Succeeding in the Organic Rice Market in Indonesia with SRI

The Case of PT Bloom Agro

Hadi Fathallah, Maryse Holly, Ben Koffel, Iwan Kurniawan

Abstract: In 2008 Emily Sutanto founded PT Bloom Agro, Indonesia's first fair-trade organic rice export business. Working with a farmer's cooperative in Central Java, Bloom Agro obtained the international certifications that gave it access to lucrative markets for organic rice overseas, and lobbied the government to end its ban on the export of specialty rice. In 2011 the company turned its attention to increasing domestic sales in addition to meeting the demand for organic rice in mature markets abroad. However, navigating the nascent organic market in Indonesia was difficult. Government regulation over certifications was low, politicians consistently meddled with the rice market, and consumers did not have much knowledge about organic products. Bloom Agro wanted to increase domestic sales, which called into question the effectiveness of existing marketing and sales plans and Emily's capacity to continue to manage operations independently.

Keywords: Indonesia, Organic, Marketing, System of Rice Intensification (SRI), Fair-trade

This document was prepared under the auspices of the Cornell International Institute for Food, Agriculture and Development. The purpose of this case study is to report on our consulting experience for Bloom Agro in the hopes that future students find the material beneficial to inquiries regarding agribusiness in emerging markets. Some names and identifying information have been changed to protect confidentiality. The authors would like to acknowledge the support of Prof. Ralph Christy, Jennifer Nelson, and Lucy Fisher of the Cornell Institute for International Food, Agriculture and Development, as well as Emily Sutanto.

"Farmers are getting poorer and poorer – it's the law of the jungle here you know."

- Emily Sutanto, Founder of Bloom Agro, 2011

In 2007, Emily Sutanto had an unlikely meeting with a farmers' cooperative that would serve as a catalyst to change both her life and theirs. Prior to meeting with the farmers, Emily was concerned with advancing her career as a model and a dancer in Singapore. Over a conversation with a family friend about the struggles of rice farmers, organized under the Simpatik Farmers' Cooperative in Tasikmalaya, Indonesia, to access markets, Emily was inspired to help the farmers increase their income. Their innovative production methods using the System of Rice Intensification (SRI), had increased their rice yields, but dealing with Indonesia's infamously bureaucratic government prevented them from accessing lucrative overseas markets. The farmers' challenge was to capitalize on the demand for fair trade and organic goods in international markets

© 2010 Cornell University. CIIFAD cases are developed for class discussion and instructional purposes only and are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management. To request permission to reproduce this case or portions of it, call 1-607-255-0831 or e-mail ciifad@cornell.edu.

to secure premium on their rice. In founding PT Bloom Agro, Emily galvanized the loosely organized cooperative, obtained international certifications, convinced the government to end their export ban on rice, and connected the farmers to the global organic food market. As an export business, political volatility surrounding import and export restrictions remain a threat to Bloom Agro's revenue stream and the farmers' welfare. Notwithstanding, Bloom Agro's rice was still absent from shelves in Jakarta. Emily and the farmers wanted to boost domestic sales to diversify their revenue streams to hedge against any instability.

BACKGROUND ON INDONESIA

With 240 million people Indonesia is the world's fourth most populous country. Indonesia is spread out along an archipelago of 17,500 islands, stretching some 3,000 miles across the Indian and Pacific Oceans, but approximately half of Indonesia's population resides on the island of Java. It is also home to the world's largest Muslim population. Approximately 85% of Indonesians practice Islam, while 10% are Christian, 3% Hindu and 2% Buddhist. Most people speak the national language, Bahasa Indonesia, but Indonesia's many native languages still bear importance in local regions. Indonesia contains hundreds of different ethnic groups. Notably, Chinese-Indonesians make up only 1.6% of the population (around 4 million) but hold significant positions in the business community. (EIU, 2008) Additionally, the Bureau of Manpower estimated in 2010 that there were 50,000 expatriates working in Indonesia, most of them concentrated in Jakarta.

Economy

Indonesia has a market-based economy in which the national government plays an important role. There are 139 state-owned enterprises, which control highways, electricity, railways and other important infrastructure (Bureau of East Asian and Pacific Affairs, 2010). The government also sets prices on basic goods such as fuel, rice and electricity. In 2005, the economy was primarily driven by private consumption and, to a smaller extent, exports of goods and non-factory services. Private consumption and exports amounted to 65% and 33.5% of gross domestic product, respectively. In 2009, the agricultural sector employed the highest number of Indonesians, at 38.8% of the workforce, while trade employed 28.2% and industry 14.1%.

Even though some 40 million Indonesians work in agriculture, the sector constituted less than 15% of Indonesia's GDP in 2005, and the rate has been further declining (Istiqomah 2006). In 2010, growth of the agricultural sector has slowed from 3.1% to 1.8%, partially due to heavy rain in the same year (Economist Intelligence Unit 2010). Agricultural imports have grown at an annual rate of 6.2% from 1995-2005. Over the same period, agricultural exports have grown 25.5% annually, mainly led by palm oil, rubber, palm kernel oil, cocoa beans, coffee and coconut oil (EIU, 2008).

The average exchange rate for the Indonesian Rupiah to the US Dollar in 2009 was Rp8,700 to $1 as of January 2011. Indonesia's main stock market index, the Jakarta Composite Index, was trading near to a record high in early November of 2010.

In 2009 Indonesia's growth was the third fastest in the G-20, behind China and India, despite the global financial crisis of 2008. The Economist Intelligence Unit forecasts that real GDP growth will accelerate to an average of 6.3% a year in 2011-2015 driven mainly by private consumption and fixed investment.[1]

Despite these strides, due to the Asian Financial Crisis of 1997 Indonesia was pressured to adopt trade liberalization methods as a precondition for support from the IMF and conditional funds from the World Bank and Japan. In response, Indonesia has started to strengthen its political accountability and legal system to ensure the security of its citizens, particularly the poorest. However, many academics still question the impact of trade liberalization on per capita income.

Government

Indonesia emerged from fifty-three years of dictatorial rule in 1998. The Suharto government had identified self-sufficiency in rice as a policy priority. Indonesia went from being the world's largest rice importer in the 1960's to achieving self-sufficiency by the 1980's. In the presence of many other food crops, rice remains the major staple for the Indonesian people and has been a very special commodity due to its economic and political implications (Istiqomah 2006). Controversies over rice price are often cited as the deciding factor leading to President Suharto's resignation. This demonstrated the country's vulnerability and heavy dependence on rice, which has often been referred to as the "livelihood of Asia." Rice continues to be the largest item in Indonesian household budgets (Istiqomah 2006). For all of these reasons, the price of rice and its supply are closely monitored and controlled by the government. Controlling the price of rice is believed to be a critical tool for market controls because it has a large effect on the consumption of other crops (Istiqomah 2006).

Current President Susilo BambangYudhoyono is Indonesia's first democratically elected president and the sixth president after the collapse of President Suharto's dictatorship. President Yudhoyono was re-elected in 2009 for a second five-year term. His re-election demonstrates political stability, which has positive implications for economic stability and solidifies Indonesia's presence as a booming emerging market. Yudhoyono's popularity can be partially attributed to his successful navigation of Indonesia through the 2008 global financial crisis. When the price of rice in the world market dramatically increased and led to food riots, the price of rice in Indonesia remained fairly stable.

Government Agricultural Agencies

In 1967, the Indonesian government established the domestic Food Logistic Agency better known as BULOG (Badan Urusan Logistik). Its purpose was to stabilize rice price as well as oversee the monthly distribution of rice to the military and members of the civil service. In the 1960's these

[1] See Appendix, Exhibit 2.

interventions were credited with reducing the proportion of the population under the poverty line by 33%. Food availability per capita increased from around 2000 calories per day in the 1960's to close to 2700 calories per day by the early 1990s (WFP 2001).

