

## Islamic Micro Financing for Sustainable Oil Palm Farming: Case of Independent Smallholders

Sukainah Farhah Ador  
Fakulti Ekonomi & Pengurusan  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor  
E-mail: sukainahfarhahador@gmail.com

Muhammad Hakimi Mohd Shafiai  
Fakulti Ekonomi & Pengurusan  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor  
E-mail: hakimi@ukm.my

Mohd Adib Ismail  
Fakulti Ekonomi & Pengurusan  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor  
E-mail: mohadis@ukm.my

### ABSTRACT

The growth of demand and production in palm oil increased rapidly from time to time, these scenarios have a positive impact on the development of this sector and it is able to increase the country's GDP. However, in the long run this may give a negative impact if it is not closely controlled. Smallholders is a major players in this sector. In sequence of that, the position of smallholders being an issue debated globally in a sustainable palm oil production. Smallholder contribution to a sustainable palm oil production is an issue highlighted in this study. This study focused on the independent smallholders because assistance and scheme that being provided to them in achieving the sustainable palm oil production is still an inadequate. The main objective of this study is to develop an Islamic financing mechanism that will potentially help smallholders towards sustainable palm oil production. Conceptual framework used as the methodology of this study. The results of these analysis within smallholders, sustainability and Islamic micro financing mechanism form a value chain that linked the three components that lead to develop of an Islamic micro financing of fund management mechanisms for small farmers towards sustainable palm oil development. This study can contribute to the literature and it is also will provide a positive impact on smallholders, community, environment and economy. Policymakers also can make this study as a reference.

Keywords: Sustainability; oil palm; independent smallholders, Islamic micro finance.

### ABSTRAK

*Pertumbuhan permintaan dan pengeluaran minyak sawit meningkat dengan begitu pesat dari masa ke semasa. Senario ini memberi kesan positif bagi pembangunan sektor komoditi sawit dan ianya mampu meningkatkan KDNK negara. Namun, dalam jangka masa panjang, keadaan ini boleh memberi impak yang negatif jika sektor ini tidak dikawal dengan rapi. Pekebun kecil merupakan pemain utama dalam sektor ini. Rentetan daripada itu, kedudukan pekebun kecil menjadi satu isu perdebatan di peringkat global berkenaan pengeluaran kelapa sawit yang mapan. Sumbangan pekebun kecil untuk pengeluaran kelapa sawit yang mapan merupakan isu yang diketengahkan dalam kajian ini. Fokus kajian ini tertumpu kepada pekebun kecil persendirian kerana bantuan dan skim bagi golongan ini untuk pengeluaran kelapa sawit yang mapan adalah masih sangat berkurangan. Objektif utama kajian ini adalah untuk membangunkan mekanisma pembiayaan kewangan Islam yang berpotensi membantu pekebun kecil persendirian ke arah pengeluaran kelapa sawit mapan. Rangka kerja konseptual digunakan sebagai metodologi kajian ini. Hasil analisis kajian antara pekebun kecil persendirian, kemapanan dan pembiayaan kewangan mikro Islam membentuk satu mekanisma rantaian nilai untuk menghubungkan ketiga-tiga komponen ini yang seterusnya membangunkan mekanisma pengurusan*

*dana pembiayaan kewangan mikro Islam bagi pekebun kecil ke arah pembangunan kelapa sawit mapan. Kajian ini dapat memberi sumbangan kepada literature. Ianya juga akan memberikan impak positif kepada pekebun kecil persendirian, masyarakat, alam sekitar dan seterusnya ekonomi negara sekiranya penanaman kelapa sawit mapan ini berjaya dicapai. Pengubal polisi juga boleh menjadikan kajian ini sebagai rujukan.*

*Kata Kunci: Mapan, kelapa sawit, pekebun kecil persendirian, pembiayaan mikro Islam*

## INTRODUCTION

Smallholders are classified as a major player in palm oil sector (Vermeulen & Goad 2006). Globally, there are around 3 million smallholders involved in this sector (Teoh 2010). There are three types of smallholders, namely supported smallholders, collective landowner schemes and independent smallholders (Vermeulen & Goad 2006). In 2008, out of total 4.49 million hectares planted with oil palms at Malaysia, encircling 30 percent was supported smallholders while almost 11 percent was managed by independent smallholders (I.S) and the rest belonged to supported smallholders (Teoh 2010).

This paper will focus on I.S, which are those to be self-organized and self-financed and have more autonomy to choose how to use their lands, which crops to plant, and how to manage them. They are not contractually bounded to any particular mill or alliance, although they may receive support or extension services from government agencies (RSPO 2010). At the same time, I.S sell their crop to local mills either directly or through traders (Vermeulen & Goad 2006). They are small-scale production entities, thus, they are inefficient and unproductive (Rahman 2008). Even though they are relatively small in term of average production the I.S has played a significant role in the development of agricultural sector, collectively, their cumulative size comparatively large. Hence, their contribution to the production volume cannot be left out. Instead, the improvement regarding the productivity and sustainability must be enhanced.

According to Rahman (2008), since they are not bounded to any plantation scheme, this situation makes them received limited assistance in the form of credit services, seedling, fertilizer, training and so on. Therefore, they are likely to be less productive and produce a lower quality crop. They also did not get benefit from a direct relationship with local mills due to I.S often relied on traders to purchase and transport their fresh fruit bunches (FFB) to the mill (Nagiah and Azmi 2012). This situation makes them did not guarantees regarding the price paid for their crop. Eventually, this makes them cultivate their oil palm with improper way (Rahman 2009). This reason resulted in many negative internal and external effects to the environment, economy and society.

Between 1980 and 2000 palm oil production increased by more than 400%, this situation forecast to continue in future (Koh and Wilcove 2007; Nilson 2013). In terms of environment, the increase of production has led concerns about impacts on biodiversity, climate, and along with natural habitats (Fargione et al. 2008 and James 2008). Furthermore, it will lead to other consequences in terms of an increased fire risk and an increased erosion and so on (Naidoo et al. 2009). The effects from the economic side, in the short term, it would provide income for many farmers, but in the long term implications are still uncertain because unsustainable cultivation of oil palm may expose farmers even more too future price fluctuations (Rist et al. 2010).

