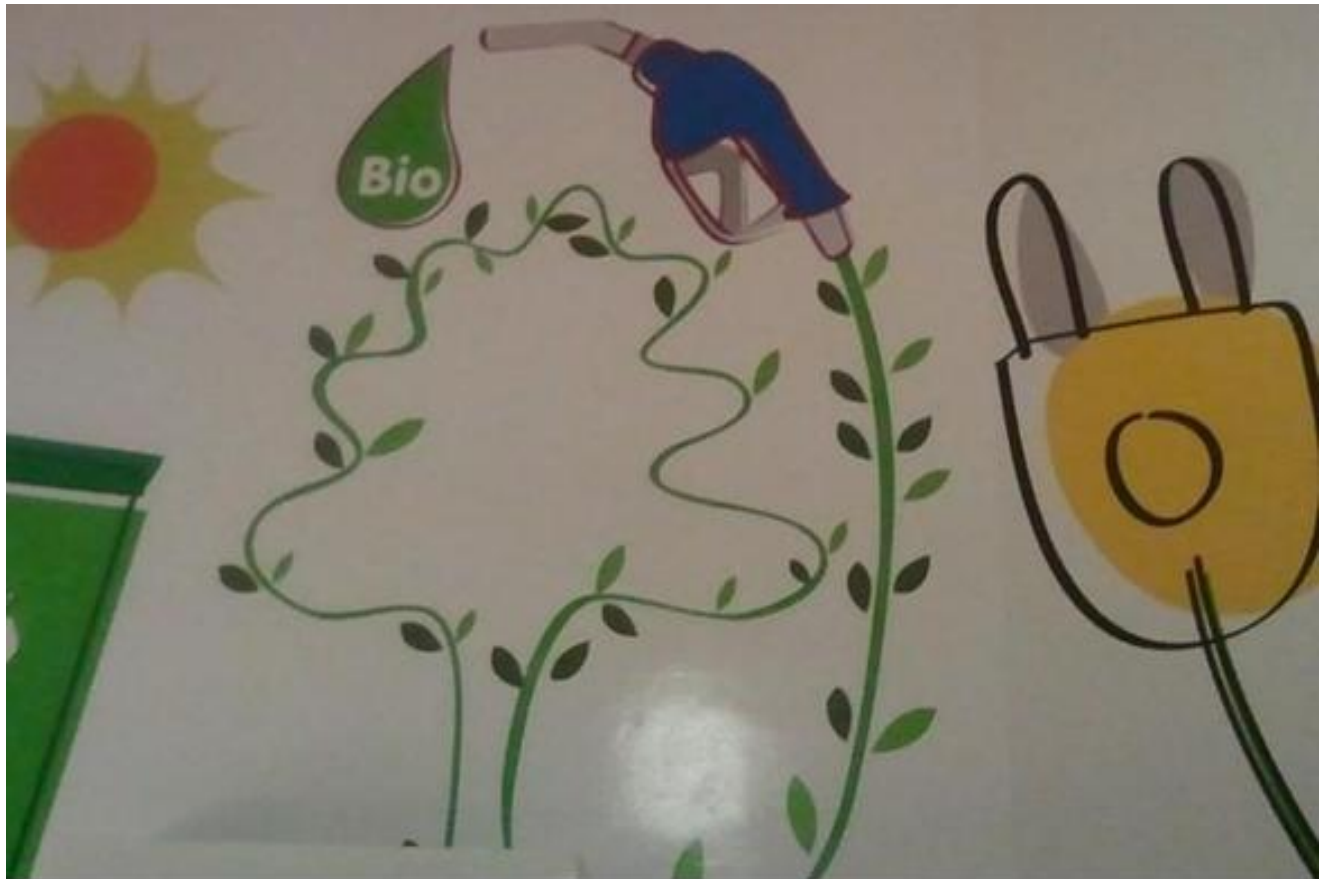


# **Overcoming electricity blackouts in remote rural areas by collective institutional entrepreneurship: MBD project as catalyst**

~ The implementation of renewable energy in Pulang Pisau, Central Kalimantan ~



**26 March 2013**

**N.J.W. VERKRUIJSSE**

**s1693085**

**DD MSc IFM**

**Author:** Niek Jan Willem Verkruijsse

**Student number:** 1693085

**Address:** Luukmanserf 9  
7722 AD  
Dalflen

**E-mail:** n.j.w.verkruijsse@student.rug.nl

**Mobile number:** +31(0)653541742

**University:** University of Groningen  
University of Uppsala

**Faculty:** Faculty of Economics and Business  
Ekonomikum

**Specialization:** Double Degree MSc International Business and Management,  
specialization: International Financial Management  
MSc International Economics and Business

**Supervisors:** Dr. B.J.W. Pennink  
Dr. W. Westerman

## Executive Summary

This study is part of the Local Economic Resource Development (LERD) program which investigates the possibilities of implementing renewable energy in the form of Mobile Bio Diesel (MBD) in Central Kalimantan. Mobile refers to the generator which could be easily transferred to numerous remote locations whereas biodiesel refers to the gasoline on which this generator is running. The biodiesel is produced via the conversion of waste products collected on the smallholder rubber farmer's plantations. The Stimson model regarding local economic development (LED) is used for insights and partly integrated in the new developed LED model. In addition, findings- based on both empirical findings from the Field Research in the Pulang Pisau area in Central Kalimantan (CK) and theoretical considerations will be incorporated in the new LED model. The Field research was conducted in the Pulang Pisau area, including the following remote villages: Henda, Jabiren, Taruna Jaya and Buntoi. Before the construction of a new LED model, two other models were designed. Namely, a value creation chain on micro-level model (see model 3) and a financial construction model specific to LED-related projects (see model 4). The first model illustrates how value is created among stakeholders and by various processes. The second model elucidates how money flows are incorporated in the process of increasing LED and thereby, attempts to stress the importance of financial support from the national government to this type of development projects. The results indicate that there is a great lack of technical-, managerial-, and financial knowledge and skills in these remote villages; thus a lack of human capital. Furthermore, problems occur due to frequent electricity blackouts with long durations. Finally, a significant amount of subsidies is spoiled due to inefficient implementation of plans and actions aiming for increased LED. In order to address these problems, this study argues for the integration of factors such as community empowerment, social capital, social franchising and group entrepreneurship while executing the project. Collectively, they have the ability to connect the stakeholders and stimulate collective learning and thereby, enhancing people's competences and ability to change the situation. Money flows between actors for different purposes for the eventual LED. **Key words:** *Local Economic Development, Community empowerment, Social capital, Group entrepreneurship, Money flows, Biodiesel, Community participation and Networks.*

## ACKNOWLEDGEMENTS

I would like to take this opportunity to thank everyone who has contributed to the accomplishment of this research. First of all, I would like to thank Bartjan Pennink for giving me the opportunity to participate in this project and by providing suggestions and ideas in the starting phase of this research and useful feedback after the data collection session in Central Kalimantan (CK).

Secondly, I would like to thank my Indonesian friend Mita Kusumaningrum for connecting me with very helpful people in the Palangkaraya area. Due to her connections, I found a good home stay and I was able to establish collaboration with two non-governmental organizations, called REDD+ and PNPM. Furthermore, her contribution by solving translation issues was highly appreciated.

Thirdly, my appreciation goes out to the professors from ITB, dr. Joko Siswanto and prof. dr. Togar Simatupang and prof. ing. Limin Suwito from the University of Palangkaraya. They were very helpful in the preparation- and evaluation phase of this research. Via our meetings I gained new insights and relevant information concerning CK and its plantations. Fourthly, I would like to thank pak Migo, employee of the organization REDD+ for setting up meetings with the local people and governmental institutions, for the sightseeing activities in Palangkaraya and for making me feel more comfortable and at home in CK. Besides that, I especially enjoyed our discussions about Indonesia and the Netherlands. Additionally, I would like to thank Julius (also employee of REDD+) for being my translator and for joining me on the field trips. Your help was very important to my act of data collection since the communication barriers were significantly diminished.

Fifthly, a special thanks to all the local people, head of the villages and government officials for providing me with useful information for my data collection and once again, I realized how friendly, open and interested Indonesian people are.

Finally, I would like to thank my girlfriend, friends and family for supporting (financially, socially and emotionally) during this important, final phase of my studies. Especially when it comes to proofreading my thesis, providing me with constructive comments and good suggestions and of course, making sure I enjoyed my spare time to the fullest.

## Table of contents

<b>1. Introduction</b>	<b>01-04</b>
<b>2. Literature review</b>	<b>04-23</b>
2.1. Community empowerment	04-05
2.2. Community participation, social capital and trust	06-08
2.3. Networks and collaboration	08-10
2.4. Social entrepreneurship	11-12
2.5. Social franchising	12-15
2.6. Stimson model (2009)	15-16
2.7. Investment and the Indonesian subsidy environment	16-21
2.8. The literature review in a nutshell	22-23
<b>3. Methodology</b>	<b>24-31</b>
3.1. Economic profile (rubber plantations) in Central Kalimantan	25-28
3.2. Multi-method data collection approach	29
3.3. Modification of the Stimson model (2009)	30-31
<b>4. Results from the field research</b>	<b>31-40</b>
4.1. Interviews (I & II)	31-35
4.2. Main findings Henda	35-36
4.3. Main findings Buntoi	36-37
4.4. Main findings Jabiren	37-38
4.5. Overview of main findings field research	38-40
<b>5. Discussion</b>	<b>41-54</b>
5.1. Which factors are important in LED to achieve group entrepreneurship?	41-42
5.2. How important are community empowerment and participation in this project?	42-45
5.3. What is the role of social capital, social franchising and networks in this project?	45-46
5.4. Which LED models are available for this type of projects besides the Stimson (2009) model?	47-54
<b>6. Results</b>	<b>54-61</b>
<b>7. Limitations and future research</b>	<b>61-62</b>
<b>8. Conclusion</b>	<b>63-65</b>
<b>9. Appendix - practical examples</b>	<b>71-75</b>
1. Outreach international bio-energy	71-72
2. Pt Bumimas	72-73
3. REDD+ and PNPM	73
4. Garbage Bank Indonesia	74
5. Brazilian example	74-75

## **Glossary of Acronyms**

LED	Local Economic Development
MBD	Mobile BioDiesel
ITB	Institut Teknologi Bandung
LERD	Local Economic Resource Development
RED	Regional Economic Development
CK	Central Kalimantan
NGO	Nongovernmental Organization
GO	Governmental organization
CDM	Forestry Clean Development Mechanism
UNFCCC	United Nations Framework Convention for Climate change
MSA	Multi-stakeholder Approach
Karet	Rubber
Rp.	Rupiah

## **List of figures**

- Figure 1. The functions and purposes of social entrepreneurship
- Figure 2. The approach in Rubber tree planting and the MBD project
- Figure 3. Main idea of MBD project (Siswanto, 2012)

## **List of models**

- Model 1. Stimson model (2009)
- Model 2. The element for a framework for Local (Economic) Development
- Model 3. Value creation chain on micro-level
- Model 4. Financial construction model for LED-related projects
- Model 5. New LED model showing money flow necessary to achieve group entrepreneurship

## **List of tables**

- Table 1. Types of social franchise
- Table 2. Actual government expenditures

Table 3.	Overview of investment in (hard) infrastructure in 2011 in CK
Table 4.	Regional poverty in 2009
Table 5.	Poverty level in CK
Table 6.	Multi-method data collection approach
Table 7.	Most common formal LED strategies pursued by authorities
Table 8.	Perkembangan Produk Domestik Regional Bruto (PDRB) Subsektor pada Sektor Pertanian tahun 2005 – 2009
Table 9.	Perkembangan Ekspor Komoditas Perkebunan dan Turunannya di Provinsi Kalimantan Tengah Tahun 2005- 2009
Table 10.	Table 10. Perkembangan Luas Areal Perkebunan di Provinsi Kalimantan Tengah Tahun 2005 – 2009
Table 11.	Perkembangan Produksi Perkebunan di Provinsi Kalimantan Tengah Tahun 2005 – 2009
Table 12.	Proyeksi Sasaran Luas Areal Perkebunan Provinsi Kalimantan Tengah Tahun 2011 – 2015
Table 13.	Proyeksi pengembangan areal perkebunan per tahun di Provinsi Kalimantan Tengah 2011 – 2015
Table 14.	Proyeksi sasaran produksi komoditas perkebunan di provinsi Kalimantan Tengah 2011 – 2015
Table 15.	Sasaran Pengembangan Areal perkebunan Karet per Kabupaten/kota se Kalimantan Tengah Tahun 2011-2015
Table 16.	Sasaran Produksi Karet per Kabupaten/kota se Kalimantan Tengah Tahun 2011-2015 (slab/sheet)
Table 17.	Distribution of number of farmers by commodity plantations in Central Kalimantan in 2010

### **List of maps**

Map 1.	Central Kalimantan nature reserves, mining and plantations
--------	--

## SECTION I: INTRODUCTION

Through the processes of globalization, remote rural areas become connected to the outside world, which provides the potential to gain access to large markets for locally produced goods (Pike et al., 2006; Simister and Smith, 2010). However, this is not necessarily beneficial to remote communities since many rural communities are unable to control their own development process without outside interference. Additionally, enclave formation could form a sincere threat for these local communities. Enclave formation means that a significant part of the supply chain is controlled by large (private) firms and not by the local community. Enclave formation is often the result of the fact that the community cannot effectively analyze their own development needs and do not know how to harness the resources to meet these needs (Sesay et al., 2010). In addition, they do not possess the techniques, knowledge and skills to operate and produce more efficiently than these large corporations. Furthermore, it is widely acknowledged that if remote rural areas fail to develop adequate institutions and stock of human capital, their development potential is at risk in the competitive national-, regional-, and/or global economies (Nissanke and Thorbecke, 2006; Pike et al. 2006; Simister and Smith, 2010; Stiglitz, 2002). These findings indicate that a lack of technical-, managerial and financial knowledge and skills among the community in remote areas could result in genuine limitations to a remote community's ability to develop even though they have better access to larger markets due to globalization. A solution to this potential problem could be offered by LED. According to the Worldbank (2011), "the purpose of Local Economic Development (LED) is to build up the economic capacity of a local community and to improve its economic future and the quality of life for all" and "it is a process by which public, business and non-governmental sector partners work collectively to create better conditions for economic growth and employment generation." Similarly, a long term objective of regional economic development (RED) is to internalize a process that ensures a competitive and entrepreneurial city or region and on that achieves sustainable developments (Stimson et al., 2005). LED is essentially a process in which local governments and community based groups manage their existing resources and enter into partnership arrangements with the private sector, or with each-other, to create new jobs and stimulate economic activity in an



economic area (Zaaijer & Sara, 1993, p.129). The above emphasizes the importance of quality relationships and cooperation between various institutions and local community in order to promote and increase LED. Basically, networks need to be established between stakeholders (e.g. local communities, local governments, national governments, non-governmental organizations, etc.) to establish a specific level of collaboration, knowledge-sharing and trust. It is assumed that social franchising and social capital have the ability to bridge people and sources of capital, knowledge and skills and to establish collaborations between the stakeholders in their pursuit of increasing LED.

Social capital is a good instrument since it refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interaction (World Bank). In addition, community empowerment could positively contribute to this activity by increasing local community's participation and willingness to learn collectively. Furthermore, strong leadership and adequate institutions should ensure a collaborative environment wherein support is provided and stakeholders are motivated to achieve a social goal; being LED in this case. To establish a collaborative environment wherein various actions will be taken in order to increase LED, financial capital (money flows) play an important role since investments in various purposes, products and services need to be made. This study will investigate the possibilities of implementing renewable energy in the form of Mobile Biodiesel (MBD) in remote areas in Central Kalimantan (CK) and is part of the Local Economic Resource Development (LERD) program. Mobile refers to the generator which can be easily transferred to various locations in order to produce additional electricity for the local community. Biodiesel refers to the gasoline on which this generator is running and it is created by the conversion of waste products of rubber trees from a significant amount of rubber plantations in CK. MBD is considered to, on the one hand, 'provide a unique and vast market to link remote, generally uneconomic and degraded areas where many of the world's poorest people live, to global markets', however, on the other hand, market demand for agro fuels will create new social vulnerabilities, increasing pressure and competition land, and further weakening the relative position and food security of the most vulnerable rural actors (Siregar and Sugino 2008,2).

The aim of this study is to construct a new LED model, based on Stimson (2009) model, theoretical insights, and empirical findings from the field research in Central Kalimantan.

This new model mainly focused on integrating a group entrepreneurship dimension and to include a financial dimension. The group entrepreneurship dimension is included since this study argues that group entrepreneurship has the ability to overcome the problems caused by electricity blackouts. The financial dimension is concerned with money flows; namely its importance, source and distribution. Furthermore, this study elucidates which factors are essential to achieve group entrepreneurship and thus, for the introduction of the technology push (renewable energy). In order to be able to develop this new model, a special-made financial construction model for LED projects (such as the MBD project) and a value creation chain model are developed first, providing insights how money flows are incorporated in the process of LED, how group entrepreneurship can be developed and value can be created. The ultimate goal of the MBD project is to eventually positively contribute to the socio-economic problems of lack of energy access to, and poverty reduction of these remote areas. To achieve this ultimate goal, the development and improvement of both hard- and soft infrastructure in remote areas, an increase in domestic resource mobilization, an improvement of public sector activity and an appropriate level of external capital inflows are required. It was found that the remote villages in CK suffer from frequent electricity blackouts with long durations (Field research, 2012). Moreover, it was found that there exists a great lack of technical-, managerial- and financial knowledge among the local communities. This resulting in inefficient implementation of plans and actions aiming for LED, and a significant amount of spoiled capital obtained via government's (energy) subsidies. Finally, many hectares of rubber plantations are unstructured and used inefficiently, thereby presenting serious potential for the production of biodiesel and thus the MBD project. For these reasons, the title of this thesis is "Overcoming electricity blackouts in remote rural areas by collective institutional entrepreneurship: MBD project as catalyst"; arguing that group entrepreneurship has the ability to overcome the problems caused by electricity blackouts by introducing a technology push (renewable energy) in remote areas.

The main research question of this study is:

- ❖ *How to design a new LED model to include and stress the importance of money flows and group entrepreneurship in projects aiming for LED in remote areas using the Stimson model?*

To properly answer the main research question, the following related sub-questions are further specified and discussed.

- ❖ Which factors are important in LED to achieve group entrepreneurship and organize money flows?
- ❖ How important are community empowerment and participation for this project?
- ❖ What is the role of social capital, social franchising and networks in this project?
- ❖ Which LED models are available for this type of projects besides the Stimson (2009) model?

## **SECTION II: LITERATURE REVIEW**

This section of the paper provides a theoretical examination on factors considered to be relevant or essential for developing group entrepreneurship while introducing a technology push (renewable energy) and for increasing LED using the MBD project as catalyst. These factors include: community empowerment, community participation, social capital, trust, leadership, networks and collaboration, social entrepreneurship and social franchising. Furthermore, an overview of the Indonesian subsidy environment is provided to understand the money flows coming from the government.

### ***2.1. Community empowerment***

A significant part of the supply chain is controlled by large (private) firms instead of local community, who are in this case; the smallholder rubber farmers. More specifically, the so called “enclave formation” could cause some problematic issues for the local community. Enclave formation is defined by Helmsing (2005) as ‘the growing exclusion and loss of local control over the export base of a region or country; it concerns an extractive process by external firms which have very low reinvestment rates; and benefits and development of the economy are usually exclusive to FDI, with little room for linkages and knowledge spill over and learning by local firms. Similarly, Cooper (1972) and Clark (1975) argue that the production technology is often owned by large enterprises instead of (in this case) local smallholder rubber farmers. Shaw and Shaw (1999) argue that this enclave formation has negative consequences for local entrepreneurship; local entrepreneurs are generally limited to marginal location both geographically and economically. Linking this to the MDB

project, concerned with increasing local (group) entrepreneurship in order to stimulate LED, one needs to find a way to diminish the negative impact of enclave formation to a minimum. However, first it needs to be examined whether “enclave formation” does play a (significant) role in CK. In order to diminish the negative consequences of enclave formation for the local community, this study suggests taking on a ‘*community empowerment*’ perspective. Empowering people in the context of local development requires increasing the quantity and the quality of their opportunities to participate in local governance and local service delivery (Helling et al., 2005). More specifically, it implies a special emphasis on redressing inequities in voice, choice, and access across segments of the local population (Helling et al., 2005). It is a process, progressing along a dynamic continuum: individual empowerment; small groups; community organization; partnerships; and political action (Labonte, 1990; Rissel, 1994). This means that smallholder rubber farmers need to be treated as co-producers, with authority and control over decisions and resources devolved to the lowest appropriate level. One key factor toward community empowerment is the ability of community groups to mobilize or gain access to resources. This ability of the community to mobilize resources both from within and the ability to negotiate resources from beyond itself is an indication of a high degree of skill and organization (Goodman et al, 1998). It is assumed that skills and organization are developed via training- and educational programs and via strong leadership and pro-active participation. Community empowerment is basically about providing the local community with relevant information regarding various specific issues and a specific level of financial capital in order to support them in improving their economic situation. This activity requires pro-active participation by the community and willingness to learn collectively. Possessing essential technological- and managerial knowledge and skills, allow the local community to obtain a higher degree of control from private organizations and gain responsibility for certain processes in their respective areas. They will be held accountable for their actions and eventually, the degree of LED; also referred in the Stimson model (2009) as “outcome”. It is expected that private organizations are in control of the main resources and technologies in CK; since this is also the case in the palm oil industry and it is assumed that the rubber industry is relatively similar to this industry. Therefore, the enclave formation is expected to have sincere negative consequences for the local

community. In order to examine this expectation, meetings with people from both community- and (low-, mid-, and high) institutional level will be arranged and issues concerning community empowerment, ownership and leadership will be discussed.

## ***2.2. Community participation, social capital, trust and leadership***

As mentioned earlier, the ability to empower the community depends on the degree of proactive participation by the community itself and other stakeholders and the degree of willingness to learn collectively. Additionally, de Windt (2011) argued that community (smallholder rubber farmers) involvement in all phases of the development process will enhance the chances of transferring the necessary skills to pursue development in their communities even after donor funds have been depleted, and will encourage to learn the long-term development planning, budgeting, proposal writing, project design and organizational skills necessary to implement new projects. LED is generally considered as a cost-effective and community empowering process which has a defined role to play and which can yield benefits for participating communities (Nel, 2001). For this reason, it is believed that a well-developed social capital structure and a willingness to participate proactively by all parties involved will lead to a social benefit which will strengthen the economic situation in CK.

