INTRODUCTION

Malaysia is a relatively new-comer to cocoa growing and processing. Since the beginning of commercial cultivation of cocoa in 1950 and the establishment of the cocoa grindings industry in 1973, the growth of the cocoa planting and processing industry has led Malaysia to become a major cocoa producing and processing country in the world (ICCO, 2007). However, the Malaysian cocoa planting industry grew to reach a peak production of 247,000 tonnes cocoa beans in 1990 and declined since then to 31,937 tonnes in 2006, while the local cocoa grindings industry progressed with leaps and bounces to 270,261 tonnes in 2006 (Figure 1). The imbalanced growth of cocoa upstream and downstream activities resulted in the need for importation of substantial amount of cocoa beans to sustain the local grindings requirement (MCB, 2007).

As in other national economic development activities, the development of the cocoa planting and downstream industries in Malaysia is guided by the various national policies, i.e. National Agricultural Policy (NAP) and Industrial Master Plan (IMP) among others. These national policies give emphasis on crop diversification, value-added agro-based industrialization, balanced growth between upstream and downstream activities among others for the national economic development towards maximizing of income through optimum utilization of resources. The developmental efforts of the agricultural and agro-based industries are implemented on the basis of sustainability.

This paper shares the views and experiences of Malaysia on the concept of sustainable development and the strategies towards achieving a more sustainable cocoa growing and processing in the country.

CONCEPT OF SUSTAINABLE DEVELOPMENT

In Malaysia, the policy setting for sustainable development takes into consideration of not only economic sustainability, but also the requirement for environmental and social sustainability, while pursuing national economic advancement. The concept for attainment of sustainable development of the cocoa planting and processing industry in Malaysia is outlined in Figure 2. The steps taken to attain sustainable development include identification of issues and challenges faced by the industry and then formulation of strategies and activities to address the various challenges.
Economic Sustainability

On economic sustainability, the objective is to increase the income of cocoa farmers or the return in cocoa downstream processing. Increase of income or return can be achieved by increasing productivity, efficiency and quality (PEQ) in either cocoa bean production or cocoa downstream processing through the adoption of best agricultural/processing practices respectively. Technology delivery and technology development play the respective significant role in achieving effective adoption of the best practices for attainment of high PEQ.

The other important factor of concern in economic sustainability is the prices of cocoa beans or cocoa products which play a key part in determining the eventual income of cocoa farmers and the return of investment in cocoa downstream processing. It is the view that international cooperation and national initiative could work towards achieving a more balanced growth in world supply and demand of cocoa and thus reasonable remunerative prices could be attained. Furthermore, price support mechanism could be instituted as the option in price risk management.

Environmental Sustainability

In order to satisfy the requirement for environmental sustainability, environmental friendly practices should be adopted in cocoa growing or processing.

There is sufficient scientific evidences to show that appropriate adoption of available best technologies which include the use of disease resistant planting materials, fertilizer programming and integrated pest management approach and the recommended agronomic practices coupled with accountable management could lead to low use of pesticides and chemical fertilizers in crop management for attainment of high productivity (Lee, 2006). This will not only minimize negative impact to the environment, but also result in enhancement of soil fertility and thus meeting the requirement of environmental sustainability. Again, the importance of technology and its application to the sustainability of the environment is clearly indicated.

Likewise, the adoption of best processing technologies and practices in cocoa downstream processing will incur minimum impact to the environment as required in sustainable development.

Social Sustainability

Social sustainability means that the cocoa production and processing practices are required to carry out in a socially acceptable way. Social sustainability is generally not an issue in Malaysia.
Furthermore, efforts taken to increase the income of cocoa farmers or return in the investment in cocoa downstream processing that meeting economic sustainability could lead to improvement in social standing and sustainability.

ISSUES/CHALLENGES

Malaysian cocoa planting and processing industry faced with a number of issues or challenges that need to be addressed to ensure its sustainable development. The key issues/challenges are presented for discussion.

Cocoa Planting Industry

a) Improvement in PEQ

The declining cocoa bean production in Malaysia since 1990 raised the concern of the economic viability and sustainability of the cocoa planting industry. Apart from low prices, cocoa pod borer (CPB) infestation and labour issue which were often quoted as the reasons for the loss of interest shown in the crop, the lower than expected productivity in particular has been identified as the major factor responsible for its decline (Azhar and Lee, 2004).

The analyses also indicated that through the adoption of the best agricultural practices, cocoa pod borer can be effectively kept under control and the labour efficiency, crop productivity and cocoa bean quality can be improved to a more desirable level that rendering cocoa planting very much an economically viable investment (Azhar and Lee, 2004). For example, the average Malaysian national cocoa productivity was at around 0.8-1.0 t/ha, which is among the highest in the world. However, this level of productivity is still far from the attainable productivity of 2 to 4 t/ha. This indicated that there is excellent potential for productivity improvement in cocoa cultivation and thus significant income gain for the cocoa farmers can be achieved through productivity improvement.