BULOG also administers the RASKIN program that procures rice on behalf of needy families and makes it available to them at one third of the market price. RASKIN is an abbreviation for Beras Miskin which means "rice for the poor." Approximately 14.4 million households have benefitted from the program and 267,000 metric tons have been given out each month from 50,000 distribution points (BULOG 2011). These interventions are necessary to insulate Indonesia's domestic market from inflation rates and the volatile world market.

Other actors involved in the rice market include the Ministry of Trade, the Ministry of Agriculture, the Ministry of Economic Affairs, and the Ministry of Irrigation and Public Works. Continued investment and numerous government programs demonstrate Indonesia's commitment to agriculture and, more specifically, to rice and its price stabilization. For instance, because of Indonesia's vulnerability to natural disasters, the Indonesian government has set a mandate to keep six months worth of rice, a quantity sufficient to feed the nation, in storage. Sixteen hundred storage facilities are dispersed throughout the nation for this purpose. When the demand for rice exceeds that season's harvest, and necessitates the use of stored rice, the price of rice goes up. This is when the Indonesian government imports rice to stabilize prices. The amount of rice imported is carefully planned during the non-harvest season of rice. A rice import ban was put into place in 2007 and extended until the end of 2010 (GIEWS 2010). Indonesia was self sufficient in rice during these years. However, during that time, as a result of a good bumper crop, a rice *export* ban was also enforced in 2008. Such bans are implemented in order to protect domestic producers.

The extensive policies monitoring the price and availability of rice only apply to commonly consumed white rice. Plain white rice is the staple food that the government is keen to regulate. Neither BULOG nor the Ministry of Agriculture is interested in becoming involved with the organic agriculture sector in general let alone the still miniscule sector of organic rice. Dr. Mohammad Ismet, a senior advisor at BULOG, revealed that because organics account for less than one percent of the agricultural sector, the Indonesian government is content to "leave organics and organic rice to the private sector" (BULOG 2011). Meanwhile, the Ministry does recognize seven certification bodies, six in Java and one in Sumatra. Many farmers have long been de facto organic because chemical fertilizers and pesticides were not available to them.

The government's keenness to regulate and manage the rice sector has not been left without any controversy. BULOG has twice been accused of mismanagement of funds. Both scandals received wide media coverage and have aggravated the suspicions of the general public. In 2000, BULOG deputy chief Sapuan was accused of (and later jailed for) ordering the disbursement of Rp 35 billion in BULOG funds, which had been earmarked for public aid. Although the large portion of the fund was returned, confusion and distrust toward the BULOG have deeply remained and the mystery remains unsolved. More recently, in 2002, 40 billion rupiah went missing from BULOG's RASKIN program. Again, while prosecutions moved forward, much of the money was returned. Nevertheless, both scandals have badly affected BULOG's reputation.

Anticipated Growth in Urban Markets

Between 1990 and 2000 the major cities in Indonesia grew significantly. Bekasi, located adjacent to Jakarta, led this trend with an average annual population growth rate of 5.19%, increasing its population by 50% over ten years (Firman 2007). Jakarta, already the largest city in Indonesia, added more than one million people over the course of a decade. In 2009 Jakarta was home to 9.5 million people, but an estimated 26 million live in the metro area and its surrounding cities. Jakarta and many other Indonesian cities suffer from a lack of municipal infrastructure, poor sewer systems, congested roads, and a shortage of mass transit.

This urbanization is likely to continue, with the growth concentrated in the periphery of large cities and in smaller cities on outlying islands. These population shifts are projected to accompany an increase in the non-agricultural sectors as rural populations seek employment in cities. Urban populations tend to consume more than rural ones, and this trend will see commensurate increases in private domestic consumption. (Firman 2007)

INDUSTRY OVERVIEW: ORGANIC SECTOR IN INDONESIA

The organic sector in Indonesia has been seeing growth in demand. With organic legumes sales leading the sector, demand for organic rice has been increasing as more high-income Indonesians are becoming health-conscious and mindful of international trends, especially in the US and Australia.

Organic Certification

Organic certifiers assess the processes and inputs that occur during production from planting to harvest. Each country requires its own certification standards. To enable Bloom Agro to export rice to different countries, Emily needed to certify the Simpatik cooperative under a number of different international organic standards. The Simpatik farmers went through a lengthy process to receive education about organic standards, modify farming to cater to the standards, and complete a large amount of paperwork.

Within Indonesia there are seven bodies that provide organic certification based on local organic standards. To be certified as locally organic, agribusinesses can go to any certification body to request a certification test. One of the certification bodies is BioCert, which is also the only Indonesian body to certify both locally and for exports to other Asian countries. BioCert was established in Bogor in 2002 as an association to provide technical assistance and certification for small farmer groups. In 2006, BioCert joined the Indonesia Organic Alliance and has been providing organic certification since then. For a producer to request organic certification from BioCert, it first needs to be profitable and show accounting records. BioCert conducts a thorough annual inspection of the production processes on the farm. In addition, producers are required to provide an annual production plan prior to the beginning of every inspection cycle. To support its inspection activities,

BioCert conducts random checks on finished goods in the market and unannounced inspections of farms.

The cost of certification differs among certification bodies. In 2010, BioCert charged Rp 1,300,000 per day ($149) of inspection for small producers and Rp 1,600,000 per day ($184) for large producers. The number of days required for the inspection process depends heavily on the area of arable land and number of farmers. For a 25 ha farm with 100 farmers, it takes approximately seven days for BioCert to complete the certification process.

As one of the first international agencies for inspection, certification, and quality assurance of eco-friendly products, the Institute for Marketecology (IMO) offers certification for organic production and handling based on the European Union regulation (EC) N° 834/2007 and (EC) N° 889/2008. Their worldwide activities are accredited by the Swiss Accreditation Service (SAS) according to EN 45011 (ISO 65), which is the international standard for certification. IMO have also been accredited by the United States Department of Agriculture (USDA) according to the American National Organic Program (NOP), and offer certification based on the Japanese Agricultural Standard (JAS) for the Japanese consumer market. To export into the various international markets, food products would be required to undergo stringent checks so as fulfill the respective certification standards.

Retail Environment

Consumption Trends

In 2007, per capita expenditure on food in Indonesia was $507.57 per year. (Euromonitor International 2007) The Indonesian diet revolves around rice and most Indonesians eat rice three times a day. Due to its geography, there is abundant supply of fish in Indonesia, making fish and other seafood relatively affordable sources of protein. Chicken and goat are other popular proteins, but due to the prevalence of Islam, pork is unpopular outside of Bali, a primarily Hindu island. Meat and dairy products are less popular, although expenditure on meat and dairy products has increased significantly over the last decade.

Most Indonesian families are large, and those in urbanized regions usually employ maids. The preference for fresh foods is high, and most consumers purchase fresh groceries regularly at the wet markets. However, with the introduction of organized retail and the growing presence of hypermarkets and convenience stores, an increasing number of consumers have begun to do their shopping on a weekly basis, buying more processed food and packaged products to eat in the days and weeks ahead.

Retail Overview

The market for organic rice in Indonesia remains small but is steadily growing. Organics generally command a 30 to 40% premium over conventional products, putting them out of reach of most Indonesians.