Adler and Kwon (2002, p.23) define social capital as the goodwill available to individuals and groups; its source lies in the structure and content of the actor's social relations and its effects flow from the information, influence, and solidarity it makes available to the actor. Furthermore, Woolcock (1998) and Putnam (2000) define social capital as the social networks and associated norms of reciprocity and trust that enable people to act collectively ; includes bonding capital (ties connecting family members, neighbors, and long-standing groups sharing a common identity), bridging capital (horizontal ties among people with similar social and economic status who typically associate based on interest), and linking capital (vertical ties linking people of greater power and status with others based on identity or interest). Social capital facilitates the creation of intellectual capital (Hargadon & Suttion, 1997; Nahapiet & Ghoshal, 1998) and entrepreneurship (Chong & Gibbons, 1997) and strengthens regional production networks (Romo & Schwartz, 1995). Trust and co-operation are essential for achieving indigenous

efforts at community development (Nel, 2001) and thus, one need to create both trust and co-operation between the involved local communities in the respective villages in CK to ensure proactive participation by them. Furthermore, people's capabilities to participate effectively in local development are determined not only by individual resource endowments, but also by social capital that provides the basis for collective action (Helling et al., 2005). Participation is basic to community empowerment and Goodman et al. (1998) point out that both participation and leadership are closely connected. Participation and leadership are two important and related dimensions of community capacity and these two factors are connected in that a community lacks capacity when its leadership does not have a strong base of actively involved residents. Conversely, participation without the direction and structure that leadership provides often results in disorganization (Goodman et al., 1998). Similarly to the latter, Gruber and Trickett (1987) argue that participation without a formal leader who takes responsibility for getting things done, dealing with conflict and providing a direction for the group, often results in disorganization. This could be a reason why Stimson's model (2009) for LED incorporates the factors "leadership" and "institutions". More specifically, Stimson (2009) states that sustainable development of a city or region will be achieved through a process whereby effective institutions and proactive and strong leadership improve the capacity and capability of a place to make better use of its resource endowments and gain an improved market fit in becoming more competitive and entrepreneurial (Stimson, 2009). Besides, Stimson (2009) emphasized that leadership and institutions, and how they interact to facilitate entrepreneurship are crucial elements for achieving sustainable development. In a country such as Indonesia, leaders are often historically and culturally determined in remote rural areas and one should definitely take this into account (while developing a project or LED program) with the purpose of diminishing the risk of not being accepted or utilized by the primary stakeholders. Additionally, in countries such as Indonesia, local leaders are often quite powerful and can have a major impact on local policies and the degree of enforcement (White et al., 2005) despite the fact that the Indonesian capital Jakarta (Java) is the economic, political and cultural center of Indonesia. Goodman et al. (1998) argue that a pluralistic approach in the community, one where there is interplay between the positional leaders, those who have been elected or appointed and the reputational leaders, those who

informally serve the community, has a better chance of leading to community capacity, and likewise to community empowerment. Specific to CK, most residents are members of the Dayak community, and therefore, it is expected that the Dayak culture is affecting leadership and institutions in such a way that local leaders are probably Dayak and working methods are affected by Dayak influences. Put differently, it is assumed that the choice for local leadership and the working methods are strongly influenced by the Dayak culture. Moreover, it is expected that the finding by Fredriks (2012), who found empirical evidence from local farmers and institutions stating a willingness to participate and change the current situation, will be confirmed by the field research (2012) that will be performed for this study in the region of Pulang Pisau. This field research includes visits to multiple remote villages in CK and meetings with various stakeholders from different “power” levels and examination of the expectations.

### **2.3. NETWORKS AND COLLABORATION**

One reason this paper suggests the utilization of social capital is because Schoot Uiterkamp and Pennink (2012) argue that a ‘human perspective of knowledge’ is more viable to stimulate Local Capacity Development (LED) and this approach argues that organizational learning depends largely on the learning capabilities of individual sharing (Carley, 1992; Nonaka, 1994) and consequently their degree of knowledge sharing (Cummings, 2003). Another reason is that local governmental institutions, national governmental institutions and the local smallholder rubber farmers (community empowerment) should work collectively on this project and establish some sort of ‘network’ or partnership. This is supported by McGuirk et al. (1998:109) who stated that the focus needs to be on the tendency among local stakeholders (private, public, immediate and individuals) to participate in local problem-solving of the city or region. A network can be defined as ‘a close set of selected and explicit linkages with preferential partners in a firm’s space of complementary assets and market relationships, having as a major goal the reduction of static and dynamic ‘uncertainty’ (Camagni,1991: 135). Currently, Indonesia increasingly engages in the regional and global production networks, resulting in the fact that the country’s export and import structure will keep transforming and this engagement requires better preparation by the Indonesian government (Patunru & Tarsidin, 2012).

It is assumed that networks have the ability to connect the farmers in remote rural areas (McCormick, 1996). Fredriks (2012) states that due to bad experiences with a corrupted government (the government gave them bad instead of good seeds); there exists a trust issue between the villagers and the government (Field research Pilang, 2012). By connecting the farmers in remote rural areas and establish a co-operative network, the trust issues between the local rubber farmers could be addressed and resolved. Social capital should be used as the “glue” since it is an important determinant of the level of trust (Guiso et al., 2004). One of the mechanisms through which social capital impacts economic efficiency (thus, the financial dimension) is by enhancing the prevailing level of trust (Guiso et al., 2004) – trust affects the level of financial development since financial contracts are the ultimate trust-intensive contracts. Since social capital is an important determinant of the level of trust, it should also affect the level of financial development (Guiso et al., 2004). Additionally, Piters (2010) argues that networks could provide access to credit- and technical assistance; and can support activities that provide added value and improves bargaining power vis-a-vis the private sector. All these functions of networks together should address the non-cooperation between the involved parties on both community- and institutional level caused by a lack of trust. One might refer to this whole process as “*capacity development*”, which can be defined as “the ability of people, organizations, and society as a whole to manage their affairs successfully” (OECD, 2006). In order to enhance the ability of establishing a successful network, a city or region needs to have the institutional fabric – that is, a culture or tradition of political coalitions and collaboration among stakeholders to work and create a broad constituency for change that has the breath and the integrity to push beyond the parochial interest of certain groups, whether it be private or public (Fairholm, 1994). Social capital is said to enhance that (Stimson et al., 2005). A practical example of the above is provided by O’Gorman (1995) and he provides a case study of community empowerment through partnerships and social movements in Brazil: *“Self-help groups addressing issues such as police violence, poverty and political corruption recognized that their strengths lay in unity and used the slogan ‘united, the people will never be overcome.’ Isolated projects and groups began to link up and form partnerships, which developed into a network of popular movements. Using their collective strength the movements were able to exert greater public pressure on the government to coerce it into*



*addressing the issues of social justice and equity. The movements increased their links with other non-government organizations in neighboring Latin American countries that had the shared interests of human rights and social justice. Through these links the organizations were able to share resources and strengthen an emancipator ideology”.*

This milieu becomes innovative when local actors begin to exploit advantages of collective learning and to adjust their own actions to that end – in other words, when ‘interactions amongst economic agents develop as they learn about multilateral transactions that generate innovation specific externalities, and as the learning processes converge towards increasingly efficient form of joint management of resources’ (Maillat, 1995: 161). Innovation is commonly embraced and stimulated within (group) entrepreneurship. The project in CK requires collective action — joint activities by a wide group of actors on the basis of mutual interests (Emery and Trist 1965; Marwell and Oliver 1993) — and is beyond the capacity of individual actors or even a small number of key entrepreneurs. Institutional change in such domains requires ‘collective institutional entrepreneurship’ (Möllering 2007), a term that we define as the process of overcoming collective inaction and achieving sustained collaboration among numerous dispersed actors to create new institutions or transform existing ones. Therefore, this study suggests group entrepreneurship for the MDB project. By group entrepreneurship is meant that all stakeholders together shape and reform (new) institutions and leadership, thereby develop a setting that creates opportunities for the local community to utilize their own resources in such a way that it empowers them and increase local economic development. Additionally, a collective learning environment needs to be established ensuring the sharing of knowledge, expertise and capabilities. Collectively, the various stakeholders could design new innovative ways of working; thereby, allowing them to improve the socio-economic situation in their respective villages. This research will investigate existing networks and collaborations and explore opportunities for improvement. It is expected that there exists some sort of network already within the villages, whether it is between farmers and/or local leaders since the remote villages are interdependent and have the same cultural and probably, historical background. Besides, it is expected that there will exist collaborations or projects requiring a specific level of collaboration between NGOs and the local communities.

## 2.4. SOCIAL ENTREPRENEURSHIP

Social entrepreneurship (SE) is assumed to be one appropriate approach to use during this project. SE can be defined as the development of innovative, mission-supporting, earned income, job creating or licensing, ventures undertaken by individual social entrepreneurs, nonprofit organizations, or nonprofits in association with for profits (Pomerantz, 2003). It serves multiple functions and purposes (Pomerantz, 2003): (1) It helps diversify the funding base of nonprofit organizations with increased program fees, licensing fees, and earned income; (2) it helps the nonprofit organization clarify its core functions and concentrate on those it can best and most economically deliver; (3) provides employment for hard to serve, lower skilled employees through “affirmative” social enterprises; (4) helps bank-disadvantaged people become self-employed through small loans and training; (5) it economically strengthens the local community. The main steps in social entrepreneurship exercised by a person or group are mainly: (1) creating social value; (2) recognize and take advantage of opportunities to create that value (“envision”); (3) employ innovation to take advantage of opportunities to create social value (Peredo and McLean, 2005). Below, a comprehensible figure is provided based on findings by Pomerantz (2003), mentioning the functions and purposes of social entrepreneurship.

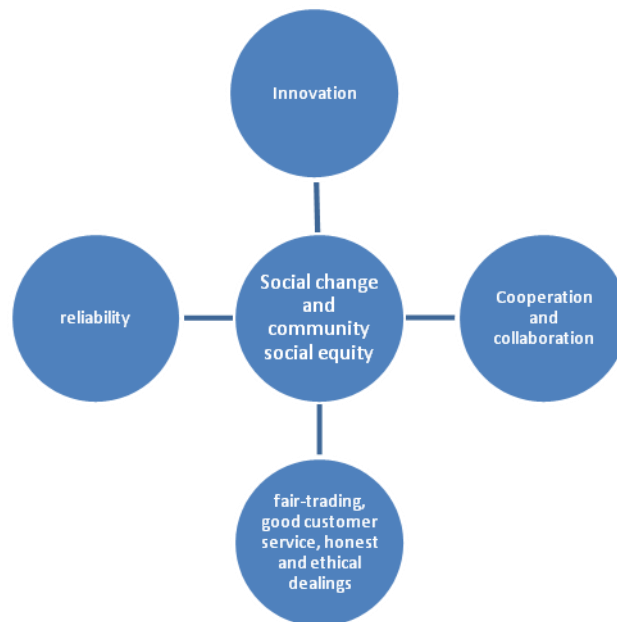


Figure 1. The functions and purposes of social entrepreneurship (Pomerantz, 2003)

Innovation is the act of being creative and finding new technologies to execute actions and plans and to improve a specific (in this case, economic) situation. In the MBD project, the technology push (Fredriks, 2012) can be considered as innovation.

Cooperation and collaboration refers to the degree to which parties involved work collectively to achieve a common (social) goal. Both cooperation and collaboration are crucial for establishing a (successful) network and to solve existing trust issues between various stakeholders. Fair-trading, good customer service, honest and ethical dealings are the aspects that ensure that others are not harmed by consequences of one's actions in their pursuit of achieving their social goal. In case of CK, the norms and values of the Dayak-community should be taken into consideration and the negative consequences of enclave formation should be diminished to a minimum. Reliability refers to the degree the stakeholders can label the MBD project as sustainable and profitable (not necessarily economic profit). It is shown via trust, support for MBD project and its outcome. The ultimate purpose of social entrepreneurship is to ensure a social change and community social equity in order to increase a community's ability to achieve sustainable economic development and to increase 'social value'.

## **2.5. SOCIAL FRANCHISING**

A good method to develop closer co-operation to achieve this 'network' between the various stakeholders is to incorporate a social dimension called 'social franchising', which is defined as an adaptation of a commercial franchise in which the developer of a successfully tested concept (franchiser) enables other (franchisees) to replicate the specific model using the tested system and brand name in order to achieve a social benefit. Basically, it is the adapted usage of business tools for non-profit projects – in return the franchisee is obligated to comply with quality standards, report sales and service statistics, and in some cases pay franchisee fees (WHO & USAID, 2007). It seeks to fulfill a social benefit whereas commercial franchising is driven by profit. This social benefit is represented by providing job opportunities, technological knowledge for maintenance of plantations and care for the people in the localities. Furthermore, franchising has the ability to overcome the three scarce resources of managerial skills, local market knowledge, and financial capital (Willis and Castrogiovanni, 2010). Additionally, it is expected that social

franchising can overcome the problem of lack of technological knowledge necessary for maintenance of machinery and equipment. Norton (1988b) posited that it was actually the building of both financial and human capital that makes franchising attractive as a means of growth. Because a franchisor lacks several forms of capital (financial and human) the best method for acquiring these resources is by bundling them together in a franchise system. In case of CK, there is mainly a lack of human capital and not necessarily a lack of financial capital. CK is known for its immense amount of natural resources such as coal, oil, rubber and various food resources. More specifically, the gross-regional products harvested on the plantations are of great contribution to the national level and had an average growth rate of 8.84% in the time-period of 2005-2009 (BPS 2010). The total value of exported rubber was equal to \$20,347 million in 2005. However, there is a lack of industry to process all these natural resources in an efficient method. This indicates that (social) franchising might be an efficient way of cooperation in this project by connecting various parties and develop a co-operative partnership and, in addition, establish a more structured method to process the resources into end-products. In a social franchise, the end goal is a social gain (Lönnroth et al., 2007). Belonging to a network, as described above, is an essential element in social franchising (Koehlmoos et al., 2009). Unfortunately, the usage and possibilities of franchising in non-profit sector have not yet been sufficiently propagated and published (Hartmann & Linn, 2008). In other words, the field of social franchising is relatively new - the main theoretical contributions and empirical research concerning social franchising come from various fields ranging from healthcare to education. In order to offer one with a better picture of how social franchising is defined in the health care sector so far, the following illustrative example from the literature is provided: *"A social franchise organization is built around the need for social services to improve the lack of access, poor quality, poor knowledge and unaffordable health services and by the social franchising approach create social benefits to the communities which potentially diminish mortality, morbidity and decrease unwanted births in developing countries (Montagu, 2002)."*

It is indicated that social franchising business models can 'rapidly expand health coverage to the poor, capture economies of scale and reduce the information asymmetries that often adversely affect the quality of care (Ruster, 2003). However, Meuter (2008) identified the following (potential) downsides which need to be kept in mind before franchising a specific

project: 1) there is a risk of changing initial mission when adapting it to other locations; 2) inconsistent behavior cannot only lead to a change of the original mission, but can also negatively influence the reputation of the organization as a whole; and 3) monitoring and evaluating franchisee performance is difficult. It can be stated that franchisors in the health care sector are often supported by international donors and non-governmental organizations (NGOs), which establish protocols, provide training, certify those who qualify, monitor the performance of the franchisees, provide brand marketing and bulk procurement (Ruster et al., 2003). Hence, the expectation that this project will receive support in multiple forms (e.g. financial, constructive, social, etc) from diverse parties, such as NGOs, GOs and the community itself.

There are two principal types of social franchising, with several variants of each model: stand-alone franchises and fractional franchises (Smith, 1997; Laukamm-Josten, 1998).

Two types	Stand-alone social franchise	Fractional social franchise
Franchiser	Provides the infrastructure and equipment → Franchises the space providers	Adds a package of services to an existing business; create an additional service and income stream for the franchisee
Franchisee	Share operating costs with the franchiser	
Advantage	Allows better control of the quality and pricing of franchisee's services	It can be replicated efficiently; does not need large amounts of seed capital; more sustainable in the long term
Disadvantage	It requires a great deal of seed capital to implement and is expensive to replicate	The difficulty and complexity it presents in controlling the quality and price of services

Table 1. Types of social franchise based on findings by Smith (1997) and Laukamm-Josten (1998)

The main difference between the two types of social franchise is the way it is structured and organized and to whom control is assigned. More specifically, it differs in the way which role both franchiser and franchisee play. In a stand-alone social franchise, the franchiser is more an organizer and provider of the basic "ingredients" such as

infrastructure and equipment. The control is mostly in the hands of the franchiser and stand-alone social franchises are mostly used in specific cases where customization is needed and the franchiser will tailor his actions to meet specific requirements. Hence, the name 'stand-alone' social franchise.

In a fractional social franchise the franchiser fulfills a more complementary role by adding services to an existing business or creates additional services or income stream for the franchisee to make the franchise more 'complete'. Hence, the name 'fractional' social franchise. This type of franchises is mostly less specific or special, and need a lower degree of customization by the franchiser. Consequently, it can be replicated more efficiently and a lower amount of seed capital is needed.

The implementation of renewable energy in the form of biodiesel in CK is considered as a 'technology push' (implementing new technologies). Fredriks (2012) found theoretical and empirical evidence which states that a technology push carried out by a franchising model (social or commercial franchising) can stimulate entrepreneurship and with that local economic development. It should be carried out by letting stakeholders from both institutional- and community level work collectively and utilize social capital, thereby pursuing a social goal in order to stimulate local economic development.

## **2.6. THE STIMSON MODEL**

Stimson & Stough (2008) recognized a shift in LED and RED from an emphasis on exogenous (external) factors to an emerging emphasis on endogenous (internal) factors influencing regional economic development. Those factors, including entrepreneurship, innovation, the adoption of new technologies, leadership, institutional capacity and capability, and learning are seen as the fundamental drivers of regional economic development arising from the resource endowments and knowledge base of a region (Stimson and Stough, 2008). Despite these factors are recognized as fundamental drivers of RED, they are not incorporated in the original Stimson model yet. Fredriks (2012) added a social aspect, namely a social franchising dimension already, whereas this study contributes to this model by adding a financial dimension and group entrepreneurship dimension. This financial dimension consists of the following components: level of investment (e.g. in infrastructure), investment packages, expected returns, stakeholders,

financial assistance to small firms, tax incentives and loan guarantees. More specifically, this study aims to investigate the role of institutions and leadership on this financial dimension. Stimson and Stough (2008) argued that strong leadership means that a region will be proactive in initiating LED strategy to monitor regional performance, set a vision for its future development, and implement both processes and plans that facilitate institutional change. Moreover, leadership from the project's perspective can be best defined as "the tendency of the community to collaborate across sectors to enhance the economic performance or economic environment of its region (De Santis & Stough, 1999).

Similarly, leadership according to Stimson (2002: 279) refers to a collaborative relationship between institutional actors encompassing the private, public and community sectors – and it will be based on cooperation and mutual trust. It is expected that mutual trust and cooperation are highly important in this MBD project since numerous stakeholders are involved and actions need to be taken in order to change the economic situation by increasing LED. However, it was observed that it is often difficult in regional economic development, planning, strategy and implementation to match desired outcomes of RED with the processes that create them (Stimson et al., 2006).

Institutions in regional economic development (RED) are necessary to manage and fund the regional or local development strategy process and to ensure the implementation of plans and actions and are closely linked to creation of learning infrastructure (Blakely, 1994). In the case of Indonesia, a significant amount of funds for development projects is spoiled, since there is a lack of understanding and implementation of plans and actions (Siswanto, 2012). Nel (2001) stresses that the role for government in RED is that of facilitating, supporting, part-financing and devolving control. Put differently, it is the government's responsibility to ensure that the money flows are observed and the implementation of plans and actions are monitored by governmental institutions.

### ***2.7. Investment and the Indonesian subsidy environment***

It is assumed that empowering the community and incorporating them is best done by letting the smallholder rubber farmers participate and invest in (thus, partly finance) the MBD project. This can, for instance, be done by letting them lease the equipment necessary for the production process of rubber. By investing they will obtain a certain percentage of

ownership, including responsibility for processes incorporated in the project. Ownership and accountability often leads to more incentives to work efficiently and sustainably and to establish a long-term focus so that one is increasingly able to reap the fruits for as long as possible. However, since the local community possibly does not have the sufficient amount of financial resources, external funding is also essential; especially in the starting-up phase (including a pilot) of the project. This is where both external private investors and the national- and local government come into play. It is assumed that it is not just the level of total finance available but the composition of this financing that determines the ultimate developmental impact (Chapter 9: Driving the real economy). Moreover, most local authorities, also in relatively affluent countries, spend a fairly small proportion of their budgets on direct economic development support (Helmsing, 2001). The role of local governments in LED is to create the conditions whereby firms, intermediary organizations and public agencies can engage in a self-organized process of interactive learning (Cooke and Morgan, 1998).

In order to find out to what extent the local community is able and/or willing to invest in this project, a proposal concerned with leasing the equipment after a successful pilot and start-up phase is suggested. Non-profit organizations, often dealing with social franchise projects, most likely serve beneficiaries rather than customers. This means, on the one hand, that it cannot always expect to receive payment and that; on the other hand, its approach will be different (Meuter, 2008). It has been widely claimed that LED would increase employment opportunities and the local tax base by making the city's or region's business climate more 'attractive' to mobile capital (Stimson et al., 2005). Growth coalition and partnerships have been formed between the public and private sectors to facilitate development projects (Maharaj and Ramballi, 1998), who argue that the project should not be funded too much by international investment since this would lead to profits being taken out of the country which negatively affected the local, small business. Assuming that Helmsing and Maharaj & Ramballi (1998) arguments are correct, one could state that the primary (external) investor in local development projects are national governments and thus it is expected that the national government's decisions will affect the in the proposed financial dimension that will be added to the current Stimson model (2009).

Therefore, the role and influence of the Indonesian national government as "financial



supporter” is illustrated below, providing a brief explanation concerning the amount of subsidies allocated to energy projects in Indonesia. Furthermore, it provides information about capital expenditure, mostly consisting of governmental expenses on infrastructure.