Smallholders face a number of constraints in maximizing their potential for oil palm production while maintaining local choice and autonomy. The issues raised in this study are how to improve their contribution and create a sustainable oil palm production among I.S. An issue of sustainability is debated in oil palm industry. Social Non-governmental agencies (NGOs) often highlighted the issue of sustainability among smallholders to be achieved. In order to achieve the sustainable oil palm among smallholders, financial aid is an important aspect in the realization of this aim. In Malaysia, numerous financial assistance provided for the palm oil industry in many aspects and each level of palm oil production. However, financial assistance for small farmers is inadequate, especially among I.S. This study objective to advocate a form of Islamic micro financing mechanism assistance as a tool to create sustainable oil palm production among I.S. Therefore an Islamic financial mechanism should exist to be the driver in order to achieve this goal. The research questions that arise from this study are; what are the constraints and challenges for smallholders palm oil to create sustainable palm oil production? What is actually sustainability? how to help I.S to achieve this objective using an Islamic micro financing?. This study will be a significant towards sustainable palm oil production. The significance of this study is when I.S successful to create sustainable palm oil, it will benefit for them in term of increasing in yield, knowledge, profit and so on. This impact is not just

beneficial to I.S but in wider aspects such as environment and society. This study will also be beneficial for further research, and as a contribution to the literature review and also could make a reference to the policy maker.

## METHODOLOGY

The conceptual framework defines as the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs research, it is also a key part of design research. In addition, a conceptual framework are a visual or written product explains, either graphically or in narrative form, the main things to be studied, the key factors, concepts, or variable and the presumed relationships among them design (Maxwell 2012; Miles & Huberman 1994; Robson 2011). This paper is based on secondary data which has been collected from books, journals, working paper, internet and *etc.* A conceptual framework has been developed describing the Islamic microfinance as a tool for independent smallholders to achieve sustainable oil palm. The framework is presented in three broad categories namely independent smallholders, sustainability and Islamic micro financing. These categories are divided into six components which are smallholder's oil palm cultivators, constraints and challenges faced by smallholders, sustainable oil palm, Islamic and conventional micro financing, and the role of micro financing towards agriculture and environmental. These components analyzed critically and used as fundamental to develop a new mechanism to achieve the objective of this study.

## SMALLHOLDERS OIL PALM CULTIVATORS

The type of smallholders consist of collective landowner schemes (Vermeulen and Goad 2006), supported smallholders and independent smallholders (Ismail et al. 2003; Vermeulen and Goad 2006; Rahman et al. 2008; Omar and Dahari 2009; Dahari et al. 2010). Collective landowner schemes are a lease or joint venture contract, whereby local landowners who hold land title rent out use rights of their land for a plantation company, or collect a share profit based on the equity value of their land which is defined as Konsep Baru in Malaysia (Vermeulen and Goad 2006). According to Ismail et al. (2003) supported smallholders are whom get a direct support from government or private sector like a setup farm, input supply and so on. The examples of this type of smallholders are Federal Land Development Authority (FELDA), Federal Land Consolidation and Rehabilitation Authority (FELCRA), Rubber Industries Smallholders Development Authority (RISDA), and *etc.* Meanwhile, I.S are whom do everything all by themselves with minimal government assistance (Dahari et al. 2010; Omar and Dahari 2009). The Economic Transformation Programme (ETP) has identified the palm oil industry as one of the key drivers to boost Gross National Income (GNI) to Malaysia Economy. The 12 NKEA listed under oil palm with economic transformation potential nation into a high-income economy by 2020. The smallholder is one of the core focuses of this plan. There are several factor that can be done to increase smallholders yield and income which are reducing cost of production, integrating oil palm cultivation with other crops and livestock, using quality inputs with proper management, training for smallholders good agriculture practice (GAP) and *etc.* Production costs can be reduced by co-operation among the I.S, using alternative inputs for manuring oil palm like using organic fertilizer and so on (Rahman 2008). Furthermore, integration of oil palm cultivation in rotation with other crops can be done when the palm is in a phase of replanting, for example integration with sweet potatoes, corn and peanuts (Raja Omar et al. 2010). Meanwhile, livestock integration such as sheep could be made for mature oil palm tree over than 5 years old (Tohiran et al. 2010). The benefits of both types of integration are it can optimize the use of land, generate additional revenue and maximize the incomes of smallholders (Raja Omar et al. 2010; Tohiran et al. 2010). Then, the use quality of inputs such as seedlings, balanced and adequate fertilizes and *etc.* could increase the production (Manaf et al. 2013).

## CONSTRAINTS AND CHALLENGES FACED BY SALLHOLEDRS

### Financial Assistance

The primary constraint for smallholders is finance. They must bear a cost of production to cultivate oil palm, there is insufficient financial assistance to help them (Bertule and Degn 2009). Consequently, smallholders are not concerned about improving environmental aspect. Instead, they are only concerned about maintaining their business as their only livelihoods (Barrett et al. 2002; Dubois 2008;

Robinson 2000). It will make them do a bad practice in their cultivation without knowing that the practice will give a negative impact for their yield and revenue. Even they know a proper way to cultivate oil palm, smallholders still need a financial capacity in order to good agriculture practice (GAP). Generally, there are formal and informal loans available to them. For accessing bank loans, smallholders need adequate collateral in the form of land titles or their house certificate to secure the loans. Some smallholders typically cannot meet that basic condition of collateral and minimum loan size to secure the financing. Therefore, international and domestic banks prefer providing large loans to estates (Casson 2000), but not targeting smallholder due to lack of credit worthiness and limited deal sizes for smallholders (IIED and Proforest 2004). Besides, they also make informal loans from middlemen, relative or other source to make them able to finance such as cultivation, seedling and so on (Abas et al. 2010).