The organic retail sector in Indonesia is concentrated in Jakarta, with smaller markets in Surabaya and on Bali. The Ministry of Agriculture estimates that up to 15 million people may be willing to pay a premium for organic produce (Business Monitor International 2007). This number may be overly optimistic, though, as there are only 20 specialty stores selling organics in Jakarta, and the population of the Jakarta Metro Area is approximately 26 million people. Of the stores in Jakarta that regularly stock organic products, five chains command most of the market share: Healthy Choice, Food Hall, Ranch Market, Kem Chicks, and Sogo Market. However, Healthy Choice recently announced that it would be closing operations. All retailers predict significant growth, with some estimates as high as 300% over the next five years.

History of Organic Retail in Indonesia

According to Riani Susanto, a pioneer in the organic industry and founder of Healthy Choice, Apple Cider vinegar was the first organic product sold in Indonesia in 1999. In that year Riani began importing organics from Australia, the U.S., and other countries with more mature organic markets. In addition to selling products, Riani has also been a source of knowledge for consumers on the holistic lifestyle and raised awareness in her stores and in the media about health and homeopathic issues. For this reason, Riani has been an advocate and mentor for Emily as she navigates the industry. Riani and retailers like her were the original movers and shakers in the industry. Of the retailers that have entered the space since 1999, about half are similarly interested in the holistic aspects of organic food, while others are purely attracted by market's growth potential and the high price premiums.

BLOOM AGRO

Emily Sutanto: Entrepreneur, Artiste, and Game Changer

Emily grew up in a Chinese-Indonesian family in Jakarta. Her father, a successful businessman in the construction and coal industries, is a public figure, a role rare for a Chinese-Indonesian in modern Indonesian politics. He is very active in representing Indonesia in the Association of Southeast Asian Nations (ASEAN).

As is the custom with many wealthy Indonesian families, Emily was sent for education in neighboring Singapore. She then continued her higher education in Australia and the United States, and moved to Singapore to pursue her career in entertainment. Upon returning to Indonesia she found it hard to fit in, and labeled herself a "sufferer of Third Culture Kid syndrome." The culture and norms in the conservative Indonesian society seemed at odds with the free spirit she had become. In 2008 Emily found her calling when she stumbled upon the story of the Simpatik cooperative in central Java through a family friend over dinner one night. Although the cooperative already existed, she arranged their training and certification in organic farming and improved the cooperative's internal governance. Capitalizing on her family network and channeling her enthusiasm into the organic rice business, Emily convinced the Ministry of Agriculture, Ministry of

Trade, Ministry of Finance, and BULOG to change the regulations and allow specialty rice – the type of rice the cooperative grows – to be exported.

Emily launched Bloom Agro in 2008 with three goals: promote sustainable agricultural practice, improve farmer livelihood and income, and fill the growing niche market for organic rice in Indonesia and abroad.

As of the close of 2010, Bloom Agro had exported rice to the United States, Germany, Lebanon, Mauritius, Singapore, Malaysia and Dubai. In 2010, Bloom Agro exported 70 metric tons of organic rice, and by February 2011 confirmed orders had jumped to 200 metric tons. The United States, Germany, Singapore and Malaysia remain the main destination of exports, and in these markets Bloom Agro rice is sold under the importers' brands. In Lebanon, Mauritius and potentially Canada, Bloom Agro is exporting under its own brand name, SunQuator. Bloom Agro specializes in indigenous Indonesian rice varietals, such as Red Rice, Injin Black Rice, Sintanur Rice, and Cherang Rice.[2]

The System of Rice Intensification

In addition to being an organic and fair-trade product, Bloom Agro's rice is produced through an innovative production method that could be the standard for rice production across the world in near future.

The Simpatik Farmer's cooperative grows rice using a method of production known as the System of Rice Intensification (SRI). This system reduces inputs of fertilizer, seed, and water by up to 50%, while it increases yields by an average of 47% (Uphoff). Whereas the Green Revolution of the 1970s and Golden Rice changed the inputs that rice farmers used, SRI represents a departure from these top-down solutions to increasing agricultural production by changing the methods used to plant and grow rice, rather than relying on new seeds or fertilizers. SRI achieves higher yields than conventional farming by:

- Reducing the number of seedlings planted per hole
- Spacing seedlings further apart
- Planting young seedlings that have more root tendrils than older seedlings
- Manually weeding paddies instead of relying on flooded land to control weeds.

The practice emerged in Madagascar in the 1980s through the work of local farmers and a Jesuit priest. Although SRI farming is a significant change from conventional wisdom on rice farming, Indonesian farmers that adopt SRI eagerly share their techniques for better yields with their skeptical neighbors. Some cooperatives in the countryside express their zeal by creating SRI evangelization songs, spreading SRI to the uninformed.

The SRI methodology is not strictly an organic production method. Many farmers across the world who employ SRI methods also use chemical fertilizer and pesticides to aid their production. However, the value of SRI-organic is that farmers increase their yields and are also able to capture a higher price for their rice due to the premium associated with organic foods. The portion of their rice that the Simpatik farmers do not sell to Bloom Agro is sold in the local market, where it is renowned for its high quality and commands a premium price.

After adopting SRI farming in, the Simpatik cooperative has had an abundant supply of rice. Emily believes that rice supplies will be sufficient to meet demand as she grows her business. Within the United States, one company, Lotus Foods, is beginning to market SRI rice with the tag line "More crop per drop." Similar to how fair-trade goods promised better labor conditions and more supplier equity, Lotus Foods hopes to benefit from consumer awareness over global freshwater shortages, loss of biodiversity, climate change, and genetically modified foods to create demand for SRI rice. As of 2011 their marketing campaign was just beginning, and no results were available. Similarly, Emily is considering using SRI as a value-added feature of Bloom Agro's rice, both abroad and in the Indonesian market.

(For more information on SRI, see Appendix, Exhibits 3 and 4)

[2] See Appendix, Exhibit 8 for types of products exported.

Production Value Chain

Bloom Agro is involved in every step of the value chain, facilitating transactions between each player within the chain. The current role of the company is the distribution of organic rice through domestic and international wholesalers. Bloom Agro derives its value from being the mediator between the organic producers and the market.

Figure 1: Organic Supply Chain in Indonesia



Bloom Agro's Supply Chain

Bloom Agro works with the Simpatik Farmer's Cooperative in Tasikmalaya, West Java. Simpatik gathers some 2,300 farmers with an aggregate land size of 340 hectares that are certified organic. One of Bloom Agro's first tasks in establishing the business was to obtain organic certifications for the farmers. The process was a large challenge for Emily because it was expensive and difficult to assemble and train all 2,300 farmers under one standard. In addition, almost all the farmers in the cooperative did not read or write English, the only language in which paperwork was available. Emily expressed her frustration at the process, saying, "Some farmers did not even have a signature!" Bloom Agro asked Dutch NGO HIVOS in Jakarta for help in order to develop the cooperative's internal governance standards, facilitate meetings, and provide basic trainings within the cooperative. Over the course of a year, Simpatik received the IMO Fair for Life certification (Social and Fair Trade), and USDA, JAS, and the European Commission organic certifications. Additionally, the cooperative's mandate and internal laws were set, and training on organic farming methods commenced.

The farmers of Tasikmalaya were introduced to SRI methods back in the 1990s and were among the pioneers of SRI in Indonesia. In 2007, Emily paired up with the farmers of Tasikmalaya to help them reap the benefits of SRI by obtaining a higher premium on their products.

