

From the result of the field study
Information of the prospective commodities for
investment in Papua New Guinea (PNG)

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Preface

Investment in Papua New Guinea (PNG) has resumed by development of resources such as mining and LNG. This tendency will be continuing for the time being. The other commodities, such as from agriculture, fishery, forest and the other has big possibility of production and export. This information consists of two resources. One is the result of the field study, which Sato (the expert) and his counterparts formed the working team (the team), and the team undertook the field study. The other is all relative information for investment, which IPA holds in its office. Based upon all these information, the expert made analysis and he summarised that all these commodities written in this paper are classified as the commodities to be paid attention for new investment in PNG.

The actual investment is required to carry out a feasibility study (F/S) implemented by the investor. Then the investor must decide whether the investment will be carried out or not. This information is configured as a reference material of whether the investor works out the F/S. Regarding the prospective commodity for investment, the number of commodities are confined to the commodities, which has been studied by the field study, which was carried out twice. The expert had planned to carry out the field study four times, but he could carry out two times only because of difficulty of preparation. Accordingly, even though the expert and his counterparts do not carry out the field study, the expert includes the other commodity at the last of this report. Then finally, the expert introduces his knowledge about the people in PNG through his fifteen years work in PNG.

1. Sago Palm

This commodity has been paid attention, the study team for sago was dispatched to PNG, and the basic study had been carried out in 1980s. A Japanese company also show interest in taking up investment. Accordingly, Sago is selected as the first candidate commodity of new investment. Then the team undertook the pre-feasibility study.

1.1 The reason the sago palm is the prospective commodity for investment

Sago is important for the people living around the place where sago is growing naturally, as they utilise it as main food. However, according to the result of a basic information, the resources of sago is abound, and its resources is far surprised the demand of food for the people living there. Utilising this surplus abound resources is useful for the people living around sago natural growing area. From the long run investment point of view, this development has significance.

The distribution of sago palm in PNG is spread alongside of low stream Sepik River facing Bismarck Sea, and delta area of Fly River facing Coral Sea. The resources are abounded. These two areas are abounded in Sago palm. It is suitable places to develop for producing the first process of Sago starch, extracting raw starch from sago palm.

The total invested capital is expected to be not so much big amount. It is conceptual project to commence its operation.

Processing the raw starch from Sago Palm has never done in PNG. Sago starch is utilised as flour of making noodle in Japan. Since the Japanese food is getting to be popular in worldwide. It has been nominated as one of the world's cultural heritages; the demand of the material of the Japanese food will be increased drastically. Now days, Japan imports the second processed sago starch from Malaysia. Total amount of imported sago starch is estimated more than 15,000 ton per year. The raw material for the second processing of sago starch in Malaysia is coming from Indonesia and inside of Malaysia. In another words, the first processed starch is produced in Indonesia and Malaysia. Under such condition, this is significant to make a plan of establishing the processing Sago Palm into industrial use of starch in PNG.

1.2 Result of the field study as a subject of investment

The detail of the field study is written in the first field study report. As to the industrial utilisation of Sago Palm, production of sago starch and alcohol by biomass are the theme of the field study. The main topic of this field study is producing the first process of sago starch.

The distributing area of Sago Palm in PNG is located in two places. One is spread in along the lower stream of Sepik River, facing on Bismarck Sea. The other is along lower stream Fly River, which is forming delta area with Purai River, facing on Coral Sea. The field study was undertaken along low stream Sepik River.

The reason of selecting this place is accessible condition. As compared with the area of alongside Fly River, this place will be suitable, if the actual operation is set up. The actual field study had been done around Angoram are. The reason of selecting Angoram is as follows:-

- 1) the place is located near to the natural growth Sago Palm.
- 2) People living in Angoram eat Sago starch as food
- 3) Through dialogue with people, the team can identify the possibility to undertake the project.

Angoram belongs to East Sepik province and the district government is located. Around the town of Angoram, about 19,000 people are living in 35 wards. The natural growth sago palms in this area are spreading all over along the lower stream Sepik River, and the cumulative dosage of sago palm is great amount. These areas are not so far from the town of Angoram. The team identified that Angoram is the best place to settle down the Sago Palm Project. The population in the area is less than 7,000. In terms of population, this area is the most high-density area in East Sepik Province.

Sago starch is the important food for the people living in the area. If the people living there give their consent to set the Sago Palm Project, then the possibility of development Sago Palm will be positive. However, there are 23 different language groups in this area. Each group has its own traditional culture. Their food is sago and the other crop in hilly terrain and main food is sago in low land area.

