of a specific kind of market failure and they seek to benefit from imperfect markets where they become the monopolies with high power of bargaining vis-à-vis the government. This discussion can be applied to the entry of Aqua Golden Mississippi into Jakarta water market. The company initiated the commercialization of water at the large scale for the first time by selling bottled water, and this initiative was followed by WRSs providing unbranded gallon water as an alternative to branded bottled water (KRUHA, 2012).

The practices of commercialization were furthered by the involvement of private capital in the management of water resources in Jakarta through the privatization of pipe water in 1997. Similar to many developing countries, Indonesia has been facing difficulties in domestically affording large amounts of investment needed for infrastructure improvements (Florian, 2007). Therefore, the involvement of private capital came in as the major alternative source of funding especially in infrastructure such sectors as suggested by UNCTAD (2008): water, electricity and telecommunication. The 25-year concession agreements on the management rights of water

resources and of the water infrastructure in Jakarta were signed by Suharto, then-president of Indonesia, with two multinational companies, Thames Water and SUEZ in 1997 (Al 'Afghani, 2012). The privatization practices were encouraged by the reforms in water sector including neoliberal policies and structural adjustment programmes of WB and ADB aiming at fostering the IWRM and the sustainable delivery services for all and (Budds & McGranahan, 2003; Kessides, 2004; Corral, 2007). However, Thames Water exited the market in 2003 and SUEZ has decided to sell its shares in 2012 due to the reason that the business was not profitable enough to cover the infrastructure costs (Utility Week, 2003; The Jakarta Post, 2012). It was assumed that privatization of public utilities would firstly generate better service quality and secondly lead to lower prices due to increased efficiency; however, it turned out that the latter assumption was not valid for water sector since private companies needed to make high amount of investments to build and maintain the water distribution system, which consequently leads to higher prices (OECD, 2000). As a result of the process of rapid urbanization, inefficient distribution of pipe water, high prices per cubic meter, deteriorating ground water and inefficient supply of piped water since 1970s, a remarkable increase has been observed in gallon water usage (Kurniasih, 2008). WRSs have become a common alternative due to their three or four times cheaper prices compared to those of branded gallon water (Desai, 2012). Darmawan (2009: 9) shows that the number of WRSs in Jakarta rose from 100 to 8500 between 1997 – 2008.

### **3. METHODOLOGY**

#### **3.1 Research Design**

The research was designed as a case study since it aims at intensive exploration and analysis of a particular situation, through data collection from multiple sources such as interviews, observation, experiences, official reports and physical artifacts (Bryman, 2008; Creswell 2007; Yin 2003). The need for in-depth understanding of the social and economic dynamics in the society and the multidimensional aspect of the Jakarta case has the major role in shaping the research design, which is closely connected to ontological and epistemological standpoints employed in this paper. The approach to the theory applied in the study is induction, which the



researcher goes back and forth between the theory and the data while she “*infers the implications of the findings for the theory that prompted the whole exercise*” (Bryman, 2008: 9). In line with the inductive theory, the ontological and the epistemological standpoints of the research are constructionism and interpretivism, respectively. Ontology provides insight on how the researcher perceives the nature of reality. Constructivist ontology, in this regard, suggests that reality is multiple and subjective and it “*embraces the cognitive as well as the social dimensions of behaviour and social practice*” (Long, 2001: 244). Epistemology deals with the question of what should be considered as acceptable knowledge. Interpretivist epistemology suggests that everyone perceives unique realities when they look at a single case and it is closely connected to phenomenology that aims at discovering how the social life is builded by individual perceptions (Bryman, 2003; Creswell, 2007). Conducting a research based on inductive theory with constructivist and interpretivist standpoints, the researcher applied qualitative research methods such as interviews, FGDs and participant observations. In line with Creswell’s (2007: 17) suggestions for a qualitative inquiry, the research was conducted by continuously revising the questions. The analysis of the findings was made using quotations of informants and introducing evidence from multiple perspectives. The research was conducted with the awareness of the risk of over-generalization: Mikkelsen (2005: 141) informs that qualitative methods are at the risk of over-generalization, because they act as “*data enhancers*” unlike quantitative methods that condense data aiming at seeing the bigger picture.

## **3.2 Data Collection**

### **3.2.1 Secondary Data**

Prior to the field visits, secondary data was collected to familiarize with the topic and to decrease the possibility of loosing the way in the field. Water supply, microenterprises and water refill stations, commercialization of water in Jakarta were the focus of the desk study.

### 3.2.2 Data Collection Methods

Beside the desk study, the main source of data is the informants of the semi-structured interviews and focus group discussions. The first hand data coming from these individuals and groups is supported by participant observations, informal discussions, field notes and photos. The majority of the interviews and FDGs were digitally recorded. The field visits were made in November 2012 – January 2013. During and after the field visits, the researcher was in collaboration with LIPI, the Indonesian Institute of Sciences. Professor Syarif Hidayat has followed the process and provided fruitful discussions. All practical issues such as access to informants, transportation and monetary issues were dealt by the researcher.

### 3.2.3 Selection of the Case

Bryman (2008) discusses that the researcher always begins with something in her mind and choose a particular subject and site accordingly; however, it does not necessarily distort the inductive approach to the theory. The selection of the case, hence, was based on two factors: Availability of all water sources (WRSs, piped water, branded bottled water and groundwater) and availability of more than a few WRSs, which generates a wide range of options for the consumers. In doing so, the aspects of *competition and cooperation* microentrepreneurs are experiencing were included in the research as suggested by the Institutional Theory and the Evolutionary Theory of Economics. Regarding these theories, the data collection was focused on Central Jakarta, where there are WRSs at each corner and local people have access to all water sources counted above. It implies that microentrepreneurs are experiencing competition and cooperation to some extent and that consumers have opportunity to choose among different alternatives considering both the WRSs and other available alternatives of water sources.

While the sample of microentrepreneurs was dispersed within Central Jakarta including its 8 subdistricts (Gambir, Tanah Abang, Menteng, Senen, Cempaka Putih, Johar Baru and Kemayoran, Sawah Besar), the sample of households was randomly chosen from only two subdistricts called Gambir and Tanah Abang<sup>6</sup>. The maps below show the locations of the sites.

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<sup>6</sup> Please refer to Appendix.3 for the list of the informants

Hosting all water sources and many WRSs, the sites are suitable to be considered as representative for Jakarta.



**Map1: Jakarta, DKI Jakarta, Indonesia<sup>7</sup> Map2: Central Jakarta, Jakarta, Indonesia<sup>8</sup> Map3: Gambir and Tanah Abang**

Beside the microentrepreneurs and households, other groups of participants were also included in research aiming at triangulating the data. Data triangulation is “using different methods, sources and disciplines, and a range of informants in a range of places, and cross-checking to get closer to the truth through successive approximations” to avoid potential problems engendered by the guidance of a single set of data and sample (Mikkelsen, 2005: 70). To this purpose, the government officials (a water quality specialist from Ministry of Health, the head of the Department of Agriculture under the Ministry of Industry), an official from The Indonesian Institute -NGO, the head of women organization PKK, Budi Darmawan -the head of Apdamindo, and Syarif Hidayat -economy professor from LIPI Research Institute were included in data collection.

<sup>7</sup> Adapted from Indonesian Ministry of Agriculture, [http://www.deptan.go.id/daerah\\_new/petaprop/jakarta.gif](http://www.deptan.go.id/daerah_new/petaprop/jakarta.gif)

<sup>8</sup> Adapted from Googlemaps

### 3.2.4 Focus Group Discussions

Six FGDs were conducted in total: two with microentrepreneurs, two with customer households and two with noncustomer households. These FGDs have enabled the researcher to explore the research topic both in depth through the brainstorming generated by group interactions and in a broader perspective, including codes of conducts emerged in these social groups (Bryman, 2008; Dewalt & Dewalt, 2002).

#### *Microentrepreneurs*

Two FGDs were conducted with six microentrepreneurs each. The selection criteria were the profession and location of the informants. The contact information of the potential participants was obtained from Apdamindo. Microentrepreneurs running a WRS in the same sub-districts were discussed in separate FGDs. This strategy targeted at eliminating the problems that might have aroused due to competition among the microentrepreneurs. Still, the biggest difficulty was bringing participants together for the discussions. Although the plan had been to conduct four FGDs with microentrepreneurs, only two FGDs could be successfully implemented due to their reluctance to discuss about their business in groups, and due to the Big Flood – heavy flooding that covered the majority of Jakarta. In such cases, Jacelon and O'dell (2005: 217) remark the importance of theoretical saturation and suggest that “*the initial data analysis guides later data collection, and this reciprocal process continues until no new findings are identified*”. Thus, the number of interviews was increased to compensate the missing FGDs, and the level of saturation was reached at the 12<sup>th</sup> interview. The participation of the microentrepreneurs was encouraged by offering lunch.

In line with what Öberg and Belzile (2012) state, participant interaction in focus group discussions, the reluctance of microentrepreneurs in this case, reflected “*a philosophical position*” rather than ignoring the research. Having blended the content with the interaction during the discussions, the FGDs provided an understanding on the competition and cooperation among the microentrepreneurs by allowing the researcher to observe the ways they interacted with each other, their body language, and even silence.

### ***Households***

Two FGDs with customer households and two FGDs with non-customer households were conducted with six women in each representing their households in Gambir and Tanah Abang. The selection criteria were the income levels and whether they are customers of WRSs or not. The heads of neighbours guided in reaching the potential informants. Unlike the microentrepreneurs, the women were quite willing to contribute to the research. The participation of women was encouraged by offering 25.000 Rp<sup>9</sup> each.

Overall, the six FGDs enabled the researcher to collect opinions of above-mentioned groups and to adjust the questions for semi-structured interviews (Dewalt & Dewalt, 2002). Although FGDs provided quite comprehensive data, they might have prevented individuals to talk about their personal experiences on sensitive issues (Mack et.al, 2005) such as business strategies and opinions about water law and regulations. With this in mind, semi-structured interviews were conducted and they provided the researcher with the chance of “*opening up what is inside them*” (Mikkelsen, 2005: 341).

### **3.2.5 Semi Structured Interviews**

21 semi-structured interviews were conducted in total: 12 with microentrepreneurs from eight sub-districts, two with WRS customer households, two with groundwater users, two with branded water users, two with piped water users, and one with Prof. Syarif Hidayat. Informal discussions were held with a water quality specialist from the Ministry of Health, the head of the Agriculture Department, Budi Darmawan, the head of PKK and an official from NGO, The Indonesian Institute.