By investing in their training and certification, Bloom Agro secured exclusivity in distributing the cooperative's products under the organic labels.[3] Simpatik Farmers often sell excess rice in the local market, but are not permitted to use the organic certification or labeling. Under the agreement between Bloom Agro and Simpatik, Bloom Agro purchases the season's output in fulfillment of international orders and domestic demand. The IMO Fair for Life certification mandates that the farmers receive a premium for their rice, which in Indonesia is well above the government set price.[4] After fulfilling export orders, the farmers are at liberty to sell their surplus harvest to the local market. Since the farmers only have access to the organic USDA and IMO certification under the Bloom Agro brand, the farmers usually sell their remaining crop as healthy rice, for which they have become regionally known.[5]

After harvesting, the rice crop from the 2,300 farmers is transferred to the mill in Tasikmalaya at the cooperative's headquarters. The head of the cooperative, Uu Saiful Bahri, keeps track of orders and coordinates with Bloom Agro's Quality Control (QC) man on the ground. After milling, packaging and checking, Bloom Agro's share is stored at the warehouse until the order is fulfilled. Presently the warehouse is small, measuring 15 meters by 7 meters, and is immediately adjacent to the mill. Through Emily's connections and consistent pressure on the Department of Agriculture, she secured a grant for the development of a new mill, the purchase of new machinery for sorting and packaging rice, and the construction of a larger warehouse. These new capital additions will increase productivity in the milling and packaging phases, and will allow production to be scaled up to fulfill more orders.

As clear from the supply chain diagram in Figure 1, Bloom Agro does not maintain any physical role in the chain. Currently, it owns no warehouse or offices. Upon order fulfillment, the order is transferred to the next link in the chain, with Bloom Agro only coordinating the transfer. For international orders, Bloom Agro secures land transport from Simpatik's warehouse to the Port of Jakarta, where the rice is directly loaded on the vessel for shipment to the client. For the domestic market, Bloom Agro currently transports its output directly to the distributor's warehouse. Libra Food Service, a distributor of fine imported goods, is distributing Bloom Agro's SunQuator brand in Jakarta, and has plans to distribute it in Bali at a later date. This is an example of Emily's ability to leverage her network contacts. Libra Food Service only distributes imported foods, but Emily was able to capitalize on her strengths as a saleswoman, the quality of her product, and the Chinese-Indonesian business community to become Libra's only local supplier. Libra's end customers are retail stores in Jakarta that cater primarily to Jakarta's elite.

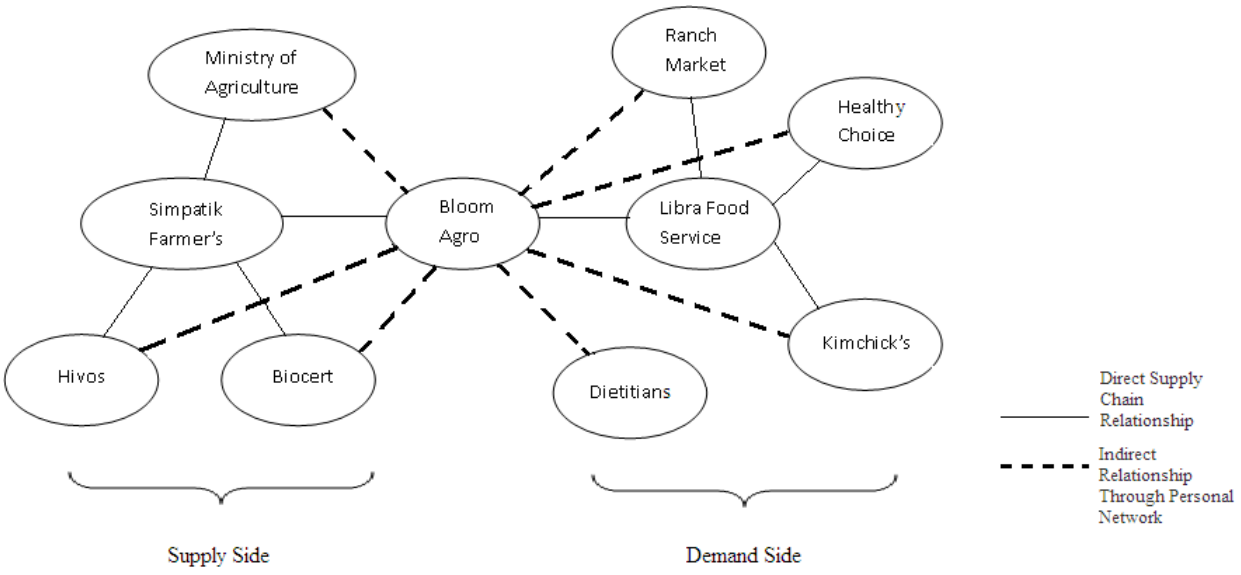
[3] In 2010, Simpatik farmers were the only exporters of rice out of Indonesia since the ban of 2007-8 after the world food crisis.
[4] Prices for 2011 were set at around 8300 Indonesian Rupiahs. See http://www.bulog.co.id/eng
[5] Rice farmers are traveling from across Indonesia to learn from the Tasikmalaya farmers about SRI and organic farming methods. It should be noted that SRI is cascading at a fast rate, mainly due to the extra production output and water savings it brings.

Bloom Agro as a Facilitator

On the supply side, Bloom Agro works directly with the farmers. Currently, the company is the sole distributor for the Simpatik Farmers' Cooperative. The company plans to expand its cooperation with other farmers engaged in SRI organic rice farming in Tasikmalaya and Bali.

On the demand side, Bloom Agro works closely with one major domestic distributor, Libra Food Service, and various international ones including Lotus Foods in the United States and Country Farms in Malaysia. Emily also has developed good relations with the retail outlets in Jakarta. Through tapping into her private network of friends, Emily has also opened direct retail opportunities with several dietitians in Jakarta, who prescribe Bloom Agro's products for healthy diet plans. Figure 2 highlights Bloom Agro's supply-side and demand-side relationships.

Figure 2: Bloom Agro's Supply Chain and Personal Relationship Network



Presently, not having a warehouse keeps costs low. Bloom Agro is working under a system of Just in Time (JIT) fulfillment where the company saves by not carrying any inventory and thus avoids associated costs with property and personnel. When Emily receives an order, she passes it along to Simpatik. JIT is rarely used in the food industry, due to the farming cycle, perishablility of food items, and the desire to avoid food shortages.

Bloom Agro is currently able to manage a JIT strategy due to small scale of the supply, and the small number of orders coming in. As the operations grow along with demand, Bloom Agro will have to change supply chain strategies, such as adding personnel, warehouses, and carrying inventory to satisfy higher demand. In fact, the CEO of Libra Food Service believes that the growth

of the organic rice market in Indonesia is not a demand problem, but rather a supply one. If there is enough supply, Libra Food Service can ensure demand growth through various marketing strategies, as the company has been a trendsetter in the Indonesian market with its various foreign brands.

Target Market Profile

Demographics

In terms of organic consumers, only 10% of Indonesians shop in the western-style grocery stores that carry organic products. However, purchases in these stores accounted for 30% of all retail sales in 2009 (EIU 2008). Wealthy Indonesians and expatriates are the main customers in these specialty food stores. Retail owners estimate that the majority of their customers earn at least 5M-10M Rupiah per month ($575 to $1,150).[6] Most consumers are families with children who spend an average of $300 to $500 per month on food expenses. Organics carry with them a strong connotation of wealth, class, and education. Nearly all organic packaging is in English, which suggests that target consumers have a strong enough command of English to use the language when making purchasing decisions. Additionally, many stores are located in large malls that house upscale stores and restaurants, making it possible to buy organic groceries in the same shopping trip as other items. When families send their maids to buy organic products, they give them shopping lists with specific products.

Some stores, such as Kem Chicks, focus on specialty and imported foods in general, while others such as Healthy Choice carry mostly organic products. Within the spectrum of organic products, approximately 80% of produce comes from within Indonesia and the rest from abroad, while the proportions are reversed for packaged organic products. Additionally, the demand is higher for organic produce than for dry goods. Retail owners speculate that this is because consumers perceive the presence of chemicals and pesticides in their vegetables as more dangerous than those in cereals.