Throughout the last decade, Bank Indonesia has helped to keep the Indonesian macro-economy fairly stable, characterized by reasonably low inflation rates and relatively stable rupiah exchange rates (Patunru & Tarsidin, 2012). It is argued that 15 commercial banks have a market share around 80% and thus, the Indonesian banking structure is rather oligopolistic. Of particular concern to fiscal policy is the consistently large portion allocated for subsidy (Patunru, 2010). These subsidies are often allocated to various NGOs and organizations who seek to improve local economic development in Indonesia and to ensure the sufficient provision of public goods. Patunru & Tarsidin (2012) stated that energy subsidy takes up a huge portion of the total subsidy (with fuel subsidy dominating the total energy subsidy) and the subsidized non-energy items include food, fertilizer, and seeds. It is obvious that this “subsidy regime” in the budget is not sustainable, as a large portion of the budget is used for non-productive uses. Infrastructure, indicated previously as of significant importance to local economic development for example, is the sector mostly in need of a big spending allocation. Only about 8 percent of total government spending goes to infrastructure development, which is far below that allocated for energy subsidy, being 13–20 percent (Thee & Negara, 2010). A consequence of this unequal allocation of subsidies and government expenditures could be seen in the following. Indonesia has relax “supply constraints”, and infrastructure system is one of the most important supply constraints. Indonesia has failed to capitalize on its unique archipelagic geography by not having a primary international hub port, by not having adequate capacity at its domestic ports, and by not managing the domestic ports efficiently (Patunru & Tarsidin, 2012). However, Indonesia is currently increasingly engaged in the regional and global production networks, resulting in the fact that the country’s export and import structure will keep transforming and this engagement requires better preparation by the Indonesian government (Patunru & Tarsidin, 2012). Put differently, they are forced to make attempts to improve their hub ports in order to deal with the increasing level of import and export. The fossil fuel industry is affected by the above problem since Indonesia’s trucking costs (transportation costs) are the highest in ASEAN. Therefore, as

Helmsing (2001), Pike et al. (2006) and Swinborn et al. (2006) are stressing; development of both hard- and soft infrastructure is important for the economic development of a country such as Indonesia. Moreover, one can conclude that the development of the infrastructure in CK is of vital importance for its ability to increase LED in remote villages via the MBD project. The planned field research in CK will provide some relevant and more detailed information concerning the development of both hard- and soft infrastructure. The national Indonesian government is planning to reserve Rp. 317 trillion for subsidies in 2013; whereof Rp. 275 trillion on energy subsidies and Rp. 42 trillion on non-energy subsidies. The governmental expenditures reserved for subsidies are significantly higher than capital expenditure, planned to be around Rp. 216 trillion. Of this amount, Rp. 193 trillion is infrastructure expenses (H. David, Jakarta Post, 15 December 2012). Below, a more detailed and comprehensive overview is provided regarding capital expenditures and subsidies in Indonesia over the years 2007 – 2012.

*(Important note: a significant part of capital expenditure is infrastructure spending)*

Year	2007	2008	2009	2010	2011	2012
Energy Subsidies	116,866	233,013	94,586	139,95	195,289	168,560
Capital exp.	64,289	72,773	75,871	80,827	140,952	168,126

Table 2. Actual Government Expenditures (trillion Rupiahs), 2007 – 2012

Source: badan pusat statistik, statistics Indonesia, 2012 – [www.bps.go.id](http://www.bps.go.id)

Badan pusat statistik also confirms that a larger amount of government expenditures are allocated to energy subsidies than to capital expenditures, predominantly investments in infrastructure. However, as one can see – there is some fluctuation to detect in the allocation of energy subsidies over the years, whereas a yearly trend of increasing capital expenditures is a fact. Although a significant amount of subsidy is spend on energy and related projects, Siswanto (interview, 2012) argues that a large amount of funds coming from these subsidies is spoiled as a consequence of a lack of actual execution of plans and actions. This lack is mainly caused by shortage of understanding what to do once a subsidy is assigned to a specific (sustainable) energy project. More specifically, subsidies are

allocated to various NGOs and other organizations who are seeking to improve LED, however, there exist a common problem of information asymmetry between the provider of funds and the receivers. This could for instance, lead to a lack of knowledge and understanding of how to implement strategies and actions. In addition, many rural communities are unable to control their own development process without outside interference, since these communities cannot effectively analyze their own development needs and do not know how to harness the resources to meet these needs (Sesay et al., 2010). These problematic events result in the fact that most subsidies are not actually used for the determined end-goals and therefore, are not spend efficiently as the time goes by. Despite this fact, the demand for microfinance services is immense. Despite the existence of over 50,000 registered microfinance institutions, very few are targeting the poor and poorest and 51 percent of Indonesia's entire population remains without access to formal financial service (Grameen Foundation, 2012).

Harvie (2004) suggests that for SMEs in Indonesia the procedures for granting of loans at all levels needs to be simplified and financial institutions need to be more proactive in their efforts, especially with regard to micro financing. In other words, availability of financing from maximum sources needs to be promoted more effectively in helping start-ups, as well as expanding SMEs. Moreover, Nel (2001) stresses that the role for government in RED is that of facilitating, supporting, part-financing and devolving control. Therefore, governments and related institutions should maintain better control over the allocated subsidies by making it their responsibility to ensure that the money flows are observed. Furthermore, governmental institutions should monitor and offer support by the implementation of plans and actions. This way they will be increasingly able to provide better understanding of intended plans and actions and the above mentioned issue regarding spoiled subsidies and information asymmetry can be partly addressed. In short, (governmental) institutions and (strong) leadership (Stimson model, 2009) are crucial in allocating, regulating and monitoring cash flows in the form of subsidies and its purposes in order to ensure that the financial support is used efficiently to achieve a project's goals.

Most Indonesian SMEs are engaged in primary sectors (60% agriculture) and cottage industries. This mobile biodiesel installment project is closely linked to the primary

sectors, especially agriculture in the remote rural areas. Specifically, the Indonesian government prefers a price subsidy mechanism (mostly price support for crops and fertilizers, along with occasional trade protection) at the moment (Patunru & Tarsidin, 2012). Although such price subsidies might be justified in the short term, it will not be sufficient to improve well-being in the long run and it is difficult to make the products marketable since there is almost no industry in Kalimantan.

Problems that may arise in financing LED-projects in Indonesia are mainly caused by asymmetric information between the suppliers of funds and the project developers, the low-quality services banks provide in developing countries and the lack of technical-, managerial-, and financial expertise (PPT Von Eije, 2012). For this reason, this research is going to address the main sources causing problems concerned with this project.

The investment in the MBD project is a twofold which can be specified as followed: First, investing in both hard- and soft infrastructure to increase the accessibility to national, international and global markets is required. Hard infrastructure consists of the creation of a physical infrastructure like roads, bridges, rails, sewerage, and telecommunication networks. Soft infrastructure is intangible and consists of social, cultural and community facilities that enhance the quality of life and encourage local industry and business development via local public-, private-, and non-governmental cooperation (Helmsing, 2001; Pike et al., 2006; Swinborn et al., 2006; pp. 2 -3). To develop and improve both the hard- and soft infrastructure, it is suggested to utilize social capital since it has the ability to increase specialized knowledge, infrastructures, services and forms of integrations between firms, thereby strengthening competitiveness (Trigilia, 2001). For a strategy of this type to work it is necessary to involve local actors, but the autonomy of political action is also a necessary condition, namely, the capacity to resist – at both local and higher levels – particular interests and to pursue collective objectives (Trigilia, 2001). This study argues that this part of the investment should mainly be the responsibility of the national- and local government.

Secondly, investing in the core product, namely the mobile bio fuel installment; the construction, the transportation, production process and maintenance.

## 2.8. The literature review in a nutshell

The review argues that the act of community empowerment is vital for projects such as the MBD project. In countries such as Indonesia, enclave formation could form a serious problem for indigenous people. The local community often lacks the technological- and managerial skills and knowledge to improve their own economic situation by making better use of the natural resources in their respective areas. As a consequence, (local) entrepreneurship is negatively influenced. It is suggested that the local community should become increasingly involved and thereby, gain responsibility. Involvement requires proactive participation which can be stimulated by setting up education- and training programs in order to inform the local smallholder rubber farmers and other members of the community about the opportunities in their respective areas. Via these programs, they will develop technological and managerial skills which are vital to their action of improving the economic situation. Implementation of what they have learned into practice will provide them with a better understanding of specific (production) methods and for instance, how to structure and harvest the rubber plantations in a more efficient manner.

Social capital is used to bridge people since it is an important determinant of the level of trust (Guise et al., 2004) and therefore, plays a vital role in the above matter. People are connected via flows of information, collective learning, solidarity and trust and the end goal in the MBD project is a collective participation and collaboration between the stakeholders. Eventually, these efforts should stimulate and result in group entrepreneurship.

Especially trust and collaboration are essential for achieving indigenous efforts at community development (Nel, 2001). The indigenous people in this case is the Dayak community in remote areas in CK. Basically, the literature suggests that all the stakeholders in the MBD project need to establish a network using social capital as "medium". In addition, to achieve closer co-operation, Fredriks (2012) argues the use of social franchising which has the ability to overcome problems existing in the MBD project such as the lack of technical- and managerial skills and knowledge and lack of financial capital. Social franchising seeks to fulfill a social benefit by connecting people with a common purpose and let them co-operate in order to improve a specific (local) situation, which is

local economic development in this case. In order to establish effective network and close cooperation between the local community and other stakeholders, strong leadership from both community- and institutional level is required. Important to keep in mind here is that in this type of communities, leaders are often historically and culturally chosen and local leaders are often quite powerful and can have a major impact on local policies and the degree of enforcement (White et al., 2005).

Patunru and Tarsidin (2012) argued that the Indonesian government spends a substantial amount of money on energy subsidies, whereas a significant lower amount of government expenditures is allocated to capital expenditures, mostly being infrastructure expenses. This indicates that the MBD project is expected to receive external funding from either the national- or local government. At the local area level, knowledge needs to be transferred to diverse sets of stakeholders, e.g. individuals, institutions, enterprises, communities and households (Davis, 2006; Hulme, 2000; McNelly et al., 1999; Woller, 2004). However, due to bad communication and cooperation among the stakeholders, there exists a lack of ideas, creativity, efficiency and knowledge sharing. This often leads to the problem of information asymmetry. Consequently, this information asymmetry highly contributes to the inefficient implementation due to the lack of knowledge and expertise how to implement actions and plans or how to deal with the capital obtained via the subsidy. Combining the expectation of receiving (financial) support from the government and the problem described above, it is expected that the MBD project will indeed receive financial support from the government, only it is difficult to determine in what way it will be allocated and which purposes will be served and to what extent the subsidy will be spent in the correct way.

In the appendix, multiple practical examples are provided to illustrate how factors such as social capital or social franchising could be beneficial while implementing new technologies, manners or ideas to achieve a social goal. Put differently, these examples explain projects executed in remote rural areas and show the importance of some of the factors previously discussed. The aim of providing these practical examples is thus to illustrate how factors such as social capital or social franchising could be beneficial while implementing new technologies, manners or ideas to achieve a social goal. They could serve as useful examples (providing do's and don'ts) while implementing the MBD project.

### **SECTION III. METHODOLOGY**

This qualitative study used a research strategy which is focusing on both case-study and multi-stakeholder approach (MSA). A MSA is an approach that involves different stakeholders working together to achieve a common goal. The stakeholders in this case consist of the following: smallholder rubber farmers, local community (Dayak people), head of villages, head of districts, local governments (lower – high institutional level), national governments, NGOs organizing and monitoring the project, gas station operators and processors.

This research has been conducted in Central Kalimantan, Indonesia. More specifically, the main research location is called the Pulang Pisau region, which is located south from Palangkaraya. This city of Palangkaraya is the capital of CK and was the home base of the researcher. From here, multiple meetings were arranged with potential stakeholders from both community- and institutional level. In addition, collaboration with an NGO, called REDD+, was established and their office is also located in Palangkaraya.

The field research in CK covered a time-frame of five weeks. More specifically, one week and three days were spend in Bandung (Java) as preparation-phase. Within this period of time, several meetings were set up with professors and students from the ITB in order to gain relevant insights and understanding of the situation CK. Two and a half weeks were spent in Central Kalimantan, to collect the data by organizing several field trips to multiple remote villages in the Pulang Pisau area. Among these villages were Taruna Jaya, Henda, Jabiren and Buntoi. In addition, extra data was collected via meetings in REDD+ office and interviews with various people, such as professors from CIMPTROP, the University of Palangkaraya and the local government. After the field research in CK, nine additional days were spend in Bandung to evaluate and discuss the findings with the ITB professors and students closely linked to the MBD project.

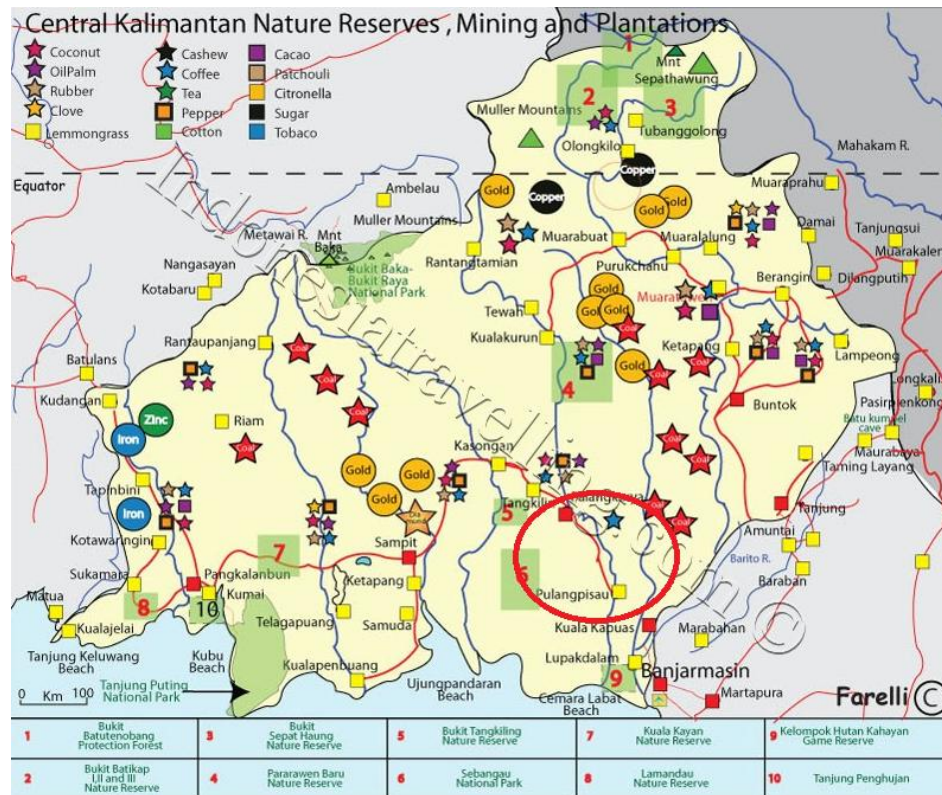
The main source of information were interviews and they were conducted with policy makers, professors from the Palangkaraya university, head of districts, head of villages and smallholder rubber farmers. The collected data mostly concerned the local farmer's willingness to invest and how, the money flows and actors incorporated within the project and information about rubber plantations. In addition, information defining the

plans and actions for and the level of financial support from institutional level was collected. Collectively, the empirical findings from the field research and the theoretical findings from the literature review form the base of the data for this study.

### 3.1. Economic profile (regarding rubber plantations) of the location

This section will display the economic profile of the rubber plantations in the Pulang Pisau region. In this region, the following locations were visited: Taruna Jaya, Henda, Jabiren, Buntoi, Mantaren and Palangkaraya. These villages in CK have been highly essential to my data collection session and served as prime information source for this respective research. Map 1 provides a schematic representation of the natural reserves, mining and plantations in CK. The red circle indicates the area wherein this research has been conducted.

The economic profile of this area reveals information regarding the percentage of plantations reserved for the production of rubber, level of ownership of and control over rubber plantations, annual growth rates, and production targets until 2015.



**Map 1. Central Kalimantan Nature Reserves, Mining and Plantations**  
(source: Indonesiatraveling.com – Dec 2012)



In CK, 27% of all plantations (in ha) is reserved for the production of rubber (“karet”) in 2010 (see figure 4, appendix). By the end of 2010, 316 units had invested in the plantations in CK, equal to an amount of 3,755,068.694 ha of plantations. 27 out of these 316 units invested in rubber plantations – equalizing an amount of 259,826.000 ha of plantations. 8 out of this 27 units invested in “active” rubber plantations which is equal to 111,357.220 ha of plantations. The remaining 19 units invested in still “non-active” rubber plantations, equalizing 148,468.780 ha.

The total amount of rubber plantations (in ha) is owned and controlled by three different parties. The bulk of plantations is owned and controlled by the community, namely 97%. The second party, having ownership of and control over merely 2% of the rubber plantations are private organizations. Lastly, the government owns and controls the remaining 1% of the rubber plantations. Put differently, merely 3% of total amount of rubber plantations (in ha) is owned by the Indonesian governments and the private organizations and the rest (97%) is owned by the community. The annual growth rate of rubber production is only 1.92%, whereas the growth rate of the Pulang Pisau area is 1.7% per year (see table 10, appendix). The plantations that are owned by private organizations (called PBS) are growing by a rate of 24.03%, whereas the rubber plantations controlled by the government (called PNB) have an annual growth rate of solely 5.35% (see table 10, appendix).

In the time-period 2005-2009, rubber was the second most produced commodity in CK, right after the commodity palm oil. The (community) rubber production growth rate was 7.29% per year, the (government) rubber production growth rate 17.73% per year and (private organizations) production growth rate was -15.86% per year (see table 11, appendix). The production of rubber in CK was above the national level, however, if this rate is compared with the potential production standards (in CK) it is still considered as low. CK has namely the ability to produce up to 2,000 kg/ha of rubber – instead of the average of 963,14 kg/ha of rubber it produced in 2009. The examined region in this research, the “Pulang Pisau area”, achieved a rubber production of 888.83 kg/ha of rubber, which is below the average amount of 963.14 kg/ha (see figure 5, appendix).

Therefore, Suwido Limin (Interview 2012) argued correctly that the MBD project should

also include the Gunung Mas area. According to the graph, Gunung Mas produced 1218,48 kg/ha of rubber (see figure 5, appendix); thereby being the second largest producer of rubber and far above the average production of 963.14 kg/ha. It was found that from all the produced rubber in CK, 9.1% of the rubber is damaged and 6.0% is considered as old and thus, of lower quality or even useless. Field research (2012) indicated that a specific part of these damaged and old rubber trees is used for replanting- and construction activities and serves as wood for fires.

CK offers an astonishing amount of 15.3 million hectare (ha) of plantations where natural resources can be extracted and developed. The Indonesian government is planning to allocate 30,99% of the 15.3 million hectare of plantations to the development of rubber, coconut and palm oil plantations in the time period of 2011 - 2015. This means that 4,744,523 ha can be used for harvesting these commodities. Regarding human resources, it was stated that around 182,000 people are employed on rubber plantations in 2010 (see table 17, appendix). The target of regional area development of rubber plantations in Pulang Pisau is set at 1,161.62 in 2013, 1,196.47 in 2014 and 1,232.36 in 2015 (see table 15, appendix). In addition, the target of rubber production in Pulang Pisau is set at 78.494 tons in 2013, 88.494 tons in 2014 and 95,994 tons in 2015 (see table 16, appendix).

These plantations are largely utilized by the agricultural sector and the main commodities are palm oil and rubber. Most poor people are employed in the agricultural sector. To give one an impression of and to provide one with general information regarding the regional poverty level, the two figures below are made available.

	Rural (%)	Urban (%)	Total (%)	Per capita income: Rural	Per capita income: Urban
Sumatra	15.0	12.2	13.9	357	558
Java-Bali	17.7	10.6	13.7	294	543
Nusa Tenggara	22.4	24.6	23.0	253	405
Kalimantan	9.1	5.1	7.5	376	697
Sulawesi	18.3	6.7	14.8	275	570
Maluku	25.9	7.5	20.9	313	591
Papua	46.3	5.9	37.1	315	707
Indonesia	18.9	10.7	14.1	311	550

Source: BPS (2010), Resosudarmo and Yusuf (2009).

Note: Per capita income in Rp '000 (2008 prices).

Table 4. Regional poverty in 2009

Province	Number of Poor People (000)			Percentage of Poor People			Poverty Line	
	Urban	Rural	Urban+Rural	Urban	Rural	Urban+Rural	Urban	Rural
Central Kalimantan	32.40	115.70	148.00	4.26	7.64	6.51	268.576	270.626

Table 5. Number of/ percentage of poor people in Central Kalimantan

Source: Badan Pusat Statistik, Indonesia. January 2012, www.bps.go.id

One can see that Kalimantan, where this research is conducted, has the lowest percentage of regional poverty however; be careful drawing conclusions from this number since Kalimantan is home to a relatively small percentage of the total population in comparison to Java-Bali. It is argued that numerous programs have been launched to reduce poverty however; most of them are ad hoc and short-term in nature. This was also indicated by the heads of villages (Interview 2012), who indicated that multiple projects were promised to improve LED in other parts of Kalimantan, however, were never realized and once they actually were introduced, regularly had relatively short-term focus or effect. Due to these experiences, they stress the importance of continues training and improvement; a long-term and sustainable focus.

In addition, they mentioned that there are almost no projects focusing on increasing LED within their respective areas and if there are, Meuter (2008) argues that a lot of projects in the non-profit sector are not sustainable in the long term and often do not extend beyond the initial pilot phase. It is assumed that a well-functioning social protection program, in addition to an educational- and training session could contribute to this longer-term perspective.

- ❖ **Important note:** all the data (incl. tables and figures in the appendix) regarding rubber plantations in Central Kalimantan (mentioned above) is from highly important and confidential governmental documents and **cannot** be shared or used without approval from the authors. The details of the document will not be published or mentioned in this study. For any questions regarding this document, please contact Niek JW Verkruijsse – whose contact details are mentioned in this study.

### 3.2. Multi-method data collection approach

Table 6 displays a comprehensive overview of the methods used to collect the required data for this study.