Furthermore, spontaneous discussions were conducted with potential informants with the purpose of deciding on the reasons to interview and what to expect from the semi-structured interviews (Mikkelsen, 2005). Prompting, probing and checking questions were asked during the planning and implementation phase, as planned beforehand. Based on Mikkelsen’s (2005: 194) further advices, the interview questions were also included information from secondary data sources

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<sup>9</sup> Equals to \$ 2,5 approximately

such as official statistics and reports, which gave the interviewee a change to approach the questions through these official sources in case they were reluctant to provide personal opinions at the first place. Refreshments or money were not offered to encourage the participation to the interviews, because the informants were already willing to participate.

### **3.2.6 Participant Observation**

Participant observation was applied to collect data about the behaviours in society as it acts as a complementary source of understanding of perceptions and attitudes (Yin, 2003). Since the researcher already used to live in the field site, she could easily engage in informal dialogs with housewives by asking questions about water usage, water sources and how they value water. Furthermore, she sat at two WRSs in Gambir and Tanah Abang for two hours each and observed the behaviours of customers, which she would not otherwise have had this opportunity (Yin, 2003). All these practices of participant observation resulted in “*empathizing with their way of looking at and interpreting their world*” (Scheyvens & Storey, 2003: 59). However; as Sultana (2007: 379) notes, the disadvantage of participant observation was experienced by being “*othered*” by the owners of the two WRSs as they positioned the researcher with her ties to the educational background in Sweden, where, they believe, there are no drinking water problems at all.

### **3.3 Criteria for Evaluation**

The most important criteria for evaluation are validity, replication and reliability. Following Bryman’s (2008) suggestions, the measurement validity, which gives a clue in reliability as well, was addressed by going back and forth in data collection until the findings were stable and did not fluctuate anymore. The process continued until the relationship between two variables was confidently identified, which ensured the internal validity. The research can be considered as externally valid due to the analytical generalization, which is the base of case studies (Tellis, 1997). Ecological validity is guaranteed with participant observation and transect walks as it deals with the applicability of the findings to people’s everyday life. The validity was addressed

also with data triangulation by collecting data from multiple sources. Keeping in mind that triangulation is an alternative to validation but not a validation strategy (Ma & Norwich, 2007), it is supported by the critical analysis of this data. Following the advices of May (2002) to ensure reliability, the representative samples and the sites of the population were chosen. Moreover, a significant amount of time were spent in the field to analyze the match between the findings and the practices in daily life. Replicability, as suggested by Bryman (2008: 32), requires the researcher to “*spell out her procedures in great deal*”. Thus, the data collection steps are transparently explained in the paper and most of the interviews and discussions were recorded digitally and the interview questions are added into the appendix. However, informal discussions were not recorded due to confidentiality concerns. Only written notes were taken.

#### *Positioning, Reflexivity and Reciprocity*

Reflexivity refers to the “*ways in which researchers should reflect upon their own practices*” (Mikkelsen, 2005: 197). Bryman (2008: 24) observes that “*it is not feasible to keep the values that a researcher holds totally in check*”. To eliminate the potential problems, constructivist and interpretivist approaches were applied during the data collection and analysis; however, the findings were subject to variations as the data was partial for the researcher, the outsider, and filtered through her perspective, language, norms and values (May, 2002). It has been observed that both the conversational interviews and semi-structured interviews were a learning process not only for the researcher but also for the interviewees (Kvale, 2007).

Before initiating the research, informal conversational interviews were conducted to see whether the desk review and preliminary research questions were in accord with the real situation experienced by the society, and it was found out that some of the questions were not clear enough due to two reasons: lack of participants’ information –especially on law and regulations, and lack of common understanding of some terms such as, urbanization, privatization and difference between income and budget. To overcome this challenge, participants were asked to state their definitions for these terms to build a common understanding for both sides (Scheyven & Storey, 2003). Still, the researcher sometimes lost control over the conversations and felt like the answers

had already been somehow included in the questions by the translators and the expected answers were implied by their gestures.

### **3.4 Methods for Analysis**

The analysis began simultaneously with the data collection and analytical memos were taken while in the field. Once data collection was done, a set of concepts was developed. Having these concepts in mind, the information coming from all sources was grouped into three categories in line with research questions on the following topics: assessing the income generation capacity of water sale in Jakarta (motivations and the challenges) and the externalities to which WRSs contributed. Then, each group was examined separately by answering the related research question. The analysis of the data was structured in accordance with the literature review and the theoretical framework including the standpoints of the evolutionary economics, institutional theory and the supplementary concepts; excludability and rivalness of drinking water.

## **4. THEORETICAL FRAMEWORK**

The study is guided by two theories: The Evolutionary Theory of Economics and the Institutional Theory. *“Theory triangulation entails the choice of theories that have been shown to be able to bring out the underlying assumptions behind different kinds of understanding that are embedded in the data”* (Ma & Norwich, 2007: 223). The choice of theories and their interpretation were evolved and manipulated in accordance with the initial focus of the research and the shifts throughout the data collection. While the evolutionary theory guides the framework with its ontological, heuristic and methodological standpoints, the theory of institutions is the key reference for framing the data analysis. The conceptual domain of the evolutionary theory of economics was also used to enrich and strengthen the arguments presented in this paper as it has provided fruitful insight in understanding the role of organizations in an economic process. Furthermore, additional concepts were incorporated into the discussion such as excludability and rivalness so that the theoretical framework has become more complete for the analysis of microenterprises operating particularly in water market.



The two theories and the following discussions are relevant to the research and the research questions in a way that they provide insights on the coevolutionary adaptations through which changes in environment together and shifts in individual and collective behaviours and perceptions provoke each other. Understanding the nature of the change itself as well as the responses both the microentrepreneurs and the household give to these changes have facilitated the interpretation of the ways microentrepreneurs assess the income generation potential of drinking water and the externalities directly or indirectly generated by the involvement of microentrepreneurs in water sale. Although the inductive strategy is applied throughout the study, the theories are used as “*background to qualitative investigations*” (Bryman, 2008: 13).

#### **4.1 Evolutionary Theory of Economics**

Witt (2008) suggests that scientific positions to theories differ at three levels of reasoning: ontological, heuristic, and methodological levels. Starting with the first level of reasoning, the ontological approach to the theory applied in this paper assumes that the changes in economy and changes in nature are not perfectly mutual, yet interdependent processes as generated by the connected spheres of reality. This point of view is considered as one of the basic assumptions of the evolutionary economics. Levit et.al (2011) suggest that as the nature evolves, it shapes the man made evolutions including the economy. Societies adapt new mechanisms over time with the instruments of creativity, imitative capacity and social learning. Daly and Farley (2006) adds that the fundamental feature that separates humans from other species is their adaptation ability to changing environmental conditions through cultural evolution in economic, social, political and technological systems.

Secondly, the heuristic reasoning employed throughout this study is in line with what is suggested by Hodgson and Huang (2012) as one of the heuristic approaches of evolutionary theory: Just like many species in the world, institutions of a society and ideas generated by its members change over time in response to both endogenous and exogenous factors. It is mainly because, in its simplest sense, they have capability and willingness to transform themselves. The imitative behaviours and successive adoption strategies of individuals or groups (rather, organizations in this paper) generate dissemination of novelty, change and, consequently,

evolution. In this paper, the notion of change is regarded as the *process* of transformation regardless of its size and speed.

Following the two standpoints explained above, the frequently applied methodological reasoning of evolutionary economics is to concentrate on the explanations of the process of change and the underlying mechanisms. As mentioned above, this research set out to have an understanding of the changes in the provision of water services and discovering the motivations and challenges to undertake those changes. For such an inquiry, the suggestion given by Witt (2008) is to study institutions and institutional change by employing the institutional theory, because it follows an evolutionary approach to the economy rather than pursuing mechanistic assumptions of orthodox economics (Klein, 1998). Thus, the theoretical discussion continues with the institutional theory.

## **4.2 Institutional Theory**

Institutions are paid particular importance in this study because they have a major role in success or failure of the natural resource management (Marifa, 2005). The new institutional theory combines economics, law, organization theory, sociology and anthropology and it gives insights on the process of interpreting the information, which is the key to conceive complex behavioural patterns and the underlying reasons behind them (Klein, 1998; North, 2007). The term *institutions* covers both formal institutions (laws, property rights), and informal institutions (traditions, unwritten laws, codes of conduct). They are the rules and structures that constitute the arrangements in social, economic and political life and that reduce uncertainty (Hodgson, 2006). North (2007) suggests that institutions spontaneously enable people to have a feeling of knowing what they are doing and why they are doing, which implies that there would be no need for any kind of institutions in a world of complete information. Dolfsma (2009) adds that institutions are the products of the goals, beliefs and choices of individual actors in a society, however; the ultimate results of these institutions cannot be accurately estimated before their implementation. A major role of informal institutions is to modify, supplement or extend formal rules. That is to say, a change in formal institutions will break the equilibrium and cause to restructure the informal order again, which may not always be more efficient (North, 2007). More specifically to the utilization of natural resources, the change in technology and ecological degradation compels

societies to adjust particularly their economic institutions and values in social life for the “*transition toward a system that operates within the physical limits imposed by a finite planet and the spiritual limits expressed in moral and ethical values.*” (Daly & Farley, 2006: 11).

In the following part, the discussion is divided into two sections: market environment and non-market environment. In doing so, it is intended to facilitate the understanding of the contribution of institutions in different environments to economic decisions made by both the sellers and the consumers. The institutions discussed below are adapted from the book “*Institutions, Institutional Change and Economic Performance*” by North (2007). Firstly, the discussion of the market environment includes the following issues: organizations, price and preferences, bargaining power, property rights, knowledge and skills of microentrepreneurs, competition and cooperation. The discussion of the non-market environment addresses the following issues: social learning, trust, reputation, traditions, uncertainty and society’s openness to obtain knowledge. It should be emphasized that the non-market environment, too, plays an important role in the decisions related to market and economic activities, however they are not specific only to economic decisions. They are observed in other aspects of daily life as well. Furthermore, the study acknowledges that it is difficult, if not impossible, to distinguish them in a rigid way. At the end, it would be naive to claim that these environments are perfectly separated from each other and have no interactions at all.

#### **4.2.1 Market Environment**

North (2007: 73) describes institutions as the rules of the game where organizations are the players, and gives the definition of organizations as follows: “*the purposive entities designed by their creators to maximize wealth, income or other objectives defined by the opportunities afforded by the institutional structure of the society*”. They embrace social entities, political entities, and economic entities such as firms and commercial enterprises. The economic institutions are of particular importance as they determine the constraints and incentives provided to economic actors and shape the outcomes of economic decisions (Acemoglu et.al, 2005). Entrepreneurs run their organizations with the objective of catching the economic opportunities provided by the institutional structure in society. What is tricky here is that, as these

organizations evolve, they change the institutional structure within which they emerge and operate (Gerschlager, 2012).

The issue of property rights is one of the most decisive factors for effective organizations, which not only promotes achievements but also weeds out the unsuccessful efforts in the market (North 2007). Well-defined water use rights, a set of taxes and subsidies can minimize the negative externalities associated with water use and promote the achievement of the optimal allocation (Beare & Heaney, 2002). Daly and Falley (2006) add that markets fail due to the absence of institutions defining property rights, the inherent characteristics of the resources, or due to the lack of competition.

