ENVIRONMENTAL SOCIAL ENTERPRISES
IN EAST JAVA INDONESIA

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This research explores the probability of leads community or individual in adopting social enterprise principle and the probability in supporting environment movement as volunteers. The evaluation of partnership strategy between social enterprises and beneficiaries as new social ventures beneficiaries is commenced to figure out a probability to be a win-win game. The research indicates that there is huge potential to all parities to allocate its minimum resource to run up against the huge risk. Hence, community pressure has become a key determinant for the direction of public-private partnership advanced.

Keywords: social enterprise, community pressure, game theory

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CHAPTER 1
INTRODUCTION

1.1. Background of Research
Social enterprise has grown as a third-way global concept to go beyond economic objectives toward more social or environmental purposes. This new class of society has gained recognition to run up against both market and government failure with social enterprises. Various strands of theoretical inquiry have already attempted in-depth analysis of entrepreneurial non-profit organizations and cooperative firms.

The initiative has emerged with various models. European Union strongly supports the initiative of social enterprise with long tradition of welfare state model (Defourny and Nyssens, 2010), while venture philanthropy is a quite popular model in the US. In Latin America, social entrepreneurship has been emerging with cooperation model and the social entrepreneur model in Asia has enhanced with integration between civic society and state (Nicholls, 2006; Defourny and Kim, 2011).

However, social entrepreneurship orientation and social innovation have received less attention in the context of an equally significant set of inter-organization transactions and partnerships. In developing country, Drucker (1985) called the entrepreneur process as “creative imitation” refers to the way they adopt production process from elsewhere in the world.

1.2. Problem Statement
The problem identification is constructed under three important research gaps, namely: Anthology gap, Epistemology gap, and Axiology gap. The following are the descriptions on the three gaps in constructing the problems in relation to environmental social enterprises:

Anthology (theoretical gap): This model has sparked off ‘social’ disequilibrium in which new ways of conceptualizing as well as developing a wider range of products need to be taken into account (Nicholls and Co, 2008). Developing the right definition of social entrepreneurship is still a huge challenge (Borganza et al, 2010).
**Epistemology (empirical gap).** Most of researches on social entrepreneurship have addressed embryonic states. Short (2009) indicates that previous literatures of social entrepreneurs were more conceptual articles than empirical studies. Recent research still examines new models of social enterprises (Lumpkin et al, 2011; Sondhi and Tang, 2011; Diaz-Foncea and Marcuello, 2012; Cardon et al, 2012). According to Nicholls (2007), as with most scholarship on social entrepreneurship to date, the academic limitations of an applied subject are clearly evident in some of the contributions (theory is sometimes poorly articulated and presented monologically; there are no major empirical studies used.

**Axiology gap (application):** According to Bornstein (2007), the huge bottlenecks of social enterprise were fragmented financial resources and lack of highly talented people. Hudon (2007) proposes right to credit as instrumental to economic development, though some critics from Libertarian. Many scientific and political approaches doubt the sustainability of social enterprises due to their entrepreneurial nature and their autonomy (Borganza et al, 2010). EMES Research Network encompassed several unexplored dimension, such as creation process, social innovation, that lately have attracted research attention in the area of entrepreneurial orientation. The concept of social enterprise varies from region to region, even in Asia (Defourny and Kim, 2011).

### 1.3. The Research Questions
Schumpeter (1949; 1991) points out that entrepreneurship prompts the disruptive creation of new models and techniques as a critical driver of social change, the research will raise major question:

- What leads community or individual want to adopt a social entrepreneurship principle and support environment movement as a volunteer?
- To what extend the partnership strategy of social enterprises takes place? How can alliances among communities, such as partnership between non-profit organizations and corporations be configured to be win-win game?
1.4. Aims and Objectives of the Research
The aim of the research is to explore the probability to adopt social enterprise principle.

1.5. Scope of Study
The study explores the work of environmental social enterprises with specific issue of recycle waste management.

1.5. Expected Significant Contribution
The research seeks to contribute to the social enterprise principle through enhancing the competitive advantage. This research is expected to be able contribute to the debate the social entrepreneurship forum, especially in EMES Social Entrepreneurship Networks in Europe.
2.1. Definitions of Social Entrepreneurship

In line with entrepreneurship in general, social entrepreneurship specifically is emphasizing the wide range of purposes, such as reducing poverty, promoting education, feeding the hungry, or conducting environment conservation. Phills and Denend (2005) notice that the activities of social entrepreneurship take place in which the entrepreneurs prioritize social impact with entrepreneurial skills and leveraging market principles. Murphy and Coombes (2009) define social entrepreneurship as the creation of venture to gain specific social goal.

Though the term of social entrepreneurship has been emerging in literature since 1960s, the conceptual boundaries of social entrepreneurship appear to be contested. The Nicholls (2006) identifies two schools of thought, namely Social Enterprise Knowledge Network (SEKN) and EMES European Research Network. The SEKN tends to promote good governance approach of social enterprise model. This first network is associated with Harvard Business School and Latin universities, while the second network is in line with European Union policy to promote social economy approaches. The school of thought believes that greater transparency and sharing knowledge with asset mobility are the best strategies to overcome the economic crisis and environment degradation (e.g. Alvord et al, 2005; Eccles and Krzus, 2010; Nielsen and Carranza, 2010;).

Table 1: The Definition of Social Enterprises

<table>
<thead>
<tr>
<th>Authors</th>
<th>Definition</th>
<th>Context</th>
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<tbody>
<tr>
<td>Stefanie Mauksch, (2012),&quot;Beyond managerial rationality: exploring social enterprise in Germany&quot;, Social Enterprise Journal, Vol. 8 Iss: 2 pp. 156 – 170</td>
<td>SE is the way to fulfill the goal of organization and to meet the clients’ expectation, instead of managing with more cost-efficiently.</td>
<td>Welfare country</td>
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<td>Peter R Elson, Peter Hall, (2012),&quot;Canadian Social Enterprises: Taking Stock&quot;, Social Enterprise Journal, Vol. 8 (3)</td>
<td>The operational definition of SE should refer to some arbitrary measure of revenue or size, such as the 25% market-based income threshold.</td>
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<tr>
<th>Source</th>
<th>Description</th>
<th>Context</th>
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<tr>
<td>UK Government</td>
<td>The business which reinvesting its surpluses for both community and its self, instead of maximizing profit for shareholders.</td>
<td>Legal statement</td>
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<tr>
<td>Alex Nicholls (2006). Social entrepreneurship: new models of sustainable social change, Oxford University Press</td>
<td>SE is the intersection between not-for-profit management and commercial entrepreneurship. Driven by a new breed of pragmatic, innovative, and visionary social activists and their networks, social entrepreneurship borrows from an eclectic mix of business, charity, and social movement models to reconfigure solutions to community problems and deliver sustainable new social value.</td>
<td>The core reviewer at EMES Community</td>
</tr>
<tr>
<td>Fagerberg, J., Fosaasa, M., Bellb, M., Martin, B.R., (2011). “Christopher Freeman: social science entrepreneur”, Research Policy 40 (2011) 897–916</td>
<td>The enterprises are associated with the activities to promote participative decision among stakeholders to meet the general interest.</td>
<td>Literature in the European context</td>
</tr>
<tr>
<td>Chan et al (2009). Similarities and divergences: comparison of social enterprises in Hong Kong and Taiwan, Social</td>
<td>Social enterprises in Hong Kong have a more entrepreneurial orientation and are more market driven than</td>
<td>East Asia context</td>
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<tr>
<td>Reference</td>
<td>Description</td>
<td>Type</td>
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<td>Entrepreneurship: a different</td>
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<td>model?”, International Journal</td>
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<td>of Social Economics 33, No 5/6.</td>
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<td>pp 399-410</td>
<td></td>
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<tr>
<td>Kai Hockerts (2010). Social</td>
<td>There are three social ventures, i.e. emulating market players, turning to developmental mission with grants and charity, and innovation at the tension between market and social goal.</td>
<td>Conceptual paper</td>
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<td>Entrepreneurship Between Market</td>
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<td>and Mission, International Review</td>
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<td>of Entrepreneurship 8(2): 177-198.</td>
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<td>2.2. Entrepreneurial Orientation</td>
<td>The idea of social entrepreneurial orientation dates back to classical entrepreneurial theory.</td>
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<td>According to Miller (1983), the entrepreneurial orientation constitutes into at least three dimensions, namely risk taking, innovativeness and proactive dimension. Moreover, economist and psychologist explain the emerging of entrepreneurship from different perspectives. In economic approach, entrepreneurship is associated with respond to the profit opportunities, which in line with an opportunity cost and an expected return to entrepreneurship. On the other hand, psychologists and sociologists focus on the theory of motivation and ideological values.</td>
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<td>There are of course various types of classical entrepreneur orientation in literatures such as Marshallian and Schumpetarian. Alfred Marshall (1842-1924), Marshallian explores the initiatives of entrepreneurship from the ideas of supply and demand. Zaratiegui (2005) claims that Marshall considered the substitution of the capitalist-entrepreneur by manager-entrepreneur with supply of entrepreneurship. Schumpeter emphasized the relationship between entrepreneurship and capitalist through emphasizing the role of an agent who decides to challenge a given equilibrium toward</td>
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potentially economic development (Betta, 2010). Schumpeterian pointed out that individuals as an independent unit play pivotal roles in innovation within community. According to Betta et al (2010), Schumpeterian describes that economic change comes from (1) innovation leading to development as a respond to outside factor, called as adaptation and (2) internal growth as successful innovation result. Hamilton and Harper (1994) noticed that the ability to manage people attributed to Marshalian, while Schumpeterian convinces that entrepreneurship is capitalist engine falters.