In view of this, the Malaysian government has made considerable efforts to improve not only the productivity but also the efficiency and quality in cocoa cultivation. These efforts have yielded significant result since its inception. However, further improvement in PEQ in cocoa cultivation will continue to remain as a challenge.

b) Attainment of Sustainable Remunerative Cocoa Prices

World prices of cocoa beans have experienced large variations with extreme high and low in the past (ICCO, 2007). Low and volatile cocoa prices are considered undesirable in the context of economic sustainability.

International cooperation has been made through the efforts of ICCO and CPA either in production management or promotion for consumption as the means to
regulate the world supply/demand position with the objective of achieving a more stable remunerative price. However, it is the view that attainment of sustainable remunerative prices of cocoa beans will continue to be a major challenge and international cooperation should be further strengthened in order to achieve the objective.

Furthermore, national initiatives in promotion for consumption, market development and price risk management could play a positive role in price support.

**Cocoa Processing Industry**

a) Balance growth between upstream and downstream activities

The continuous reduction in local production of cocoa beans resulted in the lack of locally produced cocoa beans to meet the increasing demand for local grindings which is expected to expand further to between 350,000 and 400,000 tonnes by 2010 (Azhar and Lee, 2006; Ng, 2007). As a result, the local cocoa grindings industry has to resort to the importation of cocoa beans to support its growth leading to significant outflow of foreign exchange.

However, the increasingly over dependant on importation of cocoa beans may expose the Malaysian cocoa grindings industry to great risk in the case when there is a squeeze in world supply of cocoa beans. Since cocoa can be grown economically in Malaysia, any effort to increase local production of cocoa beans to meet local grindings requirement could minimise import and strengthen the competitiveness and sustainability of the local cocoa grindings industry.

In view of this, Malaysian government has decided that local production of cocoa beans should be increased to rectify the imbalance growth trend and to minimise importation of cocoa beans and outflow of foreign exchange. However, judging from the current negative sentiment expressed on cocoa cultivation, the efforts to increase local production of cocoa beans will be a major challenge.

b) Enhancement in PEQ

Despite of being a relatively new-comer, Malaysia has made significant progress in cocoa grindings to be among the world largest (Figure 1). However, the cocoa grindings industry can be very competitive worldwide. Apart from the ability in sourcing adequate supply of cocoa beans with desirable quality for its operation, the cocoa grindings industry will have to be competence in technology and management in order to be competitive and sustainable. Effective adoption of the best available processing technologies and innovation in R&D for technology development in cocoa processing and product development will be the challenge for the Malaysia cocoa grindings industry to remain competitive and sustainable.
STRATEGIES TOWARDS SUSTAINABLE DEVELOPMENT

The strategies in addressing the various challenges towards improvement of sustainability in cocoa planting and processing industry in Malaysia are presented as follows. Malaysian Cocoa Board under the Ministry of Plantation Industries and Commodities Malaysia is the public agency responsible for implementing the strategies and activities towards sustainable development of the cocoa planting and processing industry in the country.

Cocoa Planting Industry

a) Improvement in PEQ

The strategies to attain improvement in PEQ are to strengthen i) technology delivery which covers three elements, namely technology transfer, credit facility and supply of input, and ii) R&D for technology development.

The activities to strengthen technology delivery and technology development through R&D are formulated for implementation respectively.

b) Attainment of sustainable remunerative cocoa prices

The strategies to attain sustainable remunerative cocoa prices are i) to strengthen international linkage and cooperation for market development, ii) to strengthen and expand international market for Malaysian cocoa products, iii) to increase local consumption of cocoa beans and, iv) to strengthen the cocoa market information system and its utilization.

The above strategies are supported by the respective activities in implementation.

Cocoa Processing Industry

a) Balanced growth between upstream and downstream activities

The strategy to achieve balanced growth between cocoa upstream and downstream activities is to increase local production of cocoa beans, of which the activities are formulated for implementation.

b) Enhancement in PEQ

The strategies to enhance PEQ in cocoa downstream processing are to strengthen technology delivery and technology development through R&D. A number of activities were formulated for implementing these strategies.

CONCLUSIONS
In policy setting, Malaysia has committed to sustainable development in the quest for national economic advancement. The approaches adopted for the development of the cocoa planting and processing industry in Malaysia takes into consideration of the concept of sustainable development, the challenges and the strategies thus formulated.

The declining cocoa planting industry and the lack of local production of cocoa beans to meet the requirement for the fast growing local grindings industry raised the concern of their long term sustainability. Improvement or enhancement in PEQ, attainment of sustainable remunerative cocoa prices, and balanced growth between upstream and downstream activities are identified as the major challenges faced by the cocoa planting and processing industry. The strategies and activities implemented to address these challenges as outlined should lead to a more sustainable development of the cocoa planting and processing industry in Malaysia.

REFERENCES