Two sectors of the customer base deserve special attention. With respect to their size of the national population, Chinese-Indonesians and expatriates are disproportionately large portions of the organic consumer base. Chinese-Indonesian consumers demonstrate a higher than average concern for health and homeopathic lifestyles, whereas expatriates are more accustomed to organic certifications from their home countries and the value proposition of organics. Additionally, Western expatriates shop at specialty stores where they can find imported products and packaged foods, and many of these outlets also now carry organic goods. Many wealthy Indonesians who have spent time abroad are more aware of the organic movement and believe in its benefits.

Purchasing Behaviors

Rice is indispensable on the table in Indonesia. Indonesians expect to eat rice at each meal and can understand the differences that grain size and texture impart on rice when cooked. This

[6] One retailer reported their average consumer income at 50M Rp/month

consumers' connoisseurship represents a challenge for many organic producers, who must vacuum-pack and seal their rice to prevent pests from nesting inside of packaging.[7]

Additionally, customers generally buy organic rice in smaller packages than conventional rice, on the order of 1kg for organic versus 5kg or more for conventional. The difference in quantities purchased is in part due to the differences in the rice varieties. Many of the organic rice brands on shelves are specialty rice varieties, such as red rice, brown rice, or black rice. These varieties tend to have better nutritional content than plain white rice, which is a key value driver for organic consumers. However, consumers indicate that these types of rice taste different than plain white rice, and therefore they do not view specialty rice as a staple food in the same way that they view white rice. For this reason, most families tend to consume specialty, organic rice at a slower rate than plain rice.

Preferences

Initially, customers recovering from illnesses and those with doctor-recommended diets fueled the demand for organic products in Indonesia. The market for organics has since expanded and medically focused customers have become a smaller portion of the customer base. At most, they are half of the customer base in Healthy Choice, and a much smaller percentage in other stores.

Both customers and retailers assert that the primary value drivers for organic customers are the nutritional benefits of organic rice, the health benefits of chemical and pesticide-free food, and the improved taste over conventional rice. Additionally, the organic and natural lifestyle is becoming trendier among wealthy Indonesians. It is receiving more attention in the press as western health and nutrition concerns spread to Asia.

Despite the demand for the benefits of organics, consumers are not necessarily concerned with organic certification standards. Retail stores use certifications as a way to source organic products, but customers do not consider certifications as an important factor in making purchasing decisions and do not seek out certifications in stores. However, they do look for some indication that a product is organic, such as a label on the package that says "Organic," or "100% Organic," or the results of a chemical and pesticide residue test. Some of these lab tests are conducted by fictional entities. Additionally, the Indonesian government does little to enforce certification standards. For example, one of the most popular organic rice brands features the USDA logo on its packaging, however the fine print reveals that it is the plastic packaging that is approved by the USDA, not the "organic" rice inside.

Efforts to educate consumers about the value of certifications have not been successful. Although one organic retailer created a chart explaining the different certifications, customers found the information confusing, said that they all looked the same, and came to floor staff and management for advice on which product to buy.

[7] Most conventional rice is fumigated to mitigate pest problems, however fumigating organic rice would nullify the certification, so most organic rice is sold in vacuum packed packaging where produced in tropical climates.

This reliance on floor staff for advice is an important indicator of the penchant for consumers to turn to retailers for help when selecting brands. Customers believe the information they hear from specialty grocery stores, and if the store suggests that it is healthy and worth the money, they are more inclined to pay the premium. They depend heavily on stores and floor staff to provide product information and navigate the landscape of competing products. Customers trust that retailers have done an appropriate job of screening products, so that a product that appears on the shelf must be healthy, nutritious, and reputably organic.

Although customer education about certifications has been unsuccessful, some retail outlets have had luck with educating them on other topics. Ranch Market started a campaign to explain why prices for organics were higher than those of conventional foods, and consumers took to the information well. Similarly, customers responded well to in-store cooking demonstrations of rice and other organic products.

When consumers decide between organic brands, the three most important factors are: price, taste, and nutritional content. Curiously, although customers cite nutrition as a reason for purchasing organics, most admit to not checking nutrition information on the package.

In contrast to their counterparts in the United States, organic consumers in Indonesia do not show any preferences for environmental concerns, farmer equity, water savings, biodiversity, or climate change. Some consumers showed apprehension over Genetically Modified foods. One of the value drivers of SRI in the American marketplace is its environmental benefits and sustainability. However, Indonesian consumers seemed to show a lack of preference for products that are said to be more sustainable. On the other hand, expatriate consumers do value these things and are more familiar with environmental concerns and the concept of fair trade goods. As a possible reason, the head of one organic retail chain said, "We have so much land in Indonesia, it's not like in Europe." A consumer commented, "We have so much water on Java, too much water - we're not very concerned with rice that uses less water." Similarly, most Indonesian consumers are not concerned with recyclable packaging or with reducing waste.

Marketing

Ranch Market, Kem Chicks, Sogo Food Hall and Healthy Choice – the leading specialty food stores in Jakarta – have a total of about 20 stores. Currently, Bloom Agro's products are in Kem Chicks and Sogo Food Hall. However, one of Emily's concerns was that the SunQuator rice was not easily viewable by the consumer. In its current packaging, the rice itself was only visible if a consumer picked up the package and turned it on its side. Kem Chick's best-selling rice is sold in a bag with a clear window in front allowing the consumer to see the product without removing the package from the shelf.[8]

Emily feels strongly that Bloom Agro's international certifications should make its products the most desirable among organic rice consumers. However, all outlets revealed that consumers are unaware of certification bodies and have never asked for specific certifications on their products.

[8] See exhibit Appendix, Exhibit 5

Consumers repeated that they primarily purchase organic products for children and the elderly, as well as for those recovering from illnesses.

During one meeting with a Canadian distributor who Emily hoped would distribute her product, an interesting scenario played out. The distributor, a twenty-year veteran of the Canadian organic industry, expressed reservations over Bloom Agro's packaging. He recognized that the rice was not visible but also that the excess packaging, an elaborate, handmade bag, would be viewed as excessive by his consumers. Emily took offense to his recommendations and later expressed a higher interest in only selling the distributor her rice if he also took her SunQuator brand. These scenarios demonstrated that Emily did not have a complete understanding of consumer preferences.

In response to consumers' poor reactions toward Bloom Agro's products, Emily planned to conduct rice tastings and taste comparisons in the stores where SunQuator rice is sold. In January, Emily held a discussion with a Jakarta-based caterer about the possibility of supplying rice to the caterer as part of their nutrition meal package. The caterer's main clientele include expatriates, celebrities, and members of Jakarta's wealthy demographic. Drawn into the health benefits of Bloom Agro's rice and the compatibility of the rice with the catering company's nutrition and health meal packages, the caterer decided to purchase organic rice from Emily.