Table 2: The Entrepreneurial Orientation

<table>
<thead>
<tr>
<th>Authors</th>
<th>Objectives</th>
<th>Method</th>
<th>Variables</th>
<th>Result</th>
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<tbody>
<tr>
<td>Ian D. Parkman, Samuel S. Holloway, Helder Sebastiao, (2012), &quot;Creative industries: aligning entrepreneurial orientation and innovation capacity&quot;, Journal of Research in Marketing and Entrepreneurship, Vol. 14 Iss: 1 pp. 95 - 114</td>
<td>The purpose of this paper is to examine the relationship between entrepreneurial orientation, innovation capacity, and firm performance in the creative industries context.</td>
<td>Sample: total sample of architects resulted in 122 respondents from 57 architectural organizations (average firm size in the sample is 37 employees). Analysis: Hierarchical linear regression</td>
<td>Independent variables: Entrepreneurial Orientation (EO), Innovation capacity (IC) Dependent variables: Product success (PS), Corporate competitive advantage (CA)</td>
<td>both EO and IC to be positive and significantly related to our dependent variables; competitive advantage and PS</td>
</tr>
<tr>
<td>Wann-Yih Wu, Man-Ling Chang and Chih-Wei Chen (2008). Promoting innovation through the accumulation of intellectual capital, social capital, and entrepreneurial orientation, R&amp;D Management 38, pp 265-277</td>
<td>This study attempts to explore how a firm’s operational mode can reinforce the advantages of intellectual capital on innovation, with a comprehensive research model of interrelationships among social capital, entrepreneurial orientation, intellectual</td>
<td>For the survey, a total of 700 survey questionnaires were mailed to the sample firms. Out of 700 sample firms, with follow-up telephone calls, 170 completed and returned the questionnaires. A total of 159 questionnaires were usable, producing a response rate of</td>
<td>Dependent Variable: Innovation, Independent Variables: Entrepreneurial orientation (EO), Social capital (SO) Human capital (HC) Customer capital (CS), Structural capital (SC)</td>
<td>The results show that the moderating effect of entrepreneurial orientation exceeds that of social capital. Although social capital may also augment the positive influence of intellectual capital on innovation, it is likely to be more effective at</td>
</tr>
<tr>
<td>Ana Maria Bojica, Maria del Mar Fuentes and José Maria Gómez-Gras (2011)</td>
<td>“Radical and incremental entrepreneurial orientation: The effect of knowledge acquisition”, Journal of Management &amp; Organization 17: 326–343.</td>
<td>To analyze the role of knowledge acquisition in supporting a firm’s entrepreneurial behavior, with focus on the concept of entrepreneurial orientation.</td>
<td>The research split the sample in two: when the entrepreneurial orientation was smaller or equal to the mean we considered it incremental and when it was higher we considered it radical. It ran the regression analysis for each one separately.</td>
<td>Dependent: performance Independent variables: Entrepreneurial orientation (EO) Market knowledge acquisition (MKA), Technological knowledge acquisition (TKA)</td>
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<td>Zhi Tang and Clyde Hull (2012). “An Investigation of Entrepreneurial Orientation, Perceived Environmental Hostility, and Strategy Application among Chinese SMEs”,</td>
<td>Relying on contingency theory and strategic choice theory, we intend to answer two research questions: (1) how do Chinese entrepreneurial SMEs perceive environmental hostility when industry competition is taken into consideration?; (2) how does this perceived environmental hostility affect these firms’ choices of strategies?</td>
<td>Exploratory factor analysis (EFA) on these items to extract organizational strategies and Regression to test the interactive effects of EO and perceived environmental hostility on the application of three strategies: marketing, cost control, and innovation</td>
<td>Data from 170 Chinese SMEs confirm our hypotheses, indicating that though some entrepreneurial orientation (EO) effects transcend different economy types, other EO effects differ significantly as the environment changes.</td>
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<tr>
<td>Maija Renko, Alan Carsrud, and Malin Brännback</td>
<td>To investigate the role of market orientation, entrepreneurial</td>
<td>The data for this research were collected by interviewing 85</td>
<td>Model 1 DV: product innovativeness DV: capital</td>
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Environmental Approach

The most challenge for environmental social entrepreneurship model springs from dispute in both the conceptual level and the grass-root application level. Western paradigms bring about contrasting conceptualizations from well-known market issue of competition versus cooperation, exploitation versus exploration to copy-right issue of imitation versus innovation; shareholder value versus stakeholder well-being to trust-based versus legal relationships (Chen & Miller, 2010, 2011). According to Colyvan (2011) those issues can be categorized into three types of problems of environment conservation: conservation games against nature, international conservation partnership, and management of common-pool resources.

It appears that the academic literature on entrepreneurship is fragmented and confounded by inconsistent definitions and construct boundaries (George and Bock, 2011), the volunteers also experience conflicts between the demands of their general and specific role identities which spark off loss of organizational commitment.

It appears that modern entrepreneur principle is incompatible with traditional value, which rely on communal ownership. From the institutional economics perspective, that
the economy is shaped by enduring collective forces, include habits, norms, cultural, and future development (Amin, 1998).

The daily collective activities encourage people to invest social capital, though some communal and inter-communal conflicts remain common threat (Bannon, 2004). That calls for more community participation represent as a political project that engages more and more stakeholders who seek to enhance their networks at local and global levels.

2.3. Partnership Strategy

To be sustainable, many social entrepreneurship institutions engage simultaneously with government, philanthropic institutions, the voluntary sector, banks, and the commercial (Nicholls, 2006). However, the involvement of multiple actors and participants in environment movement has not only raised a challenge for rational right decisions in a value-free technocratic following the contests among competing interests. Even though participation, engagement and involvement are all terms that are popular in decentralization policy, the political interest of government to promote participation is still questioned. Bebbington (2006) raises the temptation of elites and governments, which tend to weaken or de-legitimize any social movements. To narrow the gaps in evolving nature of sustainability, Jay (2012) indicates that remedies and justifications in public policy need to be taken into account. While government failure and market failure take place, human societies can effectively manage their common resources (Ostrom, 2005 and 2010). On the other hand, it appears that companies is starting to be aware that going green can be a new way to be efficient, more green as in money.

Transformation in the context of environment movement is about a shift in collective consciousness of a society so that reality is refined by consensus. According to Drucker (1994), the transformations in all developed countries were accomplished in almost total silence with political thought and political action. Fuchs (2006) pointed out that the emergence of social movements is a complex result of crisis, while resource mobilization will find equilibrium with singular laws.

Public-private partnership has been emerging as a third way to run up against market failure and government failure in disaster risk reduction. Disaster risk management needs both market and government intervention, while the dispute between
interventionist with government failure and liberalist with market failure has never come to end. There is a great difference between private and public organization, especially on the criteria of policy and strategy. Public organizations don’t have strategic freedom since the strategic goals decided by political system (Eskildsen et al, 2004).

The government failure in disaster risk reduction is not only associated with limited capacity to conduct mitigation and execute a disaster management cycle from prevention to rehabilitation. It appears that self-seeking politicians and bureaucrats along with pressure from many interest groups are the major issue in public policy (Dejardin, 2011). Klomp and Haan (2013) mentions that fiscal policy is only affected by upcoming election in the short run, while political budget cycle is conditional on the level of development and democracy. Then, it needs market mechanism. However there is a risk for market failure.

The market failure is the quite challenging issue for disaster recovery especially when risk is huge. While the level of recovery barely needs investment to foster economic growth, the business tends to be reluctant to involve within recovery step. Jaffe et al (2005) reveal an evident that investment in development is less preferable to social interest on account of the presence of nonexistent environmental policies. Hence, it needs government’s intervention.