Competition is another key factor to conceive the structure of the market while cooperation receives a special attention as well, particularly in repeated plays, because agents tend to come together around the strategies that improve their joint well-being (Ostrom, 1990). These two concepts are of particular importance for this research that set out to understand the structure of water market. Both the competition and cooperation are strategic behaviours in the market environment that influence market outcomes: prices, quantities, profits and welfare (Hüschelrath, 2009). Conventions regarding competition and cooperation are brought up when the participants explore each other's motivation and capabilities in repeated games and when they are capable of adopting conditional strategies (Klein, 1999). However, political process may sometimes shape the constraints in way that they favor influential bargaining groups (North, 2007). That is to say, alterations in bargaining power allow modifying the contracts made by existing institutions. In such bargaining processes, some rules may be ignored or completely abandoned for the sake of more effective bargains (Farrell & Heritier, 2003).

From an economic perspective, changing relative prices and preferences are the origins of the institutional change as they are the agents of alterations in incentives in human interaction. As Vincent Ostrom defines, the price is "*the term on which alternatives are available*", and it leads to the estimation of the demand for alternative institutional settings (Aligica & Boettke, 2009: 145). Furthermore, the objectives of organizations and business strategies are shaped not only by the price of the good and wealth-maximizing potentials but also by the interaction of preferences, technology and institutional constraints (Hansen, 2013). Directed by the institutional framework and a set of their constraints, organizations make a difference with their managers'

entrepreneurial skills combined with their tacit knowledge acquired mostly through learning by doing communicable knowledge that can be acquired from others (North, 2007). While entrepreneurs usually evolve by modifying their skills and knowledge based on institutional structure, an alternative is to invest the resources in altering these constraints. The decision of which way to choose is contingent upon the subjective assessment of the payoffs. For instance, when entrepreneurs have sufficient bargaining power, they will make use of polity to accomplish their goals (Krasteva & Yildirim, 2012). Going back to the issue of changing prices and preferences, the process is dynamic rather than stable as the skills, knowledge and perceptions of entrepreneurs alters the structures of competition, cooperation and bargaining power structures. This further alters the relative prices and, consequently, the behavioural patterns in society and their rationalization over time (North, 2007).

We now turn our attention to social environment. As mentioned above, focusing only on the market environment are inadequate, even misleading, for comprehensively addressing the perceptions of decision makers. Daly and Farley (2006) inform that decision makers usually face with a wide range of factors varying from material to non-material before making the final judgments, which might be fundamental for the sustenance of community and ecosystem functions as is the case in this research.

#### **4.2.2. Non-market Environment**

Institutional framework in a society guides the evolvement of tacit knowledge and it plays a profound role for entrepreneurs in determining the level of openness and willingness to obtain knowledge, to assume risks, to resolve problems and consequently to maximize profits, which refers to adaptive efficiency (North, 2007). Hence, an institution is a special type of social structure that involves potentially codifiable and normative rules of interpretation and behavior (Hodgson, 2006). Elinor Ostrom adds that the local and self-organized institutions are a substantial part of the social capital such as shared relationships, knowledge and opinions, and they enable the society to sustain the natural capital on which their livelihood depends (Aligica & Boettke, 2009).

The relationship between the institutional environment and the complexity of individuals' cognitive processes are of growing importance when designing a framework for decision making under a degree of uncertainty. Klein (1999), in this regard, adds that social learning is path-dependent and that organizations formulate and perform economic activities under uncertainty within a framework formed by institutions and ideologies. What is more is that organizations motivate the society to invest in knowledge and skills that directly or indirectly make a contribution to their profitability and wealth maximization (North, 2007). It is a double-sided issue that the gained knowledge leads to the shifts in people's perceptions of the world, and in turn, those perceptions give form to further interpretation of knowledge, they enable to rationalize actions and consequently update the prior skills and knowledge (Emami, 2012), which is a critical factor for the long-term development in society, referring to the *externalities* asked in the research question 3.

In social environments with high level of uncertainty and opportunity costs, especially when they coexist simultaneously, the general trust among people becomes an advantageous psychological trait to acquire (Yamagashi, 2011). Adapting to new practices, partners and developments always require a certain level of trust. However, when people are in an environment where trusting each other does not bring outcomes that further their self-interest, they will not come to easily believe that others are trustworthy (Devos et.al, 2002). Reputation in public, in this regard, facilitates trust. Organizations whose features, structural attributes, and outcomes are perceived as beneficial to the society, are rewarded with good reputation and legitimacy (Bitektine, 2011). They will assess what is happening around them by combining their knowledge and observation with the information acquired outside, rather than depending only on one source.

Economic changes in long term are set off by short-term decisions of entrepreneurs, which reflects the subjective assessment of the environment. Since the assessment relies highly upon ideas, beliefs and worldviews, its accuracy is uncertain, yet predictable to some extent, until the consequences of the decisions come into light (North, 2007).

### **4.3 Characteristics of Drinking Water as a Marketable Good**

Although the evolutionary theory of economics and the institutional theory solidly define the analytical framework for this research and lead to comprehensive discussions about the business practices of entrepreneurs, institutional changes and their interdependence in economic, political and social environments; they do not provide in-depth discourses specific to water market and the commercialization of water. Thus, the following part is devoted to the theoretical discussion of the economic conception of drinking water by employing such concepts as excludability, rivalness, free riding, property rights and scarcity of water.

The main characteristics of market goods are divided into two by: excludability and rivalness. First, an excludable good is one whose ownership provides the owner with the privilege to use it while preventing others from enjoying it. If there are no institutions, either governmental or less formal institutions, that exist to define the property rights for that good, then it stays legally non-excludable. Second, rivalness is a concept related to the intrinsic characteristics of a good. A rival good is one whose use by a person decreases the chance of its use by decreasing the amount available for others. Water, in this regard, used to be among the goods with greatest nonexcludability and non-rivalness. However, the physical scarcity of safe drinking water, inefficient distribution policies in addition to the practices of free-riders have resulted in deteriorating water resources, hence insufficient and poor quality supply of water. (Daly & Farley, 2006).

Czap et.al (2010) suggest that in such cases the problems tend to be solved by making the consumption of the good excludable. Regarding water, he further suggests that excludability is provided to individuals or groups through the property rights of the land where water springs are located or through the drilling and exploitation licenses allowing the extraction and distribution of water. To remind again, this was also the case in Jakarta.

The scarcest resources that are of the utmost importance are public goods while the current economic system deals only with market goods. In cases where the market is effective to supply market goods, but inadequate to preserve non-excludable goods, the non-excludable goods become more scarce compared to the market goods over time, which results in reallocation of resources between the two kinds of goods (Fang & Norman, 2010). This shift brings forth the

question of substitutability. When public goods are not substitutable, their increasing prices due to scarcity motivate market players to invest in profit-oriented transactions for turning public goods into marketable goods, that is to say, non-excludable goods into excludable goods (Moldavanu, 1996).

Here lays the consistency between the interests of the government and the market. On the government part, when free riding of water is in excessive amounts that cannot be precluded by the authorities, enforcing property rights becomes a preferable strategy because it removes the burden on the government by increasing the incentives for voluntary contribution from the holders of the property rights (Czap et.al, 2010). On the market side, scarce and deteriorating water resources attract entrepreneurs. In order to be able to generate profits from water, they need effective property rights and regulations allowing, if not motivating, the extraction, distribution and consequently the sale of water (Segerfeldt, 2005).

## **5. ANALYSIS**

Previously mentioned above in the methodology, the data analysis began simultaneously with the data collection in the field as it happens in many qualitative research practices where the two phases overlap and the researcher proceeds back and forth in order to create and illuminate the findings (Jacelon & O'dell, 2005). The analysis is conducted including a decent amount of primary data as well as the secondary data. The analysis is concluded by the broader discussion of the findings and their relation to each other in a complementary way with regard to the economic conception of water in particular to the WRSs.

### **5.1 Organizing Principle**

'Framework', a method for analyzing the qualitative data, "*is an analytical process which involves a number of distinct though highly interconnected stages*" including the system of sorting the data according to the key issues and themes (Ritchie & Spencer, 1994: 177). The examination of the answers given to interview and FDG questions has found out that the informants approach the research topic from an angle that mainly gathers around the 14 concepts.



Based on the suggestions of Ritchie and Spencer, these concepts have been evaluated with an understanding of the internal structures, and the analysis has been made in accordance with the nature of the research and the phenomena of the commercialization of water in Jakarta. The different types of behaviours and attitudes as well as the association between them are also included in the analysis. On the purpose of linking the findings to the theoretical framework, the concepts are classified in three sections: market environment, non-market environment and the concepts that are specific to water as a marketable good. Please refer to the Appendix.4 to see the table depicting the concepts and their definitions, which are spontaneously generated by the informants during the discussions. After presenting the arguments in detail in relation to research questions, it will be discovered which of these concepts play role in shaping the motivations of microentrepreneurs, in creating challenges for them and / or in contributing to the externalities in a larger scale.

Now the analysis starts with findings for each research question. Please refer to the Appendix.3 to see the coding for the interviews and FDGs.

## **5.2 Assessing the Income Generation Potential of Drinking Water**

This section provides answers to the research question 1: How do the owners of water WRSs, microentrepreneurs, assess the income generation potential of drinking water sale in Jakarta? The question aims at understanding why the microentrepreneurs have chosen to take part in water business, the factors motivating them to enter the business, opportunity costs, the information sources on which they base their business decisions, the challenges they face with, how they perceive the sustainability of the business as well as the of the natural water resources in Jakarta and the surroundings. In addition to the perceptions of sustainability, the question intends to discover the expectations of the microentrepreneurs about the likely outcomes of water business both in the short and the long term. Since the question involves two sub-questions asking about the motivations and obstacles microentrepreneurs have had so far, the discussion also consists of two parts.

Before going directly into the analysis of the motivation and challenges, an issue that are attached a great deal of importance by all informants without any exception should be underlined: the failure of public services providing safe drinking water. It has been observed not only through the formal interviews but also through the informal engagements within the society and observations that the problems experienced in public water distribution have prompted local people to build a self-policing mechanism taking their own proactive actions. In such situations, Vincent Ostrom observes that individuals can enhance their entrepreneurial opportunities and serve for the interest of both themselves and the society by providing communal services such as water supply (Aligica and Boettke, 2009). Just in line with Ostrom's observation, the distribution of water by individuals and microentrepreneurs in Jakarta emerged as a response to the failed distribution of water as a public service. In one of the FDGs conducted with customer households in Tanah Abang, it was concluded that the informants do not remember exactly for how long they have been experiencing problems with the water infrastructure and since when the WRSs have been operating in Jakarta. The semi-structured interview with one of the customer households provided more detailed insights. The husband told:

*“I am not able to tell when the problems first showed up. I do not remember a day that we have a proper installation and distribution of water to our home” (SIC-1)*

The failure of public service was addressed also by the informants that have proper installations to get distributed drinking water through pipes.