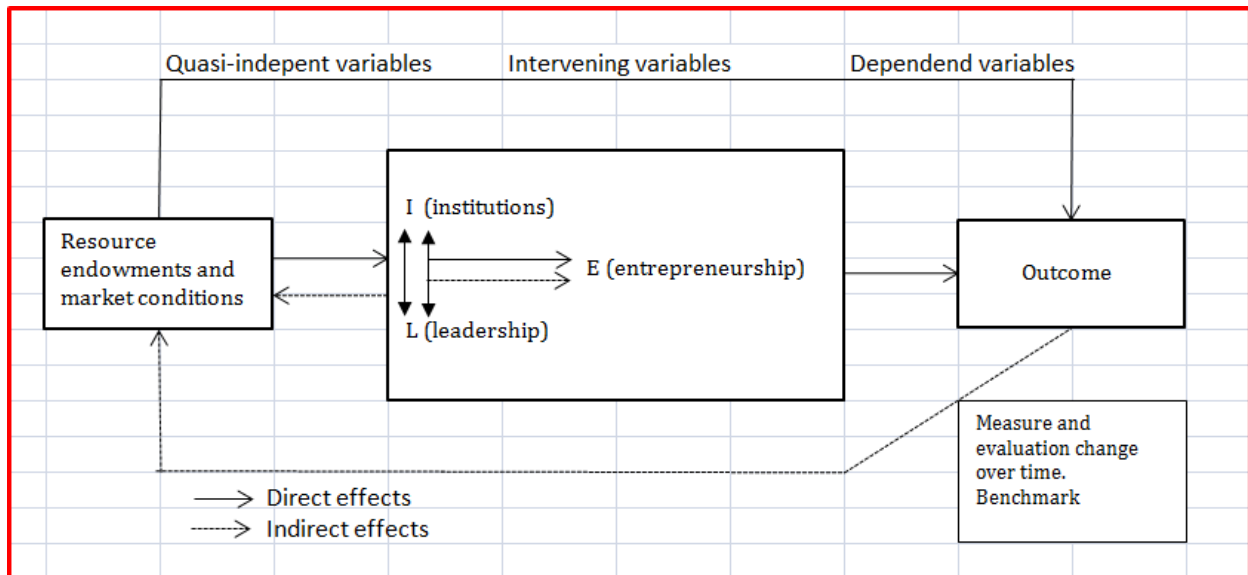
<b>Multi-method data collection approach</b>	
<b>Phase 1</b>	<ul style="list-style-type: none"> <li>- Collecting secondary data sources regarding LED and the relating factors</li> <li>- Meetings with dr. B. Pennink to gain deeper understanding in the MBD project and to work out a strategy</li> </ul>
<b>Phase 2</b>	<ul style="list-style-type: none"> <li>- Interview with multiple professors at and from the Institut Teknologi Bandung (ITB)</li> </ul>
<b>Phase 3</b>	<ul style="list-style-type: none"> <li>- Data collection in Central Kalimantan; Region of Pulang Pisau in the villages Taruna Jaya, Jabiren, Henda and Buntoi</li> <li>- Interviews with different stakeholders of the MBD project. Two levels: institutional level (departments, head of district, head of villages) and community level (the smallholder rubber farmers)</li> <li>- Cooperation with NGOs such as REDD+ and PNPM for data collection, networking and general information</li> </ul>
<b>Phase 4</b>	<ul style="list-style-type: none"> <li>- Reflection of data collected in Central Kalimantan with the experts from the ITB Bandung and PHD candidate from the University of Wageningen</li> </ul>

Table 6. Multi-method data collection approach

### 3.3. The Stimson model (2009)

The main aim of this study is to design a new LED model, integrating both factors suggested by Stimson (2009, see model 3.) and a financial- and group entrepreneurship dimension. Moreover, this new LED model includes multiple levels such as international, national, regional and local and elucidates how money flows are incorporated in the actions with the intention to increase LED.

However, in order to be able to construct this new model, this study provides two essential models for the MBD project first, namely a special-made financial construction model and a value creation chain model. These models are meant to be used for LED-related projects such as the MBD project. The financial construction model is created to illustrate the money flows incorporated in the process of increasing LED and the value creation chain (micro-level) model in order to show how value is created by utilizing resources and how is it distributed among actors.



#### Model 1. A new model framework for Regional Economic Development (RED)

This model states that sustainable development of a city or region will be achieved through a process whereby effective institutions and proactive and strong leadership improve the capacity and capability of a place to make better use of its resource endowments and gain an improved market fit in becoming more competitive and entrepreneurial (Stimson, 2009). Stimson (2009) emphasized that Leadership (L) and Institutions (I), and how they interact to facilitate entrepreneurship (E) are crucial elements for achieving

sustainable development. Siswanto (Interview 2012) suggested replacing the term institutions by 'business systems' or 'management systems' if one decides to apply this model to the MDB project in Indonesia. The reason for this change is because many institutions in Indonesia have bad or no business/management systems. Therefore, the "I" in the model will be changed into "BS" or "MS".

This study's practical implications are related to its application in similar areas in other upcoming economies such as Brazil. Five practical examples integrating social franchising activities and other relevant factors are provided in the appendix in order to give one a better understanding of how certain factors are incorporated in the process of LED. Findings of this study could be relevant if the introduction of the MBD installment appears to be successful and sustainable. Put differently, this study might function as useful case-study for other local governments who consider developing similar projects in order to boost sustainable development and LED of remote areas in their respective countries.

## **SECTION IV. Results Field Research 2012 in Pulang Pisau area**

This section reveals two important interviews with several professors and master students from the University of Palankaraya and the Institut Teknologi Bandung (ITB). More specifically, it includes knowledge and information from someone with extensive field expertise and employed by an NGO. Information regarding various issues, for instance the fossil fuel industry, rubber plantations and the situation on CK is provided. Furthermore, it presents empirical findings from the field trips to multiple villages. The main goal of this section is to provide one with general, however specific and essential information regarding the opportunities for the MBD project in the Pulang Pisau region.

### **4.1. Interviews - # I**

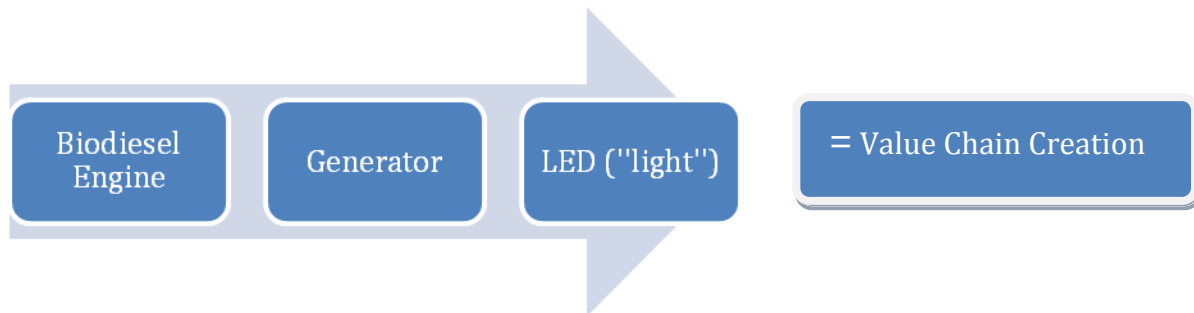
Diesel consists of 80% crude oil and 20% bio-fuel. According to inside information of PERTAMINA, the number one gas station operator in Indonesia, 45% of the price of one liter diesel is reserved for transportation costs, and in Kalimantan this number is even slightly higher, namely 47%. PERTAMINA earns 2.5 cents per liter and each gas station 'imports' on average around 10 tons of diesel every single day. In Indonesia, PERTAMINA is

subsidized by the national government who established a fixed price of Rp. 4,500, which is around \$0.46/ €0.36 per liter. The real price per liter fluctuates between Rp. 8,900 (\$0.92/€0.70) and Rp. 9,500 (\$0.98/€0.75) and this means that the government's subsidy covers around 50% of the price. In addition, the production of oil is mostly done via pipes and the pipe infrastructure is paid by the government. Every Indonesian city has a large storage and trucks transport 6 - 12 tons of diesel to all these cities on a daily basis. The refineries can exist for a time period of 25-35 years and the costs to keep the production running is mainly a government expense (almost 80%) and the remaining 20% of the production costs are for the operator itself. For this project, incorporating social entrepreneurship, it is relevant to identify the actors/stakeholders involved and to discover more about their contributions and rewards. Some examples of involved actors are; business station officer, processor, national- and local government and local smallholder farmers. It is of our interest to find out whether there is a prospect that a significant part of the transportation costs of diesel can be distributed among the producers of biodiesel and how many hectares can be assigned to the production of biodiesel. The project's main focus is on value creation, which basically holds that it is not only about offering the product (the "Greenerator") but also provide a service; Put differently, offer an experience. Key to this experience is mutual cooperation between parties from both the community and institutional level. They need to form a 'service level agreement'.

Regarding the rubber plantations; basically, there are two types of rubber trees. There is the traditional rubber tree which needs around 7 - 10 years to be able to tap and lasts for around 30 years. This type of tree is still frequently used, since it has 'cultural value' to the local (Dayak) people and because they are useful for a longer time. The other type of rubber tree (called superior tree) is introduced by the government and can be tapped in already 3 - 5 years, however it lasts for a shorter time. Besides the introduction of this 'superior tree', the government is already paying for the maintenance, seeds and cost of labor if local smallholder rubber farmers decided to work with this type of rubber tree.

Unfortunately, policies regarding the payment of the production process of this type of rubber changes often and therefore, local farmers are not really keen on working with this type of rubber trees although the quality of the latex is normally higher.

To illustrate the vision of Siswanto (Interview 2012) in a comprehensible manner, the following model is constructed.



**Figure 3. Main idea of MBD project ( Siswanto, Interview 2012).**

In short, the generator is running on biodiesel (obtained via the conversion of rubber waste products into biodiesel) and generates additional electricity that will be provided to the communities in the remote areas. This generator is mobile and as a result, could be easily transferred to locations in need. By “bringing” additional electricity, one is able to offer a solution to the socio-economic problem of a lack of access to electricity. Better access to electricity will enhance the community’s ability to improve their production processes and thereby, increase LED. This process could be considered as value chain creation.

#### **4.1. Interviews – # II**

Rubber plantations should be rephrased into rubber forest. The traditional people, called Dayak, are well numbered in CK and relatively influential since they live in numerous villages and own a significant amount of plantations where rubber trees are harvested. The Dayak community feels comfortable to work with these traditional trees due to the fact that it has cultural value to them and they are familiar with this type of trees for ages. Rubber can be considered as the main source of income for Dayak-based villages; however a shift is recognized to other natural resources. The community’s process of harvesting rubber trees is quite different from the production process on the plantations owned by private corporations. This is mainly showed by the lack of structure present in the land where rubber is harvest by Dayak people. Therefore, Suwido Limin refers to ‘rubber forest’ instead ‘rubber plantations’. This kind of structure requires less maintenance and other management activities while harvesting which is preferred by the Dayak people. For this



reason, Dayak people are not eager to start working with the rubber trees which are introduced by the national government; the so-called 'superior trees'. However, this type of rubber tree can already be tapped in a shorter amount of time, namely around 3-5 years and the quality of the final product, latex is relatively higher. Suwido Limin (Interview 2012) confirms that the price of one kilo of latex heavily fluctuates and is totally depending on the demand and changes in the currency. Furthermore, he sees significantly more potential in using seeds and waste of rubber trees to create biodiesel instead of the use of *Jatropha*. He indicates that the project needs an injection from the government. Not only a financial injection in the form of loans, funding or hard cash, but more importantly, a *guarantee* from the government that they will be the purchaser of the final product. There are two main problems occurring while realizing this project:

a) there is absolutely not a sufficient amount of knowledge about the potential of the seeds and waste and how to process them; and b) there is not a real market for the product.

By guaranteeing that the government will buy the product, a market is created. Additionally, he mentioned that when a market is created, an industry will automatically develop and this will address the problem of the little ability to actually process the natural resources/raw materials into end-products. Nowadays, the government only provides project support in terms of providing seeds, pesticide and related equipment. An important factor to consider in CK is the fact that natural resources exist in an excessive amount and are not scarce at all. However there is mainly a lack of human resources (especially shown in the lack of managerial skills, technological knowledge, and the number of population). The government should act as stakeholder, not as middleman – to avoid any troubles regarding corruption or abuse of power. However, products should be marketable and therefore, an industry needs to be established which Pak Suwido Limin believes can only be established by the government. In short, in CK it is just about selling raw products; there are almost no industries. Critical to this project are the process of marketing, understanding and incorporating the Dayak indigenous culture and processing the knowledge. Before educating the local farmers, the project team should try to elucidate and provide evidence regarding the benefits for the local community. It is suggested that we run a pilot in a number of remote villages and expand when it turns out to be beneficial and problem-solving to the community. Villages located in the region of Pulang Pisau could

function as “try-out-villages”, however it is suggested to also include villages in the area of Bawan and Gunung Mas, where they have a large variety of traditional rubber trees and it is a relatively dry regions in comparison with Pulang Pisau, which is normally a wet region. In order to set up this project, we could cooperate with the organization called CIMPTROP, which supports international scientists to organize projects in Kalimantan.

The next section will continue with the main findings in the remote villages in the Pulang Pisau region. The project’s focus is on introducing renewable energy in the form of biodiesel produced by the conversion of rubber trees’ seeds and waste products. Therefore, the findings provide information regarding the amount of hectares of rubber plantations, the (existing) purposes of the seeds and waste products, the access to electricity and potential interest in the project. More specifically, the field research examined the need for the MDB project and its opportunities; thus its potential to be a beneficial catalyst.

#### **4.2. Main findings in Henda**

- Community: *The ‘Dayak’ people have an obvious culture and way of doing things*
- Purpose seeds and other waste products: *Not used for a specific purpose besides wood for a fire and wood for building houses or bridges – especially the trees which are older than 20 years*
- Price of latex (kg): *heavily fluctuates between Rp. 8,000 – 9,000*
- Network/collaborations: *in the village there exists cooperation among local farmers and the village counts multiple ‘farmer groups’. They could make a proposal which can be forwarded to the head of the village; who will arrange a meeting to discuss it.*
- Plantations (in hectare): *The local smallholder rubber farmer families own around 100 hectare of land which is used to plant and harvest rubber trees*
- Problem: *frequent number of electricity blackouts with long durations*
- Developments: *not worth mentioning*
- Access to electricity: *Yes, provided by a company called PLN and the people pay around Rp. 40,000 per month for electricity.*

- Interested in the project: *Yes, the local community is interested in the project and considered it as part of social responsibility and do not considered as a commercial project.*



### 4.3. Main findings in Buntoi

- Community: *Dayak people*
- Purpose seeds and other waste products: *The local community does not use the waste or other parts of the tree itself for functional purposes other than using the wood for fire and the seeds for re-plantation. According to the head of the village, pak Tambang; this is mainly due to the fact that local community does not have sufficient knowledge and thus technologies to aim for other, more useful, purposes such as collecting the waste and create bio fuel.*
- Price of latex (kg): *heavily fluctuates between Rp. 8000 – 9500 per kg*
- Network/collaborations: *unknown*
- Plantations (in hectare): *The village of Buntoi owns 4,000 hectare of land which is mainly used for the planting and harvesting of rubber trees.*
- Problem: *frequent electricity blackouts and its consequences*
- Developments: *'UNOPS' (United Nations Office for Project Services) decided to invest in education centers or centers of competence.*
- Access to electricity: *Yes, provided by a company called PLN. Since this village is a little more developed than Henda they pay around IDR 50,000 – 150,000 per month for unlimited access to electricity.*

- Interest in the project: *Yes, however it depends on a couple of conditions: The project has to be proven trustworthy and profitable and should offer potential; real opportunities to improve the economic situation in this village. A good way to introduce the project is emphasizing socialization and making sure that the people understand why this project could offer potential to improve the (economic) situation.*



#### 4.4. Main findings in Jabiren

- Community: *Dayak people*
- Purpose seeds and other waste products: *In contradiction to the other villages, the farmers in Jabiren do collect and sell parts of the rubber trees on the local market via local traders. In the village there are eight traders which buy the waste of the rubber trees for a price of minimal IDR 9,000. Seeds are again considered as waste and the local smallholder rubber farmers do not do anything with it except using a small part of the seeds for re-plantation.*
- Price of latex (kg): *approximately R. 9,000 – however, price is heavily fluctuating due to changes in currency and demand.*
- Network/collaborations: *Group of farmers and collaboration with organizations such as REDD+ and PNPM.*
- Plantations (in hectare): *The community in Jabiren owns around 2,000 hectare of land mainly used for the harvesting of rubber trees. 75% of this amount is productive, whereas 25% is newly plant.*
- Problem: *frequent electricity blackouts, durations of 4-6 hours*
- Developments: *unknown*

- Access to electricity: *Yes, in Jabiren they have access electricity as well and they pay around IDR 150,00 – 200,000 per month.*
- Interest in the project: *Yes, the head of Jabiren, Pak Syahril is very interested in the project and explains that the social purpose is significantly more important than the money. Group of farmers mainly need explanation of how it can improve their situation, education and coordination. Monitoring function will be performed by organizations such as REDD+ or PNPM. Proposal – chief – recommendation letter – government. Official meeting with both the head of the Village + local farmers need to be arranged.*



#### **4.5. Brief overview of main findings from the field research**

The previous mentioned villages are all so-called, “Dayak-villages”. The Dayak community is familiar with the rubber plantations for centuries and rubber is still one of the main sources of income. Despite the fact that the government introduced “the superior tree”, a type of rubber tree which can be tapped in a shorter amount of years and produces a higher quality of latex, Dayak people prefer to work with their own traditional trees.

Field research (2012) showed that there is very little structure applied to the rubber plantations owned by Dayaks, which partly can be explained by the working methods used by the Dayak communities. In addition, the seeds and other waste products are not used for special purposes other than the negligible percentage used for replanting, construction of bridges and houses or serving as wood for fire (Field Research, 2012). This indicates that the MBD project has a good opportunity to collect the seeds and waste product for the conversion into biodiesel without disturbance from the local communities. The best time to collect the seeds of the rubber trees is in the dry season, especially in August and September. The fact that the best time to collect the waste products only last for two

months of the year, problematic issues could arise on the long-term while converting the waste products into biodiesel. Therefore, it is argued that this action (collecting the waste products) only offers a temporary solution to the electricity blackout problem since the oil can be converted into biodiesel; however the collection period is relatively short.

Even though the villages are considered as remote, they already have access to electricity that is provided by an operator called PLN. The monthly price for electricity varied among the villages from Rp. 40,000 (\$4.13/€3.17) up to Rp. 200,000 (\$20.46/€15.84) depending on the amount used by electronic products and goods such as a television, refrigerator or ventilator. All the heads of villages showed a sincere interest in this project but stressed the following.

The socialization process is crucial in order to obtain trust and support from the local community. It is important to ensure that people understand why the project could have positive consequences for the economic situation in their respective villages and the Pulang Pisau area (CK). Educating, coordinating, supporting and monitoring the local farmers are key aspects in the process of developing skills and competencies so that at one point in time, the local farmers have the ability to continue executing the project plans and actions on their own. One efficient method to achieve this, is by establishing a close collaboration with the various “farmer groups” and establish a network between them.

This way, knowledge sharing is stimulated and hopefully, trust is created. Trust is vital in effective and efficient cooperation and collective learning activities. However, first a formal meeting needs be set up with both the head of the village and the local farmers. After this meeting, a proposal will be written and eventually send to the (local) government. Multiple institutions will assess and discuss the proposal and a recommendation letter will be prepared. After this phase, one has the opportunity to start with the project limited to the terms recorded in the final recommendation letter. An important topic of discussion will concern the plantations – together, the villages in this research own over 6,000 hectare of land reserved for rubber plantations. It needs to be specified how many hectares will be allocated to the creation of biodiesel and thus, our project. Regarding prices per kilo of latex, it was found that the price heavily fluctuates between Rp. 8,000 – 9,500 (€0.63 - €0.75) which is mainly the result of fluctuating exchange- and inflation rates and demand-supply ratio. It was found (Interview, 2012) that 47% of the cost price of diesel is reserved

for transportation costs in Kalimantan. This study suggests a reward system for the farmers who decide to start producing biodiesel by converting the waste products from their rubber plantations. This reward system should stimulate local farmers to produce a specific percentage of biodiesel and for this activity; they will be rewarded by receiving a certain percentage of the 47% transportation costs.

Finally, field research (2012) indicated that local smallholder rubber farmers are not necessarily willing to invest 'hard cash'. However, they prefer to invest in the project by offering and assigning a (yet non-specified) percentage of their rubber plantations for the creation of biodiesel. Although these plantations need to be "cleaned" and restructured first. This is in line with the argument by Meuter (2008), stating that the social franchisor must be prepared to settle for reduced fees or find alternatives to financial compensation. It often occurs that franchisees in developing countries do not generate sufficient income to be able to pay fees to the franchisor. Another important money flow to consider is the subsidy policy by the government; covering approximately 50% of the real price of a liter of gasoline. This policy is highly under pressure nowadays and therefore, introducing renewable energy could be very interesting as alternative. However, as Suwido Limin argued – the government should offer a (financial) injection in the project; not only in the form of loans and funding, but more importantly, it should guarantee that they will be the purchaser of the final product (biodiesel). Thereby, an industry could be developed in CK and opportunities to decrease government expenses on the production of (fossil) fuel arise.

## SECTION V. Discussion

This section discusses the sub-research questions of this study in order to provide an answer to the main research question of this study which focused on: *How to fine-tune the Stimson model in order to include and stress the importance of a financial- and group entrepreneurial dimension?* The answers are based both on existing literature and empirical findings from the field research (2012) in CK.

### 5.1. Which factors are important in LED to achieve group entrepreneurship and to organize money flows?

Group entrepreneurship refers to a collective action of implementing new technologies. Collective action requires pro-active participation and thus involvement of various stakeholders. In the MBD project, group entrepreneurship is closely linked to *social entrepreneurship* in a way that collaboration between various stakeholders and thus, a collective action in the pursuit of achieving a social goal by implementing new technologies or innovative ways, need to be established in order to solve socio-economic problems. To increase the ability of implementing new technologies, it is argued that a community needs to be “*empowered*”. Basically, this is an act of developing human capital and thereby solves the problem of a lack of human capital in CK. This empowerment can be achieved via the development of skills and competencies, and by increasing technological-, managerial- and financial knowledge, which are relevant for financial decisions regarding investments and for the implementation of plans and actions.

Furthermore, it is argued that a community is empowered by being involved in the production process and by having a specific degree of ownership and accountability. Ownership and accountability involve financial decision-making and money flows. Put differently, the level of a *community's participation* (both physically and financially) needs to be increased. *Social capital*, in this matter, has the ability to bridge people from various levels in the society (based on power and status) and *social franchising* provides opportunities to utilize human and financial capital by creating and stimulating collaboration and partnerships between the included stakeholders. Incorporating social capital and social franchising could lead to the establishment of *networks* between the



project's stakeholders. In addition, social capital is believed to enhance to prevailing level of trust (Guiso et al., 2004). Trust is vital for any collaboration, partnership or project including multiple stakeholders. Social franchising has the ability to overcome the three scarce resources of managerial skills, local market knowledge, and financial capital (Willis & Castrogiovanni, 2010). Financial capital is vital to the creation or enhancement of group entrepreneurship since it allows stakeholders to invest in new techniques and skills. The development of a (financial) support package from the government could offer better access to financial capital. Tax advantages, loan guarantees, development of infrastructure and investments packages will offer NGOs, projects and communities concerned with increasing LED the opportunity to set up training and education programs (increasing knowledge and skills), purchase and lease equipment and increase their ability to execute project's plans and actions.

Group entrepreneurship is considered as an outcome being beneficial to LED of a region and in order to achieve this outcome, all the discussed factors are required. Especially financial capital (flows of money) are important, since it heavily increases a stakeholder's ability to invest in for instance, new techniques and related training programs – it increases a stakeholder's ability to incorporate factors such as community empowerment in a better way. In short, factors such as community empowerment, community participation and involvement, social franchising, social capital, networks and trust are key determinants for the level of group entrepreneurship.