Combine between partnership and public approach is believed to gain the advantages from both market and public policy approaches. Broadbent and Laughlin (2003) notice that public-private partnership is associated with new public management to challenge the term of “public good, private bad”. Wang and Xu (2007) indicates that coexistence public-private partnership in public good may enhance competition, while pure privatization is associated with market failure on account of incomplete contract. In the global perspective, Hilmarsson (2011) identified that international financial institution plays pivotal role on possibility of project from innovative public-private partnerships while IFIs provide more innovative risk mitigation instruments.

**Coordination Game for Disaster Risk Management**

Game theory deals with interactive decision making of two or more players who make simultaneous decisions. Wydick (2008) proposes a game theory approach to
examine the decision-making process among the various stakeholders based on the payoff shaped by the rewards from the different institutional framework. Moreover, Kent (2011) suggested scenario-based approach to trigger a strategy development process in humanitarian prevention, preparedness and response.

One of the keys for disaster resilient city refers to what extent of the engagement of local community in their city’s plan together with local authorities (SDR, 2012). Then, public-private partnership can be understood as a political approach with many actors involve in decision-making process. Chang et al (2010) indicates cooperation and partnership need to be taken into account within policy amendments in the disaster context with more salient contributions of large-scale infrastructure industry. However, there is high potential of development trap for competition among the stakeholders.

In most public policy decisions, the participants exogenously receive informative signals from both private sectors and the local government. An decision making process in risk management seems to be extensive game with imperfect information in which the community as the weakness player is not fully informed about the choice made by other players (Bonano, 2008). Weidenholzer (2010) highlights a local competition in public policy. The competition policy springs from interaction neighbors and business partners interact more often than with anybody chosen randomly from the entire population. Then, Myatt and Wallace (2009) consider the role of multiple information but costly signals.

Figueroa and Skreta (2011) reveals that efficiency dissolution is possible in asymmetric partnership with extremely unequal. To deal with reinforcing social inequalities, Pierro and Desai (2011) emphasized more examinations over the power relations at the local level. Milosavljevic and Benkovic (2009) indicate that the most challenging implementation of public-private partnership comes from lack of knowledge and non-systematic approach. This brings risk of coordination failure in disaster risk management.

Coordination failure is the reason for the inefficiency performance of participatory planning. Cason et al (2011) points out that that cooperative behavior caused behavior takes place during the sequentially games in which the performance heavily relies on the weakest member.
CHAPTER 3
RESEARCH FRAMEWORK

3.1. Hypothesis Development

Hypothesis #1: The first hypothesis research is that social entrepreneurships work in the area in which the market and public failure take place.

The reason is that intersection between a social enterprise and organizations in various sectors represents by conflicting interests originate from the opportunity-seeking behaviors indicates low possibility for partnership strategy but there is a chance. The new national regulation for waste management, Law No. 18/ 2008 has become a legal tool in forcing all related parties in supporting national waste management policy, but many cities still struggle with the overburdened landfill due to limited land availability and poor dumping sites (Meidiana and Gamse, 2010).

Hypothesis #2: Probability to adopt social enterprise principle is associated with payoff.

The opportunity to take social entrepreneurial processes springs from a number of different forms as result of a continuous mobilization of leadership. According to Korsgaard (2011), the process of social enterprises is driven by mobilization and transformation. Characteristics of player (individual or community) and a widened understanding of social goal also play pivotal role in social entrepreneurship (Lundqvist and Middleton, 2010). A cooperation game presumes that agreement can take place if the players can make binding agreements about the distribution of payoffs. Based on the theory of trust asymmetries, Graebner (2009) notified that the role of trust in marketing increases than diminishes entrepreneur’s vulnerability. Harsanyi and Selten (1988) pointed out that cooperative game should be based on a formal bargaining model with the various players and an agreement about the outcome of the game. On the other hand,
Peleg and Sudholter, (2007) notices that bargaining model is a non-cooperative game in extensive form and the solution is in line with equilibrium points of the game. When members of a community use resources wisely, for example by recycling or taking mass transit, a community moves toward sustainability (Mc-Kenzie-Mohr, Dough, and William, 1999). The 2009 Nobel Prize winner, Ostrom reveals how human societies effectively manage common resources (Ostrom, 1995; Cardenas and Ostrom, 2004; Ostrom 2005, 2010). From the institutional economics perspective, that the economy is shaped by enduring collective forces, include habits, norms, cultural, future development (Amin, 1998). The daily collective activities encourage people to invest social capital, though some communal and inter-communal conflicts remain common threat (Bannon, 2004). Reagan (2006) explores that human living in development countries tend to accept the concept of patriarchic dominion over resource management.

3.2. Research Design
To examine complex social phenomena, the research develops two case studies to develop a holistic understanding of real-life events. This needs integration between a qualitative and quantitative approach with multiple case studies. As noted in the introduction, the aim of this paper is to examine the opportunity for social enterprises to commence. This payoff can be examined effectively by employing research approaches that can grasp the idea of individual context. Qualitative research approaches helps researchers understand people and the social and cultural contexts within which they live. This approach calls for intimate relationship between researchers and the interviewees, through interactive dialogue, dynamic conversation that achieve a meeting of minds to produce a shared understanding (Myers and Avison, 2002; Branthwaite and Patterson, 2010).
In addition, there are some reasons for qualitative research approaches being suitable for this research. First, there is the recognised difficulty in attempting to “objectively” measure an adult development process (Butcher et al., 1997). Furtmueller et al (2011)
suggest that objectively record the behaviors (by audio-recording and/or video-recording) needs to be taken into account to reduce the self-serving bias in reporting their behaviors. On the other hand, Scott and Krempley (2012) points out that to be objective, an evaluation should have a basic understanding of how to measure the variable holistically which incorporates qualitative measure coupled with quantitative measurement.

Secondly, in studying the community participation, qualitative research is beneficial as it allows participants to raise new topics and issues as well as express their feeling (Marshall and Rossman, 1999). Manita (2011) indicated ethical judgments spring from qualitative factors, which also highlight consequences and social consensus. Even in making judgments on the nominal value of an amount of many, money illusion is key determinant in spending behavior. However, Patton (1990) suggests for a qualitative approach to avoid pre-judgments.

There is also a disadvantage of qualitative approach with specific data collection methods, such as focus group discussion, interview via telephone or other electronic media. While focus discussion group tends to be influenced by peer group idea instead of personal opinion, Boateng (2012) suggests a combination between FGD and other methodologies in a form of triangulation. A design stage with written script of telephone interview is very recommended, while the process is subject to ethical scrutiny (Glogowska et al, 2011)

**Game Theory Approach:** The research proposes several real-world environment problems can be modeled game-theoretically. Thereafter, within a game theory, the coordination will happen when the payoffs to the players are highest in which players have good reasons to believe that one of the equilibriums is more natural than others, called a focal point of game. The payoffs to the volunteer and partners in social enterprises could be the impact of relationship management implementation on firm performance, which is associated with income generation (Krasnikov et al, 2009). It seems that understanding the elites and their ecosystem is more effective strategy than trying to replicate the success factors of other entrepreneurial hubs (Foster, 2011 and Davila, 2011).
3.3. Data Collection

There are two observed case studies with 10 communities contribute to this research. The multi case study will develop will rely on both quantitative and qualitative data which retrieved from (1) semi structured interviews with social enterprises and their partners, (2) on line discussion to clarify s, and (3) archival data,. To examine a dynamic decision process, the research conducts focus group discussion on how more people can be persuaded to become supportive.

The first phase will rely on 3 pilot interviews with leaders who run environmental social enterprises. To examine the decision making process, the pilot interviews will focus to a small set of people, the leaders and two or three key volunteers. To further ensure that the sample will cover the key proponents, the research will adopt snowball sampling. The initial entry will come through either the director or the head of head of division and community leaders at the partners.

Following the explosion of Indonesia’s student-led reform movement to the national political stage in 1998, many democracy activists have turned their movement to businesses with aims to keep track of sustainability toward social goal. Even during the authoritarian model, sustainable development had been taken into account. While most of the Indonesian non-government organizations (NGO) have lack of transparency and accountability, as well as heavy dependence on foreign institutions for funding, some of them have transferred to social enterprises. Such enterprises take on many different types, from private enterprises to charities to mainstream businesses that give a portion of their profits to social goal. The conventional social enterprises also run a wide range business from healthcare, education, microfinance to environment. This raised expectations among many young people that they would become active participants in the future of the archipelago country. However, entering commercial markets poses significant challenges for the NGOs.
CHAPTER 4
THE COMPOSTING MODEL

4.1. Local Context of Surabaya City

4.1.2. Social Economic Context

Surabaya is the capital city of East Java Province with typical urban business activities such as industrial and commercial sectors, which has stimulated the agglomeration in which people to move in. For a bustling metropolis with various ethnic backgrounds within 375 square kilometers or nearly three times of Singapore, such an environment movement in the city was no small feat for 3 million populations.