*“We are lucky that clean drinking water is distributed to our home through the pipes. However, we know that this is not the case for many others” (SIN-6)*

Although the failure of public services, rapidly increasing population and increasing income levels are the facts supported by the literature as well, the entrepreneurs' subjective perception on

these facts and the way they process limited information in the complex institutional environment delineate the underlying factors that motivate or demotivate them.

### 5.2.1 Motivations for Water Sale

Motivations of the microentrepreneurs, their intentions and attitudes are the key factors in starting up and sustaining the business (Akehurst et al., 2012). Having this in mind, it has been found that there are three main motivations to start up a water refill station in Jakarta: Expectation for high-profit rates, respect shown in family and society and the flexibility to take risks. The explanation of these motivations will be followed by the analysis of the way the entrepreneurs interact with the institutions in their market and non-market environments to define and assess the relevancy and significance of these motivations.

High cost recovery is the first motivation to enter the water market, in line with the findings of Rodriquez et.al (2012): The improved cost recovery is what enables the service providers to invest in water infrastructure and distribution. The amount of the **initial capital**, the money needed to start up a WRS, has been found lower compared to those required for other types of microenterprises. Moreover, **the rate of return to investment** is higher than it is in other microenterprises such as a grocery store or a hairdresser. The required initial capital varies from Rp. 25 million to 50 million<sup>10</sup> depending on the location, the quality of the machines and the size of the shop, according to Budi Darmawan. The rate of return to this investment depends on the sale volume. While the cost per one galloon of water (19 liters) bought from the water supplier is 1400 rp.<sup>11</sup> on average, the price at which the WRSs sell it to the households are 4000 rp.<sup>12</sup>, which results in a cost and revenue ratio of around 1/3 (FDG-M1 and FDG-M2). Based on the information obtained from the semi-structured interviews conducted with microentrepreneurs, it has been found that the amount of daily sales varies according to the location, the hygiene of water including the personal hygiene of workers as well, and delivery quality.

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<sup>10</sup> From \$2500 to \$5000

<sup>11</sup> \$0.14 on 07.04.2013

<sup>12</sup> \$0.41 on 07.04.2013

First of all, locations that have potential to generate the highest revenue are the places where there are no rivers close by, the ground water is not safe to drink (or at least needs to be boiled before drinking) or the piped water does not flow regularly (FDG-M1). Secondly, the hygiene certificates obtained from the Ministry of Health has been found to increase the sale volume. The water quality specialist from Ministry of Health tells that the water analysis is made for free in the Ministry's laboratories; however, it is not obligatory for WRSs to check the quality of water they sell. Budi Darmawan informs that Apdamindo requires its member to hold a health certificate; however, he adds, all WRSs whether they are members of Apdamindo or not should be compelled to hold health certificates and that the government should regulate the necessary steps. Additionally, personal hygiene of the workers such as outlook and body odor affects the sale volume because the customers make a connection between the hygiene of the workers and the hygiene of the water being sold (FDG- CG and FDG-CT). This connection may be observed in other sectors as well, especially in food sector as it causes illness outbreaks (Green et.al, 2007). However; the overall perception among both the microentrepreneurs and the households is that it is stronger in water sector because it is harder to assess the quality and hygiene of water compared to other food products such as bread or meat. Women who buy their drinking water from WRSs (FDG-CG and FDG-CT) reminded that Indonesian weather is always hot and humid in Jakarta, and agreed upon that they avoid WRSs whose workers sweat a lot and smell bad. Holding a hygiene certificate loses its importance if the personal hygiene of workers is not okay. In the third place, long opening hours and timely delivery attract more customers and result in a higher profit level.

Overall, the microentrepreneurs (FDG-M1, FDG-M2, 8 of 12 SIMs) state that the costs of choosing the right location, of assuring the quality of water and the efficient delivery as well as employing the right employees are much lower than the revenue generated through water sale, which results in high profit rates. Although the costs are low in monetary terms, the capability and skills to make the correct decisions require more than only financial budget. Institutions, in this regard, have been found carrying a significant role in shaping their capabilities, skills, perceptions and consequently decisions. It has been observed that the information sources on which the microentrepreneurs base their business decisions are the informal institutions rather than formal ones. It is not because they purposively prefer one to another, but because there are no formal institutions such as laws or regulations that are specific to WRSs, or any guidance

provided by official authorities, for example, official reports on the volume of water sold by WRSs in Jakarta (Budi Darwaman, FDG-M1 and FDG-M2, and 7 of 12 SIMs). One of the microentrepreneurs (SIM-5) told that he attended the official 1-day training programme conducted by the government about the utilization of the machinery and assuring the hygiene of water. When the others were asked about this programme, they stated that they had heard about it; however, they could not afford it due to the high participation fee. The majority of the informants, thus, indicated that they reach information mainly through the following ways: Consulting water suppliers and friends / family members who are already the owner of a WRS, observing the sale amount of other WRSs and their equipment, and engaging in daily conversations with potential customers. This shows the information-sharing mechanisms within the family and friends, trust among them supported by individual observations shape the perceptions and expectations of the business profitability. One of microentrepreneurs whose father has a water refill station in another city remarked that:

*“I do not earn as much as he does; however, he is always prescient and has provided me with information on the machinery and hygiene treatments, which I couldn’t have learnt on my own .”*

(SIM-6)

Another informant provided complementary information to the statement above:

*“I learnt how to deal with the whole process from my childhood friend running a refill station in Menteng. However, now we come together only for fun, not for business discussions. I have acquired enough experience to deal with the problems on my own.”* (SIM-12)

Because there are no affordable support from the government facilitating the process, the respondents stated that they “*had to*” be satisfied with the above-mentioned ways through which they reach information and assess the outcomes of their decisions so far. These examples have

indicated that microentrepreneurs have to rely upon their subjective observations as well as kinship ties before starting to directly engage in the business and during the business. The finding is in line with the findings of the research conducted by McGrath et.al (2003) on software microentrepreneurs. Although the market within which the microentrepreneurs are operating is different than water market, the research similarly found out that the information exchange and advice networks were formed by strong tie relationships including family and friends.

Keeping the focus on the kinship relations and the importance of the social environment, the research has found that not only the information and advice but also the respect and encouragement come from the microentrepreneurs' families and friends. The majority of the microentrepreneurs (12 out of total 16 microentrepreneurs who participated FDGs and interviews) have relatives, family members and close friends who have been running also microenterprises, mostly WRSs. The issue of self-respect and respect in society becomes more motivating for those entrepreneurs who have grown up and currently live in an environment where entrepreneurship is appreciated as the common and preferred way of income generation. One of the informants whose primary occupation is advocacy, but simultaneously running a refill station as well, pointed that:

*“My father and brothers-in-law are operating three WRSs in Padang<sup>13</sup>. I have grown up in an entrepreneur family and been taught to use what I have in my hand to get one more step ahead.”(SIM-5)*

Furthermore, the respondents in FDG-M1 and FDG-M2 pointed that the attempts to increase individual wealth are culturally more appreciated than the attempts to increase the general welfare of the society. One of the representative examples agreed upon by all informants is as follows:

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<sup>13</sup> located in Sumatra Island.

*“The money we make through water sale brings greater respect than the respect we could possibly gain by fighting against the commercialization of water. Why should we invest our time and money in the latter, then?” (FDG-M2)*

These examples indicated that the respect and encouragement from families and friends, as institutions existing primarily in the non-market environment, have a profound role in making business decisions and investing the resources in income generating activities. To remind once more, organizations always make business decisions and perform activities under a certain degree of uncertainty (Klein, 1999). In this case, Syarif Hidayat observes, growing in an entrepreneur family and being closer to the information can result in a lower degree of uncertainty compared to other microentrepreneurs. It can create a mindset that the chance of profit making is higher for these microentrepreneurs compared to their rivals, which motivates them to enter the business.

The final factor motivating microentrepreneurs to start up a refill station is the tendency to take risks. The majority of the microentrepreneurs (10 out of 16) have at least one more income source such as a grocery, movie rental store or being an advocate as exemplified above, which gives them a certain degree of flexibility to take the risk of failure. They remarked that they feel flexible to take risks, even if there are no formal institutions providing guidance. It is because the second income source acts as insurance for any kind of failure in water business (SIMs). One of the microentrepreneurs, who is running a grocery store as well, stated a representative opinion:

*“If I failed in water sector, it wouldn't be the end of the world. I have already a grocery store which allows me to earn enough to go on.” (SIM-2)*

Microentrepreneurs' tendency to make further investments is in accord with what the literature suggests as well. Jaffee and Newman (2013: 5), drawing on Harvey's (2003) analysis, argue that the overaccumulated capital lies idle and it seeks for new ways to return to profitability in which water, as a product of nature, becomes a source of income generation and of further capital accumulation. This argument goes hand in hand with the issue of respect explained above.

Whenever the microentrepreneurs have extra capital of which they are not actively making use, they are deemed to “*be wasting money*” (SIM-1), which results in declining respect in society. The same informant further stated an opinion that summarizes the patterns of the relationship between accumulated capital, perception of insurance and entrepreneurship:

*“If we are talking about entrepreneurs –not civil servants, they would of course not hesitate to make further investments, especially in cases they would not lose all their money if they fail. This is why they are called entrepreneurs.”* (SIM-1)

It also indicates that the opportunity cost is only the interest rates if the microentrepreneurs hold their extra capital in banks instead of investing water business. Kadomae (2012) has found that the Indonesian middle class has been shifting their money out of deposit accounts into investments due to declining interest rates. It is not something unique to water sector, however; it gives an idea about the recent increases in the number of microentrepreneurs, which might be generating a spillover effect prompting them to consider entrepreneurship as an opportunity to take the advantage of the recent developments in the financial environment. While the focus here is on the practice of entrepreneurship itself; water, in particular, is regarded as a never-ending source of income in entrepreneurs’ social environments. In one of the interviews, it was remarked that:

*“It is almost impossible not to make profit if you are selling something everyone needs for their lives. I haven’t heard anyone who closed his refill station due to not making enough money – except one that had really bad water treatment.”* (SIM-10)

Informants were further asked how they decided to invest particularly in water business instead of other possible options, they commonly pointed that the business will be sustainable and profitable both in the short and long term due to the inefficient public service, urbanization and



growing population (FDG-M1, FDG-M2 and SIMs). Although they were aware of the deteriorating water resources in Jakarta and the surroundings, they were confident about the availability of many other springs from which they can supply drinking water in the future. They counted the following sources on which they base your ideas on the sustainability of the business: observations, informal discussions with family and friends, discussions on TV and newspapers.