## 5.2. How important are community empowerment and participation in this project?

LED is generally considered as a cost-effective and community empowering process which has a defined role to play and which can yield benefits for participating communities (Nel, 2001). Empowering people in the context of local development requires increasing the quantity and the quality of their opportunities to participate in local governance and local service delivery (Helling et al., 2005). Community empowerment is believed to be a useful tool to diminish the negative consequences of enclave formation and it could pitch a solution to the lack of human capital. It is a common occurrence that large corporations have the ownership of advanced techniques and control over natural resources in areas similar to CK. This is supported by professor Manurung, Siswanto and Simatupang

(interview, 2012) who stated that smallholder rubber farmers in CK are often neglected as major stakeholders by both large commercial companies and institutional departments. Nevertheless, 97% of the rubber plantations are owned by the community, whereas only 1% by the government and 2% by private companies in CK (\*confidential governmental document). Therefore, the community is mainly in control over the plantations. However, field research (2012) indicated problems caused by information asymmetry and the lack of technological-, managerial-, and financial knowledge and expertise. Put differently, enclave formation is in fact not causing negative consequences for the local community in ways that the community suffers from very low reinvestment rates or little room for linkages and knowledge spillovers. However, they lack the technological knowledge and skills that large corporations often do possess. Due to this lack of knowledge and expertise, the local community is less able to utilize the rubber plantations efficiently. Moreover, it was found that the Indonesian government is spending a significant part of their capital on (energy) subsidies. However, Siswanto (interview, 2012) indicated that a considerable part of subsidies, reserved for energy-related projects (such as the MBD project) is spoiled due to inefficient or even lack of actual execution of plans and actions. This lack is mainly caused by shortage of understanding what actions needs to be taken once a subsidy is allocated to a specific organization closely linked to LED and how to actually implement plans. Put differently, there is a shortage of technical-, managerial- and financial knowledge and skills.

Pro-active participation and involvement of the community are considered useful while attempting to empower the community. Furthermore, combining this with an incentive of collective learning, a community could address the above issue regarding lack of knowledge and skills. Once the local community obtained the essential knowledge and skills, they are increasingly able to gain a specific degree of control, ownership and responsibility. Pro-active participation in a LED project and a well-developed social capital structure are believed to result in social benefits which will strengthen the economic situation in CK and the position of the community.

Participation is basic to community empowerment and Goodman et al. (1998) point out that both participation and leadership are closely connected. Participation and leadership are two important and related dimensions of community capacity and these two factors are connected in that a community lacks capacity when its leadership does not have

a strong base of actively involved residents. Conversely, participation without the direction and structure that leadership provides often results in disorganization (Goodman et al., 1998). Therefore, one can state that the participation of the community is of significance importance to the success of project and in order to ensure that local people can efficiently participate, they need to be 'empowered'.

Specific to the MBD project, this can be achieved by setting up training and education programs, whereby local farmers are familiarized with new techniques and provided with more detailed and relevant information regarding the rubber plantations, the rubber trees and the opportunities to financial gain and economic improvement in their respective areas. The construction of centers of competence or knowledge centers is a way to organize this. For instance, the international organization "UNOPS" decided to invest this type of centers in Buntoi (Field Research Buntoi, 2012). Put differently, signs of progress are seen which offers perspective for the future.

Another good example of an organization that is aware of this, is the non-governmental (NGO) called PNPM. They are heavily involved with community empowerment and located in Palangkaraya, CK, Indonesia. PNPM is monitored by the World Bank and they argue that the ability of local actors to assess their own situation and to understand the project depends on collective learning at local governance level (Interview 2012). Therefore, one of their main focuses is setting up training and educational programs to inform local smallholder rubber farmers and inhabitants of remote villages in CK. Put differently; they made it one of their core responsibilities to educate the local community concerning opportunities and ways to improve the situation in their respective (remote) villages. Moreover, they are also stressing the importance of developing an infrastructure in and around the remote rural areas such as Taruna Jaya or Jabiren. One of the heads of PNPM stated: "It is essential to start developing an infrastructure first to connect the remote areas with the more developed areas and cities such as Palangkaraya before promising people improvement of the quality of life via a variety of projects".

In short, it can be stated that community empowerment and participation are very important in LED projects since the community is often an important stakeholder, despite the fact that they are often not acknowledged as one by the larger (private) corporations

and suffer from the negative consequences of enclave formation. To stress this importance with an argument from the literature: many rural communities are unable to control their own development process without outside interference, since these communities cannot effectively analyze their own development needs and do not know how to harness the resources to meet these needs (Sesay et al., 2010).

### 5.3. What is the role of social capital, social franchising and networks in this project?

The establishment of networks is vital to this project. The network should include not only farmers, but multiple stakeholders from both the community- and institutional level. Partnerships or collaboration among stakeholders allow governments to decrease their financial constraints and to diffuse responsibility for success or failure (Stimson et al., 2002:279). A practical example from CK is the cooperation between numerous farmers, called ‘Kooperasi Farmer Group’. Via this “kooperasi” meetings are arranged, various topics are discussed, proposals and agreements are written and the network can be extended relatively easily. The main reasons why this “kooperasi” is established is because they want to improve the situation communally and they believe that this cooperation is a good method to achieve a common social goal. It is argued that networks have the ability to address the trust issues between various stakeholders in the MBD project, which especially exist between the residents of the remote villages and the government.

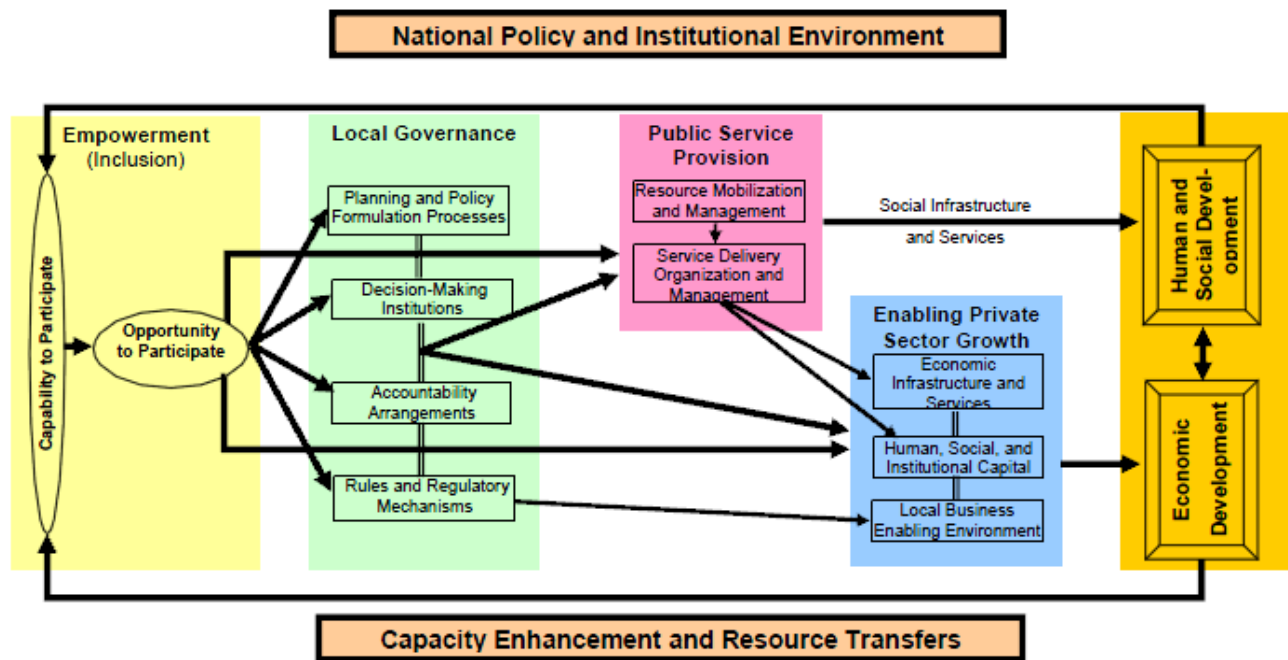
Connecting multiple stakeholders and establish a network could provide better access to credit and technical assistance, can support activities that provide added value and improves bargaining power vis-à-vis the private sector. Social capital in this matter can be used to offer linkages between stakeholders and it is an important determinant of the level of trust (Guise et al., 2004). Therefore, it is assumed that social capital offers a solution to the trust issues between various stakeholders in the MBD project. Combining social capital and networks, a solution to non-cooperation between the stakeholders is provided and this should result in a process of capacity development and group entrepreneurship.

In addition to social capital, social franchising could positively contribute to the establishment of networks as well. Belonging to a network, is an essential element of social franchising (Koehlmoos et al., 2009). Social franchising connects people in their pursuit of

achieving a common (social) goal and develops closer co-operation to achieve a network. It seeks to fulfill a social benefit and it has the ability to overcome can the existing problems of lack of technological and managerial skills, the lack of financial capital and the lack of technological knowledge necessary for the maintenance of machinery and equipment. It was found (Field Research 2012) that there is a common problem of information asymmetry and a lack of technological and managerial skills and knowledge to implement specific plans and actions related to LED projects in CK. Siswanto and Simatupang (Interview 2012) agreed with this finding and stated that the asymmetric information issue and the lack of technical-, managerial-, and financial expertise being major causes to conflicts arising between the project's stakeholders involved and the failure to implement LED strategies in regions in CK. In addition, natural resources exists in an excessive amount, whereas there is a significant lack of human resources in CK. Social capital, social franchising and networks combined have the ability to (partly) solve the previous discussed problems in CK by creating a collaborative, supporting and educational environment where stakeholders are linked to each other (socially and financially) and collectively pursuit the social goal of increasing LED. Furthermore, together with social franchising, social capital should bridge "leadership" and "institutions" (Stimson, 2009) with the local community and develop a group entrepreneurial spirit. This can be achieved by, for instance, providing equipment and education programs, offering a financial support package, and establish a collaborative and creative working environment.

5.4. Which LED models are available for this type of projects besides the Stimson (2009) model?

### 1. The Element for a framework for Local (Economic) Development



**Model 2. The element for a framework for LED**

This model (Helling et al., 2005) elucidates the national policy and institutional environment more explicitly, whereas Stimson's model (2009) of Local Economic Development only mentions leadership and institutions and does not necessarily elaborate how they are constructed, which elements are incorporated, etc. In this model, local governance is the way authority is organized, legitimated, and employed by and on behalf of local people through planning, decision-making, rule enforcement, and accountability processes. Basically, local governance forms the foundation for proactive and strong leadership and effective institutions, the two factors increasing LED, according to Stimson (2009). Local governance includes not only local governments and other public sector structures but also a variety of community and civil society institutions by which people organize to act collectively (Helling et al., 2005). Stimson's model (2009) is mostly about improving the capacity and capability of a place to make better use of its resource

endowments and gain an improved market fit in become more competitive and entrepreneurial. Local service provision systems (including public sector, private sector, nongovernmental, and community-based organizations) mobilize and manage resources and produce public facilities and services. In addition, it is assumed that by outcome (Stimson model, 2009), actual realization of local economic development is meant. As argued earlier, human, social and institutional capital are vital for improving the economic situation in CK and thus, for creating an enabling business climate. Stimson does not include these factors in its LED model (2009), whereas this model does include these essential factors. Moreover, this model includes (community) empowerment as well and also this factor is considered as of significant importance to achieve the main goal of the MBD project, being local economic development. Overall, since the Stimson model (2009) (1) fails to explain explicitly what role, for instance leadership and institutions play for the outcome and simply only mentions that they need to be considered and (2) does not include vital factors such as social capital and community empowerment, it can be stated that this model can be considered as complementary to the Stimson model (2009).

## **2. MOST COMMON FORMAL LED STRATEGIES PURSUED BY AUTHORITIES**

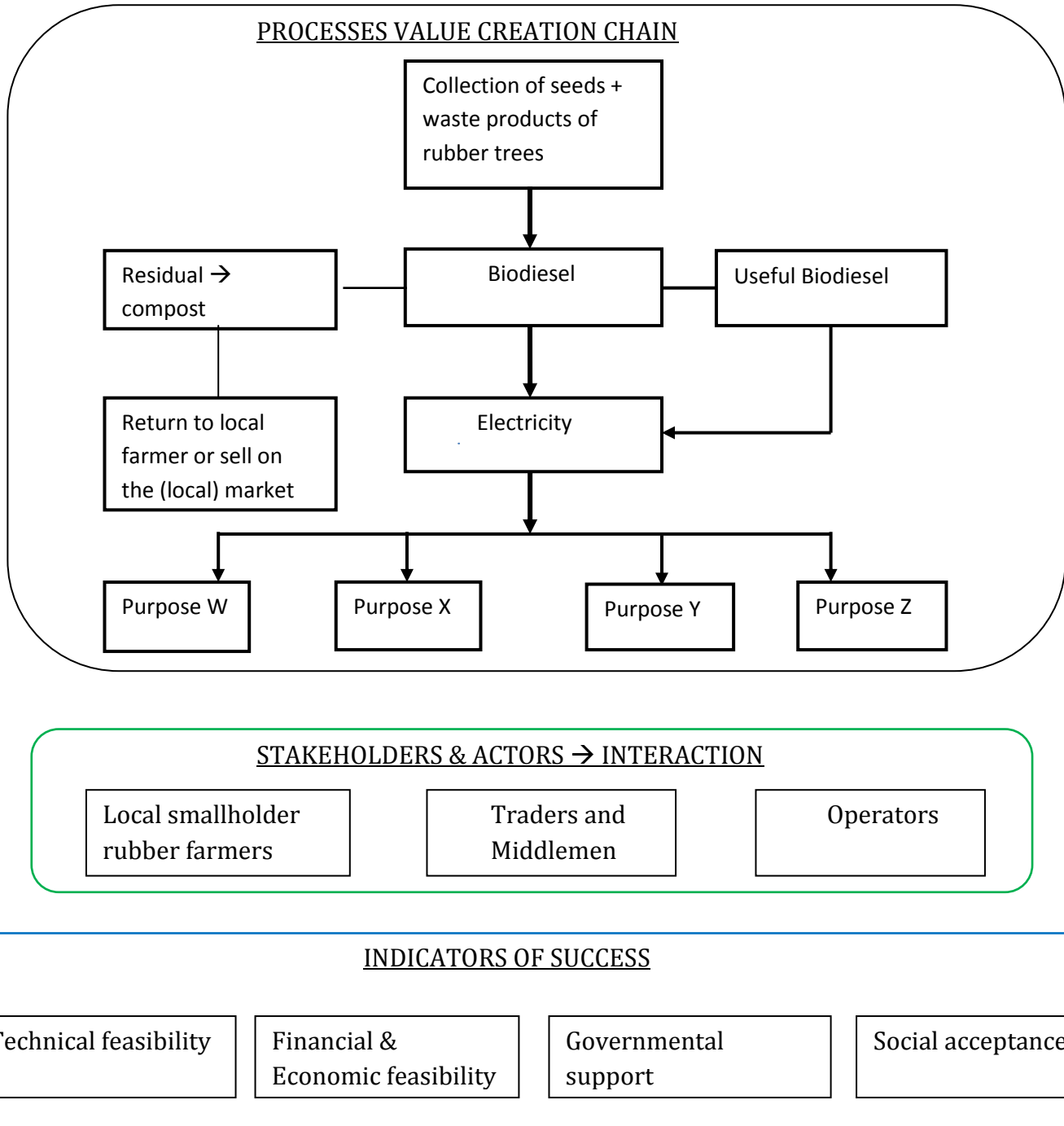
Table 7 (below) shows the most common formal LED strategies pursued by authorities. It includes multiple dimension, including financial support, land and building development, information and marketing assistance, new planning and organizational structures and training and employment. All dimensions, except for new planning and organizational structures are incorporated in or relevant to the MBD project. However, not all these dimensions are integrated in the Stimson (2009) model. Therefore, this model can be considered as complementary as well to the Stimson (2009) model. It does not necessarily explain explicitly how each strategy is integrated, but it does provide a comprehensive overview of strategies available when dealing with LED projects – and it provides useful information for the financial dimension.

<b>Financial support</b>	<b>Land and building development</b>	<b>Information and marketing assistance</b>	<b>New Planning and organizational structures</b>	<b>Training and employment</b>
Tax incentives	Provision of infrastructure and land	Supply of information and advice	Adoption of comprehensive planning techniques	Employment and training strategies and grants
Loan guarantees	Land acquisition	General marketing and promotion and image construction	Streamlining administration	Direct employment
Equity participation	Agricultural support	Targeted marketing of products or areas	Community development corporations	Vocational education
Investment	Enterprise zones with tax and planning concessions	Export promotion	Community business and co-operatives	Social support structures/ community organizations

Table 7. See Bovaird, 1992; Clarke and Gaile, 1992; Lever, 1992, 1993; Koeble and Bailey, 1993; Reese, 1993a, 1993b; SANCO, 1995



### 3. Value Creation Chain – MBD project



*Model 3. Value creation chain on micro-level (Verkruisje, 2013)*

The model explains the following process: A group of people collect all the seeds and waste of rubber trees from a specified amount of hectare of the plantations. By collecting the seeds and waste products they provide a cleaning service and indirectly, increase the

ability to structure the plantations in a better way. Secondly, by collecting all the seeds and waste of the rubber trees, the plantations and especially the rubber trees are harvested and exploited in a better and more efficient fashion. The second step is to extract the useful substance from the seeds and waste for the creation of biodiesel. This creation process will provide both useful biodiesel and residuals. In order to be as green and sustainable as possible, it is suggested to convert the residuals into compost. The compost can be returned to the local farmers and used for a new harvesting process or can be sold on the local market. The money which will be earned by selling the compost should partly be returned to the farmer. Either way, the process will be beneficial to the community.

The useful biodiesel will be used for running the generator and thus for the generation of electricity. In addition, the biodiesel can be used for running motorbikes, the motors on boats, and other generators, machinery and equipment. Once the electricity is generated, multiple purposes can be fulfilled. For instance, the electricity can be used for the reduction of the electricity blackouts in the remote villages. Moreover, the electricity can be used for the production process or used by households in the remote villages. In short, the natural resources collected on the plantations will be used in order to improve the situation in the remote villages by solving problems such as electricity blackouts and improving production processes. The above can be labeled as "flow of goods and services" in the value creation chain.

During this process, multiple groups of people are involved. The main players in this process are the local smallholder rubber farmers who own the rubber tree plantations; middlemen who collect, purchase, sell and distribute the seeds and waste product of rubber trees and biodiesel; the operators/processors who convert the seeds and waste products into biodiesel and who distribute the electricity to the local community. Collectively, they are responsible for organizing the social franchise and money flows. This can be labeled as the "interaction" in the value creation chain. This total process can be considered as social franchise since multiple groups of people are collaborating in order to achieve a social goal. In addition, there is the "flow of money". This explains all the economic/financial transactions taken place between the actors who exchange goods and services and it is related the cost of production. This "flow of money" will be explained more explicitly in the "results of this study section".

Finally, "indicators of success" are incorporate in the model. These are "Technical feasibility", "Financial & economic feasibility", "Governmental support" and "Social acceptance". *Technical feasibility* explains to what degree the equipment achieve the technological level required to process the waste and seeds into biodiesel and to what extent the mobile generator is able to generate a sufficient amount of electricity to address the problem of electricity blackouts.

*Financial & Economic feasibility* explains the degree to what level stakeholders have the ability to meet the financial requirements such as lease of equipments, investments, payments of loan-interests, etc.

*Governmental support* explains to what extent the national- and local governments provide financial support and back-up to the project and its stakeholders.

*Social acceptance* explains the degree to what stakeholders; especially the local community sees the potential of this project in improving the economic situation and therefore, pro-actively participate and economically contribute to the project. More specifically, it includes the degree of trust between the various stakeholders obtained and the belief that this project will eventually positively contribute to the local economic development in the respective areas in CK. The degree of requirements (technical, financial, governmental and social) that is met and the level of realized plans and actions greatly determine the success factor of a project.

The primary step in this project is having a pro-active and problem-solving attitude towards the frequent electricity blackouts. Via interviews (2012) it was discovered that electricity blackouts are a daily occurrence (with frequent 4-6 hours duration) in the remote villages and on the plantations. These blackouts are considered as major hinder to significant part of the local community. Suwido Limin (Interview 2012) argued by improving this situation, thus by diminishing both the number and duration of the blackouts, one will gain support from the community to proceed with the project. As mentioned earlier, trust is crucial in this matter. Put differently, as soon as the project shows potential to improve the situation only via this way already, support and trust is created among the local community. Siswanto (Interview 2012) stated "bring and show the light to the villages and one will be able to obtain confidence and trust from the local

smallholder rubber farmers". Bringing the light refers to diminishing the amount and duration of the electricity blackouts. Showing the light refers the degree of understanding and seeing the advantages of the project by the local communities. Therefore, the value creation chain (fig.2) is introduced. This value creation chain is a simplistic, schematic representation of the initial purpose of the project. It can easily be shown to the community and thereby, it can be of help for the project.

During the Field Research (2012) it was found that despite of the many hectares of land used to harvest rubber trees, the local community does not do anything useful with the seeds and waste products of the rubber trees. Only a negligible percentage of all seeds is collected and used for replanting and old trees serve as wood for making fires or fulfill the purpose of construction material for houses, bridges and the like. For this specific reason, it is suggested to collect all the seeds in the best period of the year, which are the months August and September. By collecting the seeds and other waste 'products', the plantations will be cleaned and thereby, the ability to *structure* the plantation in a better way is increased. Additionally, the collected seeds and waste products of the rubber trees will be transformed into biodiesel. During this process, both useful biodiesel and residuals from the process will be produced. The residuals can be used for producing compost, which can be sold on the local market (and part of the profit will be for the local farmers) or the compost will be given back to the local smallholder rubber farmers so that they can use it for the maintenance of their land. The useful biodiesel will be used for running the generator and thereby creating electricity. Eventually, the electricity can be used for multiple purposes, such as diminishing the amount and duration of blackouts, to run machinery, or to provide extra electricity to households. One downside of this value creation chain is the fact that it covers only a solution for a specific period, since the seeds can only be collected in August and September. Therefore, this idea does not provide a solution for the main part of the year; however, it is a good start. In addition, this idea is developed for a micro-level project.


The four key indicators of success and thus, the total LED outcome (Stimson, 2009) for this type of project are: *Technical feasibility, financial and economic feasibility, governmental support and social (community) acceptance* (Interview 2012). Put differently, these four

indicators heavily impact the capacity to operate the generator and the degree of education for the local community regarding for instance, the potential the plantations possess. The value creation chain basically consists of three parts: firstly, the part that explains *processes* involved and the links between them; secondly, it explains the *actors* involved and the links between them and finally, the *money flows* included in the whole process. Links between processes refer to the flow of goods and services, whereas links between actors refer to the interaction between and among actors. The money flows refer to all transactions between actors, operation costs and investments. More specifically, the money flows elucidate the how value is created by the exchange of or the act of receiving capital to fulfill multiple purposes mentioned earlier. These money flows could come from the act of selling and purchasing the compost and biodiesel, the financial support package developed by the government or raised via international donors. This model contributes to the literature in such a way that it continues or specifies where the model of Stimson (2009) lacks in explaining the actors involved, the losses and rewards etc explicitly. Stimson's model simply mentions that leadership and institutions have an impact on entrepreneurship but does not necessarily elucidate money flows or indicate actors and processes involved.