Through conversation with people in Angoram, they are not afraid about shortage of their food, even though the project is undertaking utilising Sago Palm. They have confidence they will not have any food shortage. No opposition is existed in principle. The condition to keep good relation with people has been provided. However, the investor should contact them carefully and need to explain their plan precisely without any confidential. This is the key of building a good relationship with people living in the project site. The team identified the area Angoram is the place where the investment proposer will carry out its feasibility study. (F/S)

Regarding various points to be considered for the Sago Project, the team made a preliminary field studies. They are, moving out sago palms from their natural growing place, environmental issue at the processing plant, and transporting issue of the products. The followings are the result of the preliminary study.

1) Moving out the raw material of the products

If the processing site sets Angoram, the carrying distance of natural growth sago palms to the processing site is roughly estimated about 20km to 30km. Because of swampy are, normal logging work is not suitable. Instead of constructing the logging road, waterborne transport, using pontoon will be suitable.

2) Securing processing site

Securing the processing site in Angoram is possible. However, the land issue is critical. The investor need to pay careful attention, and to take a cautious but positive approach to the landowner; the people living there.

3) Considering items for operation

As to the power supply, PNG Power house has no operation in Angoram. The district government operates power generator house. Two 400kw generators equipped with Cummins engine are supplying power to the town Angoram for 18 hours per day. (06 hour in the morning to 24 hour in the midnight) If the investor set up its processing plant, self-installed generator is necessary.

As to the water, there are lot of underground water, which the investor can use for its operation.

4) Transporting the product

This is the biggest issue during the study was undertaking. The road maintenance in East Sepik Province is poor. The distance from Provincial capital to Angoram is about 50km. Because of bad condition, it is taken about two hours to reach Angoram from Wewak. Because of the poor condition, land transportation for the products is impossible without special care by the investor. The investor should consider adopting marine transport. However, cost of coastal boat freight is so high. If the investor carries out the F/S, this issue is to be the most important theme.

5) Securing employees for production

Recruiting employees nearby Angoram is good in principle. The stable operation can be expected. The investor should recruit general labours from the place of production. It would be better not to recruit such class of labours from the other area. As to the class of supervisor, and foreman, if the investor cannot find the suitable persons, the investor should recruit this type of class personnel from the other area.

As for recruiting mechanics or technicians, the investor should remind apprenticeship is existed in PNG. The team recommend the investor to use this system. Regarding the other type of employees such as payroll, the accountant, and administrative work, the investor should secure these employees by public offering or by word of mouth.

6) How to commence F/S

According to the above mentioned facts, the judged that Feasibility Study for making sure the project is possible. If an investor shows interest, some sorts of assistance can obtain from IPA. Receiving F/S undertaken by an investor is ready. If the investor shows interest in F/S, it is better to contact to IPA

7) Incentive

Tax incentive and the other incentives for new business in PNG, the investor can enjoy the investment promotion. However, there is no special incentive for Sago Palm. The government set no special tax incentive for sago investment.

1.3 How to make progress about the investment

IPA received the report of the field study in Angoram. Then IPA is waiting for the investor will appear. The team can identify from their study that Sago Palm in Angoram is worth to take up the Feasibility Study (F/S) by the investor.

Those that investors have interested in this project, they need to get the basic information from IPA, and they should set their own work plan for F/S. IPA has made preparation of receiving such proposal. However, the investor cannot expect any provision of favours from IPA. It must be done by investor itself.



Natural growth Sago Palm area (It will be possible to secure the place of cut down)

2. Katsuobushi

The commodity had once rejected by the expert as he envisaged it would be impossible to obtain sub-material of producing the first process of Katsuobushi, called as Arabushi. The expert received the history of Katsuobushi production in PNG when he arrived at PNG. According to that explanation, the first process of Katsuobushi (Arabushi) had been producing in Kavieng in New Ireland, but the operation was suspended because of difficulty to get mangrove wood. However, at the final term of his work in IPA, he found that the substitute material could be possible to get. Then he has changed his idea and proposed all counterparts of IPA to take this commodity as a prospective one.

2.1) The reason why Katsuobushi is prospective investment in PNG

For producing Arabushi, it is necessary to get heavy dimensional weight of wood for making smoke. Japanese Arabushi producers use heavy dimensional weight of wood, such as oak, and chestnut oak. The required volume of wood is equivalent amount of weight of Arabushi products.

As mentioned before, the expert had once withdrawn this product from the list of prospective investment. Nevertheless, this is worth to revitalise as the prospective investment commodity. The followings are the reason.

- 1) Resource of bonito is abundant in PNG. However, bonito does not utilise well what tuna does.
- 2) Shape of bonito is smaller than tuna that can encourage people living along seashore to catch by their own small fishery boat.
- 3) Undertaking the first process to producing Arabushi, the value added effect is born, that enable people to export it with higher price than raw fish.
- 4) Participating people of living around the processing plant can be expecting.