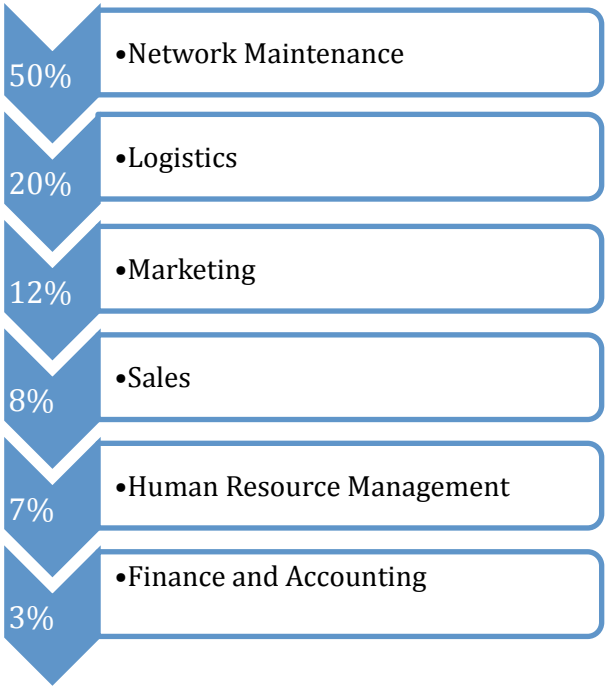
In Indonesia, there are over thirty brands of organic and specialty rice. The most competitive type of rice in both the organic and specialty sectors is red rice, with the most popular brand selling at 23,000Rp/kg ($2.65). The second most popular brand of organic rice sells for 29,900Rp/kg ($3.33). The Bloom Agro rice sells between 28,500 Rp and 32,500 Rp kg ($3.28 and $3.73). The majority of competitor's organic certifications are dubious, but nonetheless they use them as a critical component in their marketing and branding strategies. Most competitors' packaging features a clear plastic window that allows customers to see the rice easily.

Bloom Agro: Operational Challenges

Bloom Agro is still in its infancy. Since 2008, the company has not changed structurally, basically consisting of Emily herself. As she has successfully managed a Just in Time system in her logistics, thus avoiding any investment in infrastructure, so has she managed the operations of her company to incur as few costs as possible. For example, Emily has made use of the family's housekeeper for paperwork and simple accounting, and has recently hired a local man in Tasikmalaya for quality control.[9]

[9] The role of this person is closer to general fixer than the average Quality Control person. Indonesia is famous for the fixers, which help get things done easier and faster.

Figure 3: Emily's Activity as a share of time (in percent)



The scope of work that Emily performs is overwhelming. Most of Emily's time is spent on general management, including networking and government lobbying. Her lobbying has yielded government support for SRI, from the President's speech supporting SRI to the small grants for a new mill and vacuum packaging machine for Simpatik. Maintaining her wide network of business owners, government officials, journalists, expats, and members of the Chinese-Indonesian community is exhausting.

Logistics and supply chain management is second on Emily's priorities and occupies 20 percent of her time. Pushing the export forms, certification documents, and lab reports through the necessary government ministries is a process that still has not been systemized or automated. The stress of managing the Just in Time supply chain is eating up time and energy.

Marketing and Sales come next in priority. In terms of marketing, Emily directs the updates to her website, the development of new packages for SunQuator by the artisan farmers in Tasikmalaya, and the upcoming consumer education and tasting sessions to be conducted at the retail outlets of Kem Chicks and Ranch Market. Though the local distributor, Libra Food Services, fulfills domestic orders, Emily still has to establish relationships with buyers, follow up with Libra on sales and orders, and fulfill her international orders and sales transactions personally.

Since the farmers became organized under Simpatik and their training by HIVOS, Emily has been spending less and less time managing labor relations. She still coordinates with HIVOS on additional training and with BioCert for the annual organic and fair trade inspections at the farms

and mill. Emily also has to manage price negotiations with farmers, as global and domestic prices change. The new price ceiling set by BULOG for 2011 has risen, and Tasikmalaya rice prices have maintained their premium over commodity rice due to the region's reputation for growing quality rice. This market price increase has triggered new price negotiations for Bloom Agro. Tension management between Emily and the cooperative is another challenge that is being added to Emily's plate of activities.

CONCLUSION: BLOOM AGRO MOVING FORWARD

In 2010 exports accounted for 90% of sales, and Emily exported four containers.[16] Moving forward Emily hopes to export one container per week, and wants to change her sales mix to 70% export and 30% domestic. Between her current state and her desired state lie many challenges. Emily is concerned about the future role of the government in rice policy and worries that export permission may be revoked if a new crisis comes along. She is concerned that customers may not value her rice as much as other dubiously certified brands. She fears that she will not have the capacity to fulfill more orders, but is also concerned that new staff she may bring on will not be able to navigate the personal relationships that she has developed. Above all, she is not sure how to sell more rice in retail environments where she cannot personally interact with each buyer.

[16] One shipping container holds 18 tons of packaged rice. It is possible to ship less than a container, but shipping costs are optimized when shipping a full container.

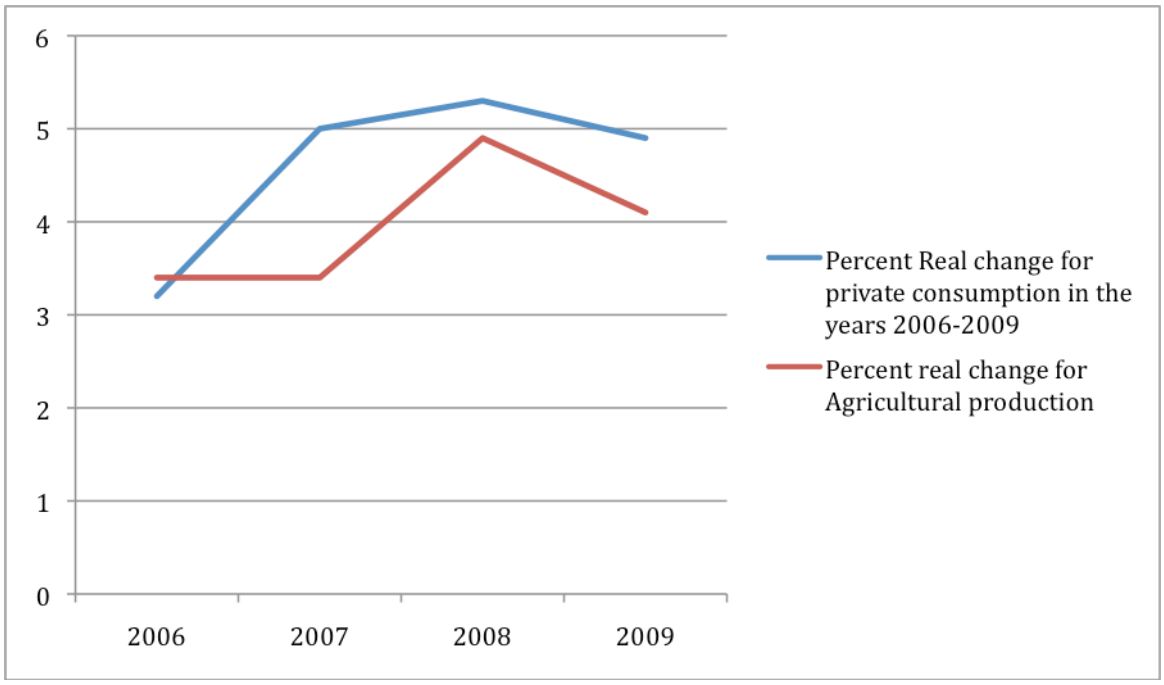
APPENDIX

Exhibit 1: Map of Indonesia



Source: http://www.travelblog.org/Maps/map-of-indonesia-id.gif

Exhibit 2: Private Consumption Trends



Source: EIU Country Report, November 2010

Exhibit 3: SRI History

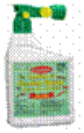
These practices emerged out of Madagascar in the 1980s. In 1961 A Jesuit priest, Fr. Henri de Laulanié, S. J., arrived in Madagascar and was concerned with how the local population could boost its rice production without depending on external inputs such as seed or fertilizer. In addition to his concern over the poverty facing Malagasy farmers, many farmers were converting more and more rainforest land into rice production due to their low yields. Over twenty years, Fr. Henri and the local farmers had conducted series of simple experiments to assess how water levels, spacing of plants, weeding, and age of plantings would affect yields. The central tenets of SRI emerged from the results of their experiments. Presently, farmers on six continents have been using SRI methods to produce more rice on the same amount of land with fewer inputs.