All above the pieces of information pinpoint that the motivations of the microentrepreneurs are connected not only to monetary incentives taking place in market environment, but also to the incentives generated in non-market environment. It has been observed that they base their opinions mainly on their own observations and experiences, yet strengthen the subjective analysis of their environment with the information provided by families and friends, TV and newspapers which creates a full circle of information-action-appreciation. This is also in line with what Duffy (2010: 118) suggests: business in Indonesia depends on informal institutions and social relations rather than the guidance of legal structures. That is to say, for this research, information from non-market environment and the subjective analysis of the occurrences lead to the formation of motivations that are originated in both the market and non-market environments.

### **5.2.2 Challenges in Water Market**

It has been found that the microentrepreneurs running a WRS in Jakarta experience challenges in three main areas: lack of specific legal regulations addressing the rights of WRSs, lack of cooperation and the vulnerability to bad reputation. The discussion below includes the linkages between these three challenges.

The first challenge specified by the respondents is the lack of laws and regulations specific to water sale by WRSs (FDG-M1, FDG-M2). Property rights of water springs belong to the state, and water suppliers need to get an exploitation certificate to take the water out and transfer it to the WRSs, explained Budi Darmawan. WRSs do not need to hold any certificates, they are not even registered in the official municipality documentation or in the records or the Ministry of Industry, according to the informal discussion with the head of the department of Agriculture

under the Ministry of Industry. It is still unknown how many WRSs there are in Jakarta. Apdamindo holds the records of its customers; however, the other WRSs who do not supply water from Apdamindo members are not registered anywhere but only in the semi-official records<sup>14</sup> of the head of the neighbourhoods. Some microentrepreneurs they have to make regular payments to the head of their neighbourhoods, as an informal requirement. SIM-4 remarked that:

*“I make regular payments to the head of there neighbourhood. It is because I run my business there. It means, I too have to make contributions.”*

In FDGs, microentrepreneurs agreed on that they are willing to pay tax so long as they are officially recognized and their business rights are protected by law. This is in line with what the non-excludability and non-substitutability of drinking water indicates as well. As mentioned above, in such cases entrepreneurs try to turn water from a public good to a marketable good on legal basis so that they can involve in profit-oriented transactions by selling water in the market. The official recognition of their business would also mean the recognition of the sale of refilled water in WRSs. However, there appeared some contradictions in the individual interviews. It was stated that they already pay to the head of the neighbourhoods for the improvement of the public services with a purpose of having a good reputation and of building good relations with the neighbourhood heads (SIM-1, SIM-3, SIM-4, SIM-5, SIM-7, SIM-8). Paying for the reparation of broken street lamps is given as an example (SIM-5). Therefore, they noted that any other payments in form of tax would not be favourable for them even if the tax payments result in official recognition by the government. SIM-11 pointed out that:

*“I am doing ok without the recognition and guidance of the government. I would not be willing to pay taxes for something I do not need that much. It’s not worth it”*

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<sup>14</sup> These records are not specific to water refill stations. They are kept to depict the number of houses, enterprises and other utilities in a neighbourhood (Syarif Hidayat).

Addressing similar situations in one of her interviews, Elinor Ostrom advises that investing in the enhancement of the capabilities of those who directly deal with local conditions to coordinate themselves in interbedded enterprises is a better strategy to tackle resource problems than the implementation of theoretically optimal and idealized institutional arrangements (Aligica & Boettke, 2009), which is found in line with the opinions of microentrepreneurs.

The contradiction between the information obtained in FDGs and interviews provided insights on the fact that the microentrepreneurs show willingness and agree on taking actions to solve the problems when asked in groups; however, they become reluctant to take a step when asked in individual interviews. This pattern of behaviour is also underlined in research and literature suggesting that individuals usually cater their decisions according to the group dynamics (Lunenburg, 2010; Middleton, 2012).

Goldberg and Nellis (2008) observe that the investors usually remain unprotected in economies with weak institutional capacity, and they suggest that an enterprise reform must be embodied into a wider structural or institutional reform such as business environment reform, liberalization, public expenditure reform or social protection, which has not been observed in Jakarta case. Microentrepreneurs, in this regard, demand effective and fair regulations as basis for business transactions, effective property rights system and microcredits from government units so that they can boost their capacities in a self-sustaining manner (FDG-M1, FDG-M2). Rodriguez et.al (2012) suggest that an intermediary institution between the local government and private participant is needed when the service providers have difficulties in borrowing from commercial banks. However, microentrepreneurs are not in a situation to push the legal authorities to meet their demands. The difficulties in taking collective action hampers the enhancement of bargaining power in altering the existing legal structure, especially in enforcing laws and regulations which favor them (Budi Darmawan). It also blocks the information sharing among WRSs about technological developments, any recent regulations or the information of who cheats in quality and so on (SIM-8). The microentrepreneurs in FDG-2 came to the conclusion that cooperation is beneficial for everyone; however, they need an initiative to start the cooperation such as establishing a representative body reflecting their business interests. They believe problems can be solved somehow; however, no one is willing to take an individual step to start up the process. Moreover, they believe any kind of cooperation (building an association, for example) must be

initiated by legal authorities rather than individual attempts in order to be effective. They indicated that:

*“We need an association to defend our business rights, but it should be an initiative of the government. Otherwise, legal authorities would not care about the demands and claims of the association.”* (FDG-M2)

The underlying reason for the low level of cooperation has been found as competition in water business. Microentrepreneurs (FDG-M1, FDG-M2) pointed out that the competition they face with exist in two layers: the first one is among the WRSs and the second one is between the sellers of branded bottled water and WRSs. In the first layer of competition, the microentrepreneurs try to beat their rivals in two ways: stealing their galloons waiting to be collected in front of the houses and trying to employ workers who are already employed in another refill station and known for their decent personal hygiene (FDG-CT, FDG-CG).

Unlike what the institutional theory suggests, competition among the *players* in this case do not create better outcomes. It is because *“they are not trying to improve the quality of their water and delivery service. Instead, they are trying to worsen the services of their rivals”* (SIN-3). One of the non-customer households also pointed that:

*“How can we be sure they don’t cheat in the quality of water while they are stealing galloons in front of our door?”* (SIN-2)

In the second layer of competition, branded water sellers come into the stage. Since they are large companies holding adequate amount of capital and operating in larger scale; they frequently make advertisements on TV, newspapers and billboards. These advertisements usually emphasize the higher hygiene quality of branded water compared to piped water or groundwater based on laboratory tests. The common opinion in public is that these advertisements are reliable. The

WRSs do not have enough financial resources to publish such advertisements, or they do not need to because they operate only in limited areas (SIM-3). The tricky point is that these advertisements discourage the use of piped water and groundwater, which consequently favors the WRSs, Syarif Hidayat informs. Moreover, the comparative advantage of WRSs against the branded bottle water comes from their comparatively low prices. One of the customer households indicated that:

*“Those advertisements on TV must be true. Groundwater is not clean anymore. However, we cannot afford their [branded water’s] high prices. That’s why we prefer WRSs instead”* (SIC-2)

Combining all the points above, WRSs have been found vulnerable to bad reputation in society, which generates another challenge for them. Women in FDG-CG mentioned that the problems experienced with only one refill station are usually attributed to all WRSs. The perception on the WRSs depends not only on the personal experiences of the customers but also on how the microentrepreneurs and WRSs are regarded in society. A representative quote is as follows:

*“I haven’t had any problems so far, but I’ve heard that some people get sick due to refilled water [from other WRSs]. This makes me think twice on my water too”* (SIC-1)

The underlying reason for this perception in society has been found as the nature of the water. Although the colour, taste and scent of the water give an idea on its quality, a professional assessment cannot be simply made by the consumers (FDG-NT). For this reason, households tend to trust informal discussions in public, others’ experiences as well as the relationship between themselves and the owners and workers of WRS while making their choice. The importance of consumer trust in drinking water is also underlined by Lundéhn (2008) as it is a major factor to determine the level of reliance on the water source. In this regard, microentrepreneurs remarked their vulnerability to bad reputation in society. They indicated that they experience difficulties in

trust-building due to their small size and lack of support from formal institutions (Budi Darmawan, FDG-M1, FDG-M2). While large companies can easily build trust via their marketing strategies –even with their posters on the walls of the Ministry of Health, microentrepreneurs, they do not have enough financial resources for such marketing activities.

All above the pieces of information pinpoint that the challenges are mainly caused by the deficiencies in formal institutions such as lack of laws and regulations specific to WRSs. The discussion of Bhasin and Venkatamanary's (2010) is attributable to this case as well: They recommend that Indonesia should better implement meaningful policies that can effectively promote the development of small and medium enterprises (SMEs), especially in production, distribution and service sectors. Policies have to be market-oriented, demand-driven and not dominated by government agencies, which, in the past, failed to provide services relevant to the actual needs of SMEs. Although microentrepreneurs believe they can cope with challenges, competition restrains them having collective bargaining power to enforce desired regulations and formal recognition by the government. Being not supported by the government, they also face with difficulties in trust-building in public with regard to the hygiene of the water sold.

Overall, the discussion on the findings of the research question 1 concludes that the microentrepreneurs are motivated not only by the expectations of high ratio of profit, but also by the occurrences in the non-market environment such as family encouragement and growing in entrepreneurship families. The challenges they face with, however, mainly emerge in the market environment, which is connected to lack of regulations, competition, and vulnerability to bad reputation. As a result, the microentrepreneurs assess the income generation potential of drinking water sale in Jakarta by depending on their subjective analysis of the recent occurrences, which is fed by the information provided by families, friends, TV and newspapers as well as their individual experiences in business.

### **5.3 Externalities to which WRSs contributes**

This section provides answers to the research question 2: To what extent do the externalities generated by WRSs promote change in water market and society? The question aims at

understanding the larger impact that WRSs create in society, or at least the broader changes to which they contribute.