## **SECTION VI: Results of this study**

This section will provide an answer to the main research question; incorporating the results from the field research and answer to the sub-research questions. Therefore, the results in this section are based both on empirical and theoretical findings.

- ❖ *“How to design a LED model to include and stress the importance of money flows and group entrepreneurship in projects aiming for LED in remote areas using the Stimson model?”*

However, it will start by providing a special-made financial construction model for the MBD project first. This model is constructed in order to explicitly show the money flows (Rp.) between departments and stakeholders and it elucidates the allocation of the money flows. The financial support package could be beneficial to MBD-like projects and has the ability to increase LED in multiple ways. The flows of money are indicated by a  and the Indonesian Rupiah (Rp.) sign.

Investment packages, loan guarantees, tax incentives and the financial assistance together form the financial support package that (the Indonesian) governments could provide to the MBD project and its stakeholders. A highly essential governmental capital expenditure is the investment in the (hard) infrastructure. As argued earlier, improvement of the infrastructure allows remote areas to be connected to more developed locations and this could be beneficial to the domestic resource mobilization and public sector activity. Investment packages are sets of presentation materials and documents used to secure capitalization – it can be considered as the act of raising capital for the project and thus, as preparation package needed to execute the plan. Donors and other external investors are fundamental for raising capital and therefore, should be included in the model. Similarly, Fredriks (2012) argued that the social franchising model is highly financially dependent on donor or organizational financial support.

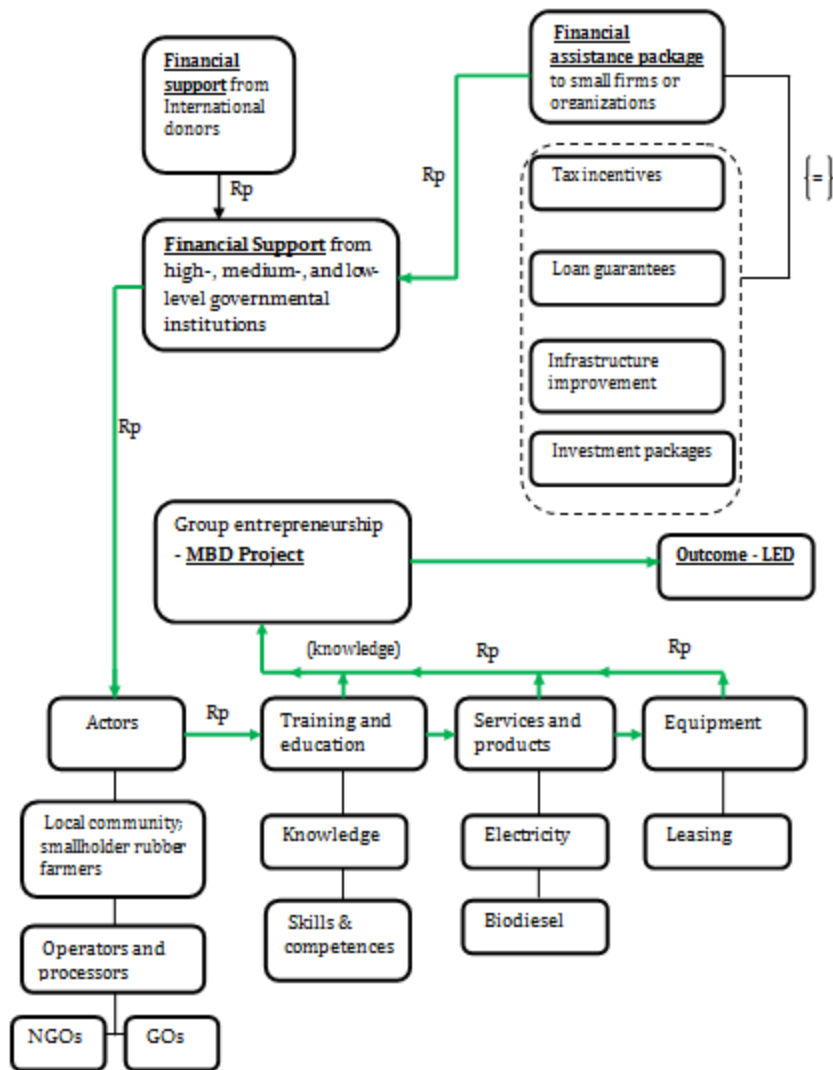
Loan guarantees refer to the ability of the local community to obtain a loan-agreement at the bank; the borrowed capital can, for instance, be used to fulfill the (equipment) lease-payments or for the purchase of new technical equipment. However, (Indonesian) banks are not keen on providing these loans since many people from remote communities barely keep records and do not prepare financial statements and financial plans; therefore, it is difficult to evaluate loan requests. Despite this fact, banks should define a solution in order to simplify the act of obtaining a loan as smallholder rubber farmer. This could be done via specific arrangements or deals with the local governments regarding accountability or pay-back method.

In addition to loan guarantees, the government could decide to develop specific tax incentives. Tax incentives refer to the extent a national government encourages a particular economic activity; this could involve the act of deduction, exclusion or exemption from a tax liability. In the MBD project, this is desirable since the local community does have little capital. However, it also indicates a willingness of the government to be a stakeholder in the project; by financial support for this MBD project, the government expects that economic development is realized. Once this is the case, the government has an option to generate additional tax income, whereas before it was not able to obtain tax income from these types of communities. In other words, changing or adapting tax incentives could create both tax advantages for the community as for the government itself.

Financial assistance refers to various measures taken by governments with the intention to positively affect economic activities, situations or projects and could include investment packages, loan guarantees, tax incentives or subsidies. Financial assistance empowers and stimulates communities and NGOs to execute plans and action in their pursuit to increase the local economic situation. This is in line with an argument (Chapter 9, Driving the real economy), stating that the more access companies have to long-term debt and equity finance, the higher their ability to make long-term investments, which ultimately leads to higher economic growth. In case of the MBD project, it is assumed that subsidies are one of the most important forms of financial capital. However, as argued earlier, one should try to avoid the problem of information asymmetry and ensure that plans and actions are implemented as intended by ensuring that the local community has the proper knowledge regarding the discussed issues. In addition, it is critical that governmental institutions monitor the money streams (subsidies) between parties, and remain partly in control over the money flows.

This external funding package from the government will be allocated to the actors involved, consisting of local community (especially, the smallholder rubber farmers), the operators and processors, non-governmental organizations such as PNPM and REDD+, and governmental organizations and institutions. Collectively, they are responsible for the act of decision-making regarding the investment of the capital they obtained from the government and international donors. More specifically, collectively they decide what percentage will be invested and assigned to each type of activity, process or equipment. Training and education programs will be developed in order to address the problems such as the lack of knowledge to implement plans and actions, the lack of technical- and managerial skills and the lack of relevant knowledge regarding the potential and usage of waste products from the rubber trees. Basically, this process is a capacity development activity and it provides the local community with adequate skills and competencies. As a result, the local community is increasingly able to achieve the social goal of generating additional electricity to diminish the number and duration of the electricity blackouts and to convert the waste products of the rubber trees into biodiesel that can be used to run machines and generators. In order to realize these processes, capital needs to be invested in equipment such as the mobile generators, trucks, technological tools et cetera.

The initial plan is to provide the local community with the opportunity to lease the equipment (after starting-phase and the pilot) with the intention that they obtain some level of responsibility and “ownership” over these processes. Investing in training and education programs, the production process and the equipment will eventually positively contribute to the local economic development project, being the MBD project in this case. The main aim of this project is to improve the economic situation, and thus to increase local economic development. This can be considered as the outcome (Stimson, 2009).



Model 4. Financial construction model for LED-related projects (Verkruisje, 2013)

The financial assistance package (money flow 1) presented by a government in addition to the financial support from international donors (money flow 2), offers external capital.



The stakeholders will decide how and to which purposes this external capital will be allocated (money flow 3). Investing the external capital in multiple purposes will result in for instance, additional electricity, new knowledge and skills and more adequate techniques to harvest plantations (result in money flow 4). These outcomes will positively contribute to, stimulate or even increase group entrepreneurship and LED.

In order to address and solve the problems concerning information asymmetry and lack of technological-, managerial- and/or financial knowledge and skills, the main responsibility of institutions and leaders (concerning the financial dimension) is to create an environment where money flows are observed and partly controlled by the government. One relevant problem is for instance, the significant waste of government subsidies due to inefficient- and lack of implementation of plans and actions aiming for LED. This lack of implementation of plans and actions is caused by a lack of technological-, managerial-, and financial knowledge and skills. Another responsibility of the (Indonesian) government is to ensure that implementation of plans and actions are monitored by governmental institutions and these institutions should offer whichever kind of support to the project's stakeholders in their attempt to achieve their LED goal. Strong leadership in this matter, has the ability to improve capacity and capability of a place to make better use of its resource endowments and gain an improved market fit in becoming more competitive and entrepreneurial (Stimson, 2009). This way sustainable development of a city or region can be achieved. Moreover, Stimson (2009) emphasized that leadership and institutions, and how they interact to facilitate entrepreneurship are crucial elements for achieving sustainable development. In order to smoothen this interaction and to link all the project's stakeholders, social capital and community empowerment are also incorporated in the model. Social capital should be used to bridge stakeholders and is useful to establish a required level of trust between the stakeholders. This is supported by Guiso et al. (2004) who stated that one of the mechanisms through which social capital impacts economic efficiency is by enhancing the prevailing level of trust – trust affects the level of financial development since financial contracts are the ultimate trust-intensive contracts. Moreover, social capital could be a functional tool to address the issues of lack of cooperation between the various stakeholders. Community empowerment is essential for the enhancement of the community by developing their competences and increasing their technological-,

managerial and financial knowledge and skills. Furthermore, it will create a higher willingness to participate, and combined with the community's new skills and knowledge, the community will be increasingly able to obtain a specific level of ownership, control and accountability within the LED project. This way, negative consequences caused by enclave formation in countries such as Indonesia, could be diminished. These actions and measures together will increase the group entrepreneurial spirit and the utilization of innovative ways via improved knowledge and skills, better access to capital (that can be invested in new techniques), resolved trust issues and a sense of togetherness.

Social entrepreneurship on its turn will ensure the development of innovative, mission-supporting, earned income, job creating or licensing, ventures undertaken by individual social entrepreneurs, nonprofit organizations, or nonprofits in association with for profits to serve multiple functions and purposes to increase LED (Pomerantz, 2003). Eventually, new techniques, improved community skills, and a more fruitful collaboration between the involved stakeholders should lead to the "outcome", considered to be sustainable LED.

This section will be finalized by providing a new LED model. It incorporates factors and dimensions from the Stimson (2009) RED model (model 1), the value creation chain model (model 3) and the financial construction model(model 4) plus theoretical insights, and empirical findings from this study. The main focus of this model is on money flows between stakeholders and allocation of this external capital to various purposes within the project in order to stimulate and achieve group entrepreneurship. In addition, the model incorporates factors that are essential to develop a group entrepreneurial spirit, such as social capital and social franchising. These factors have the ability to link people and capital, and facilitate entrepreneurship. In other words, these factors determine the 'quality' of the local community – it develops their capacities and knowledge needed to make financial decisions, implement new technologies and to establish a sense of togetherness. In addition to the factors that stimulate and facilitate (group) entrepreneurship, to establish strong and sustainable relationships, one needs to include factors such as trust, participation and control. Moreover, relationships that need to be established between stakeholders within this kind of projects also include shared

ownership and accountability in order to organize meetings, stipulate contract terms and to execute plans.

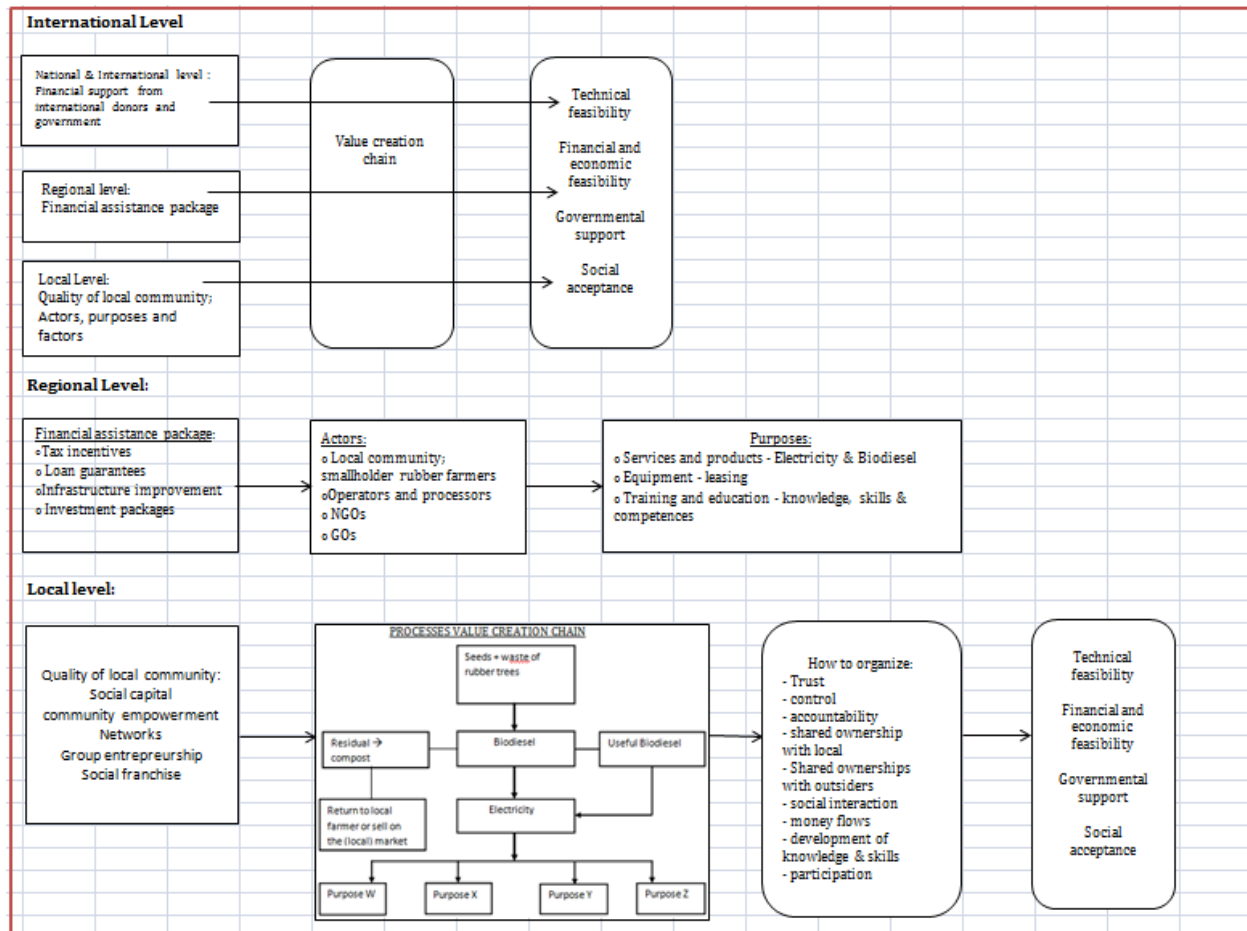
As the financial construction model showed, the financial support package developed by the government (national level) and the financial capital from international donors (international level) is a vital money flow. It increases the stakeholders' (local smallholder rubber farmers, operators and processors, NGOs and GOs) ability to organize and develop training and education programs, to purchase or lease equipment, and to structure the (production) processes involved. These developments on their turn allow stakeholders to make important financial decisions regarding investments in the project, obtain a specific degree of (shared) ownership and to control processes within the project. However, field research indicated that it is highly important as government to monitor and (partly) control the money flows to ensure that they will be used for the intended purposes and will not be spoiled due to inefficient (or lack of) implementation of actions and plans.

Another important money flow is the one related to the allocation of capital from the financial support package to various purposes. Decisions regarding this allocation will determine the degree of (new) knowledge and skills developed by local societies and thus, indirectly the success of the processes related to the MBD project. In the new LED model this allocation occurs on a regional level (Stimson model,2009) involving capital in- and outflows, actors and purposes.

The value creation chain (see model 3, p. 49 ) example illustrated in the model below could be considered as a result of actions taken by stakeholders funded with the financial support package. Actors are collaborating in order to achieve a social goal by implementing a technology push (renewable energy); thereby creating group entrepreneurial activities.

Important money flows within this value creation chain are the money flows related with the purchase or sale of compost, biodiesel or electricity which on their turn can be used for various purposes within the MBD project. It is suggested that the producers of biodiesel in CK should gain a specific percentage of the 49% transportation costs as a reward to motivate them produce sustainable and maintain the production of biodiesel as alternative for fossil fuels. However, considering all the above; the outcome or value creation is

eventually determined by the indicators of success: technical feasibility, financial and economic feasibility, governmental support, and social acceptance (p. 51).



Model 5. New (financial) LED model incorporating money flows necessary to achieve group entrepreneurship (Verkruisje, 2013)

## SECTION VII. Limitations and Future research

This data collection part in this research was conducted in a relatively short amount of time. Moreover, a small amount of villages in the Pulang Pisau area served as sample for this research. In other words, the results are based on a relatively small sample size and short collection period. Consequently, the gathered data could be seen as too narrow to draw conclusions from on all remote rural areas in developing countries such as Indonesia or Brazil. Therefore, the results serve as propositions or as starting point wherefrom other studies related to LED could continue in order to obtain additional information necessary for a more definite conclusion.

Another limitation which should be considered is the language barrier for the involved parties. In remote rural areas, it often occurs that the local community has a different dialect than the national language or the researcher's native tongue. Despite the fact that a translator was arranged, different interpretations or misunderstandings could result in a damage of the richness of the data.

Finally, obtaining official and confidential documents from the (local) government could provide very useful data regarding rubber plantations in CK. However, this type of data is difficult to access and foreign researchers are mostly stuck with data collected from interviews with localities, organizations and institutions. As a result, obtained data could be less complete or less detailed.

This study focused mainly on the Pulang Pisau area in CK, however examination of areas such as Gunung Mas and Sukamara, could offer additional insights and useful data.

Furthermore, one purpose of this study was to add a financial dimension to the Stimson model and thereby, stressing the importance of the inclusion of this factor for LED. However, there is room left for the real impacts and effects of this financial dimension on other factors incorporated in the Stimson model, such as social entrepreneurship. For instance, more specified financial numbers and data could be obtained regarding the rubber industry, energy subsidies, investments in infrastructure and the like.

In addition, this research mainly incorporated two levels of analysis; namely community- and institutional level. It could be interesting to include extra levels, such as enterprise level.

Finally, future research should include the current subsidy policies concerned with PERTAMINA and research the possibilities of biodiesel as alternative.

To conclude, it is of high relevance that future researchers establish collaboration based on trust and common interest with both the community and nongovernmental organizations in order to achieve the goal of increasing LED and to gain support and proactive participation of the local communities. Additionally, cooperating with Balast Nadam could be interesting since this company designed the **Green**erator.

## **SECTION VIII. Conclusion**

This section will commence with providing concluding remarks regarding this study. In addition, it will provide some recommendations for stakeholders and other involved parties in this LED project. These recommendations are based on the conclusions from both empirical results of the field research conducted in CK and the theoretical insights.

This study contributes to the mobile biodiesel (MBD) project and is conducted in the Pulang Pisau region in Central Kalimantan (CK) in Indonesia. In addition, it is part of Local Economic Resource Development (LERD) program. It has investigated the possibilities of implementing renewable energy in the form of MBD in remote areas in CK and thereby, attempting to increase local economic development. For the implementation of renewable, it is argued that group entrepreneurship should be stimulated using money flows as asset to organize group entrepreneurial activities. LED is the process in which local governments or community-based organizations engage to stimulate or maintain business activity and/or employment. The principal goal of LED is to stimulate local employment opportunities in sectors that improve the community, using existing human, natural and institutional resources (Blakely, 1994).

The main focus of this study was on developing a new LED model including relevant factors from the Stimson model (2009) and a group entrepreneurship dimension. Moreover, a financial dimension (money flows) is also incorporated in this model since it is argued that (external) financial capital has the ability to organize group entrepreneurial activities and positively affects related factors such as community empowerment, social capital and social franchising activities.

Field research (2012) found that there exist a sincere lack of technical-, managerial, and financial knowledge and skills in Central Kalimantan. Furthermore, the occurrence of frequent electricity blackouts with long durations forms considerable problems to communities and their plantations. The former finding causes several problems such as: inefficient implementation of plans and actions by various stakeholders in their pursuit of increasing LED; A significant amount of spoiled capital obtained via government (energy) subsidies; and unstructured plantations and inefficient use of waste products from the rubber trees. Basically, there is a great lack of human capital in CK and similar remote

areas. The latter finding regarding the electricity blackouts causes problems in the communities' daily lives and it limits their ability to work more efficiently with their current equipment and techniques. Put differently, the socio-economic problem of lack of access to electricity has negative consequences for the community.

This study, based on both empirical results from the field research and theoretical insights, has argued that community empowerment and social capital are highly important in the project's pursuit to increase LED in the respective areas. Social capital has the ability to bridge the various stakeholders involved and to increase the level of trust needed for collaboration and the establishment of networks. Community empowerment is crucial for developing a community's skills and competences, increasing one's knowledge regarding specific issues and to diminish negative consequences caused by enclave formation. However, to utilize both factors properly, social franchising and social entrepreneurship need to be integrated in the process. Social franchising has the ability to overcome the three scarce resources of managerial skills, local market knowledge, and financial capital (Willis and Castrogiovanni, 2010). The main purpose of social entrepreneurship is to strengthen the economic position of the community. This is done by creating social value via recognizing and taking advantage of opportunities to create that value ("envision") and to employ innovation to enhance one's ability to take advantage of opportunities to create social value (Peredo and McLean, 2005).

These factors and a better access to financial capital together should pitch a solution to the lack of human capital. A better access to financial capital is provided by the financial support package developed by the government. This financial assistance package consists of loan guarantees, tax incentives, investment packages and improvement of the infrastructure and is labeled in the modified Stimson model as "financial support".

This study argues that the development of a group entrepreneurial spirit is one solution to the lack of human capital and that value is created by money flows. The act of this collective action while employing innovation (new techniques) to increase LED requires pro-active participation and involvement of the community in the project. Therefore, it is essential to ensure that the community is considered as an important stakeholder and allowed to have a specific level of ownership of and control over resources and techniques incorporated in the project. To achieve this, this study recommends

exercising a fractional social franchise for this MBD project. The reason for this choice is explained by the fact that the project offers an alternative method of generating electricity in order to solve the socio-economic issue concerning lack of access to electricity. Furthermore, it is important that the project can be replicated efficiently (without large amounts of seed capital) if the project appears to be successful in Indonesia. Finally, being sustainable and applying a long-term focus is vital to this type of projects.