The Surabaya area is an estuary of six rivers that pass through the city. Sheltered from the storms of the Java Sea by the Madura long island, any ships could anchor safely at the harbor, which channeled beyond the mouth of the major river, the Kalimas River. Trade is still major economic activities in the city, but the activities had been brought in by land and no more with the rivers.

Over the last decade, there has been general improvement in term of income per capita. The nominal income per capita increased from US$3,500 in 2005 to US$6,000 in 2010, but this was still far away from the neighbor cities such as Jakarta with around $20,000 and Singapore with around US$50,000. In fact, 50% of the dwellers are still living with $2 per day while Indonesian government considers the poverty line at $1 per day.

The uneven development has brought government to set basic education as the top priority in Surabaya, followed by conservation program. In 2010, the statistic data claimed that the participation rate of six-year primary school children was 93% and 12-year high school children was 80% with literacy rate of 99%. That was much better compare to its suburbs with 12-year high school children average was nearly 50%. Moreover, a growing number of supermall and apartments in Surabaya with rapid economic growth has boosted the construction sectors to meet the sustainable development expectation.

Turning to the issue of decentralization, the local autonomy policy of 2001 was designed to move decisions closer to the people in order to make public service delivery
more responsible to local demand. Through the fear of national disintegration has pressured the Indonesian central government to grant some taxation and regulatory powers to the local governments. According to the 2004 Local Government Law, every local city and municipality has the responsibility to 31 sectors from education, health to environment issue.

4.1.3. The Environmental Transformation

Surabaya has been recognized as a place in which environmental movement well embraces. The city has received a number of awards. The most popular award for Surabaya environment movement was Adipura in which the city was the winner for the six times as the cleanest city in Indonesia. Another award was Kalpataru for the general improvement in environmental movement and Adiwiyata was award for the best garden city in Indonesia. In addition, the Purabaya, Surabaya bus station, also was the cleanest Indonesia bus station in 2011.

That has been long story for the local initiative environment movement in Surabaya as well as in Indonesia. This spontaneous communal work is called “kerja bakti” which aims to celebrate the independent day in each August by dressing up kampong, maintaining sanitation system, and cleaning up sewage system. The traditional work has embraced social capital to interchange with the democracy and decentralization transformation.

Following the fundamental transformation across East Asia, the decentralization with Law 32 2004 mandates each city to conduct a series of city hall meeting to meet the bottom-up premise. Hence a number of innovative programs come up for the City of Surabaya. The city garden is the most popular innovation followed by other environment programs such as green and clean competition, mangrove conservation and urban farming. To examine the environment transformation, those programs need to be taken into account.

First of all, the city garden is the most as the most popular program among the citizens. This also brought controversial issue when the city administration converted 14 gas stations to the city gardens. The Environment and City-Gardening Department was the authority to establish the 1850 m2 gardens between 2004 and 2007.
Each city park has different theme. Taman Bungkul (park) was located at the heart of the city and became the most popular park after many public activities were held here, such as car-free-day activities. The plot of land half the size of a soccer field used to be slummy and gloomy, the administration converted it into an open green space in 2007 with free Internet facilities, a playground, and cycling track. Taman Kalimantan Park was well known for such as rows of stones for reflexology or foot massage therapy. Senior Citizen Park (Taman Lansia) was well known for such facilities to the senior citizens. Taman Prestasi park in Kalimas Riverside represents a number of awards for Surabaya city covered 6,000 m² with water park facilities. Other park are Taman Apsari (5,300 sq.m) in the hub of the city, and Taman Mundu in Tambaksari with grandeur color dedicated for a local soccer club, Persebaya.

Secondly, the department also set the green belt along the major streets with various flowers. The major roads of the second largest city after Jakarta are planted with various flowers. Potted plants also have been hung beneath bridges and in alleyways to help beautify the city. Sidewalks have been upgraded from their bumpy state into very smooth paths. Bright yellow pavements stretch five meters wide in main corridors, such as those on Jalan Basuki Rahmat, Tunjungan, and Panglima Sudirman, complete with rows of flower pots. Dozens of cleaning service workers scrubbing the tiled sidewalk in the major road in every morning. The hard work of these cleaning service workers has brought Surabaya’s sidewalks as the best among 20 cities in Indonesia.

Third, green and clean kampong competition was the most famous movement with marked progress in local participation. At the early step, the program is to deal with solid waste after the closing down of Keputih disposal area in 2001. The city hence organized a clean kampong contest themed “Freedom from Garbage” and began in 2005. The competition took opportunity from the communal work during the independent-day celebration. Along with support from private sectors, i.e. the Jawa Pos media and the Unilever Indonesia, the competition provided cash award about Rp25 million or around $2,300 for the winner.

The criteria for the best kampong have been developed, from the greenest, cleanest, and level of participation. The cleanest kampong winner in 2006 was Kampung Pesona Anggrek, Kertajaya, Gubeng on account of its consistency to perform the greenest
and cleaners area with orchid garden in each house. In 2007, Jambangan was the winner for the best participative waste-management-system. The community managed the garbage with composter, device of garbage processing to become compost. In 2010, Gundih was the best kampong for the greenest and cleanest area, while the Surabaya administration also noticed the most active dwellers for many other kampongs. As a sister city of Kitayushu Japan, the program also adopts recycling system of Takakura home method. The success competition was turning Surabaya to one of the benchmarks in waste management in Indonesia followed by other cities, such as Jakarta and Jakarta with the similar competition since 2007. In 2008, Makassar also conducted the competitions.

Fourth, the mangrove forest development project is commencing to protect the city's coastal area. The mangrove tree planting just began in 2004 and in late 2008 to fulfill the mandate of National Act No 26/2007. This requested each local government to allocate 30 percent of their area to open green space.

To deal with the impact of global warming, the city government of Surabaya also works with local and international communities to foster mangrove along the coastal area. More than 2,500 acre of mangrove forest straddles from District of Rungkut, Sukolilo and Gununganyar. More than Rp3 billion of local budget was allocated in 2010 to establish Mangrove Information Center. The area constitutes conservation center, supporting area and cultivation area. The last one is expected to be ecotourism area since the mangrove has become transit point for migration birds between Australia and Siberia. However, the conservation program is covering only five meters from the coastline. Formerly, the mangrove area was around 250 meters from the coastline. In fact, 2,000 hectare of the mangrove forest was under the management of property companies and 40% of the forest was damaged.

Last but not least is the urban farming movement. The activities aim to generate income for the poorest of the poor from the unused spaces. Considering that the dwellers from the rural area with agriculture as part of their way of live, the program promotes the ancient slogan ‘plant first, build later’. The program set the target group in Bangkingan kampong as the raw model. After three years, the harvest time took place in Bangkingan kampong. The program also presented a farmer field school, which also promoted integrated plant management included aquaculture activities, i.e. catfish, eel fish and Nila.
fish (Oreocromis niloticus) farming. The agribusiness station at Ketintang provided a local agriculture markets with feature produce grown naturally or organically, catfish, eel fish and tilapia from the fish farming, eggs and poultry from free-range fowl, as well as fertilizers and farming tools. At the end of 2011, 60 farmer communities participated in the activity.

4.1.4. Community-based approach

In the case of Surabaya City, the community-based approach in environmental agenda can be retrieved from the strategic plan and its implementation. First of all, the long strategic plan would like to fulfill the community-based premise. Along with decentralization spirit, the city government tried to set a long term plan in 2008. At that time, the poor national regulation provided no guideline to set a strategic plan for the city government but the Surabaya planning bureau was still eager to set a scenario plan for the next 25 years. Adopting scenario plan from Singapore, the city administration planned to deal with highly uncertain environment through identifying the driving forces for the future of the city and make sure that the policy responses will be robust across different scenarios.

The Surabaya scenario plan indicates that public services and public participation are the major driving forces for the city development. Hence, the city came up with four scenarios which could be the next future, namely Necropolis, Anomopolis, Organopolis, and Tiranopolis. The organopolis (from the words of organic environment and polis) was the best scenario for Surabaya city in which the city could promote more participation and provide organic public goods. The worse scenario is necropolis which will happen if the messy public goods would go with poor participation in Surabaya City.