Source: "The Origins of the System of Rice Intensification." http://sri.ciifad.cornell.edu/aboutsri/origin/index.html

Exhibit 4: SRI Methodology

A prominent SRI specialist at the Cornell Institute for International Food, Agriculture, and Development states:

> "The methods raise, concurrently, the productivity of land, labor, capital and water, without tradeoffs, something never seen before. SRI practices achieve different and more productive phenotypes from any genotype of rice by providing a better growing environment in which the plant can express its genetic potential. SRI is best understood as part of a growing movement in the agricultural sector toward what can be characterized as agroecological innovation. This strategy seeks to capitalize on synergies among species and organisms when these are provided with optimum growing conditions. Conventional agricultural practices, favoring monoculture, seek to maximize production of single species, one at a time, taking them out of the context of their natural environments, changing that environment by ploughing, fertilization, irrigation, etc" (Uphoff)

	Non-Organic	Normal Organic	SRI Organic	SRI System Result
Fertilizer	 Chemical fertilizer	 Processed Dry/ Liquid Organic Fertilizer	 Compost	Presence of naturally occurring soil organisms and nutrients for healthier plants
Pesticide	 Chemical pesticides	 Organic insecticides	 Natural homemade repellent from bitter fruits/ vegetables such as orange leaves, garlic, and ginger.	Plants are free of any harmful chemicals
Transplantation	 30 days seedlings	 30 days seedlings	 5-10 days seedlings	More time for root system to develop deeper, and thus effectively absorbs essential nutrients from bellow the soil
Seed spacing	 Few seedlings every 20 x 20 cm	 Few seedlings every 20 x 20 cm	 One seedling every 30 x 30 cm	More space for root system to develop stronger, and thus resists environmental damages
Water level	 Flooding	 Flooding	 Minimum and moist	Maintains the survival nutrient-transporting soil organisms, which cannot live in flooded conditions

Source: http://www.Bloom Agro.com/SRI.html

Exhibit 5: Packaging of Organic Rice Brands



Source: Authors

The second from the left is the Bloom Agro package currently on sale in Indonesia. The fourth from left is a new packaging under development. Key differences from the current one are the visibility of the rice and a non-reusable bag. The package on the far right is the Bloom Agro rice sold in Malaysia under a different brand name. The package is a simple carton package that houses the vacuumed rice bag. Note that the rice is also visible near the bottom, a common feature in all the packages of the competitors.

Exhibit 6: Bloom Agro Fair for Life Profile

Fair for Life Certification

Certified Operator (Certification Applicant)	Simpatik Farmer Cooperative Production Unit
Place	Tasikmalaya
Country	Indonesia
Contact	Bloom Agro.com, emily@Bloom Agro.com
Type of Operation	Smallholder Production
Details on Operation	Production and processing by the cooperative
Certified Products	Rice
Certification Programme	IMO Social & FairTrade Certification

Social Issues (Smallholder Groups)

Chapter	Content of the IMO Social & Fair Trade Programme	Rating	Norm
3.1.1a	Transparent Administration and Relation with Farmers FARMER GROUPS	19	16
3.1.2	Pricing and Producer Payments	18	14
3.1.3	Non-discrimination and Gender Aspects	11	10
3.1.4	Internal Control System	24	24
3.2.1	Child Labour and Young Workers	21	16
3.2.2	Working Conditions Producer Farms	51	44
3.3.1	Basic Labour Rights Group Staff	33	32
3.3.2	Employment Conditions Group Staff	37	32

Total Score Social Issues (Smallholder Groups)	214
Minimum Points for Certification Social Issues (Smallholder Groups)	169
Points Reached Last Year (Social Issues, Smallholder Groups): -	n/a

Fair Trade Issues

Chapter	Content of the IMO Social & FairTrade Programme	Rating	Norm
4.2.1	Trade Relations	21	20
4.2.2	Additional FairTrade Obligations Producer Groups	31	28
Total Score Fair Trade Issues		52	
Minimum Points for Certification Fair Trade Issues		43	
Points Reached Last Year (Fair Trade Issues): -		n/a	

Environmental Issues

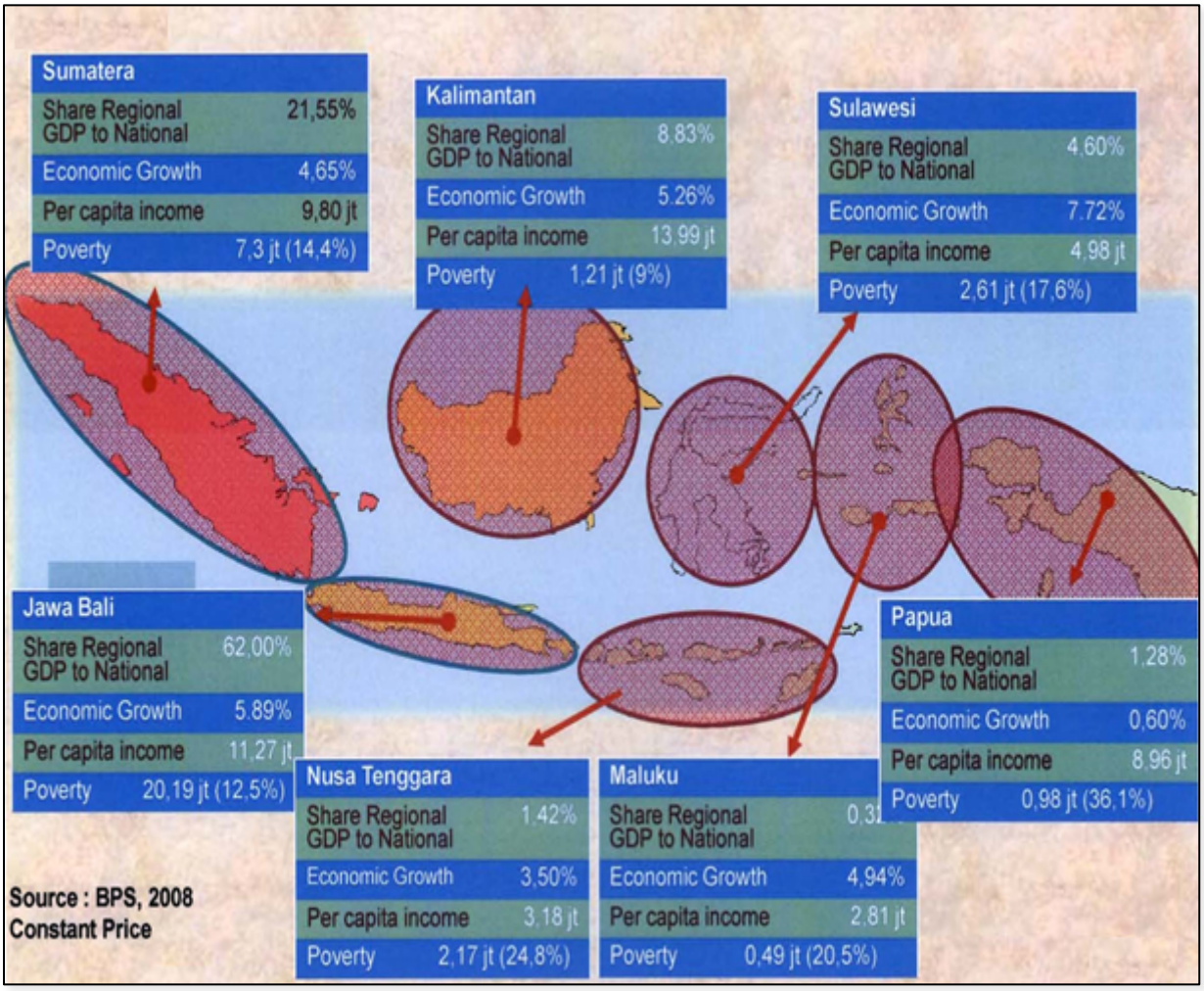
Chapter	Content of the IMO Environmental Programme	Rating	Norm
3.4.1	Internal Monitoring Environmental Aspects	4	4
3.4.2	Environmental Performance Producers	27	20
3.4.3	Environmental Performance Processing	25	22
Total Score Environmental Issues		56	
Minimum Points for Certification Environmental Issues		32	
Points Reached Last Year (Environmental Issues): -		n/a	