The perception of safe drinking water as a scarce resource and the fact that the government does not provide all households with adequate amount of water for their domestic consumption generate a collective mindset supporting the convenience of commercialization. It has been observed that WRSs are perceived as “*self-help and propelling organizations*” providing the services which the government and the municipality is incapable or unwilling to provide as already suggested by Bhasin and Venkatamanary (2010: 99). Hence, all respondent households, both the customers and non-customers, indicated that they are not against the commercialization of water. They further stated that they appreciate the existence of microentrepreneurs starting up WRSs. As suggested by (Alavian, 2008), society’s ability to adapt the changes in water supply is crucial to sustain the livelihoods. WRSs, in this regard, emerged as a result of this ability, and in return have contributed to it. In the FDG-NG, the housewives come up questioning the difference between rice<sup>15</sup> and a glass of water. They told that both are needed for survival; however, water is more scarce than rice. Therefore, “*it should be managed more wisely compared to rice. However, the government is not able to provide wise management due to the lack both of money to invest and of the experts to work on water issues*” (FDG-NG, 5.3). Since this is the common belief among the all participants, the households perceive the involvement of private entrepreneurs as inevitable and desired. Even the informants who do not currently supply their drinking water from WRSs think that they may need them sooner or later. One example is as follows:

*“I have been using groundwater for years, but what if it dries up one way? I am a woman without husband. How could I collect water from springs and carry it home if there were no WRSs?”*

*(SIN-4)*

Moreover; the existence of many WRSs and debates about them resulted in increasing public awareness on water, according to the semi-structured interviews with households. A major development is that people used to assess the quality of water by boiling in order to see the

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<sup>15</sup> Rice is the most commonly consumed food in every meal in Indonesia. They consume rice instead of bread.

residuals, or leaving the water under sun for a few days to see the colour changes (FDG-NT). However, now the increasing trend is that they take water samples to the public laboratory for professional analysis, which is for free. This can be considered as an example of what North (2007: 79) suggests: organizations directly or indirectly motivate the society to develop knowledge and skills, which in return will increase their profitability. Microentrepreneurs stated they do not directly engage in activities to increase awareness in the society such as collaborating with NGOs; however, their marketing strategy spontaneously results in the knowledge generation in society. SIM-9 explained:

*“I always talk with my customers about the ways to assess the water quality. It is because they can better appreciate my water if they can see the quality difference between my water and the others’ (SIM-9).*

Being complementary to the quotation above, both customer and non-customer households stated that they obtained most of their knowledge about water quality from the small brochures delivered by microentrepreneurs as advertisement, daily conversations with them as well as from TV and newspapers. The non-customer households do not buy water from WRSs however, they still live in an environment where discussions, about WRSs spread through word of mouth such as, rumors, complaints or admiration stories among neighbours, families and friends. One of the non-customer households remarked that:

*“The rumors about the low quality of refilled water and its potential consequences have prompted us to check our own drinking water sources as well“ (SIN-3)*

It has found that the existence of WRSs has non-purposively generated an increase in the awareness of water issues in society. It is caused not only by microentrepreneurs’ marketing



strategies but also by the fact the debates about the hygiene of refilled water prompt the society to question the quality and reliability of water sources they have been using.

Beside the increased awareness, the existence of WRSs in Jakarta has naturally generated one more outcome: now that the public is provided with more options that are affordable and available to them. WRSs have contributed to the breakdown of the monopoly power of branded bottled water and to the formation of water prices in the market, observes Syarif Hidayat. To remind again, a galloon of water bought from a refill station is three times cheaper compared to the branded one. An average household with 4 members pay for 200.000 rp/month for tap water, but it includes bathwater, cleaning water and other usages except drinking and cooking. Ground water is acquired for free in households' yards. In such a market situation, WRSs make a difference with their comparatively low prices. Having its sources on the comparatively low prices, WRS have been observed to contribute to the changes in budget allocations at the household level and money transfer in society. A customer household who used to buy branded water before switching to WRSs remarked that:

*“After switching to WRS, we now have slightly more money remaining in our hands. Now we buy more clothes and more fruits for our children.” (SIC-1)*

In line with it, women in FDGs were asked what they would do with the spare money if the water were completely free. They stated that they would buy better foods and more clothes. This can be inferred that although the low price of refilled water makes a difference, the spare money is spent on again consumer goods, and it does not turn to investments that could possibly generate further spillover effects. However, this situation results in the increases number of customers of clothes and food sellers, hence generates money transfer from water sellers to the other sellers. In addition to the low prices, Gleick (2002) states that the reliance on refilled water is encouraged by the publicly reported problems with piped water and groundwater. This is what has been observed in Jakarta case as well. When households have water sources whose quality they cannot be sure about, they turn to refilled water. The example below shows how the WRSs play role in shaping water preferences from this perspective:

*“Boiling groundwater every time we need is time consuming and more expensive than buying from the WRS. Now we don’t have to bother with boiling” (SIC-1)*

Although Gleick’s discussion is valid for this case, it is still cannot claim that the public perception on WRS are completely positive. As mentioned above in the discussion of the challenges experienced in the market, WRSs have problems with trust building in society due to the competition among them and to the lack of specific laws and regulations. Vial (2011) reminds that higher-quality formal institutions and infrastructure boost entrepreneurship while corruption at the government level demotivate participants and results in seeking alternative ways to reach the desired goals. Making business in a country known with bribery and corruption stories (Fox et.al., 2005: 92), the microentrepreneurs started up *“good communication”* with a member of the parliament who is *“willing”* to defend their interests. Duffy (2010: 118) also suggests that good relationships between the entrepreneur and the relevant bureaucrat help to *“facilitate the procedures”* (Duffy, 2010: 118). In return, the households stated that the government should put decent control mechanisms over the WRSs, such as making the health certificates an initial requirement to start up the WRSs. In doing so, their *“trust would automatically increase”* (SIN-2).

In summary, looking at the issue from both the consumer and the sellers sides, it is inferred that the government is perceived as both the cause and the solution of the problems in water management, which has already been well-articulated by Marifa (2005: 248): *“Government institutions in Indonesia are viewed as a source of hope as well as a source of constraints in relation to natural resource management.”* In particular to the consumer, they believe the government is responsible for water distribution; however, it does not act that way. Getting used to living with it, the society now demands decent control mechanisms on the hygiene of water supplied by WRSs. From the perspectives of microentrepreneurs, they emphasize that they are suffering from the guidance of the government as a higher authority. Again, getting used to living with it, they now demand incentives from government so that they can take actions to increase their capabilities on their own.

A closing note should be added that the variations in income levels of households do not have a significant impact on the choice of water source. Instead, perceptions of the hygiene shape the choices. Similarly, the Apdamindo membership has not been observed as making a difference in the value of annual sales or in the perceptions on water market.

## **6. CONCLUSION**

The case of WRSs in Jakarta water market clearly shows that the involvement of private capital in the provision of public services is inevitable when the government is not able or willing to efficiently provide services. UNCTAD (2008) informs that this is a matter of fact especially for developing countries holding inadequate financial resources to fund the improvements in the infrastructure of water, electricity, transportation or telecommunication. The capital needed for such investments is usually generated by privatization of public utilities. However, OECD (2008) criticizes, the infrastructure improvements require high amount of capital to be invested by private companies, which leads to an increase in the prices of public services. It is of particular importance for developing countries like Indonesia where the majority of consumers cannot afford the high prices. Consequently, private companies exit the market due to low level of return to their initial investments.

In an environment where the infrastructure of public services are not efficiently managed by either the government or private companies, the society looks for self-sustaining practices they can rely on. Individual microentrepreneurs come into the stage with the purpose of catching opportunities of income generation by serving to the interest of society. They engage with institutions both in market and non-market environments in taking economic decisions, assessing potential gains, loses and the likelihood of future scenarios, and they get motivated or challenged by the institutional framework in the society. In return, microentrepreneurs contribute to these institutions, and play a role in shaping the prices and preferences in the market.

This process has been observed in Jakarta as well. Going through a historical process of commercialization of water, microentrepreneurs have spontaneously learnt how to involve in the process to increase their self-interests through creativity, imitative capacity and social learning. In

return, they have, again spontaneously, contributed to the society's ability to self-sustain and adapt new conditions.

In particular, the research has found that the deteriorating water resources as well as the inefficient water distribution by the government have prompted the microentrepreneurs to open WRSs as self-arranging organizations. The main motivations to start up a refill station rely upon the expectation of high rate of return to investment and the respect gained in society, while the main challenges occur due to the lack of legal regulations specific to WRSs and competition among microentrepreneurs. Although there are problems experienced in the market, the research concludes that both the sellers and the consumers are satisfied with the existence of WRSs and the water market in Jakarta. Even though the hygiene of refilled water is still questionable to a certain extent, the consumers appreciate the increase in the available and affordable options in general.

However, the involvement of private entrepreneurs in distribution of water may reduce the motivation of the government to make an effort to solve the problems in the infrastructure. It implies a risk of unequal distribution of natural resources in the long term, which is of importance considering especially the poorer households who cannot afford to participate in the market. Therefore; fully generalizable results await future research.

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## APPENDIX

### 1. DEFINITIONS

**Commercialization of Water:** It means involvement of private entrepreneurs in the management of water resources and in the distribution of water emphasizing private sector norms, “*which center in profit making and maximized efficiency*” (Pavri et.al, 2009).

**Cost Recovery:** “*The ability of a service provider to take in sufficient revenues from customers to cover their current and future costs*” (Rodriquez, 2012: 20).

**Safe Drinking Water:** Water that is required for all domestic activities including drinking, cooking, personal hygiene, because it does not pose any significant risk to health over a lifetime of consumption (WHO, 2011: 2).

**Excludability:** Excludability is a legal concept and an excludable good is one whose ownership provides the owner with the privilege to use it while prevents others from enjoying it (Dalby & Falley, 2006: 73).

**Externalities:** Externalities occur when the activity of a party results in unintended loss (negative externalities) or gain (positive externalities) in welfare of other parties, without compensating the change in welfare (Daly & Falley, 2006: 175).

**Free riding:** It “*refers to the absence of contribution towards the provision of a public good by an individual even though he or she will not be excluded from benefiting from that good*” (Marwell & Ames, 1981: 296).

**Privatization of Water:** Involvement of private sector in the management of water resources, distribution and sanitation through either partnership agreements or the sale of entire resources (Hukka & Katko 2003).

**Rivalness:** Rivalness is an inherent characteristic of a good and a rival good is one whose use by a person decreases the chance of its use by others decreasing the amount available (Dalby & Falley, 2006: 73).

## **2. GUIDANCE FOR DATA COLLECTION**

Regarding confidentiality, it was clarified not only that everything told during the discussions would stay confidential, but also by taking part in these discussion the informants were deemed to have accepted not to share the information with outsiders. Starting with a briefing on the purposes of the research, interview procedures, confidentiality and interviewees' right to access to the transcription and the thesis, (Kvale, 2007: 36), their informed consent were obtained. As Dewalt and Dewalt (2002: 54) suggest, the researcher and the translators exchanged contact information with each participant in case some of them might be in need of further information.

### **Informed Consent**

Rabia Bayer, the researcher, is an MSc candidate at Lund University in Sweden. The research, which she is going to build her thesis upon, sets out to provide insight on the commercialization of water in Jakarta and on WRSs in particular. The discussion is conducted for academic purposes. The information respondents provide will stay confidential and not be shared with any persons. You may stop the discussion whenever you feel uncomfortable.