### **Cost of Production**

Production costs to be borne by smallholders include labor cost, material or input cost, and cost of transportation (Ismail et al. 2003). Labor cost, comprises cost of harvesting, collecting FFB, pruning, and so on. Some smallholders use family members as labors or employ full time workers or some contract workers or the combination of that approach (Ismail et al. 2003). The other problem of some smallholders who hired labor neglected their employee welfare. Some smallholders also hired laborers worked in the plantation without any contract and they were not informed about labor rights and some of the smallholders do not have any information about the minimum wage. Therefore, the smallholders neglect their employees' welfare. Further, Rahman et al. (2008) point out input costs involved are cost of fertilizer, seedling, harvesting and pesticide. However, problems raised in the paper that the farmers try to reduce costs due to financial limitation by way of applying insufficient amount of fertilizer, maintaining old oil palm and harvesting unripe FFB. The use of low-quality seedlings also a major problem for I.S (Kiatpathomchai & Kaewrak 2011). Smallholders also do not follow a certain schedule for fertilization. Moreover, smallholders use pesticides without controlled and do not handle it correctly. Other problems are low soil fertility, lack of knowledge in soil and fertilizer management, and the high price of fertilizer (Kiatpathomchai and Kaewrak 2011). As result, I.S are perceived to be inefficient and unproductive (Rahman et al. 2008).

### **Mill Access and FFB Dealer**

I.S are exposed to crop price fluctuations risk. Monopsony purchase by mills and lack of bargaining power among smallholders worsen their problem (Vermeulen and Goad 2006). Often they rely on dealers or middlemen to purchase and transport their FFB to the mills and have no guarantees regarding the price that will be paid for the crop (Nagiah & Azmi 2012). In this regards, Rahman (2009) discuss five elements of inefficiencies among the oil palm dealers. They are offering OER to smallholders without following standard procedures, dirty condition of the ramp, delay in conveying FFB harvested by smallholders, not offering KER to smallholders and conveying unripe FFB. These elements will lead to unfairness and lower prices received by smallholders also give an effect to other players in the supply chain.

### **Knowledge**

Knowledge regarding sustainable oil palm is still very low among the smallholders, most of them are not aware and understand negative environmental impacts of bad practice in oil palm cultivation. At the same time, smallholders also have limited agronomic knowledge (Ismail 2010). In addition, smallholders have difficulty access to trustworthy information on prices and pricing policies, market opportunities, technical aspects of production and site management, and more fundamentally on rights and options under national law or formal agreements (Vermeulen & Goad 2006). Besides that, most smallholders do not have documentation of their farming activities due to lack of knowledge and understanding an advantages of recording and monitoring farming activities and finance. This situation causes them not knowing the actual cost incurred and net profit received. To overcome this knowledge gap, training will be needed and a key factor to help smallholders to do a GAP.

### **SUSTAINABILITY**

The concept of sustainability generally has a variety and wide of meanings. The World Commission on Environment and Development defines sustainability as the need of the present were filled without

undermining the ability of future generation to meet their own needs (Anizah and Nor Zalina 2014). In many literatures, the sustainable paradigm consists of three pillars, namely economic growth, environmental protection and social dimension (Cernea 1991; Dantsis et al. 2010; Sydorovych and Wossink 2008). According to Kessler et al. (2007), highlighted two indicators in economic dimension which are per capita gross domestic product and employment rate. In 2011, the palm oil sector accounted for RM 53 billion of Malaysia's Gross National Income (Oil World 2013) and this sector also give an employment opportunity to the society (Sime Darby 2013). For social dimension, Bertule and Degn (2009) and Kessler et al. (2007) outlined food security, child mortality, poverty index, land conflict and inequality. Food security may be negatively affected due to the replacement of food crops. Besides that, this sector also will decrease a poverty index. This is evidenced by the success of FELDA, FELCRA, RISDA in reducing poverty and improving living standards in rural areas (Arif Simeh & T. Ariff 2001; Zin 2014). Furthermore, for environmental dimension have many criteria such as air, water, biodiversity (Kim et al. 2013), soil and agro-ecological management (Nelson et al. 2010) in which each criteria has own indicators. The indicators are such as soil fertility status, greenhouse gas emissions, water quality and many more. Sustainability is seen as an approach and property of the agricultural sector (Aniza and Nor Zalina 2014; Smith and McDonald 1998). The approach leads to the development of a set of strategies to make sure the sustainability could be achieved.

### **Analysis Research gap**

Current status and future directions for the use of palm oil is so impressive. Basiron (2004) state that palm oil is not used in producing food, but it is also used so widespread in non-food, bio-composite and as nutritional. Nilson (2013) cites Tincliffe and Webber (2012) mentioned that palm oil is used for both food and energy (Lam et al. 2009). This affirms that palm oil is the most often oil used to produce food. In this regards, due to smallholders is a major player in this sector, many previous studies have been done regarding their contribution. Recently, there are studies linking smallholders and sustainability as an important issue since the sustainability becomes focus over the global issues and the importance of sustainability aspects in the development of agricultural sector. The global debate highlighted the production of palm oil and its role in deforestation, biodiversity loss, climate change and social conflicts (AidEnvironment 2007; Rowell and Moore 2000; Teoh 2010).

In conjunction, researches on the creation of sustainable palm oil smallholders are getting steal the limelight by many. Most research on the smallholders is to obtain the RSPO certification for sustainability status of planted oil palm (Nilson 2013; Palm Society Watch 2006; Vergez 2013). So far, there is only project smallholders in Thailand have been successful getting RSPO certification, whereas, most other countries are still in the pilot project (Brandi et al. 2013; Opijnen et al. 2013; Thongrak 2011; Vergez 2013; WAGS 2012). While in Malaysia, the approach study of FELDA in the production of sustainable palm oil has been done with respect to the production of sustainable palm oil according to FELDA initiative (K. ilagonvan 2009, 2010). The study was to see how the RSPO principles and criteria can be adapted and applied in the schemes. In 2010, some farms, factories and FELDA management manage awarded the RSPO certification and will be expected to be fully certified in 2017 (MPOC 2010).

However, a research regarding I.S still very less in Malaysia. Many references were obtained from Indonesia because the structure and the situation of this sector is look-alike for both countries. Next, for facilities and infrastructures, the mass scale smallholders will be given priority such schemes. According Dahari et al. (2011) smallholders have seen a lot of constraint and obstacles to achieve the sustainable agriculture. Therefore, MPOB was focusing on good agricultural practices (GAP) towards sustainable palm oil. He added that it was done in stages and only a few smallholders will receive incentives because its involved high cost in achieving this goal. Most of the literature shows that financial constraints are a major obstacle for smallholders to produce sustainable palm oil. Accordingly, Islamic microfinance with appropriate mechanisms should be developed to help to achieve this goal.