In addition to this, I would strongly recommend future researchers to establish relationships and collaborations with NGOs, GOs, community groups, and professors related to LED based on mutual trust, respect and interest to obtain support and collaboration (participation) by the local communities and other important stakeholders. To achieve the ultimate goal of reducing socio-economic problems such as lack of access to electricity and poverty, the following actions need to be taken. (1) the development and improvement of both hard- and soft infrastructure in remote areas; (2) an increase in domestic resource mobilization; (3) an improvement of public sector activity; and (4) an appropriate level of external capital inflows are required.

The main contributions of this study are the development of a new LED model incorporating factors of the Stimson model (2009) and a financial- and a group entrepreneurship dimension. Furthermore, a special-made financial construction model specific to LED projects (such as the MBD) is designed. Finally, a value creation chain (on micro-level) for the MBD-like projects is constructed.



## Appendix

Sektor/subsektor	Nilai PDRB (Juta Rupiah)					Laju pertumbuhan (%/tahun)
	2005	2006	2007	2008	2009	
<b>Berdasarkan harga berlaku</b>						
1. Tanaman Pangan	1.302.887,12	1.636.455,36	1.883.700,73	1.709.428,30	1.863.672,84	10,12
<b>2. Perkebunan</b>	<b>3.192.897,08</b>	<b>3.936.256,76</b>	<b>4.198.342,22</b>	<b>4.137.381,32</b>	<b>4.421.737,49</b>	<b>8,84</b>
3. Peternakan	742.542,71	941.499,68	1.133.016,01	1.231.030,00	1.396.058,69	17,30
4. Kehutanan	983.605,50	954.736,13	830.218,70	790.909,99	724.834,98	-7,27
5. Perikanan	1.029.933,89	1.105.881,65	1.247.418,99	1.671.190,93	1.835.082,93	15,99
<b>PERTANIAN</b>	<b>7.251.866,30</b>	<b>8.576.829,58</b>	<b>9.292.696,66</b>	<b>9.539.940,84</b>	<b>10.241.386,93</b>	<b>9,16</b>
<b>KALIMANTAN TENGAH</b>	<b>20.983.169,93</b>	<b>24.483.071,00</b>	<b>27.931.949,58</b>	<b>32.438.260,27</b>	<b>36.223.976,56</b>	<b>14,64</b>
Pangsa Perkebunan terhadap Pertanian (%)	44,03	45,89	45,18	43,37	43,18	
Pangsa Perkebunan terhadap Kalteng (%)	15,22	16,08	15,03	12,75	12,21	
<b>Berdasarkan harga konstan 2000</b>						
1. Tanaman Pangan	942.321,19	955.274,45	999.902,80	896.125,40	949.494,33	0,41
<b>2. Perkebunan</b>	<b>2.309.693,80</b>	<b>2.461.200,70</b>	<b>2.489.186,28</b>	<b>2.546.941,44</b>	<b>2.686.645,58</b>	<b>3,88</b>
3. Peternakan	537.072,31	576.047,47	620.046,17	607.399,43	632.290,13	4,24
4. Kehutanan	709.406,67	647.953,20	530.400,27	437.939,20	377.357,33	-14,52
5. Perikanan	798.314,34	797.071,72	857.609,46	977.220,42	1.054.445,93	7,32
<b>PERTANIAN</b>	<b>5.296.808,32</b>	<b>5.437.547,53</b>	<b>5.497.144,98</b>	<b>5.465.625,89</b>	<b>5.700.233,30</b>	<b>1,87</b>
<b>KALIMANTAN TENGAH</b>	<b>14.034.632,14</b>	<b>14.853.726,14</b>	<b>15.754.508,67</b>	<b>16.725.514,29</b>	<b>17.642.169,62</b>	<b>5,89</b>
Pangsa Perkebunan terhadap Pertanian (%)	43,61	45,26	45,28	46,60	47,13	
Pangsa Perkebunan terhadap Kalteng (%)	16,46	16,57	15,80	15,23	15,23	

Sumber : BPS (2010) PDRB Provinsi Kalimantan Tengah 2005-2009

Table 8. Perkembangan Produk Domestik Regional Bruto (PDRB) Subsektor pada Sektor Pertanian tahun 2005 – 2009

Komoditas	Tahun Ekspor										
	2005		2006		2007		2008		2009		
	Volume	Nilai USD	Volume	Nilai USD	Volume	Nilai USD	Volume	Nilai USD	Volume	Nilai USD	
<b>Kelapa sawit dan turunannya</b>											
Crude Palm Kernel Oil (CKPO)	mt	--	--	--	3.500,00	2.975,00	10.801,78	12.866.222,80	4.024,06	50.025,20	
Crude Palm Oil (CPO)	mt	126.799,31	44.935.733,63	117.466,88	42.102.991,24	101.716,23	66.636.445,11	92.236,79	73.452.531,81	240.128,47	141.675.249,57
Palm Fatty Acid Distillate (PFAD)	mt	--	--	--	6.763,79	3.954.032,94	21.789,78	13.496.612,58	14.839,35	6.554.905,24	
Palm Kernel Expeller (PKE)	mt	--	--	--	--	--	--	--	1.300,00	52.000,00	
RBD Palm Olein	mt	--	--	--	6.298,79	5.250.556,44	14.449,84	13.259.846,88	10.909,05	2.367.368,20	
RBD Palm Stearin	mt	--	--	--	19.567,26	13.446.034,61	28.741,79	24.418.512,83	408.721,31	16.536.420,50	
Biji kelapa sawit	t	6.666,43	2.234.482,84	15.758,20	3.413.614,66	--	--	--	--	--	
<b>Karet</b>											
<b>Karet (SIR-20)</b>	<b>t</b>	<b>16.032,68</b>	<b>20.347.625,11</b>	<b>21.156,91</b>	<b>40.898.841,95</b>	<b>18.020,22</b>	<b>27.766.687,62</b>	<b>9.828,41</b>	<b>26.102.755,06</b>	<b>45.811,42</b>	<b>5.666.647,28</b>
<b>Total Nilai Ekspor (USD)</b>			47.170.216,47		45.516.605,90		89.290.044,10		137.493.726,90		167.235.968,71
<b>Laju pertumbuhan nilai ekspor untuk perkebunan</b>					-4%		96%		54%		22%
<b>Rata-rata Laju Pertumbuhan ekspor = 42,07% per tahun</b>											

Sumber : BPS. Kalteng dalam Angka 2006/2007, 2008, dan 2009

table 9. Perkembangan Ekspor Komoditas Perkebunan dan Turunannya di Provinsi Kalimantan Tengah Tahun 2005- 2009

## Proporsi luas areal

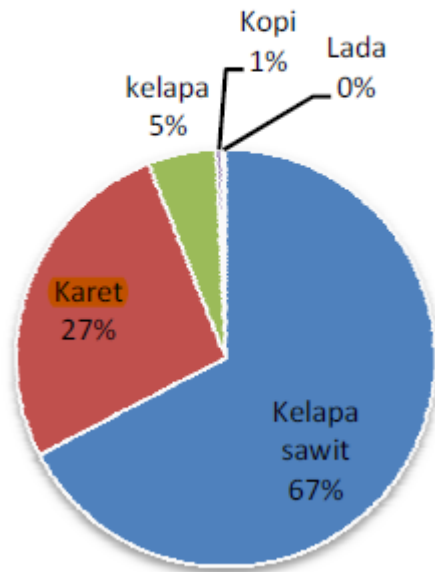


Figure 4. Percentage of plantations divided to natural resources in Central Kalimantan

Komoditi	2005	2006	2007	2008	2009	2010	Laju Pertumbuhan (%/tahun)
<b>1. Karet</b>	393.732,02	393.732,06	408.155,11	413.245,00	431.878,00	432.766,00	1,92
a. Perkebunan Rakyat (PR)	386.306,02	386.576,06	399.154,11	402.646,00	419.058,00	419.946,00	1,70
b. Perkebunan Besar Negara (PBN)	4.857,50	4.587,50	6.179,50	6.280,00	6.029,00	6.029,00	5,35
c. Perkebunan Besar Swasta (PBS)	2.568,50	2.568,50	2.821,50	4.319,00	6.791,00	6.791,00	24,03

Table 10. Perkembangan Luas Areal Perkebunan di Provinsi Kalimantan Tengah Tahun 2005 – 2009

Komoditi	2005	2006	2007	2008	2009	2010	Laju Pertumbuhan
<b>1. Karet</b>							
a. Perkebunan Rakyat (PR)	168.506,17	225.959,17	247.779,72	243.209,00	244.561,00	229.861,00	7,29
b. Perkebunan Besar Negara (PBN)	5.574,63	5.330,25	8.023,31	5.677,00	9.742,00	9.758,00	17,73
c. Perkebunan Besar Swasta (PBS)	2.046,28	1.814,80	2.136,75	2.167,00	279,00	279,00	-15,86

Table 11. Perkembangan Produksi Perkebunan di Provinsi Kalimantan Tengah Tahun 2005 – 2009

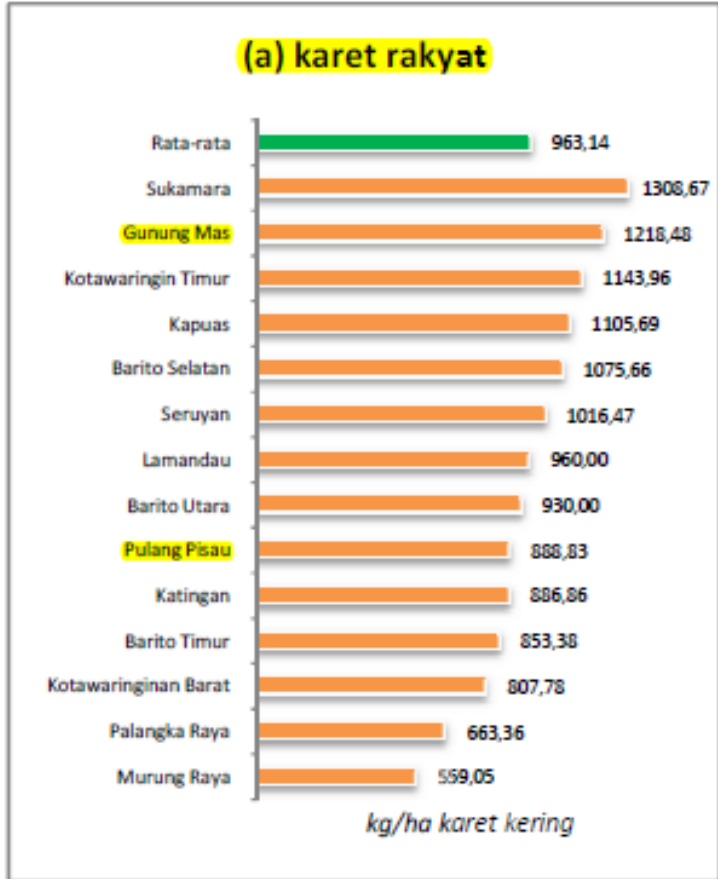


Figure 5: Production of rubber by the community in the 12 different regions in Central Kalimantan (kg/ha; karet = rubber)

No	Komoditas	2011	2012	2013	2014	2015
1.	Karet	445.934,20	459.312,23	473.091,60	487.284,35	501.902,88
2.	Kelapa	86.433,78	87.298,12	88.171,10	89.052,81	89.943,34
3.	Kelapa Sawit	1.178.954,47	1.273.270,83	1.375.132,49	1.485.143,09	1.603.954,54
4.	Kopi	7.340,51	7.413,91	7.488,05	7.562,93	7.638,56
5.	Lada	4.380,14	4.423,94	4.468,18	4.512,86	4.557,99
6.	Kakao	1.116,25	1.127,41	1.138,69	1.150,08	1.161,58
7.	Cengkeh	38,07	38,45	38,83	39,22	39,61
8.	Jambu Mete	1.410,83	1.537,81	1.676,21	1.827,07	1.991,50
9.	Pinang	491,60	513,72	536,84	561,00	586,24
10.	Aren	253,21	255,74	258,30	260,88	263,49
11.	Kemiri	1.375,41	1.402,92	1.430,98	1.459,59	1.488,79
12.	Kapuk / Randu	23,31	23,54	23,78	24,02	24,26
<b>JUMLAH</b>		<b>1.727.751,78</b>	<b>1.836.618,62</b>	<b>1.953.455,04</b>	<b>2.078.877,89</b>	<b>2.213.552,77</b>

Table 12. Proyeksi Sasaran Luas Areal Perkebunan Provinsi Kalimantan Tengah Tahun 2011 – 2015

No	Komoditas	2011	2012	2013	2014	2015
1.	<b>Karet</b>	<b>13.168,20</b>	<b>13.378,03</b>	<b>13.779,37</b>	<b>14.192,75</b>	<b>14.618,53</b>
2.	Kelapa	856,78	864,34	872,98	881,71	890,53
3.	Kelapa Sawit	87.329,47	94.316,36	101.861,67	110.010,60	118.811,45
4.	Kopi	72,51	73,41	74,14	74,88	75,63
5.	Lada	43,14	43,80	44,24	44,68	45,13
6.	Kakao	11,25	11,16	11,27	11,39	11,50
7.	Cengkeh	0,07	0,38	0,38	0,39	0,39
8.	Jambu Mete	116,83	126,97	138,40	150,86	164,44
9.	Pinang	21,60	22,12	23,12	24,16	25,24
10.	Aren	2,21	2,53	2,56	2,58	2,61
11.	Kemiri	27,41	27,51	28,06	28,62	29,19
12.	Kapuk / Randu	0,31	0,23	0,24	0,24	0,24
<b>JUMLAH</b>		<b>101.649,78</b>	<b>108.866,84</b>	<b>116.836,42</b>	<b>125.422,85</b>	<b>134.674,88</b>

Table 13. Proyeksi pengembangan areal perkebunan per tahun di Provinsi Kalimantan Tengah 2011 – 2015

No.	Komoditas	2011	2012	2013	2014	2015
<b>1.</b>	<b>Karet</b>	<b>614.280</b>	<b>732.280</b>	<b>848.280</b>	<b>988.280</b>	<b>1.093.280</b>
2.	Kelapa	70.444	71.004	71.564	72.124	72.684
3.	Kelapa Sawit	2.587.357	3.208.323	3.978.320	4.933.117	6.906.065
4.	Kopi	1.591	1.655	1.721	1.790	1.861
5.	Lada	1.016	1.036	1.057	1.078	1.100
6.	Kakao	326	339	353	367	381
7.	Cengkeh	2	3	3	3	3
8.	Jambu Mete	124	124	124	124	124
9.	Pinang	46	46	46	46	46
10.	Aren	19	19	19	19	19
11.	Kemiri	19	19	19	19	19
12.	Kapuk / Randu	3	3	3	3	3
<b>JUMLAH</b>		<b>3.275.227</b>	<b>4.014.851</b>	<b>4.901.509</b>	<b>5.996.970</b>	<b>8.075.585</b>

Table 14. Proyeksi sasaran produksi komoditas perkebunan di provinsi Kalimantan Tengah 2011 - 2015

No	KABUPATEN / KOTA	RENCANA PENGEMBANGAN TAHUN				
		2011	2012	2013	2014	2015
1	Murung Raya	1.565,83	1.612,81	1.661,19	1.711,03	1.762,36
2	Barito Utara	1.651,08	1.700,61	1.751,63	1.804,18	1.858,31
3	Barito Selatan	1.092,20	1.124,96	1.158,71	1.193,47	1.229,28
4	Barito Timur	1.492,79	1.537,57	1.583,70	1.631,21	1.680,15
5	Gunung Mas	1.746,87	1.799,28	1.853,25	1.908,85	1.966,12
6	Palangka Raya	122,72	126,41	130,20	134,10	138,13
7	<b>Pulang Pisau</b>	<b>1.094,94</b>	<b>1.127,79</b>	<b>1.161,62</b>	<b>1.196,47</b>	<b>1.232,36</b>
8	K a p u a s	860,43	886,24	912,83	940,22	968,42
9	Katingan	562,17	579,04	596,41	614,30	632,73
10	Kotawaringin Timur	1.419,09	1.461,66	1.505,51	1.550,68	1.597,20
11	Seruyan	526,62	542,42	558,69	575,45	592,72
12	Kotawaringin Barat	472,99	487,18	501,80	516,85	532,36
13	Lamandau	180,51	185,93	191,50	197,25	203,17
14	Sukamara	200,13	206,13	212,31	218,68	225,24
	<b>JUMLAH</b>	<b>12.988,37</b>	<b>13.378,03</b>	<b>13.779,37</b>	<b>14.192,75</b>	<b>14.618,53</b>

Table 15. Sasaran Pengembangan Areal perkebunan Karet per Kabupaten/kota se Kalimantan Tengah Tahun 2011-2015

No.	KABUPATEN / KOTA	RENCANA PENGEMBANGAN TAHUN (TON)				
		2011	2012	2013	2014	2015
1.	Murung Raya	67.301	77.301	87.301	97.301	104.801
2.	Barito Utara	70.471	80.471	90.471	100.471	107.971
3.	Barito Selatan	49.089	59.089	69.089	79.089	86.589
4.	Barito Timur	79.439	89.439	99.439	109.439	116.939
5.	Kapuas	43.313	53.313	63.313	73.313	80.813
6.	<b>Pulang Pisau</b>	<b>58.494</b>	<b>68.494</b>	<b>78.494</b>	<b>88.494</b>	<b>95.994</b>
7.	Palangka Raya	8.139	12.139	14.139	24.139	31.639
8.	Katingan	28.722	38.722	48.722	58.722	66.222
9.	Kotawaringin Timur	66.246	76.246	86.246	96.246	103.746
10.	Seruyan	26.178	36.178	46.178	56.178	63.678
11.	Kotawaringin Barat	22.377	32.377	42.377	52.377	59.877
12.	Lamandau	10.246	12.246	14.246	24.246	31.746
13.	Sukamara	11.238	13.238	15.238	25.238	32.738
14.	Gunung Mas	73.027	83.027	93.027	103.027	110.527
	<b>JUMLAH</b>	<b>614.280</b>	<b>732.280</b>	<b>848.280</b>	<b>988.280</b>	<b>1.093.280</b>

Table 16. Sasaran Produksi Karet per Kabupaten/kota se Kalimantan Tengah Tahun 2011-2015 (slab/sheet)

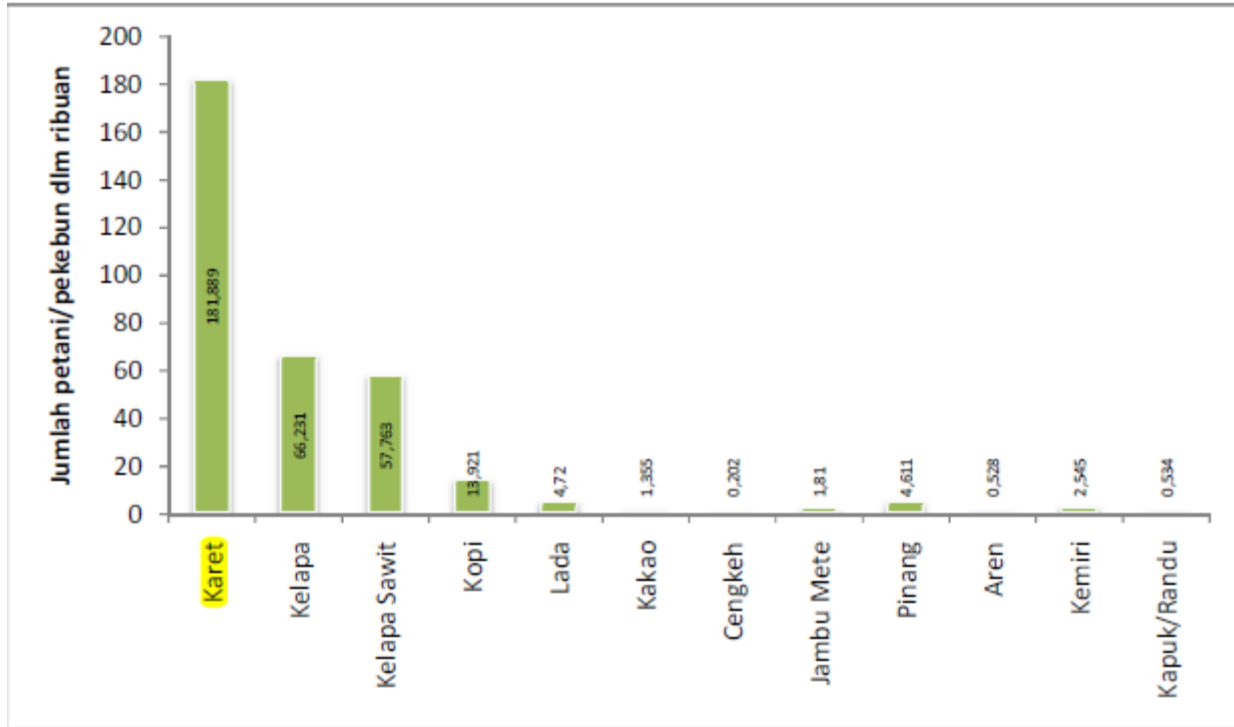


Table 17. Distribution of number of farmers by commodity plantations in Central Kalimantan in 2010

## Practical examples

**1. Outreach International Bio-energy**, an organization that provides training and seeds for planting *Jatropha* and maintaining *Jatropha* plants can be considered as real-life example for our project. They are registered in Forestry Clean Development Mechanism (CDM) of the United Nations Framework Convention for Climate change (UNFCCC).

“Outreach International Bio-energy introduced a strategic cooperative concept of planting *Jatropha* in marginal land of East-Indonesia. They established partnerships with local farmers via community organizations. These partnerships include support and trust from both parties, and the farmers obtain a specific degree of ownership in the form of company’s shares. Outreach International Bio-energy decided to utilize nonfood-crop areas in order to gain support for both the local farmers and the community. Furthermore, they expect the farmer’s willingness to last for a long-term, signified through a binding contract agreement, for at least 35 years. In order to optimize local farmer’s knowledge regarding the seeds/nuts and harvesting *Jatropha*, training sessions and education programs are



constructed and provided to the local community. Additionally, whereas Suwido Limin, (Interview 2012) argued that the government should guarantee the purchase of the rubber trees seeds and waste products or even biodiesel, in this program the organization guarantees the purchase of farmer's Jatropha beans. Community organizations are hired to cooperate with the existing social structures- of the farming society in remote Kalimantan. The following figure illustrates the approach which should be accepted in the MDB project.