The way to set the scenarios also adopted more participation approach in which more than 2,000 community leaders involved within. However, the strategic plan was not able institutionalized through local legislation. Many people from local universities and higher level government levels questioned the method and the legal issue. The Surabaya city hence had no strategic plan. After several years, the national regulation enacted the guideline for strategic plan. The ministry of internal affair provided a guideline that each
local government should adopt SWOT analysis and the city government of Surabaya should follow the regulation of minister of internal affair.

Turning to the question of leadership, the first step of the environment movement was associated with women leadership. Between 2000 and 2010, the wife of the Mayor Bambang Dwi Hartanto began to promote green and clean kampong competition and the recycling home method with support from the volunteers from the Family Empowerment and Welfare (Tim Penggerak PKK) City of Surabaya. Basically, the program aims to fulfill the welfare family with specific issues such as health promotion, basic education and local economy. As a legacy from the previous authoritarian regime, every woman automatically becomes member of the voluntary program. Every month, they should conduct a gathering, microfinance, and health care monitoring. The wife of government leader from top level to the lowest level performs as the local leader in each area.

The head of The Environment and City-Gardening Department, Ms Tri Rismaharini promoted city gardens around the cities between 2005 and 2008. She was down-to-earth leader and appreciated the performance of janitors, gardeners and cleaning service staffs which devided several corps namely yellow, red, blue and green uniforms. As commander, she didn’t hesitate to do field work. For example, she got off her official car to gaze at a clogged gutter covered with rubbish on the main road of Jalan Ahmad Yani. With a bamboo rod found nearby, she pushed the blockage. Many times she went down to organize a group of uniformed workers sweeping the city streets.

Following the city mayor election in 2010, the city should set a new medium term strategic plan which represents the vision of the elected mayor for Surabaya between 2010 and 2015. The decentralization law no 28 2008 also mandated that the plan to adopt the plan of provincial government as well as grass-root initiatives. The city hall meeting is the major method to call for local initiative. However the dispute caused the plan never came to a legal constitution.

The rise of conflict between the mayor and congressmen began since the mayor was recruited from a political party coalition which comprised of 50% from the total legislative members. The political conflict created tension when a group of businessmen from the Surabaya Chamber of Commerce with support from some congressmen
complained about the plan of city government to raise the local tax for billboard advertisement.

4.1.5. Partnership Issue

Surabaya needs to run up against waste problem with a quantity of approximately 8700 m3 of household waste per day. In 2002, government of Surabaya formally established a partnership with Kitakyushu City in Japan on waste management to find applicable solutions. In 2004 the City started to teach people about the waste management which includes methods to sort organic and non-organic waste and to know how to make use of the waste (Reduce, Re-use, Recycle) where the composting basket is given for free. Then, the city government of Surabaya distributed these products to the citizens. The first target group was PKK, in which hundreds of members received the subsidized product. Moreover, the head of sub-districts and environment cadres—as the front runner of environment protection and conservation—were also invited to be involved in the process.

Private sectors also involved the movement. Jawa Pos Group, a daily newspaper tycoon in Indonesia was the first company which supported the activities. Initially, promoting environmental development was not the main purposes of this business activity for Green and Clean Competition. In fact, Jawa Pos Group initiated the Green and Clean Program in 2005 which aimed to promote the newspaper for poor people who living in kampongs, which most of the dwellers are living under poverty line of $2 a day.

It was a big challenge for Jawa Pos to doing business in kampong which mostly identified as slump area. In order to be able to get access to local communities, the business entity had come up with a solution for the targeted market. According to the company’s observation, the city was suffering unmanaged waste system in 2004. While the city government of Surabaya was stuck in local political transition, the public services were not able to fulfill the needs of people. People who living in kampong was the most suffering dweller rather than who living in modern real estate. To get access into kampongs, the company went into partnership with PKK (women organization) and Karang Taruna (youth organization) to overcome the environment issue.

Through newspaper coupon on Jawa Pos newspaper, the program provided assistance grant for environment sector. The first activity of Green and Clean Program was (grant for clean) which amount Rp12.5 million (around $1000). Those kampongs submitted their proposal through the newspaper coupon on Jawa Pos newspaper.
The activities allowed the communities in Surabaya increased voluntary actions which used to be acknowledged as annual activities to clean up the neighborhood area, such as sweeping the drain, cutting back the weeds, burning the debris, repainting the public facilities. In the third month, the activities targeted Wonokromo slump area. Along with support of city government, the program attempted to develop plantation in the slump area in which more than 100,000 volunteers involved “kerja bakti” with planted one million trees. In the second year, the activities stepped on setting up solid waste management system. It adopted zero waste at grass root level through introducing the concept of circular systems in which as much waste as possible was reused, similar to the way that resources are reused in nature.

In 2005 The Green and Clean Program became competitions to popularize and bring the program to wider level. Along with support of two business entities, Jawa Post Group and Unilever Indonesia, the competition proved to be a success, turning Surabaya to one of the benchmarks in waste management in Indonesia. In 2007, there has been 18.6% reduction of waste transported to final disposal area compared to the years before the Green and Clean Initiative was taken. The number of waste was reduced to 1,480 tons.

In 2005, to motivate people and to gain a broader participant, City of Surabaya--supported by the partners--established several competitions related to community based livelihood enhancement such as ‘Cleanest District Award’, ‘Green and Clean Competition’, and ‘Free from Waste Competition’. Those were aimed to introduce the concept of ‘reward’ and ‘punishment’ on how to manage the living environment. To fight for the competition, the hundreds of communities have moved into business on recycling product, such as plastic reuse schemes. All of the communities came up with the idea of greening their kampong, transforming their small back yard, limited river side, and even gardening their kitchen.

In 2008, the competition raising participants at smaller community level, which comprised around 100 dwellers. The key success of this activity was the huge market share of Jawa Pos which comprised more than 80%. In 2008, participants of SGC were noted more than 1800 communities (rukun tetangga). Aside of collaboration works at community level; the competition also urged some communities to come up with such innovation. Some pioneer communities were able to capture the opportunities, such as provide consultation, appropriate technology, and training activities. Getting smaller level of community was enabling social enterprises to reborn.

Along with support of some multinational corporations, the competition provided cash award about Rp25 million or $3000 for each kampong. Those even organizers then acknowledgement that the best kampong was their communities. There has been much dispute
over the acknowledgement of the actors behind the success of the best kampong. Some local leaders disappointed that the ones who provided award to the competition (i.e. government and companies) admitted that the success to transforming their kampong belongs to their corporate social responsibility. Rp 25 million was nothing compare to the community effort for many years. However, other cities follow to hold the annual Green and Clean Competition. Since being held in Surabaya, Jakarta is the second city which held the similar competition, following by the city of Jogjakarta. In 2008, it will also be held for the first time in Makassar, South Sulawesi. It remained us with the hypothesis of Bebbington (2006) which is about the credibility of elites and governments with such temptation to weaken, de-legitimize, incorporate or indeed repress social movements.

4.2. The Composting Model

4.2.1. The Observed Institutions

There are 10 observed organizations from international to local level, which focus to environmental entrepreneurship. First, JPEC is Japanese company with Corporate Social Responsibility to support to international community as potential market. The Surabaya Zoo, which was considered as non profit organization with aim to promote animal conservation.

The criteria for the best kampong have been developed, from the greenest, cleanest, and level of participation. The cleanest kampong winner in 2006 was Kampung Pesona Anggrek, Kertajaya, Gubeng on account of its consistency to perform the greenest and cleaners area with orchid garden in each house.

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cities, such as Jakarta and Jakarta with the similar competition since 2007. In 2008, Makassar also conducted the

Within that, PELITA - Pusdakota is an institution concerned that its program on environmental management has contributed to give an alternative solution on this problem. Started in 2000, PELITA organized a community in Kampong Rungkut Lor to separate the communities' household waste: They were request to separate between organic and inorganic waste from their own houses. These projects have come to incorporate source separation of wet and dry wastes and thus reduce waste picking. Four years later, (2004) PELITA collaborated with Kitakyusu International Technology Association (KITA) Japan doing a research project on household waste management that resulted in the Takakura Home Method (THM). Takakura Home Method (THM) was designed, in a simple way; to process the organic waste resulted from the household activities. THM is an effective way to reduce the volume of organic waste at family level. It is made of: a basket, skin of rice as a filter, carpet, and organic bacteria and finally, it was patented by Pusdakota - University of Surabaya.