**Thank you for your participation!**

## *Guidance for the FDGs with Microentrepreneurs*

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and/or Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

### *Warm-up Questions*

Annual Income / Profit Levels:

When did you start the water business:

What did you use to do before this business:

### *Questions*

1. What are the reasons for you to enter water business? How did these reasons motivate you to take action and invest your resources in water resources? Why did you choose particularly to open a water refill station? What were your information sources that enabled you to come up with conclusions?
2. Businessmen need knowledge and skills to run their business and make decisions. What do you need to know to run your refill stations? How have you acquired these skills? Have you spent time and/or money? How long has it taken you to acquire these skills and information? To what extent do these information sources enable you to make correct decisions?

3. The water management rights were privatized in 1997. Some of you were in water business at that time, some of you were not. How did these events affect your perceptions on the commercialization of water?

4. What are the advantages or/and constraints you experience as a result of the formal institutional framework including laws, policies and water regulations?

5. What are your opinions on Water Law 2004, which enables private capital to involve in water-related issues such as water infrastructure and providing drinking water to households?

6. What would you say about the competition in water business?

a) between refill stations and large companies

b) among refill stations

7. Do you think Indonesian traditions and customs related to water have a role in water business? How?

8. What are your basic strategies to maximize profitability? How do you know that these strategies work? (Trial and error, learning from others, observations etc.)

9. To what extent are you willing to take risks to solve your business problems?

10. What do you say about the competition in your business environment? To what extent do the competition and cooperation among yourselves help you to maximize your individual profitability?

11. To what extent do you have bargaining power with:

a) policy makers (what if they want to make a regulation that will probably decrease your profitability?) b) customers (what if they don't want to buy from you anymore as a result of change in prices or preferences?)

12. To what extent do you collaborate with other stakeholders of water resources: society, government and NGOs? How and why? Are you willing to collaborate further?

**Thank you!**

## *Guidance for the FDGs with customer households*

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

### *Questions*

1. Why do you get your drinking water from vendors / refill stations? (If the respondent switched the sources, what were the reasons?)
- 2- What is your opinion on the sufficiency, sustainability and quality of water resources in Jakarta? (i.e. ground water, rivers, lakes etc.)
- 3- Based on your personal opinion, how do refill stations make profit out of this water business? Some people say that refill stations make profit because they exploit the mountain sources at a low cost. What is your opinion?
- 4- What do you think on the commercialization of water in Jakarta? How did it start and why? Why and when refill stations started to appear everywhere?
- 5- What do you think would happen if there were no one selling water for profit?
- 6- What is your opinion on the legal framework within which water vendors operate, particularly on their licenses and quality controls by the Ministry of Health?
- 7- What is your opinion on the legal framework the government builds for commercialization of water?
- 8- How would you spend your spare money if you did not pay for water?

**Thank you!**



## ***Guidance for the FDGs with non-customer households***

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

### *Questions*

1- Why do you use ground water / pipe water / branded water for drinking? For how long?

2- How did the commercialization of water start, in your opinion?

3- Some people say that the inefficient government management of these water resources and law / policies put by the government have prompted private entrepreneurship providing drinking water to households. What is your opinion? Do people need water provided by them or is it just a matter of choice?

4- What do you think would happen if there were no one selling water for profit?

5- Some people argue that water sellers are opportunists taking advantage of households with no safe drinking water sources, while others see them as clever entrepreneurs creating employment and providing service in society. What is your opinion on this issue?

6- Have you had any complaints about the water resources you use? Any health cases? What is your satisfaction levels? What is the case in your environments? Have you heard any complaints / health cases from others?

7- What do you think about the commercialization of water and the Indonesian water traditions such as, water is a gift from God and should be available to everyone equally? Examples?

8- How would you spend your spare money if you did not pay for water?

**Thank you!**

## *Guidance for Semi-Structure Interviews with Microentrepreneurs*

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

1- When did you start your business? Your annual profit level?

2- What were you doing before this business? Did you give up something for being in water business? What is it?

3- Water management right were privatized in 1997. You were / were not in water business at that time. How did it affect your ideas about water commercialization? How did you come up with this conclusion? Did it affect your expectation from water business?

4-Businessmen need information to make their business decisions. What do you need to know to run a profitable water business? What are your sources of information? What is the cost of reaching those information sources? To what extent are that information sources sufficient enough enabling you to make correct decisions? Are they worth investing in your financial / physical resources?

5- What are the advantages / constraints brought to water business by the formal institutional structure such as, law, policies and regulations on water business? What would you say about property rights of water? (Who owns water resources, who should, to what extent etc.) What would you say about bankruptcy law in Jakarta / Indonesia?

6- What are the advantages / constraints to water business by the informal institutional structure such as, traditions and customs about water sale in society? To what extent, you think, are the

legal regulations in line with public traditions and norms about water? To what extent are you, as a businessman/woman, willing to take risks to solve your business problems?

7- What would you say about competition in water business, among all players from foreign private companies to local microenterprises? To what extent do the competition and corporation among other vendors help you to make maximize your wealth?

8- What do you do to maximize your business profitability? What are your entrepreneurial skills needed in this business? What kind of actions do you take to preserve these skills?

9- Do you make any contributions to encourage the society to look at the issues that in return increase your profitability through increased knowledge and reversal perceptions on water sale? (i.e. campaign about Jakarta water resources, about water and health issues, cooperation with government official and NGOs to increase water awareness etc.) To what extent do you, as vendors, cooperate with other stakeholders such as public, politicians and NGOs?

10- How do you respond price and preference changes? How would you assess your bargaining power with customers, non-customers and policy makers? Are there any factors preventing you from taking the necessary steps? (i.e. qualification of rules, policies and law, habits of society)

**Thank you!**

## *Guidance for the Semi-structured Interviews with Customer Households*

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

The Interviewees':

Occupations:

Monthly average income:

Amount they pay for drinking water per month:

Other drinking water sources available:

Date they started to buy water from vendors:

### *Questions*

1- Which water sources were you using before switching to refill stations? Why did you switch to WRSs? What benefits have you observed so far?

2- Sale of bottled water boomed in 1990s and the water management rights were privatized in 1997. You were / were not paying for your drinking water at that time. How did these events affect your ideas about water commercialization? How did you come up with this conclusion? What are your sources of information?

3. We all need information to make our economic decisions. What do you need to know to efficiently allocate your money in buying water? How do you make the decision to which water source to use? What are your sources of information? What is the cost of reaching those information sources? To what extent are those information sources sufficient enabling you to make correct decisions? Are they worth your time and efforts?
4. What do you think about Water Law 2004? Law No.7 of 2004 mandates that water resource management funding sources may come from government budgets as well as private sector.
5. What would you say about property rights of water in Jakarta? Who owns water resources and who should in an ideal world? To what extent?
6. What would you say about competition you observe in water business, among all players from foreign private companies to small local enterprises? How does it affect you as customers? Can you please give examples of some of your experiences so far?
7. What would you say about Indonesian traditions on water and the consistency between these traditions and water commercialization?
8. If government institutions or water vendors organize some events to increase water awareness, would you take part in these events? Would you be willing to collaborate with them? (i.e. campaign about Jakarta water resources, about water and health issues, cooperation with government official and NGOs to increase water awareness etc.)
9. To what extent do you experience changes in water prices and hence the preferences? How do you respond these changes? What factors motivate or constraint you to take the necessary steps?
10. How would you assess your bargaining power with vendors and policy makers? What do you do if there is something going on in water market that you think you will be worse off as a result of it?
11. To what extent do you cooperate, or come together and discuss about water issues with other households and your neighbours?

12. Do you follow the legal process about water issues in Jakarta? (regulations or laws enforced by the official authorities etc.) To what extent are they in line with traditions and norms of water usage in society, on your opinion?

13. What would happen if there is no one selling water? What is the role of government in providing drinking water to households? What would you say about the Jakarta municipality's capacity to provide safe drinking water to its citizens?

14. What are the problems you experience with reaching drinking water in Jakarta? What can be the solutions for these problems?

15. What kind of differences do their existence make a difference in your life? Please give examples considering broader issues related to your life and the neighbourhood.

**Thank you!**

## *Guidance for the Semi-structured Interviews with Non-customer Households*

**Interviewer:** Rabia Bayer

**Interpreter:** Clara Saigan and Ardi Nuswantoro

**Starting Time:**

**Finishing Time:**

**Venue:**

The Interviewees':

Occupations:

Monthly average income:

Amount they pay for drinking water per month:

Other drinking water sources available:

Date they started to use the water source they are currently using:

1- Why do you use ground water / pipe water / branded water for drinking? For how long? Any complaints? Have you heard any complaints from your environments, family and friends? To what extend are you satisfied with your drinking water?

2- Some people say that the inefficient government management of these water resources and law / policies put by the government have prompted private entrepreneurship providing drinking water to households. What is your opinion? Why do you think so?

4- What do you think would happen if there were no one selling water for profit? What do you think about the sustainability of your water source? Which water source would you switch to if your source were no longer available?

5- Some people argue that water sellers are opportunists taking advantage of households with no safe drinking water sources, while others see them as clever entrepreneurs creating employment and providing service in society. What is your opinion in this issue?

6- How do you consider the profitability of water business in Jakarta? How have you come up with this conclusion? How do you know about all these?

7- What do you think about the commercialization of water and the Indonesian water traditions such as, water is a gift from God and should be available to everyone equally?

8- Although you are not a customer of WRSs, do you think their existence make a difference for your own life? Please give examples considering broader issues related to your life and the neighbourhood.

**Thank you!**



## **Guidance for the Semi-Structured Interview with Syarif HIDAYAT**

**Interviewer:** Rabia BAYER

**Interviewee:** Dr. Syarif HIDAYAT

**Starting:** 07.12.2012 10:00

**Finishing:** 07.12.2012 12:00

**Venue:** Mr. HIDAYAT's office, LIPI

### *Questions*

1-How would you describe the water business in Jakarta in general? I would appreciate a brief summary on the issues since the foundation of Indonesia in 1945?

2-What reasons do you think have prompted the boom of refill stations?

3-How do you think the society perceive the economic value of water? What factors affect this perception?

4-What do you think on the legal framework within which water vendors operate? Is it effective enough?

5- What kind of impacts do refill stations have upon the society?

6- What are the externalities generated by refill stations in Jakarta, according to your opinion?