### **Towards Sustainable Palm Oil Production among Smallholders**

Based on Wahid et al. (2009) to ensure that the production of palm oil is high quality and safe for consumers consumption, MPOB has taken the incentive to launch Palm Industry Code of Practice concerning each palm production chain. Several standards have been established, such as the Code of Good Agricultural Practice (COP), The Roundtable on Sustainable Palm Oil (RSPO), Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP) and Good Practice Screening for oil palm cultivation. Sustainable palm cultivation methods include good agricultural practices, such as

planting palm seedlings of good quality, manufacture fertilizer at the necessary rate, take action in controlling soil erosion, reducing the usage of chemicals by adopting integrated pest control, harvesting fresh fruit bunches are ripe and collecting fruit and relay others.

He added that, to create and increase the awareness among small farmers is to provide training and guidance on farm management in good agricultural practices (GAP) aims to increase yields through the organization and efficient farm management. The efficient and competent farm management can improve productivity and reduce production costs. The role and functions of the implementing agencies of development and welfare of smallholders in national and state levels should be consistent. Moreover, the development of main marketing agencies is also important to manage the business of marketing of smallholders in structured, organized and efficient for the welfare of smallholders.

## **MICRO FINANCING**

Microfinance (MF) is a tool developed to help reduce poverty, by providing financial assistance to the needy, giving them the opportunity to help themselves and at the same time they also can promote the economic development. Bouman (1990) cited by Mazher (2010) put forward the concept of MF is financial whereas the loans in small amounts and the period of payment is in a short time, and this funding is also given to the low-income households that have a very small assets can be used as collateral. The ideal nature of MF by Obaidullah (2011) in Amira (2013) is funding a small, short-term, coordinated, facilitated the loan process and valuation investors, production borrowing funds will be returned quickly after full payment of instalments, as well as providing a place and time of service and facilitating.

Problems that arise in MF by Ahmed (2007) which are the problem of moral hazard and economic viability. Moral hazard problem occurs when the loan given to the poor in a population, it was found in some cases where the loan financing MFIs often used instead of the real purpose of the loan was given. If the loan is used for improper purposes which are not productive, it will increase the risk of default of repayment. Next, in terms of economic viability is, if the operation of MFIs bear fruits, the poor will get benefit from the credit program. However, due to lack of funds and high management costs cause most of MFIs are not viable.

### **Potential Ways to Improve Micro Financing**

Based on previous studies of FAO and GTZ (1998) and Yaron (1994) in Elhiraika (2003) present a mechanism to enhance the success of rural financing by way of:

- 1) The objective of the institution is not only to emphasis the lending to the target group but also to give motivation to get back the loan available and also provides the storage concept.
- 2) The operational autonomy management in formulating policies and innovative low-cost system.
- 3) The staff accountability, training and rewards.
- 4) Terms and conditions of the loans are innovative and flexible where is adapted to the social conditions of the current economic and cultural.
- 5) Close monitoring, high collection rate loans and losses-low loan.
- 6) Mobilization of resources through deposits and savings accounts to reduce the depending with donor funds.
- 7) Reduce administrative expenses increased use of economies of scale.
- 8) Management information system enhanced so that they can develop effective management facilitates on planning, control and monitoring of loan repayments on time.
- 9) Focus on rural areas that have a high population density.

## **THE ROLE OF MFI TOWARDS THE AGRICULTURAL AND THE ENVIRONMENTAL**

In the 1980s, the failure of the supply of credit provided by the government led to a new approach to rural financing in the agricultural sector in developing countries. New approaches that encourage intermediaries and cooperation of the parties involved in providing financial services. Subsidies used to build microfinance institutions (MFI) as an alternative way to solve the problem. The effectiveness of the creation of MFI can be proved by a study done of Nature (1988) in Tenaw & Islam (2009) to measure productivity growth of the Grameen Bank, where his research is the agricultural productivity. His research shows that small-scale farmers who have relatively small revenue has managed to get more results and have increased their agricultural productivity with the planting of high - yielding varieties (HYV) after participating in programs of Grameen Bank. HYV cultivation requires high input

costs such as irrigation water, quality of fertilizers and pesticides according to the appropriate dose. Before join Grameen Bank, they cannot afford the high cost of inputs applied to their land for the cultivation of HYV as the revenue from their earnings are low. However, after participating in a credit program of Grameen Bank, they have managed to increase their income and because they work in groups, it is quite easy for them to get input HYV at lower average costs.

According to Rouf (2012b) MFI clients are mostly from the poor. These groups usually earn income from agricultural activities. Accordingly, these activities will have an impact on the environment. Thus, the MF provided currently provide funding for environmentally friendly businesses in agricultural activities. Demand for products and services that are environmentally friendly, including green financial product are getting increase in North America and Europe. Generally, these products are intended to reduce the negative impact on the environment as a tool for maintaining environmental quality surrounding. Furthermore, Rouf (2012b) compares the Grameen Bank and Grameen in Bangladesh with safe Shokti Altema in Canada in terms of micro-credit and renewable energy programs to green development program. Both countries show that the positive impact of MF for sustainable development, however, he argues that environmental organizations and NGOs should participate in providing training on environmental issues such as waste recycling and use of renewable energy, and provide support and funding for green MFI.

## **ISLAMIC MICRO FINANCING (IMF)**

### **The concept of Islamic Micro Financing (IMF)**

Some research, such as Dogarawa (2009) , Harran (2008) and Nazirwan (2009) defines IMF as financing and products for people with low income and is basically an extension of the concept of banking , where the financing is free from compatible-system (riba), gambling and gharar. Financing is based on sharia, with profit and loss sharing system to replace the interests are practiced by conventional financing where it is based on real economic activity and prohibit speculative transactions, trafficking, fraud and unfair financial services implementation.