**Table 3: The Observed Institution in Surabaya Context**

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Innovativeness</th>
<th>Risk Taking</th>
<th>Proactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEC (a Japanese company)</td>
<td>Takakura Home Method</td>
<td>The method is not acceptable at local kampong.</td>
<td>Partnership with local NGO and local government.</td>
</tr>
<tr>
<td>Green and Clean Jawa Pos (national mass media)</td>
<td>Promoting citizenship journalism</td>
<td>Sales target is not fulfilled.</td>
<td>Starting from 325 community groups (RT) in 2005 to 1,825 RT</td>
</tr>
<tr>
<td>Wonorejo Ecotourism (mangrove conservation)</td>
<td>Mangrove conservation, animal conservation.</td>
<td>Dealing with the booming real estate market</td>
<td>Attracting tourism for fund raising</td>
</tr>
<tr>
<td>RT7 RW13 Kertajaya (the best kampong in 2006)</td>
<td>Orchid garden. Every house was decorated with dendrodium orchid. Aloe Vera is the most popular commodity for hair treatment.</td>
<td>Dealing with gardeners’ demand.</td>
<td>Involve within gardener community.</td>
</tr>
</tbody>
</table>
RW1 Jambangan (the best kampong in 2007) | Urban farming with water apple. | Not able to meet the local market. | Anyone who pursue administration letter should buy a plant.
---|---|---|---
RT2 RW 6 Gundih (The best kampong in 2005) | Urban farming with mango as core product | Not able to meet the local market. | Provide mango seeds for every household.
RT3 RW XIV Kalirungkut (the best kampong in 2008) | Home method composting industry | Depend on financial support. | Encourage every household to adopt home method composting.

The Takakura home method provides a basket with microorganism to break down organic waste. The microorganism comes from local material. To begin the cycle, it needs seed compost from fermented solutions and fermenting bed. Then, the system will work after the beneficiaries manage their organic waste through mixing the waste and the seed compost in the ventilated container or basket.

Currently, approximately 4000 THM has been distributed to families in Surabaya and other cities in Indonesia. It is a transfer of technology for the production of high-quality compost from domestic waste. KITA further developed the technology that is able to compost domestic waste in seven-day cycles generated from the largest market in Jawa Timur.

As a pilot project of Pusdakota, the Community of Rungkut Lor III have been actively proliferating places with organic vegetables and herbal plants in the spaces of their house. For the plants they use compost, as the organic fertilizer, that resulted from the household composting process. An approach favoured by Pusdakota is the encouragement of co-operatives of waste pickers a collectors, in order to improve their bargaining power vis-a-vis the waste deal who control the prices of materials and, able to exploit the base workers in the formal waste management system. The movement expanded into other communities such as Kampong Wonokromo and Gadel. In Wonokromo, the social movement had made in transforming the slum teeming with unorganized residents into the green, healthy and hygiene-conscious community it is now. The kinds of plants the Wonokromo people grow in their limited yard spaces to their waste management and effective communal work schedule inspired other
communities. In Kampong Gadel, another slump area, the community energetically chopping up the mounds of waste vegetables and fruit that pile up around them from making sure that the waste is whittled down to just the right size to fit into the “Bambookura”, a specially designed bamboo basket. In just two months, the waste processed daily by Santo and friends will have become compost ready to sell for Rp.500 per kilogram.

The community movements are also done in line with the program of The Family Empowerment and Welfare Coordinating Team (Tim Penggerak PKK) City of Surabaya. The head of the organization is the wife of the Surabaya Major, while other coordinator positions come to the wives of official in the sub district to kampong enact any responsibilities of PKK. The head of PKK manages the distribution of the national subsidy programs, such as food subsidy program, health assistance for older people who are economically disadvantaged and baby health program for children from economically disadvantaged families. Now, it is a mandate for PKK, which spread for every kampong in Surabaya to incorporate source separation of wet and dry wastes and thus reduce waste picking.

To apply the program to the whole city, the city government of Surabaya provides baskets for thousand households. In fact, the basket is not designed for composting system, but adopted from cloth basket. The program expects that each household hence will produce another basket of seed compost.

4.2.2. The Composting Game

The Takakura venture system comprises two players, the NGO and the beneficiary. The institution has two options, provide a basket for loan or withhold the basket, while the beneficiary also has two options, developing the composting system or withhold the basket. Both players have to deal with payoffs. The strategic interaction of environmental venture game can involve many players and many strategies, but the discussion limited to two-person games (an environmentalist NGO and a beneficiary) with a finite number of strategies for simplicity analysis.

The composting program will get back the composting basket a couple years later plus one basket of seed compost, provided for another citizen. On the other hand, the
beneficiary will have two options, pay the loan through giving the basket and seed compost to the funding or withhold the basket. If the program provides the composting basket and the citizen gives back the basket with composting seed after the composting basket produces at least two basket of composting seed, the funding and the citizenship each will get one basket of seed as pay off. However, if the citizen withholds the basket, the government will loss one basket.

The risk of Takakura program is that the basket could be broken. The potential problem in the composting game is that the program can never be 100 percent sure that a beneficiary will be able to develop composting system and distribute a composting seed as revolving tool. The risk fundamentally based on the willingness and ability of a beneficiary to involve the program and contribute to the whole community.

**Figure 1: Composting**

<table>
<thead>
<tr>
<th>Microfinance</th>
<th>Pay</th>
<th>Withhold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lend</td>
<td>Basket + one seed,</td>
<td>- one basket, one basket (300,300)</td>
</tr>
<tr>
<td></td>
<td>one seed (300,300)</td>
<td></td>
</tr>
<tr>
<td>Withhold</td>
<td>0, 0</td>
<td>0, 0</td>
</tr>
</tbody>
</table>

To identify the possibility of willingness to conduct composting system and redistribute to the community, presume \( m \) as the probability that government lends a basket for a citizen and \((1- m)\) the probability that he withhold it. Similarity, \( f \) is the probability citizen gives back the basket and pay the seed while \((1 – f)\) the probability he withholds the cow. The pure strategies take place when \( m \) and \( f \) equal 0 or 1.

<table>
<thead>
<tr>
<th>Combination</th>
<th>Probability</th>
<th>Payoff to Microfinance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lend, pay</td>
<td>( m ) ( f )</td>
<td>300</td>
</tr>
<tr>
<td>Lend, withhold</td>
<td>( m ) ((1 – f))</td>
<td>-600</td>
</tr>
<tr>
<td>Withhold, pay</td>
<td>((1 – m) ) ( f )</td>
<td>0</td>
</tr>
</tbody>
</table>
Withhold, withhold \( (1 - m)(1 - f) \quad 0 \)

The expected pay-off to the composting program,

Composting program’s pay-off = \( 300mf - 600m (1 - f) = 300mf - 600m + 600mf \)

Suppose that row contemplates increasing \( m \) by \( \Delta m \).

\[
\Delta \text{ pay off to government} = 300f \Delta m - 600 \Delta m + 600 \Delta mf \\
= (900f - 600) \Delta m
\]

This expression will be positive when \( 800f > 600 \) and negative when \( 800f < 600 \). Hence the government wants to increase the probability to provide loan \( (m) \) whenever \( f > 6/8 \) and decrease whenever \( f < 6/8 \) and be happy with any value between 0 and 1 when \( f = 6/8 \). However, it appears that the farmer has an incentive on account of withhold the basket of 600 will more valuable than contribute with a seed of 300. The citizen can use the basket to keep cloth but report that the basket was broken. Hence, it is understandable that composting program with the incentive of the citizen of the game will choose not to lend. This result in a Pareto-inferior (don’t lend, don’t repay) is solution to the game creates a market failure.

While it is a huge risk for environmental institution to manage many beneficiaries, local government can take a risk to provide basket for citizens from self-selected groups of typically five to ten beneficiaries. The member in the group will have chance to borrow a basket, but each member of the group is chain gang. When group lending works well, it utilizes a combination of repeated-game relationship between environmentalist institutions and beneficiary groups, and social fabric that exists within the community of borrowers. Hence it is the role of local leaders to promote local social capital.
CHAPTER 5
ECOTOURISM GAME

5.1. The Local Context of Probolinggo Municipality

5.1.1. Social and Economic Issue

Mount Bromo is one of the tourism icons of “Visit East Java 2011” Indonesia. Taking place at southeast of the capital city of East Java Province of Surabaya City, the Bromo-Tengger-Semeru National Park is a conservation area with intersection between desert and the caldera of an ancient volcano Tengger. Protected since 1919 and declared as a national park in 1982, this natural resource covers 5,250 hectares at an altitude of about 2,100 m.

Recently, the tourism attraction has been shaped by its plenty of habitats for birds and plants. The most favorite plants among the visitors are edelweiss (anaphalis javanica) and cemara gunung (Casuarina sp.), while the Indonesian Forest Ministry (2010) noticed more various species of orchid and grass.