The above-mentioned 1)-4) show the possibility to invest if heavy dimensional weight wood is available. Through the study, the team could find the possibility of investment. Then the expert proposed the following procedure to commence actual field study.

2.2) The process of setting Katsuobushi as the prospective commodity for the prefeasibility study

The expert and his counterparts (C/Ps) visited National Fishery Authority (NFA) and Forestry Authority (FA). They discussed about the possibility to settle down Katsuobushi industry in PNG.

Katsuobushi is one of the most popular and important material for cooking Japanese food. Since Japanese foods are becoming popular in all over the world, the demand of Katsuobushi can be seen to grow up.

This theme was taken up by IPA and JICA a few years ago, and they made some preliminary study. When the expert started his work in IPA, his C/Ps expected to conduct feasibility study. Since the processing factory of Katsuobushi had been operating in Kavieng in New Ireland with quite satisfactory and the products had been exported to Japan to make process of the final products of Katsuobushi.

This fact might encouraged IPA staff to promote this type of investment alongside the coastal surrounding all of the country. However, it was closed because of environmental conservation procedure, the company in Kavieng met difficulty to get Mangrove wood for smoking raw bonitoes. They must close its processing factory.

The expert received the above information before he started his work in IPA, he excluded it as a prospective investment, and he tried to find the other prospective commodity for taking up pre-feasibility study with his counterparts. He tried to find the other prospective commodity by visiting some places with his C/Ps. However, the expert could not find any prospective one as compared with Katsuobushi.

The reason why Katsuobushi has prospective material for future investment in PNG, the raw material of Katsuobushi is bonito; they are abounding surrounding all over coastal site in PNG. The size of bonito is not as large as tuna. This fact gives local people to catch bonitoes by their own small fishery boats. Then the idea of establishing small processing places in all over the country and enhancing people to live in coastal sites to join this investment. The expert obtained the above-mentioned idea from Ms Julienne Leka when the expert had interview her about to know her work in the first dispatch, during he tried to collect all information about IPA activities from various sections in IPA.

The expert believes that good investment in PNG is to give happiness to all people in PNG. The idea stems from his experience, which had been working for fifteen years in PNG. Since, he could not find any promising commodities for taking up feasibility study, he returns to Bonito as the prospective commodity for making his report.

2.3) Progress about discussion with staffs of NFA and FA

As the expert made it mind to take up katsuobushi as one of prospective commodity in his report, he requested his C/Ps to visit National Fishery Authority (NFA), and Forest Agency (FA). Although the team cannot visit Environmental Conservation office, the expert concluded that implementing pre-feasibility study is important, and it is possible if IPA, NFA, and FA agreed to take up this as their joint pre-feasibility study, it will be very good example of promoting a new investment in the country.

The reason of finding this idea of joint pre-feasibility study comes from our result of meetings with NFA and FA. When the team members of IPA visited these offices, the expert explained about the reason of visiting their offices by explaining about the short history of Katsuobushi.

From NFA side, the team could obtain the consent to take up such pre-feasibility study jointly with IPA by setting terms of reference of the study.

From FA, the team could find that there are many logged sites will be available to take material for smoking raw bonitoes for processing.

Taking into account such conclusion, the expert believes that it would be good opportunity to implement one project with government organisation of multiple. The expert wishes that if it is possible he wished to include this idea into his report and inform such idea to all concerned offices including JICA.

2.4) Proposal Terms of reference of pre-feasibility study

Since this study will be implemented with plural number of the governmental organisations, Terms of Reference (ToR) should be set clearly.

In case if IPA, NFA, and FA join the project of the pre-feasibility study, ToR will be the following.

IPA: As the core part of the project, this must have responsible to make over-all progress of the project. The works of the project is as follows:-

- 1) Collect information of producers of Katsuobushi;
- 2) Collect information how to produce the first process of Katsuobushi, which can be done in PNG;
- 3) Collect information about the progress states of the project, and call meeting with all relevant officers to discuss about the progress of the study; and
- 4) Propose the plan of dissemination of this project into actual investment;

NFA: As a body of securing raw material of Katsuobushi, the works of the project is as follows:-

- 1) Collect information about possible amount of bonito catch in each area of the country;
- 2) Make a plan how to contact people to discuss about the possibility of establishing the first process of the workstation;
- 3) Make a map of expected fishery yield of bonitos in each provincial area; and
- 4) Set the most appropriate places for implementing feasibility study by prospective fishery processing company;

FA: As a body of assuring auxiliary material for producing the first process of Katsuobushi, the works of the project is as follows:-

- 1) Collect all information of availability of collecting hard wood for smoking bonitos;
- 2) Make ascertain how much volume of wood per year is available in each prospective places of setting workstation of the first process of Katsuobushi;
- 3) As the organisation of providing information of wood acquiring for the first process of katsuobushi, make a map of available places of getting hard wood; and,
- 4) Select the place where the pre-feasibility is implementing. this must be selected from the places where enough amount of wood is available;

2.5) Definition of feasibility study, pre-feasibility study and field-study

The above written words regarding study, the team need to clarify the meaning of study clearly. The following is the meaning of definition in each study. This definition is important and useful for implementing studies whether the investment is prospective or not. The definition can be used not only this column of Katsuobushi, but also any topic of thinking about prospective investment.