### **Integration of zakat and waqf**

Manjoo (2008) argued that Zakat and Waqf can be an effective tool to reduce poverty. He emphasized the Zakat and Waqf to meet the needs of the unaffordable in economic aspects. National Zakat Fund will be established to facilitate the payment of zakat. The authors propose the establishment of Waqf as a Public Benefit Organisation (PBO). Endowment funds under poor Entrepreneurs Scheme will be used to create jobs. It can be channelled through IMF instruments such as Mudarabah and joint ventures in accordance with the eradication of poverty. The authors also propose a model for the exploration of the Islamic capital that can be well structured to help partners to sell Waqf at a higher rate.

Hasan (2010) developing the idea of an integrated model that combines microfinance Islamic Zakat and Waqaf institutions for poverty alleviation. First, the funds will be given to the borrower Zakat (poor) to meet their consumption needs. The Endowment Fund will be used as investible a fund that serves as the capital investment and working capital for micro-businesses. It will reduce the risk of default of repayment of the loan because the needs of the poor borrowers have already met. One of the features of this model is that it will ensure the equality in distribution of income and welfare for the poor. Distribution of profits or income allocated based on capital contributions of depositors, shareholders, investors in NGOs.

## **MECHANISM FRAMEWORK**

A value chain is defined as a system made up of two components: 1) a sequence of activities such as production, processing and transport, and 2) a network of functional relationships that work together to reach an objective. These components interact through dynamic linkages such as contractual arrangements and coordination, and determine opportunities for investment along the value chain (Moir in Cromme et al. 2010). This value chain will involve all NGO's, I.S, mills, Islamic financial institutions, government agencies, supplier and etc. The standard value chain is modified in order to insert financial and non-financial services to target group. The modified mechanism as illustrated in the figure 1.

The mechanism of the value chain and upgrading value chain has been used widely as an approach for the development of the agricultural sector. Consolidation of small-scale producers in the value chain give a positive impact in terms of crops, land ownership, increased levels of income diversification amongst smallholders and experience working with large-scale investors (German et al. 2011; Lamb & Muller 1982 in the FAO 2012). This section will describes the mechanism involving the value chain. Furthermore, in this mechanism, value chain will modified based on the objectives of this study to create sustainable palm oil production among smallholders.

In Malaysia, IMF specializing in the oil palm sector still does not exist. Therefore, in this mechanism an Islamic microfinance institution (IMFI) that specializes in the oil palm sector will be created. It is responsible to provide loans for selected group of I.S. Along with institution, government agencies and MPOB will cooperate and coordinate for an implementation of this mechanism. This type of approach involving public-private partnership (PPP) have been applied in two Vegetable Oilseed Development Projects (VODP) funded by International Fund for Agricultural Development (IFAD). Under IMF and all these entities a stop center will be established.

Government agencies and MPOB will conduct selection process of IS. Selection of the locality of I.S should be based on the locations that have a lot of I.S. After selecting a specific area, the entities involved would select the target population that meets the criteria and the I.S who are interested in this scheme. Then, the next step smallholder's agreement to abide by all terms and conditions. Before that the selected is signed by all parties I.S will be given an explanation in details about this mechanism and the conditions for this scheme such as costs, benefits, and risks. It is very important to ensure the procedure are in line with the concept of the contract that required in Islamic rules.

The stop center serves to be one of the innovations in the value chain flow. The stop center tries to integrate the joint liabilities and decentralization approaches. The methods of direct loan and lending group as implemented by AIM is not appropriate for this situation, due to the different widths of the farm for each I.S, and there are also different needs for the I.S to undergo development in order for them to become sustainable. In this vein, if the group lending approach is fully utilized, this will incur a loss and injustice for I.S who have limited lands compared to others. The loan may also exceed the proper need of I.S and the original objective of the loan given may be abused. In the end, it has only increased the total amount of debt, but not the productivity and revenue of the farmers involved. In addition, the risk of default payment may increase. However, if the group lending method is not being used, high cost has to be covered by fund provider in order to implement this mechanism.

Therefore, the stop center is an alternative in resolving this problem. The stop center concept is based on existing concept of an oil palm plantation where the management and regulation of the planting and sale of oil palm activity is in accordance with a system that has been developed and with the detailed control. Management and organization of the farm is based on a setup as implemented by FELDA, FELCRA, Sime Darby Plantation Sdn Bhd, Sabah Softwood Plantation and others. The stop center will prepare the facilities for the collective use for all I.S involved. It will make a system more systematic, efficient and more organized. The stop center also will supervise all of the operations in order to make sure it is in line with the objectives and the standards such as the pricing policies, contract, land tenure and etc. Each entity's representative will supervise through the stop center. Hence, the functions of the stop center can be summarized as follow:

- i. Transportation: The stop center will prepare transportation such as the tractors, lorries, machineries and many others. Lorries that are available at the stop center will be used to deliver fresh fruit bunches (FFBs).
- ii. Account & audit: Total sale, profit, payment to mill, payment of total outcome to the I.S, costs, loan will be noted and audited.
- iii. Purchasing & Shipping: The stop center will also purchase quality pesticides, fertilizers and seedlings according to the needs of the target group, and the price is also more reasonable due to wholesale purchases and the seal of agreement between the suppliers concerned. The stop center will also deliver fertilizers, seedlings and pesticides to all the small-scale farmers according to the quantity needed by them. This is to ensure that the pesticide used is controlled and quality fertilizer and seedling are used by the I.S. All these are to ensure that the GAP is executed by the group of I.S.
- iv. Facility: The stop center provides storage of the goods and inputs.
- v. Training: The professional instructor from MPOB will undertake the training for the groups of independent smallholders. The training kits consist of GAP and sustainable palm oil, labor hired by each I.S are also be trained in order to comply with the sustainable standards.



To reduce costs and save time, there will be feeding parties under the stop center that play an important role to make sure the operation of this chain runs smoothly. The stop center will cooperate with feeding parties involved. Each feeding parties involved must comply with terms and conditions set by MPOB and government agencies. The feeding parties are existing company such of fertilize, seedling supplier, dealers and etc. It will make an operation more efficient with the existing experience and skills by feeding parties involved.

## **FUND MANAGEMENT**

This section will explain about the fund management model. This section includes the source of funds, cost involved, used of funds, contract used and flow of this fund management model.