The most attractive event in Bromo is the sunrise with the dramatic desert views. To reach the destination, it takes 200 km away from province capital city of Surabaya to Probolinggo city. There are two public transport options, bush and train. Then, most tourists preferred to transit at Ngadisari, the nearest village from the Bromo Mountain. Ngadisari village enjoys the booming tourist industry for many decades. A number of small hotels are flourishing, which local dwellers also seize the opportunity through providing rooms for tourist with very competitive price from between $10 and $20. Hundreds small restaurants and street vendors set up in this village, especially during the peak season of July.

To approach the mountain, a number of off-road vehicles are available for rent. One car cost $30 for seven passengers. Normally, the trip begins at the middle of the night to reach the top of mountain at 4:30 am. Then, the beautiful scene comes up which instantly get applause from the visitors.
After enjoy the sunset, tourists regularly visit the caldera and a Hindu temple. In the temple, the local people conduct an annual traditional ceremony, namely Yadnya Kasada. This is an offering ritual from the local Hindu community to the Mt. Bromo. Some other events also commence at the national park during the peak season. One of them is Mountain Jazz Festival, which has been conducted since 2009. The promoters are Sigit Pramono, Djaduk Ferianto, and Butet Kertaredjasa, artists from Jogjakarta. With more than a thousand customers, the festival aims to promote ethnic jazz music. During the performance, Mr Sigit pointed out that

“... the festival provides a unique concept. First, this takes place in the area with high altitude of 2,000 m. Secondly, this focus to promote ethnic jazz. ...”

However the tourism industry needs to struggle to deal with the enormous destruction of transportation access and local facilities due to regular increased seismic and degassing volcano activities.

5.1.2. The Disaster Issue

The Bromo eruption occurred almost every year. In 2011, the East Java Agricultural Agency reported losses about Rp 119 billion (US$13.92 million) to local farmers. The earthquake in 2012 sparked off high alert for the 3,676-meter surrounded the volcano. The most dramatic pyroclastic flow happened in 2002. The banks of Besuk Bang River were full of cool lava and displaced 501 dwellers. The local economy and tourism industry suffered. The paths for trekkers were closed. The thick ashes had covered everything, i.e. streets, houses, plantation and hotels. Some hotels, such as Lava View Hotel, Cemara and Bukit Cemara suffered from the ash on the streets, which was as thick as 15-40 centimeters. The local farmers were not able to plant vegetables since the volcanic sand from Bromo covered their land and their seeds and planting stock were also devastated and the seeds to plant were not available at the market.

Despite the threat of a potential eruption, the local community committed to conduct the traditional ceremony, Yadnya Kasada in Tengger at Mount Bromo. They strongly believe that the offering is a way to ease anger of the ancestor spirits who protect the Tengger community members in surrounded area. They also believe that ritual
celebrate the harmony among nature, human being and the Gods (Trihita Karana). Even during the eruption, the local community believes that it was a must to conduct the ritual to ease the eruption.

To deal with the natural disaster in Bromo-Tengger-Ijen National Park, four municipalities have established Local Disaster Management Agencies (LDMA) in 2010. Those governments are Lumajang, Probolinggo, Situbondo city and municipality as the National Law 24/2007 enacted. However, the capacity and resource development process has not taken place as expected, due to many constraints, both financial and policy constraints.

5.1.3. A Participatory Approach: The City Hall Meeting

The idea of participatory approach dates back to early 1980s. Under authoritarian regime, the stakeholders were associated with the middle class societies, such as academics, local bureaucrats or business people. During that time, the government set guidelines for local development planning for all level local government levels, but the central government was the decision makers (Widianingsih, 2005). Then, the reformed political system in 1998 has brought decentralization policy, following the downfall of the Suharto government.

The government enacted a new law for decentralization policy. For instance, Law No 32/2004 about local governance, Law No 25/2004 about national planning, and Join Ministerial Decree 2006 about public consultation for development planning. The decentralization policy mandates all government levels set development plan with good governance principles, which comprise participatory planning, transparence budgeting, and minimum standard for basic public services.

The national government introduced guideline instrument for public consultation named as Musrenbang or multi stakeholder consultation forum for development planning. The participation approach in local development plan also embraced informal city hall meeting with networks to local businesses to deal with local strategic plan and local budgeting.

A number of international non-government organizations (INGO) provided technical assistance. A series of local community meetings commenced to promote local
initiatives. One of the INGO was Local Government Support Program - United States Agency for International Development (LGSP - USAID), which also conducted training of capacity building to promote participatory planning and budgeting. Recently, AIPD AusAID is involving within the participatory approach in this municipality.

The city hall meeting invites everybody in the town not only to voice their opinions, but also to hear the responses from local leaders and local administrators. This meeting commences almost every Wednesday. The meeting has institutionalized to enhance the local people’s access to the public policy. Hence, it was named as “Wednesday Forum”. Basically, the forum focused to promote planning and budgeting. Basic education and health became major issue among those participants.

Despite overwhelmed by a number of political interests, the forum continued to call for attention for the disaster risk reduction. The decision-making has been confined to public-private partnership outside the halls of local government power to set top priorities for local development project. The forum has done more than just highlight the inadequacies of democracy, but provide a new space for partnership.

The typical task for local government is in line with regulation. Law No 32/2004 mandates each local government to provide all local public services, while the central government has responsibility for security, monetary policy, law system, international politics, and religion. However, with around USD80 million annual budget for 1.09 million population, that has been a long struggle for the local government to set top priorities for its development program since most of the budget goes for civil servants’ salary.

The staff of local planning bureau mentions that

“Most of the time, I got desperate desire with huge number of demand from various local communities. Everything seems to be emergency, especially during the disaster. Competition among politicians to get financial resource has becomes stiff due to limited financial resources.”

There were two local governments who responsible to the observed area, Probolinggo city government and Probolinggo regency government. The Probolinggo regency administration was struggled to get financial aid from the central government to
fund rehabilitation and reconstruction programs of Rp255 billion (US$28.56 million) from the central government. The administration had spent Rp2.3 billion on the emergency response from the local budget. This was nearly 1% from local budget, which was allocated for food security for over 31,000 refugees. On the other hand, Probolinggo city government received some Rp10 billion from central government for recovery construction. This raised question to the National Disaster Mitigation Agency (BNPB) and the East Java Province, which have authority to verify the proposed figure.

Given the higher cost of risk financing solutions offered by private markets, the most popular action for the local government is charities but this is a short run and not sustainable. During the first month, the charity is about how local government and social organization provided emergency food. The next month, the charity is about providing seeds for plantation, which was part of a food security strategy to enhance refugee capacity to provide their own food consumption. Hence, to foster the sustainable economic recovery, the local government set off a post-emergency lending for further local economic sustainability.

5.2. Ecotourism Game

5.2.1. The Players

The partnership game can involve many players and many strategies, but this paper focus to three-group game with a finite number of strategies. Three major players in this game comprises of a local community, tourism businessman, and local government.

The three community representatives come from local community, local business community, and local government staff from Probolinggo Planning Bureau. First is Gus Dudung, a local religion leader who prefers to stand for local civic society organizations. Secondly, Mr Singomaruto represents local farmer communities. Then, Mr Amam was a schoolteacher, who serves as secretary for this forum activity.

The local religious leader, Gus Dudung pointed out that
“Our interest is planning and budgeting. We enhance our networks with local planning bureau. Then, we encourage the bureau to conduct more participatory approach. Basic education is our focus.”

The Probolinggo city hall meeting has successfully encouraged the local administrator to enact local law, which promotes transparency in local planning and deepen the consultative approach down to the community level. The regulation encouraged members of regional legislative councils to involve the strategic plan and civil society organizations to access information of local development program and increase the capacity for budgetary debates.

During the natural disaster, the forum focused on how to promote public-private partnerships and in influencing public priority setting for disaster risk reduction as top priorities. The forum called for attention from the government and private sector to the catastrophe. The most significant damages were in Sukapura, Kuripan, Lumbung and Sumber sub district.

According to Mr Singomaruto, basic needs are still the top priorities.

“Environment has not yet been our priority. We still focus on basic education and health. However, disaster issue then becomes important following the eruption.”

The eruptions between November 2010 and January 2011 sparked off many destructed public facilities including three schools, 100 houses, farmland and plantations. The millions dollar needed for reconstruction at the post disaster area, but that was beyond local government budget.

5.2.2. The Payoff

Public-private partnership will perform well if the three players agree to invest during the recovery from disaster. This is about sharing cost and risk in the fragile national park on account of both annual natural disaster and poor protection.
Payoffs for the three-player game present to the row player as tourism business, the column player as the local community, and the matrix player as the infrastructure investor), respectively. There was Nash equilibrium in the game when the local community deserves to conduct the ceremony at all condition. However, when the local community became poor following the natural disaster, most likely they will not able to conduct the ceremony.