**Thank you!**

### **3. CODING**

#### **3.1 Codes**

**FDG-M:** FDG conducted with microentrepreneurs

**FDG-C:** FGD conducted with customer households

**FGD-N:** FDG conducted with non-customer households

**SIM:** Semi-Structured Interviews with Microentrepreneurs

**SIC:** Semi-Structured Interviews with Customer Households

**SIN:** Semi-Structured Interviews with Customer Households

### 3.2 Microentrepreneur Informants

Codes	Year <sup>16</sup>	Annual Sales <sup>17</sup>	Apdamindo Member	2 <sup>nd</sup> Source of Income	Entrepr. Family & Friends	Location	Gender
SIM-1	1990	210	Y	N	N	Tanah Abang	M
SIM-2	2007	120	Y	Y	Y	Menteng	F
SIM-3	2001	150	N	Y	N	Senen	M
SIM-4	1999	170	Y	Y	Y	Johar Baru	M
SIM-5	2012	NA	Y	Y	Y	Menteng	M
SIM-6	2007	175	N	N	Y	Gambir	F
SIM-7	2003	190	Y	N	Y	Cempata Putih	F
SIM-8	1993	225	N	N	N	Kemayoran	M
SIM-9	2000	100	N	Y	Y	Senen	F
SIM-10	2007	110	N	Y	N	Kemayoran	M
SIM-11	2009	150	N	N	Y	Senen	F
SIM-12	2001	120	Y	Y	Y	Johar Baru	M
FGD-11	2003	190	N	Y	Y	Sawah Basar	F
FGD-12	2004	160	Y	N	Y	Cempata Putih	M
FGD-21	2009	110	Y	Y	Y	Gambir	M
FGD-22	2010	70	Y	Y	Y	Tanah Abang	M

*FDG-M1* was comprised of: SIM-1, SIM-2, SIM-3, SIM-4, F-11 and F-12

*FDG-M2* was comprised of: SIM-5, SIM-6, SIM-7, SIM-8, F21, and F-22

*Semi-structured Interviews* were conducted with from SIM-1 to SIM-12.

<sup>16</sup> Starting year

<sup>17</sup> Million Rupiah

### 3.3 FGDs with Households

#### *FDG with Customer Households in Gambir (FDG-CG)*

<b>CODING</b>	<b>SINCE WHEN</b>	<b>AGE</b>	<b>INCOME</b>
3.1	2010	37	100
3.2	2004	40	130
3.3	1998	51	90
3.4	2000	42	150
3.5	2012	29	120
3.6	2010	38	130

#### *FDG with Customer Household in Tanah Abang (FDG-CT)*

<b>CODING</b>	<b>SINCE WHEN</b>	<b>AGE</b>	<b>INCOME</b>
4.1	2008	31	100
4.2	2003	36	120
4.3	2007	34	120
4.4	2000	47	150
4.5	2008	49	80
4.6	1999	32	90

*FDG with Non-customer Households in Gambir (FDG-NG)*

<b>CODING</b>	<b>WATER SOURCE</b>	<b>SINCE WHEN</b>	<b>AGE</b>	<b>INCOME</b>
5.1	Branded	2007	36	<b>120</b>
5.2	Branded	2001	38	<b>140</b>
5.3	Ground	1997	47	<b>80</b>
5.4	Ground	Not remember	54	<b>130</b>
5.5	Piped	1990	49	<b>70</b>
5.6	Piped	1990	57	<b>80</b>

*FDG with Non-customer Households in Tanah Abang (FDG-NT)*

<b>CODING</b>	<b>WATER SOURCE</b>	<b>SINCE WHEN</b>	<b>AGE</b>	<b>INCOME</b>
6.1	Branded	2005	36	<b>120</b>
6.2	Branded	2000	44	<b>90</b>
6.3	Ground	1994	46	<b>90</b>
6.4	Ground	1992	45	<b>80</b>
6.5	Piped	Not remember	43	<b>60</b>
6.6	Piped	1994	57	<b>80</b>

### 3.4. Semi-structured Interviews with Households<sup>18</sup>

<b>CODING</b>	<b>LOCATION</b>	<b>WATER SOURCE</b>	<b>INCOME</b>	<b>YEAR</b>
SIC-1	Gambir	WRS	100	2010
SIC-2	Tanah Abang	WRS	120	2003
SIN-1	Gambir	Branded W.	120	2007
SIN-2	Tanah Abang	Branded W.	90	2000
SIN-3	Gambir	Groundwater	130	Not remember
SIN-4	Tanah Abang	Groundwater	80	1992
SIN-5	Gambir	Piped Water	70	1990
SIN-6	Tanah Abang	Piped Water	60	Not remember

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<sup>18</sup> Informants for interviews were chosen among the participants of FDGs .

#### 4. CONCEPTS GENERATED DURING THE DATA COLLECTION AND THE ANALYSIS

CONCEPTS	DEFINITIONS
<b>Market Environment</b>	
<b>Initial Capital</b>	The amount of money to start up a refill station
<b>Competition</b>	Microentrepreneurs' attempts to get a bigger share of the whole water market and hence to make greater profit compared to their rivals
<b>Cooperation</b>	Microentrepreneurs' attempts to come together and act collectively with the purpose of generating better outcomes and desired impacts in financial, legal, social areas
<b>Bargaining Power</b>	The entrepreneurs' power to manipulate and convince the other side, the governmental authorities and the customers in this case
<b>Water Prices</b>	The prices paid by the consumers of tap water, ground water, bottled water and of refill stations
<b>Risk-taking</b>	Flexibility of taking risks, such as borrowing loans or making investments under uncertainty
<b>Non-market Environment</b>	
<b>Family Effect</b>	Encouragement from entrepreneurs' families
<b>Reputation</b>	General opinion in society on refill stations as a result of a set of ideas and events
<b>Trust</b>	Reliance of the informants on the other parties while taking their economic decisions
<b>Society's Increased Awareness</b>	The increase in the level of awareness in the societal level, on such issues: quality of water, public management of water resources, efficient distribution of drinking water etc.
<b>Water Issues</b>	
<b>Water Quantity</b>	The amount of water accessible and affordable both to the households as consumers and to the entrepreneurs as sellers
<b>Water Quality</b>	The condition of water, its suitability for drinking. It also includes the degree of risk of carrying bacteria that might cause diseases
<b>Distribution of Water</b>	Distribution of drinking water from springs to households for the final use –by the government or by the private sector
<b>Water Preferences</b>	Choice among the four different sources of water: piped water, ground water, branded bottled water and refill stations

## 5. Permission Letters obtained from the Ministry of Foreign Affairs, Indonesia



**PEMERINTAH PROVINSI DAERAH KHUSUS IBUKOTA JAKARTA  
SEKRETARIAT DAERAH**

Jl. Medan Merdeka Selatan No. 8 - 9  
JAKARTA

Kode Pos 10110

Nomor : 4309/072.1  
Sifat :  
Lampiran : 1 (satu) lembar  
Hal : Permohonan izin penelitian a.n Sdr. Rabia Bayer

Jakarta, Desember 2012

Kepada

Yth. (nama-nama terlampir)

di  
Jakarta

Bersama ini saya sampaikan hal-hal sebagai berikut:

1. Sehubungan surat terlampir, Mrs. Ellen Hillbom, Ph.D, Dosen Professor Sejarah Ekonomi pada Universitas Lund, Negara Swedia telah menyampaikan permohonan kepada Pemprov DKI Jakarta, cq. Kepala Biro KDH dan KLN untuk membantu dan memfasilitasi mahasiswi S2 (Program Master Degree - International Development and Management) bernama Ms. Rabia Bayer yang saat ini sedang melakukan magang di UNDP (United nation Development program) PBB, di Jakarta, agar dapat difasilitasi untuk melakukan penelitian mengenai pengelolaan air di Pemprov DKI Jakarta.
2. Penelitian dimaksud meliputi 4 (empat) hal, yaitu :
  - a. Persepsi/pandangan mengenai air sebagai sumber pemasukan (mengingat kebutuhan akan air bersih yang semakin terbatas) ?.
  - b. Sejauh mana perusahaan asing/ investasi asing berdampak dalam persepsi pandangan ini?
  - c. Bagaimana kita bisa memposisikan diri terhadap pedagang-pedagang air yang tidak terdaftar (illegal, belum teregistrasi secara legal hukum) dalam proses perdagangannya?
  - d. Bagaimana mereka berinteraksi terhadap dampak positif atau negative dari perubahan undang-undang atau reformasi public?
3. Mrs. Ellen Hilboom juga berjanji bahwa hasil penelitian tersebut hanya akan digunakan untuk keperluan akademis saja dan tidak akan digunakan untuk hal-hal yang bersifat komersil dan bertentangan dengan hukum dan etika pemerintahan dan masyarakat yang berlaku di Indonesia. Hasil laporan penelitian tersebut juga akan diberikan kepada instansi-instansi yang terlibat sebagai bahan masukan akademis.
4. Mengingat waktu penelitian yang sangat terbatas karena mahasiswi tersebut Ms. Rabia Bayer harus kembali ke Swedia pada bulan Januari 2013, maka diharapkan agar Pemprov DKI Jakarta dapat memfasilitasi dan membantu penelitian dimaksud dengan memberikan data/informasi dan melakukan interview mengenai pengelolaan air dimaksud.



Sehubungan dengan itu, mohon kiranya Saudara dapat membantu memfasilitasi kegiatan Penelitian dimaksud dan menerima kunjungan mahasiswa (peneliti) dimaksud ke Instansi Saudara dalam waktu dekat.

Untuk konfirmasi lebih lanjut, kiranya dapat berkoordinasi dengan staf Bagian Kerjasama Luar Negeri, Biro KDH dan KLN Setdaprov DKI Jakarta atas nama **Luqman Abdurrahman** (Hp : 081220117777, tlp: 382.2398 ), atau berhubungan langsung dengan sdr. **Ms. Rabia Bayer** (08881403649)

Atas perhatian dan kerjasama Bapak, saya ucapkan terimakasih.

KEPALA BIRO KEPALA DAERAH DAN KERJASAMA  
LUAR NEGERI SETDA PROVINSI DKI JAKARTA



IRMANSYAH  
NIP 196601121987101001

Tembusan :

1. Sekda Provinsi DKI Jakarta (sebagai laporan)
2. Asisten Pemerintahan Setdaprovinsi DKI Jakarta (sebagai laporan)

Lampiran Permohonan izin penelitian Kepala Biro KDH dan KLN Setdaprov DKI Jakarta,  
Nomor: /

1. Kepala Badan Kesatuan Bangsa dan Politik Provinsi DKI Jakarta
2. Kepala Bappeda Provinsi DKI Jakarta
3. Kepala BPMP Pemprov DKI Jakarta
4. Kepala Biro Tata Pemerintahan Setdaprov DKI Jakarta
5. Kepala Dinas Pekerjaan Umum Pemprov DKI Jakarta
  - Up. 1. Kepala Bidang pengelolaan sumber daya air
  2. Kepala Bidang prasarana dan sarana jaringan utilitas
6. Kepala Dinas Perindustrian dan Energi Provinsi DKI Jakarta
  - Up. 1. Kasi Industri kecil dan menengah
7. Kepala Dinas Koperasi, usaha mikro, kecil dan menengah dan perdagangan Provinsi DKI Jakarta
  - Up. 1. Kepala Bidang Usaha, Mikro, Kecil dan Menengah
  2. Kepala Bidang Perdagangan Luar Negeri

Jakarta, Desember 2012

KEPALA BIRO KEPALA DAERAH DAN KERJASAMA  
LUAR NEGERI SETDA PROVINSI DKI JAKARTA



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