### **Source of Funds**

The source of fund for the Islamic Microfinance Finance (IMF) for the palm oil sector is obtained from cash zakat funding, cash waqf, Islamic Bank, government funds, other donors also retained earnings from the profit reaped by I.S. Many researches have been done regarding integrating zakat and waqf in IMF. The economic empowerment program of Baitul Maal Muamalat Indonesia (BMMI) and Baitul Qiradh of Badan Amil Zakat Nasional have already implemented the integration of zakat and microfinance. Both programs focus on the microfinance initiative and utilize *zakat* and Islamic charities as source of fund for microfinance practice (Yumna n.d). Hassan (2010) also point out a model of integrating zakat and awqaf fund in the IMF. However, there is limited studies focus on financing activities like oil palm.

### **Costs and Uses of Fund**

Costs involved in this mechanism are cost of capital, facility cost, cost of production, operation cost of stop center, training cost for sustainable palm oil and G.A.P, training cost for labour and other costs. *Zakat* fund will only be used for basic consumption and will only be granted to those qualified to receive the fund. This is because there are possibly small-scale farmers who are not qualified as the recipients of the fund. Then, government agencies and MPOB will provide initial to finance training cost for sustainable palm oil and G.A.P and training cost for labour. I.S do not need to pay for this cost. While, cash waqf fund, fund from Islamic Bank, other donors fund and I.S retained earnings from investment will use to bear facility cost, operation cost, and other costs.

The stop center will be responsible in administration and distribution of the fund to the independent smallholders group (ISG). The fund will be classified into two parts 1. The fund used to bear joint costs and 2. The fund used to bear utilization, cost/per small-scale farmers. The fund that is used in partnership is shared together by the I.S.G such as cost of facilities like machinery, storage, operation cost of stop center and so on. Meanwhile, the cost of per small-scale farmers such as the total amount of fertilizers, seedlings, pesticides, the total area of farm that needs to be improved is different between one farmer to another, according to the total span or according to the needs of the respective independent smallholder farm. This is to ensure that there is fair to the I.S, where the I.S only needs to repay the loan consistent with the supposed total, based on the actual cost used for every I.S. This is to avoid loss and unfairness to the I.S that have small land and to safeguard the welfare of all farmers involved. For this reason, a team of experts will conduct a research for every farm involved, to see the cost that they need, in estimation. The farmers will be briefed on the cost and the total amount of loan that they may require.

### **Contract Fiqh Involved**

#### **i. Qardul Hassan**

Qardhul hasan or simply means an interest free loan and the words hasan, understood in the context of ihsan, is meant to imply that the transaction is possible only when a person is fully aware that he or she is making a loan to someone in need without expecting anything in return from him, but only in order to please Allah (Mirakhor and Iqbal 2007). Applications of this contract have been widely used in micro financing like a Baitul mal wal Tamwil that an implemented in Indonesia (Hassan et al. 2013). In this model, these contracts involve I.S as borrowers and micro-financing institutions as financiers.

### ii. Mudharabah General Investment Account

Mudharabah General Investment account is a saving account that can be used by the mudarib for the purpose of investment, where mudarib is not restricted to any conditions, Mudarib is authorized to do anything, which is normally done in the course of business. Rab-ul-maal invest their money based on al-mudharabah al-Mutlaqah concept (Tahir and Ahmad 2009). The concept is similar as implemented in most Islamic banking. This contract is between I.S and the microfinance institutions. All of the financial activities involving the investment will be managed by microfinance institution.

### iii. Ujrah

Based on Hambali (2013) ujrah is a word derived from the term of ajara/ Ijarah. A service charge, or contract of agency in which one party appoints other party to perform a certain task on his or her behalf, usually refer to the payment of fee on a service or work performed. This contract is used between the stop center and I.S also between the stop center with a feeding parties involved. I.S and feeding parties will pay ujrah in accordance with the initial agreement and the costs involved in the management of these business activities.

## Modus Operandi

- i. IMF will raise funds from sources such as *zakat* cash, Awqaf cash, Islamic banks, government agencies, other donors and also an earnings from I.S investment. The IMF will give funding to I.S in accordance to the Qardul Hassan loan contract. The funding will not be given directly to the farmers. IMF will channel the fund to the stop center. The funds will be separate in proportion to the costs involved as stated in figure 2. After that, the fund will be managed by the stop center. This is to prevent the farmers from using the funding for unnecessary measures and this step enables a more organized system to be formed.
- ii. Input supply such as seedling, fertilizer and delivery of FFB to the mill will be managed by feeding parties involved. Transaction of payments will be made after the FFB were sold. After FFB has been sent to the mill, mill will transact payments directly to the stop center. After that, the stop center will transact payments to feeding parties involved. It purposes to avoid the risk of default of repayment of the loan.
- iii. For I.S revenue, the stop center will audit all payments and deduct the total amount of debts to be paid, the total of agricultural *zakat* imposed if the *nisab* and *haul* for the farmers are sufficient for the *zakat*, and several percent of the total amount of investment that need to be made by the I.S as dictated in the agreement. After the deduction process, the stop center will hand over the total amount of the remaining money to the farmers.
- iv. Then, the balance would be transacted to the IMF. The balance will be used by the IMF for investment. All profits from the investment will be used to cover the cost of the stop center operation and facility cost. Any excess of the profits will be use as a reserve for any risk of loss or unexpected costs that need to be accommodated in the future.
- v. Investor can make a withdrawal 3 year after the financing and cannot be withdrawn all of the total saving at once, there should be a minimal amount that would have in a savings account.
- vi. Operation cost for stop center will be covered by the dividend from the saving of an I.S; ujrah will be charge to the feeding parties and mill that being involved. Payment that being held by the stop center before given to feeding parties and I.S that involved will also be generated to produce a profit.

## CONCLUSION

In this study, concept of the smallholders, challenges and constraints faced by them, the concept of sustainability and microfinance, the role of microfinance towards agricultural and environmental being analyzed and understand to be adjusted with the proposed mechanism that tries to be developed. The results of these analysis between smallholders, sustainability and Islamic micro financing mechanism form a value chain linked the three components that lead to the develop an Islamic micro financing of fund management mechanisms for small farmers towards sustainable palm oil development.