According to the city hall meeting, the infrastructure investment for post disaster recovery would cost around $20 million, giving a tourism business the capacity to serve 900 customers during the peak season (July-August) at a variable cost of $200 each tourist and benefits for 50,000 local farmers. The local government expected local tax income around $200 thousand per annum from tourism industry as well as overall economy.

During the peak season, local business expected 300 local tourists per day. A local travel agent can get customers around 900 tourists with net profit around $50 per customers. The local community who provided rooms for rents or hotel expected income around $30 per visitor. The local community spent $1,000 to celebrate the ceremony, while the tourism business spent $1,500 for tourism program.

The most challenging issue for public policy prevails in 2012. In February 2012, there was transition leadership in local planning bureau from Mr Budi to Mr Sanusi. The former leader has been working for the city hall meeting forum for more than 4 years in which the forum has enhanced the networks. The new leader comes from public work department. Moreover, mayoral election for Probolinggo municipality will take place at the end of 2012.
Starting at economic ground zero following the natural disaster, potential investors will invest in tourism industries only if they feel confident that investment will take place in the other two other stakeholders, government with infrastructure investment and local community with attractive traditional ceremony. Because the payoff to noninvestment is zero, all players are likely to withhold their investment.
The probability that tourism industry will invest to deal with disaster risk is zero. This also prevails with other players with zero probability to invest. Then, it appears that the infrastructure investment is still suffering due to enormous financial and disaster risk. The equilibrium (Invest; Invest; Invest) occurs when all players prefer to stick together to share the risk through investment. The coordination game takes place if all players will ultimately coordinate on similar behavior. If any industry believes that another is unlikely to invest, it also withdraws investment, leading to the unfortunate non-investment equilibrium.

5.2.3. Extending Partnership

Dealing with disaster risk is demanding for public-private partnership (invest, invest, invest). It is no surprise that public-private partnership requires extensive risk distribution. While the forum has reputation to promote civic empowerment, more transparency over government spending and a redistribution of public resources, the partnership was able to impose both ecotourism agent and local government to build commitment toward the post disaster solution.

The idea to extend participation is associated with more political movement to deal with local leader for the next election and supporting business environment reform for business agencies. This involves public punishment to local government and private sector. To bring such impressive impact, the city hall forum enhanced participation not only local community and ecotourism business but also the whole citizens.

The game in figure 2 is an extension of the post disaster game, which involves public punishment to local leader and private sector that are unlikely to invest. Then, the question is to what extend the public punishment would be able to promote public-private partnership.

The public punishment to block the tourism business agent from the business opportunities is at least equivalent to income in a tourism season, which is about – US$45,000. To simplify the computation, the potential opportunity loss of infrastructure
investment is at least equivalent to $20 million (see figure 3). In fact, it can be associated with the political risk, which is inline with political investment.

Table 6: Ecotourism Payoff for Extending Partnership

<table>
<thead>
<tr>
<th>Infrastructure investment</th>
<th>local community</th>
<th>Invest</th>
<th>Withhold</th>
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<tbody>
<tr>
<td>Tourism industry&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invest</td>
<td></td>
<td>$45,000; $2,700,</td>
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<td></td>
<td></td>
<td>$200,000</td>
<td>-$2,000; -$2,700;</td>
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<td></td>
<td></td>
<td></td>
<td>-$20M</td>
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<tr>
<td>Withhold</td>
<td></td>
<td>-$45,000; -1,000; -</td>
<td></td>
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<td></td>
<td></td>
<td>100</td>
<td>-45,000; -$1,000; -</td>
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<td>-$20M</td>
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<table>
<thead>
<tr>
<th>Infrastructure withholds</th>
<th>Local community</th>
<th>Invest</th>
<th>Withhold</th>
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<tbody>
<tr>
<td>Tourism industry&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invest</td>
<td></td>
<td>-$2,000; -$1,000; 0-</td>
<td></td>
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<td></td>
<td></td>
<td>$200,000</td>
<td>-$2000; -2,700; -</td>
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<td></td>
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<td>$200,000</td>
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<tr>
<td>Withhold</td>
<td></td>
<td>-$45,000; -$1,000; -</td>
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<td>$200,000</td>
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It appears that if the public punishment is beyond the business opportunity or potential revenue, the reinforcement of public-private partnership will run well. If the mayor losses the election, the public official has an incentive to put more resource for the disaster-risk reduction. It goes beyond losing potential revenue from the local tax. Likewise, this prevails with opportunity cost for ecotourism business to run business in the long term.
Table 7: Ecotourism formulation for extending partnership

<table>
<thead>
<tr>
<th>Tourism industry&gt;</th>
<th>local community</th>
<th>Infrastructure investment&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest</td>
<td>Invest</td>
<td>a – b; c – d; e - f</td>
</tr>
<tr>
<td>Withhold</td>
<td>Withhold</td>
<td>&gt;a; - d; - f</td>
</tr>
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<table>
<thead>
<tr>
<th>Infrastructure withholds</th>
<th>Local community</th>
<th>Tourism industry&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest</td>
<td>Invest</td>
<td>-b; -d; &gt;f</td>
</tr>
<tr>
<td>Withhold</td>
<td>Withhold</td>
<td>&gt;a; -d; &gt;f</td>
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</table>

The partnership indicates that some of the risks on the cost side are covered by the local government and private business, but the agreement show that public punishment still leave business operators exposed to cost risks. As in the current arrangement, the government will largely carry risk of the partnership, although patronage incentives provide operators with a stake in the quantity side of the revenue equation.

There are some weaknesses of the public punishment measurement. To block the tourism business agent from the near future business opportunities, the forum just consider public punishment at one tourism season. Then, the business agent could have a chance with a different name of business agency. To the political leader who wanted to run the mayor election but ignore to allocate some more resource for the disaster risk reduction, the preferable tactic is to call for support from another leader, for local leader at provincial level for example.
CHAPTER 6
CONCLUSION

6.1. Conclusion

Both case studies indicate that coordination among three institutions (i.e. government, private sector and community) is the best way to deal with the problem. However, it is huge potential to all parities to allocate its minimum resource to run up against the huge risk. Hence, the direction of public-private partnership advance is impact from community’s pressure.

Based on game theory approach, the best way to promote the early step of public-private partnership is through conducting public punishment. This could commence after the community has build solid a number of public-private partnerships for basic education projects for the entire municipalities. This rely on the voluntary leadership from

The process to set the disaster risk reduction as well as waste management system as top priority in development plan and local budget was shaped by contest among the competing interests. Unless local community becomes protagonist or active participant to convince the government as well as private sector, the disaster risk reduction and waste management will come as any other political ceremonies.

The greatest challenge for the disaster risk reduction is not just to establish the institutions themselves but develop the mid-sets. Based on the Bromo-Ijen disaster, the research highlights that economic risk springs from natural disaster was not acceptable to private sectors. The initiative for disaster risk reduction needs to go beyond rational decision in economy value to deal with high risk and high cost investment. This also happens with Surabaya waste management.

6.2. Recommendation

For future research, the effectiveness of public punishment needs to be taken into account. There is also a chance to examine the spillover coordination game within the public private partnership. It also needs more simultaneous observation with more players.
For city hall activist, fostering the participatory planning and budgeting means conducting capacity building to the weakness of the weak, such as local community who bears the disaster risk. Unless those stakeholders have capacity to deal with other stakeholders, participatory will just become a powerless rhetoric. With voluntary approaches, the city hall meeting played pivotal role to determine the best pilot projects as the short term winning strategy. The more people involve in city hall meeting, the more understandable decision takes place. Then, it is still a huge challenge for the forum to place disaster risk reduction as a priority, especially when the impact of the disaster is at a minor community.

For local government, setting all things as priorities means no priority. Allocate more resources for basic needs (e.g. education and health) are necessary but not sufficient for the municipalities with high risk of annual natural disaster. The huge impact of natural disaster will trigger the local government to focus on response to disasters including continuity of operations.

It is necessary to establish a formal institution such as the local disaster management agency. However, the available institution for disaster reduction had struggled to fulfill the task since the local government did not set any strategic plans with adequate resource to deal with the unpredictable disaster risk. To get a top priority, the institution requires a more favorable environment than that which would be required for effective civil society advocacy on environment.

For ecotourism businesses, the risk assessment broadly supports the decision to put resources at minimum level. The higher risk, the higher return is unlikely don’t work in the observed area. Then, the nagging question to business agency is to what extend the disaster-response business has a moral responsibility to address the longer-term implication. This is the basic ethical dilemma of public-private partnership to on-going economic and social development.

For local communities, there is no choice unless to the best instead of going through without any targets. Refer to Cason (2011), the performance of public-private partnership depends on the quality of work by the weakest member.
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