Social Impact

Social Impact & Special Achievements	Gapoktan Simpatik Kabupaten Tasikmalaya is a cooperative of smallholders and medium-sized family producers. It has agreed with PT. Bloom Agro to develop its production and processing of rice as a social project for the community in the project area. Women are supported by getting the same wages as men. Furthermore, disabled people are also supported by being offered an opportunity to work within the operation.
Use of Fair Trade Premium	No use of the Fair Trade Premium yet since first year of certification
Date of Certification	13.07.2009
First	13.07.2009
Last Update	

Source:"Fair For Life"
http://www.fairforlife.net/logicio/pmws/indexDOM.php?client_id=fairforlife&page_id=operators&lang_iso639=en&company_id=94

Exhibit 7: Growth Disparities Across Indonesia



Source: The World Bank, "Connecting Indonesia: A Framework for Action." In-house presentation, delivered January 2011

Exhibit 8: Bloom Agro Products

Source: www.bloomagro.com

Sintanur



Sintanur is a medium-grained variety 5-6 mm in length. In the Javanese culture, 'Shinta' is the reincarnation of the Goddess of Love, and 'nur' means the ray of the sun. The Tasikmalaya region is best known for this premium variety, having the most ideal climate cultivation. This is an aromatic variety with pandan aroma. Pandan is known as the vanilla of Asia. This rice is renowned in the island of Java. In fact, the Javanese are attached to the aroma of this rice that they travel with this variety while visiting other islands. The brown version of this variety has a high fiber content, 3.5 g of fiber per cup in comparison to 1 g in white rice. The fiber slows down the absorption of carbohydrates while releasing energy consistently.

Tropical Mix



Tropical Mix is a relaxing blend representing Indonesia's tropical nature, with its unique position scattered over both sides of the equator. This blend reflects the beautiful and relaxing colors of the tropics, with a lingering aroma of pandan, the vanilla of Asia.

West Java Mix



West Java Mix this is an aromatic blend of the most premium rice varieties that are produced in the West Java region. Sintanur is the main variety of this blend, giving it a rich pandan aroma. Inspired by the royal colors of the Javanese Kingdoms, this blend of reds and browns are still seen in Javanese arts and handicrafts. This is a blend suited for indulgence.

Volcano Mix



Volcano Mix is the most nutritious and healthy blend, which is rich fiber. Indonesia has the highest number of active volcanoes in the world, and this volcanic ash creates a fertile soil full of nutrients for the rice paddies. The colors of the blend mirror the volcanic minerals and this mix is high in nutrients such as magnesium, manganese, and zinc. This is a blend to restore vitality.

New Product



Injin Black Rice, which turns into beautiful deep purple when cooked, originates from Bali and Java. The purple color is due to the high content of anthocyanin within the grain. This red pigment also found in blueberry is a source of antioxidant. It also contains high amount of iron, fibre, with a soft texture and nutty flavor. The black rice was historically consumed exclusively by the royalties of the Javanese Kingdoms and Bali. In the exotic culture of Indonesia, there is unique and string of 11 rituals blessing the growth of the rice from the planting to the harvest. This rice is also deemed significant in part of major festivals such as Galungan.

Island Mix



Island Mix is a nurturing blend reflecting the biodiversity of Indonesia's 17,000 islands. The color of the blend portrays the island's rich soil nourishing its exotic flowers. The aroma of this mix is earthy, and the flavor hints of nuttiness from the red rice.

Javanese Mix



Javanese Mix is an extravagant blend with two types of red rice: polished and unpolished, infusing brightness and spirits to the colors. The Javanese are very fond of red rice for its high nutritional value. This blend also reflects the cultural importance of red rice in traditional Javanese ceremonies, such as births and weddings. This is a blend for the celebration of life.

Ciherang



Ciherang is a popular premium long-grained Indonesian variety of 7mm in length. In Sundanese, the ethnic language of West Java, 'ci' means water and 'herang' means river. Like a flowing river, this variety flourishes in the West Java region and is a well-loved throughout Indonesia. It is a versatile variety for many dishes, with a wonderful aroma and fluffy texture. The brown version of this variety has a high fiber content, 3.5 g of fiber per cup in comparison to 1 g in white rice. The fiber slows down the absorption of carbohydrates while releasing energy consistently.

References

Bureau of East Asian and Pacific Affairs, 2010. (2010). Background Note: Indonesia. Retrieved December 7, 2010 from http://www.state.gov/r/pa/ei/bgn/2748.htm

"CIA World Factbook: Indonesia." Last modified 7 December, 2010. https://www.cia.gov/library/publications/the-world-factbook/geos/id.html

"Consumer Lifestyles — Indonesia." Euromonitor International. 2007.

"Country Report: Indonesia." The Economist Intelligence Unit. Nov 2010.

"Country Report: Indonesia." The Economist Intelligence Unit. Nov 2008.

Firman, Tommy, et al. "The Dynamics of Indonesia's Urbanization: 1980-2006." Urban Policy, 25:4. 2007: 433-454

Istiqomah, Rice Market Integration in Indonesia: Effects of Trade Liberalization

"Indonesia Consumer Goods and Retail Report." The Economist Intelligence Unit. 18 March, 2010.

"Key Sectors: Food and Drink. Indonesia Q3 2007." Business Monitor International. 2007.

"Main Food Related Policy Measures — Asia." Global Information and Early Warning System (GIEWS), United Nations Food and Agriculture Organization. 2010. http://www.fao.org/giews/countrybrief/policy_detail.jsp?code=IDN#IDN

Martawijaya, Suradi, and Roger D. Montgomery. "Bureaucrats as Entrepreneurs." *Bulletin of Indonesian Economic Studies.* 40 (2004): 243-252

McLeod, Ross. "Survey of Recent Developments." *Bulletin of Indonesian Economic Studies.* 44 (2008): 183-208.

"The Origins of the System of Rice Intensification." http://sri.ciifad.cornell.edu/aboutsri/origin/index.html

Simatupang, Pantjar, and C. Peter Timmer. "Indonesian Rice Production: Policies and Realties." *Bulletin of Indonesian Economic Studies.* 44 (2008): 65-79.

Uphoff, Norman. "Responses to Frequently Asked Questions About The System of Rice Intensification (SRI)." The Cornell Institute for International Food, Agriculture, and Development. http://sri.ciifad.cornell.edu/aboutsri/FAQs/FAQs.pdf

"The World Food Program in Indonesia: An Exit Strategy." The World Food Program, April 2001. http://zunia.org/post/the-world-food-programme-in-indonesia-an-exit-strategy/?rank=d&cHash=10f7cbe2937a738035a711aa05a0833e

"The Development of the System of Rice Intensification (SRI) in Madagascar." The Cornell Institute for International Food, Agriculture, and Development. http://sri.ciifad.cornell.edu/aboutsri/origin/CIP_UPWARD_SRICase.pdf