In conclusion, with this mechanism, hopefully it will to resolve the issue of sustainability among oil palm smallholders. With the creation of stop center and financial assistance provided by the IMF hopefully it will smoothly develop the operations of independent smallholders oil palm productions and achieve these objectives. This strategy will allow multiple operating costs that can be supported in the long term and does not burden any party. It is even can produce a win-win situation

for all parties involved. This study can contribute to the literature and potentially being developed for future study. It is also will provide a positive impact on smallholders, community, environment and economy. Policymakers can make this study as a reference to construct a new framework in helping smallholders in improving the yields of palm oil, thus will create a Islamic financing system based on Syariah in this sector

## REFERENCES

- Abd Manaf, Z., Rahman, A., Abd Halim, N. A., Ismail, S., & Abdullah, R. 2013. Assessment of the Oil Palm Seedlings Assistance Scheme on Fresh Fruit Bunch Yield and Income of Smallholders. *Oil Palm Industry Economic Journal* 13 (1), 33-44.
- Ahmed, Habib. 2007. Waqf -Based Microfinance Realizing the Social Role of Islamic Finance. In *Integrating Awqaf in the Islamic Financial Sector*. Singapore.
- Cromme, N., Prakash, A., Litaladio, N., & Ezeta, F. 2010. *Strengthening Potato Value Chains: Technical and Policy Options for Developing Countries*. Rome: FAO and Common Fund for Commodities.
- Dahari, N., Omar, I., & Mansor, N. H. 2010. Saluran Media-Massa yang Efektif dalam Pemindahan Teknologi Sawit kepada Pekebun Kecil. *Prosiding Persidangan Kebangsaan Pekebun Kecil Sawit 2010*, hlm.169-190.
- Dubois, O. 2008. Making Sure that Biofuel Development Benefits Small Farmers and Communities. *Unasylva* 59, 25-34.
- Elhiraika, A. B. 2003. On the Experience of Islamic Agricultural Finance in Sudan: Challenges and Sustainability. *Research Paper*, (63).
- Fargione, J., Hill, J., Tilman, D., Polasky, S. & Hawthorne, P. 2008. Land Clearing and the Biofuel Carbon Debt. *Science* 319 (29), 1235-1238.
- Hassan, M Kabir. 2010. An Integrated Poverty Alleviation Model Combining Zakat, Awqaf -and Micro finance. In *7th International Conference- The Tawhidy Epistemology, Zakat and Waqf Economy*.
- Hassan, S., Rahman, R. A., Bakar, N. A., Mohd, R., & Muhammad, A. D. 2013. Designing Islamic Microfinance Products for Islamic Banks in Malaysia. *Middle-East Journal of Scientific Research* 17(3), 359-366.
- IIED and ProForest. 2004. Better Management Practices and Agribusiness Commodities Phase 2 Report: Commodity Guide on Oil Palm. Better Management Practices Project for IFC and WWF-US. International Institute for Environment and Development, ProForest and Rabobank.
- Ismail, A., Simeh, M. A., & Noor, M. M. 2003. The Production Cost of Oil Palm Fresh Fruit Bunches: The Case of Independent Smallholders in Johor. *Oil Palm Industry Economic Journal* 3(1), 1-7.
- James, W.E. 2008. Food prices and Inflation in Developing Asia: Is Poverty Reduction Coming to an End?. Asian Development Bank Philippines.
- Kaleem, A. 2008. Application of Islamic Banking Instrument (Bay Salam) for Agriculture Financing in Pakistan. *Islamic Finance for Micro and Medium Enterprise*, 131.
- Kessler J.J., Rood T., Tekelenburg T. and Bakkenes M. 2007. Biodiversity and Socioeconomic Impacts of Selected Agro-Commodity Production Systems. *The Journal of Environment and Development* 16 (2).
- Koh, L.P. & Wilcove, D.S. 2007. Cashing in Palm Oil for Conservation. *Nature* 448, 993-994.
- Mazher M.A. 2010. Non Productivity of Microfinance Loans in Pakistan. Tesis Ph.D. International Open University, California, USA.
- Manjoo, Faisal Ahmad. 2008. Tax Engineering Pertaining to Zakah and Waqf For Poverty Alleviation and Micro-Financing in South Africa. In *Inclusive Islamic Financial Sector Development: Enhancing Islamic Financial Services for Micro and Medium Sized Enterprises*, edited by M. a. L. Obaidullah, Hajah Salma Haji. Brunei Darussalam: Islamic Research and Training Institute of the Islamic Development Bank and the Centre for Islamic Banking, Finance and Management of Universiti Brunei Darussalam.
- Nagiah, C., & Azmo, R. 2012. A Review of Smallholder Oil Palm Production: Challenges and Opportunities for Enhancing Sustainability- A Malaysian Perspective. *Journal of Oil Palm & the Environment (JOPE)* 3, 114-120.
- Naidoo, R., Malcolm, T. & Tomasek, A. 2009. Economic Benefits of Standing Forests in Highland areas of Borneo: Quantification and Policy Impacts. *Conservation Letters* 2, 35-44.