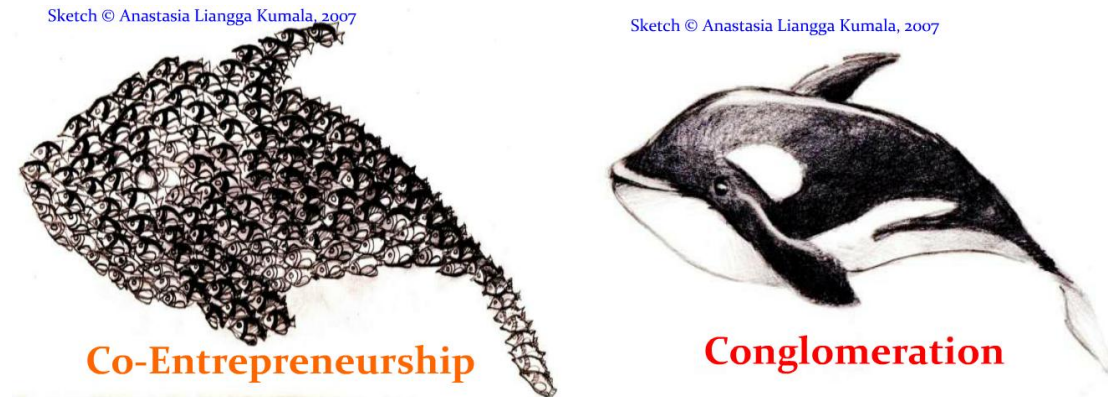


Figure 2. The approach in Rubber tree planting and the MBD project (source: Anastasia Liangga Kumala, 2007).

Co-entrepreneurship is the act of supporting entrepreneurs at every phase of the project by being actively involved and supply knowledge and expertise. It basically refers to the proactive participation and collaboration of all stakeholders in the MBD project to achieve a collective social goal. The main goal of the MDB project is to increase local economic development by incorporating social capital and social and group entrepreneurship. All the various inputs and actions unified should result in the achievement of the common (social) goal. In figure 2 this is illustrated by all the small fish collectively forming one (large) whale together. Put differently, by strengthening indigenous efforts (action I) via training and education programs given by organizations or governmental institutions (action II) and sponsored by donors and the government (action III), this project can be realized and will result in an improvement of the economic situation in CK.

**2. PT Bumimas**, a logging company operating in Kalimantan provides, in exchange for using land in the sub-district Kahayan Hulu Utara in the Gunung Mas area, electricity to the local community in remote villages in that area. The amount of electricity is determined by

an agreement which is based on proposals from the head of villages, head of district and the company itself. PKBM karunia is a NGO defining themselves as 'community organizer'. They provide and install micro-hydro generators in remote villages located in the Gunung Mas area to support them in gaining access to electricity. PKBM karunia is cooperating with the well-known international WWF organization. A typical (Dayak) village in this area counts 135 households and every single family owns 10 – 20 hectare of land used to grow rubber trees. As a result, the total amount of hectare of plantations used for rubber trees is significant and provides some serious potential for the MBD project. One kilo of latex is sold on the local market for a price fluctuating between IDR 8,000 – 9,000 which is around €0.63-0.71 per kilo. A common system often used in Kalimantan to sell rubber is one where the local farmers harvest rubber trees on their own plantations and tap the trees themselves as well. Depending on the size of the village, a trader will collect and purchase the rubber and sells the total amount to multiple middlemen. These middlemen will eventually sell the total amount of rubber collected from the remote villages to a company specialized in processing the rubber (product). The above is not necessarily a proper example of social franchising, although it elucidates which parties are involved and the NGO PKBM karunia can be considered as helpful in setting up our project in the Gunung Mas area (Interview Pak Setiadi, employee of NGO PKBM Karunia; 08-12-2012).

**3. REDD+ and PNPM** are two organizations, located in Palangkaraya, focusing on improving the economic situation in remote villages located in areas such as Pulang Pisau and Gunung Mas (CK). They organize various projects closely related to LED by creating co-operations between local smallholder rubber farmers or helping local people with financial statements, financial administration and official documents in order to be able to apply for financial support from local governments. Improving the infrastructure in these areas is a significant important point on the agenda and therefore, governments are especially investing in the development and improvement of the hard infrastructure. During the field research (2012) in the region Pulang Pisau, the following regarding investing in hard infrastructure was found; in a village called Henda they spend almost Rp. 300 million (24,000 Euro) on building bridges and other forms of infrastructure in 2011. In Tanjung Taruna this amount accounted for almost Rp. 67 million (€5,500) whereas in Simpung this



amount was equal to a small Rp. 110 million (€8,800). Finally, in Garung they spent around Rp. 153 million (€12,000) in 2011. To summarize, the local government spent an amount equal to Rp. 630 million (€50,000) on developing and improving the hard infrastructure in the Pulang Pisau region in 2011.

<b>Villages (Pulang Pisau region) in Central Kalimantan, Indonesia</b>	<b>Investment in infrastructure (hard) in 2011</b>
Henda	Rp. 300 million (€24,000)
Tanjung Taruna	Rp. 67 million (€5,500)
Simpur	Rp. 110 million (€8,800)
Garung	Rp. 153 million (€12,000)
Total	Rp. 630 million (€50,500)

*Table 3. Overview of investment in (hard) infrastructure in 2011 in Central Kalimantan*

**4. Garbage Bank Indonesia:** A proper example of social franchising in Indonesia is the one called ‘Garbage Bank Indonesia’. It is a collaborative operation between multiple actors. A volunteer collects the different kinds of garbage in various small villages and separates diverse types of garbage from each other in a storage place. A distinction is made between green waste, recycle waste (such as plastic, glass, paper) etc.

Some of the waste can be used to produce compost, which will eventually be sold to the community. Profits coming from this selling activity will be distributed among the local people where the waste was collected, or be spent on several types of services or products which will be provided to the local community. A social benefit is created in terms of keeping the environment clean, create a “positive” circle of sustainability and benefits in the forms of cash, services or products are provided to the people involved; the community.

**5. Brazil** – Brazil is often compared to Indonesia in terms of LED. Both countries are upcoming economies and have similar characteristics such as size, natural resources and economic situations. For this reason, this study decided to include one Brazilian practical

example to sketch the situation and the possibilities for biodiesel.

Brazil has already found alternatives to fossil fuel. However, new challenges for bio-energy arise as it increasingly competes with the food industry for the same raw materials. Bio-fuel will represent 30% of the global energy used by 2020 compared with only 2% today (International Energy Agency, 2005). Brazil is one of the world's most competitive bio-fuels producers because of its comparative advantage in producing ethanol and soybeans. The sustained capacity to improve and diversify its production by investing in R&D is one of the most important factors underlying the success and growth of Brazil's sugar/ethanol complex. The government's role is to ensure that the transformation to a market-driven sector proceeds smoothly and to help improve the industry's environmental performance. In addition, the government has to regulate the industry's environmental impact and helping the industry develop energy co-products from waste material (bagasse). Activities that are controlled include: sugarcane field burning; bagasse (post-processing residual material-management; soil quality, herbicides and insecticides storage and usage; liquid waste application for fertilizer, forest preservation, surface and ground water quality, ethanol storage; water usage; sugarcane transport; and noise pollution. The sugarcane harvest area in Brazil is around 5.2 million hectares (UNICA, 2006) and employs 1.2 million workers (Parra, 2005). Brazil's global strategy for sugarcane-based ethanol as bio-fuel substituting fossil fuels is focused on building basic demand in Asia and Europe. Enticing customers in Asia to switch to ethanol would give significant credibility to the fuel.

## **References**

Adler, P.S. and Kwon, S-W. (2002): " Social Capital: Prospects for a New Concept", *The Academy of Management Review*, Vol. 27, No.1, pp. 17 – 40

Blakely, E.J. (1994): "Planning Local Economic Development: Theory and Practice", Thousand oaks, CA.: Sage Publications

Bovaird, T. (1992): "Local economic development and the city", *Urban Studies*, 29, pp. 343–368

Camagni, R. (1991): "Innovation Networks", John Wiley & Sons, Inc. New York, NY, USA, pp.

1 – 247 (ISBN: 1852931353)

Carley, K. (1992): "Organizational learning and personnel turnover", *Organization Science*, Vol. 3, pp. 20-46

Carvalho, G.O. (2001): "Sustainable development: Is it achievable within the existing international political economy context", *Sustainable Development*, Dev. 9, pp. 61 – 73

Chong, L. and Gibbons, P. (1997): "Corporate entrepreneurship: The roles of ideology and social capital", *Group and Organization Management*, 22: pp. 10 – 30

Clark, N. (1975): "The multi-national corporation: the transfer of technology and dependence", *Development and Change*, 1975: pp. 5-21

Clarke, S. E. and Gaile, G. L. (1992): "The next wave: post-federal local economic development strategies", *Economic Development Quarterly*, 6, pp. 187–198

Cooper, C. (1972), "Science, technology and production in the underdeveloped countries: an introduction." *Journal of development studies*, 1972: pp. 1-18

Cummings, J. (2003): "Knowledge sharing: a review of the literature", *The World Bank Operations Evaluation Department (OED)*, pp. 1 – 57

Davis, J.R. (2006): "Evaluating and disseminating experiences in local economic development: observations on integrated development programmes of the free state, republic of South Africa", *Natural Resources Institute Working Paper*, pp. 1-42

De Santis, M. and Stough, R.R. (1999): "Fast Adjusting Urban Regions, Leadership and Regional Economic Development", *Region et Development*, 10: pp. 37-56

Emery, F., and Trist, E. (1965): "The causal texture of organizational environments", *Human Relations* 1: pp. 21–35

Fairholm, G.W. (1994): *Leadership and the Culture of Trust*. Westport, Conn.: Praeger

Fredriks, J., (2012): "Working out a technology push by using hybrid franchising", MSc thesis, University of Groningen, pp. 1 -73

Fukuyama, F. (1995): "Trust: the social virtues and the creation of prosperity", New York: Free Press.

Goodman, R. M. Speers, M. A. McLeroy, K. Fawcett, S. Kegler, M. Parker, E. Rathgeb Smith, S. Sterling, T. D. and Wallertein, N. (1998): "Identifying and Defining the Dimensions of

Community Capacity to provide the basis for Measurement" *Health Education & Behavior*. 25(3): pp. 258-278

Gruber, J. and Trickett, E. J. (1987): "Can we empower others? The paradox of empowerment in the governing of an F public school." *American Journal of Community Psychology* 15(3): pp. 353-372

Guiso, L., Sapienza, P., and Zingales, L., (2004): "The role of social capital in financial development", *The American Economic Review*, Vol. 94, No. 3, pp. 526 - 556

Hargadon, A. and Sutton, R.I. (1997): "Technology brokering and innovation in a product development firm, *Administrative Science Quarterly*, 42: pp. 716 - 749

Hartmann, A., and J. F. Linn (2008): "Scaling up: a framework and lessons for development effectiveness from literature and practice". working paper, Brookings: Wolfensohn Center for development

Harvie, C. (2004): "East Asian SME Capacity Building, Competitiveness and Market Opportunities in a Global Economy", Department of Economics, University of Wollongong, Working Paper, pp. 4-16

Helling, L., Serrano, R., and Warren, D. (2005): "Linking Community Empowerment, Decentralized Governance, and Public Service Provision Through a Local Development Framework", SP discussion Paper, No 0535, pp. 1 - 93

Helmsing, A.H.J. (2001): "Local Economic Development - New generations of actors, policies and instruments. A summary report prepared for the UNCDF symposium Decentralization Local Governance in Africa", Draft Papers for the 2001 Cape Town Symposium, pp. 59-78

Helmsing, A.H.J., (2005): "Local economic Development in Africa: new theory and policy practices", in: T. Egziabher and A.H.J. Helmsing (eds.), *Local Economic Development in Africa: Enterprises, Communities and Local Government*, Shaker Publishing, Maastricht

Hulme, D. (2002): "impact assessment methodologies for microfinance: theory, experience and better practice", *World Development*, Vol. 28, No.1, pp. 79-98

International Energy Agency. *World Energy Outlook 2005*.

Kooble, C. T. and Bailey, C. L. (1993): "Putting targeted economic development to work: the role of targeted marketing in an economic development programme", in: B. P. MEYER (Ed.) *Comparative Studies in Local Economic Development*, pp. 17- 29. Westport, CT: Greenwood Press.

Koehlmoos, T.P., Gazi, R., Hossain, S.S. and Zaman, K. (2009): "The effect of social franchising on access to and quality of health services in low- and middle-income countries (Review), The Cochrane Library, Issue 2, pp. 1 - 18

Labonte, R. (1990): "Empowerment: notes on professional and community dimensions." Canadian Review of Social Policy (26): pp. 64-75

Laukamm-Josten, Dr Ulrich. (1998): "Social Franchising as a Management Strategy in Reproductive Health Projects for Young People", Literature Review and Recommendations. Berlin: DSW (German Foundation for World Population).

Lever, W. F. (1992): "Local authority responses to economic changes in west central Scotland", Urban Studies, 29, pp. 935-948

Maharaj, B., and Ramballi, K. (1998): "Local Economic Development Strategies in an Emerging Democracy: The Case of Durban in South Africa, Urban Studies", Vol. 35, No.1, pp. 131-148

Lönnroth, k., Aung, T., Maung, W., Kluge, H. and Uplekar, M. (2007): "Social franchising of TB care through private GPs in Myanmar: an assessment of treatment results, access, equity and financial protection." Health Policy and Planning, 22: pp. 156-166

Maillat, D. (1995): 'Territorial Dynamix, Innovative Milieus and Regional Policy', Entrepreneurship and Regional Development 7: pp. 157 - 165

Martines-Filho, J., Burnquist, H.L., and Vian, C.E.F. (2006): "Bioenergy and the Rise of Sugarcane-Based Ethanol in Brazil, pp. 91 - 96

Marwell, G., and P. Oliver (1993): "The critical mass in collective action: A micro-social theory", New York: Cambridge University Press.

McCarthy, J.F., (2010): "Processes of inclusion and adverse incorporation: oil palm and agrarian change in Sumatra, Indonesia", Journal of Peasant Studies, 37:4, pp. 821-850

McNelly, B., Lippold, K., Foly, A. and Kipke, R. (1999): "Practitioner- LED impact: a test in Mali", International Journal of Economic Development, Vol. 1, No. 2, pp. 120-164

Meuter, J. (2008): "Social Franchising. Demografische analysen- konzepte-strategien", Berlin: Berlin-Institut fur bevölkerung unt entwicklung

McCormick, D. (1996): "Small enterprise development: a network approach in D. McCormick P.O. Pedersen (Eds.), *Small Enterprises: Flexibility and networking in an African context*, Longman Kenya, Nairobi, pp. 301-314

McGuirk, P.M.; Winchester, H.P.M. and Dunn, K.M. (1998): "On losing the local in responding to urban decline: the honeysuckle redevelopment", new South Wales, in Hubard, P. and Hall, P.H. (ed.), *The entrepreneurial city. Geographies of Politics, Regime and Representation*, pp. 107-128. Chichester: John Wiley & Sons

Montagu, D (2002): *Franchising the health services in developing countries.* " Health Policy and Planning, pp. 121 - 130

Möllering, G., (2007): "Collective institutional entrepreneurship? The recursive interplay of action, networks and institutions in market constitution". Paper presented at the *The Institutional Embeddedness of Markets* conference, Max Planck Institute, Cologne. February.

Nahapiet, J. and Ghoshal, S. (1998): "Social capital, intellectual capital, and the organizational advantage, *Academy of Management Review*, 23: pp. 242 - 266

Nel, E. (2001): "Local Economic Development: A Review and Assessment of its Current Status in South Africa, *Urban Studies*, Vol. 38, No. 7, pp. 1003-1024

Nissanke, M. and Thorbecke, E. (2006): " Channels and policy debate in the globalization-inequality-poverty nexus", *World Development*, Vol. 34, No. 8, pp. 1338 - 1360

Nonaka, I. (1994): "A dynamic theory of organizational knowledge creation", *Organisational Science*, Vol. 5, pp. 14-37

Norton, S.W. (1988b): "An empirical look at franchising as an organizational form. *Journal of Business*, 61 (2), pp. 197 - 218

O'Gorman, F. (1995): "Brazilian community development: Changes and Challenges" in Craig, G. and Mayo, M. (eds.) (1995) *Community empowerment. A reader in participation and development*. London: Zed Books, pp. 206-217

Parra, J.R.P. (2005): *O papel da ciência e tecnologia na evolução da cultura da cana no Brasil*. Seminário Etanol Combustível: Balanço e Perspectiva, November 16 and 17. UNICAMP, Campinas, Available online: <http://www.nipeunicamp.org.br/proalcool/evento.htm>.

Patunru, A.A. (2010): "Political Economy of Environmental Protection in Indonesia", Paper presented at "The Environments of the Poor in the Context of Climate Change and the

Green Economy: Making Sustainable Development More Inclusive” conference organized by the Asian Development Bank (ADB), pp. 24–26 November, New Delhi, India

Patunru, A. A., and Tarsidin (2012): “Recent Indonesian Economic Development and the Urgent Need to Remove Key Growth Obstacles”, *Asian Economic Paper* 11:3, pp. 58 - 77

Peredo, A.M. and McLean, M. (2005): “Social Entrepreneurship: A Critical Review of the Concept, *The Journal of World Business*, pp. 2 - 29

Pike, A., Rodríguez-Pose, A. and Tomaney, J. (2006): “ Introduction: Local and regional development in a global context”, in: A. Pike, A. Rodríguez-Pose and J. Tomaney (eds.), *Local and Regional Development*, Routledge, London and New York.

Pomerantz, M. (2003): “The business of social entrepreneurship in a “down economy”. In *Business*, 25(3): pp. 25-30

Reese, L. A. (1993a): “Categories of local economic development techniques: an empirical analysis, *Policy Studies General*”, 21, 3, pp. 492–506

Reese, L. A. (1993b): “Local economic development practices across the northern border”, *Urban Affairs Quarterly*, 28, 4, pp. 571–592

Resosudarmo, Budy P., and Yusuf, A.A. (2009): “Survey of Recent Developments”. *Bulletin of Indonesian Economic Studies* 45(3): pp. 287–315.

Rissel, C. (1994): “Empowerment: the holy grail of Health Promotion?” *Health Promotion International* 9(1): pp. 39-47.

Romo, F.P. and Schwartz, M. (1995): “Structural embeddedness of business decisions: A sociological assessment of the migration behavior of plants in New York State between 1960 and 1985, *American Sociological Review*, 60: pp. 874 - 907

Ruster, J. (2003): “Franchising in health: emerging models, experiences, and challenges in primary care.” public policy for the private sector not no. 263 (The World Bank Group Private Sector and Infrastructure Network.

Ruster, J., Yamamoto, C., and Rogo, K. (2003): “Franchising in Health”, Note number 263, The world bank group

SANCO (South African National Civic Organization) (1995): "Strategies and Policies for Local Economic Development in the New South Africa. Johannesburg", SANCO/Friedrich Ebert Stiftung.

Schoot Uiterkamp, B.J. and Pennink, B. (2012): "Local Capacity Development via Knowledge Sharing: empirical results from Sulawesi, Research report No. 30, pp. 1 – 69

Sesay, S., Amara, V. & Lebbi, J. A. (2010): "Strengthening Social Capital The GoBifo Approach in Rural Sierra Leone", *Royal Tropical Institute (KIT)*, pp 1-72

Shaw, B., and Shaw, G. (1999): "Sun, Sand and Sales": Enclave tourism and Local Entrepreneurship in Indonesia, *Current Issues in Tourism*, 2:1, pp. 68 - 81

Simister, N. and Smith, R. (2010): "Monitoring and evaluating capacity development: Is it really that difficult?" *International NGO Training and Research Centre (INTRAC)*, Praxis paper 23, pp. 1 -31

Siregar, M. and Sugino, T. (2008): "Impact analysis of expanding biomass energy use to rural poverty in tropical Asia", Bogor: UNESCAP-CAPSA

Stiglitz, J. (ed.) (2002): "Globalization and its Discontents", Norton, New York.

Smith, E. (1997): "Social Franchising for EU Member States", Presentation at Experts Meeting on HIV/AIDS. Options Consultancy Services Ltd.

Stimson, R.J., Stough, R.R. and Roberts, B.H. (eds.) (2002): "Regional Economic Development. Berlin: Springer, pp.

Stimson, R.J., and Stough, R.R. (2008): "Changing approaches to regional economic development: focusing on endogenous factors", *Financial development and regional economies*, pp. 1-23

Stimson, R.J., Stough R.R., and Roberts, B.H. (2006): "Regional Economic Development: Analysis and Planning Strategy, Revised Edition., Berlin, Springer. F

Stimson, R.J., Stough, R.R., Salazar, M. (2005): "Leadership and Institutional Factors in Endogenous Regional Economic Development, *Investigaciones Regionales*, pp. 23 -52

Swimborn, G., S. Goga, F. Murphy (2006): "Local Economic Development: A primer developing and implementing local economic development strategies and action plans", *World Bank Working Paper*, pp. 1 -91



Tambunan, T. (2006): "Entrepreneurship Development: SMEs in Indonesia, *Journal of Development Entrepreneurship*, Vol. 12, No.1 (2007), pp. 95-118

Thee, Kian Wie, and Siwage D. Negara (2010): "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies* 46(3): pp. 279–308

Trigilia, C. (2001): "Social Capital and Local Development, *European Journal of Social Theory* 4 ", (4), pp. 427 - 442

UNICA, União da Agroindústria Canavieira de São Paulo. *Estatísticas*. Available online: [http:// www.unica.com.br](http://www.unica.com.br), 2006

USAID, WHO &. Public Policy and franchising reproductive health: current evidence and future directions. . Guidance from a technical consultation meeting, WHO,USAID, 2007.

White, A.T., Christie, P., D'Agnes, H., Lowry, K. and Milne, N. (2005): "Designing ICM projects for sustainability Lessons from the Philippines and Indonesia", *Ocean & Coastal Management* 48, pp. 271 – 296

Woller, G. (2004): "A review of impact assessment methodologies for Micro-enterprise development programmes", in: A. Nolan and G. Wong (eds.), *Evaluating Local Economic and Employment Development; How to assess what works among programmes and policies*", *Theory and Society*, Vol. 27, pp. 151-208

Willis, G. and Castrogiovanni, G.J. (2010): "The franchising business model: an entrepreneurship growth alternative

Windt, de, R. (2011): "The synergy between social entrepreneurship, community empowerment and social capital for the local economic development of the smallholder rubber culture in Central Kalimantan, MSc thesis, University of Groningen, 1 – 92

Woolcock, M. (1998): "Social capital and economic development: toward a theoretical synthesis and policy framework." *Theory and Society*. 1998. 27, 151-208

Zaaijer, M. and Sara, L. M. (1993): "Local economic development as an instrument for urban poverty alleviation: a case from Lima and Peru", *Third World Planning Review*, 15, pp. 127–142

Jakarta Post, Hans David Tampubolon, 15 december 2012, "Fuel subsidy: Rp 70 trillion overspend on the cards".