- Omar, I. & Dahari, N. 2009. Enhancing Oil Palm Productivity through Participative Technology Transfer: Malaysian Experience. *Proceeding of the PIPOC International Congress 2009 (Agriculture, Biotechnology & Sustainability)*, p. 337-365.
- Rahman, A., Abdullah, R., Shariff, F. M., & Simeh, M. A. 2008. The Malaysian Palm Oil Supply Chain: The Role of the Independent Smallholder. *Oil Palm Industry Economic Journal* 8(2), 17-27.
- Rahman, A., Abdullah, R., Shariff, F. M., & Simeh, M. A. 2009. Management of the Malaysian Oil Palm Supply Chain: The Role of FFB Dealers. *Oil Palm Industry Economic Journal* 9(1), 20 - 28.
- Raja Omar, R. Z., Omar, W., & Khasim, N. 2010. Pakej Integrasi Tanaman bersama Sawit secara Giliran: Kajian MPOB. *Prosiding Persidangan Kebangsaan Pekebun Kecil Sawit 2010*, hlm. 121-148.
- Rist, L., Feintreie, L. & Levang, P. 2010 The livelihood impacts of oil palm: Smallholders in Indonesia, *Biodivers Conserv* 19, 1009-1024.
- Rouf, Kazi Abdur. 2012a. Green Economics and Biodiversity through Green Microfinancing. *Prime Journal of Business and Administration Management* 2 (4), 513-520.
- Rouf, Kazi Abdur. 2012b. Green Microfinance Promoting Green Enterprise Development. *Humanomics* 28(2), 148-161.
- RSPO, 2010, *RSPO Principles and Criteria for Sustainable Palm Oil Production: Guidance for Independent Smallholders under Group Certification*.
- Saad, N. M. 2012. Microfinance and Prospect for Islamic Microfinance Products: The case of Amanah Ikhtiar Malaysia. *Advances in Asian Social Science* 1(1), 27-33.
- Tenaw, S., & Islam, K. Z. 2009. Rural Financial Services and Effects of Microfinance on Agricultural Productivity and on Poverty. *University of Helsinki Department of Economics and Management (Discussion Papers series)*, 1, 28.
- Teoh, C. H. 2010. Key sustainability issues in the palm oil sector. A discussion paper for multistakeholders consultations (Commissioned by the World Bank Group).
- Tohiran, K. A., Raja Omar, R. Z., Omar, W., & Johari, M. A. 2010. Integrasi Bebiri Rerambut Barbados Blackbelly dengan Sawit di Kawasan Gambut secara Semi Intensif: Kajian MPOB. *Prosiding Persidangan Kebangsaan Pekebun Kecil Sawit 2010*, hlm. 144-166.
- Vermeulen, S., & Goad, N. (2006). *Towards better practice in smallholder palm oil production*. London, UK.
- Wilson, Rodney. 2007. Making Development Assistance Sustainable Through Islamic Microfinance. *IIUM Journal of Economics and Management* 15 (2), 197-217.
- Zeller, M. and Meyer, R.L. (2002), Improving the Performance of Microfinance: Financial Sustainability, Outreach and Impact, in Zeller, M. and Meyer, R.L. (Eds), *The Triangle of Microfinance: Financial Sustainability, Outreach and Impact*, The Johns Hopkins University Press, Baltimore, MD.
- Zin, R. H. M. 2014. Malaysian Development Experience: Lesson for Developing Countries. *International Journal of Institutions and Economics* 6(1), 17-56.

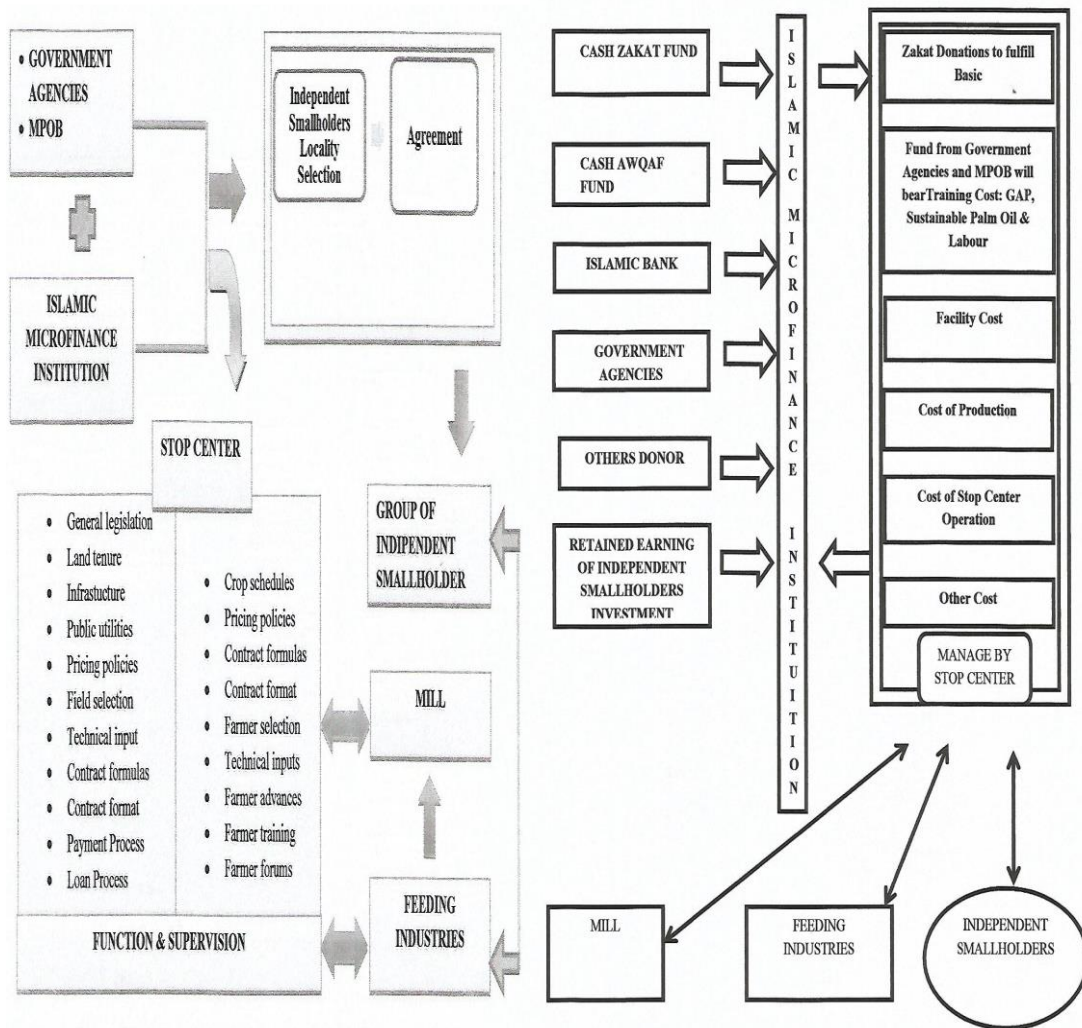


FIGURE1: VALUE CHAIN MECHANISM

FIGURE 2: FUND MANAGEMENT MODEL