1) Feasibility study

Feasibility study can indicate that proposal theme is enough to start actual business or not. This must be done by companies, which show interest in this project. The government must provide some convenience provisions, such as allow them to entering their field study area, providing housing for their study, and assisting their study. Then the company study team will write an interim report as the result of their feasibility study.

It will usually take more than one year. According to the experience what the expert engaged in the feasibility study in Madang in 1969, it took more than nine months and cost of the study was about US 150,000\$.

2) Pre-feasibility study

Pre-feasibility study aims to invite a company to implement its feasibility study. The study should be done until the team members can identify that their result is enough to invite a company to implement its feasibility study. Thorough pre-feasibility study, the team need to identify that the result of the pre-feasibility study can show correct information, whether proposed company for investment to take up this project as a theme of undertaking feasibility study. As written above, undertaking feasibility study requires considerably amount of cost, the team need to inform the result of the pre-feasibility study correctly to prospective investors. In order to collect enough information, the pre-feasibility study will be taken at least one month.

3) Field Study

For the preparation of starting pre-feasibility study, the team need to collect the basic information, such as, people in proposed development area are happy to receive such new project in their living area, the team do have enough material for the operation, is it enough area available to take up a new business. In another words, do the team have suitable land for the operation with enough supplying water and electricity.

In case of SAGO, that was a field study for the preparation of pre-feasibility study. However, the team could correct enough information for people living in the developing area very precisely. The team could find that people living in the future developing area are happy to receive such new project. The team carried out a field study, and wrote a report of Sago project.

All of our collected information is mostly enough to write pre-feasibility. Then as shown in 1) Sago Palm in this report, it was shown the progress of the study team. The team had decided the sago project is going to the next stage of implementing Feasibility Study (F/S).

However, in case of Katsuobushi, the team has not reached to the stage what the field study of sago. The team need to identify whether Katsuobushi is worth to take up as feasibility study. Therefore, the study team must do the following activities.

- **Forming pre-feasibility study team**

In case of Katuobushi, the team still need to collect the basic information both from raw material, and from auxiliary material. As written before, the study will be much effective if the team forming joint field study with related governmental organisations.

If environmental conservation office shows interest in participating to the project, it would be much better pre-feasibility study could be undertaken. In this case, ToR of the environmental conservation office is to be studying the post-harvested area, how to recover it to be natural condition. The detail ToR should be considered when their participation is confirmed.

- **Implement joint pre-feasibility study**

This is a joint study; each group must follow its terms of reference and exchange the progress of the study from time to time. If it is necessary, the field study should be done jointly. The expert sincerely hope that all concerned governmental officers in this regard, should cooperate each other and form a work team of pre-feasibility study as soon as possible,

The expert will assist you and request JICA to consider this as one of advanced project in PNG.

3. Cocoa

Cocoa is the important agriculture products from tree, as well as coffee and coconuts in PNG. The history of cultivation cocoa has a long history. Recently because of epidemic, total production of cocoa in PNG has been declined. As the forest cutting area is spreading, many areas can be seen the people living is planting cacao on the cutover forest. Based upon the above-mentioned background information, the team tried to find whether cocoa can be followed the two prospective commodities, Sago and Katsuobushi. As a result, the team could find that cocoa has prospective commodity for investment.

3.1 The present situation of cocoa market in worldwide, and evaluation about PNG made Cocoa in Japan.

Cocoa in PNG is producing island area, New Britain Island, and Bougainville Island, and northern part of New Guinea facing Bismarck sea Morobe, Madang and East, and West Sepik Provinces totally be called as Momase¹ region. Recently, because of the cocoa fanciers in PNG are trying to bring up species of cocoa to be fit for the people United States, the production of cocoa has tendency to be increased. Export to Japan is almost nothing. Statistic figure shows Japan had not been importing during 2008 to 2011. In 2012, figure shows only 2 tons of cocoa was imported. This volume cannot be recognised as commercial use. It is said that for Japanese, PNG cocoa is too sour taste to enjoy. The confectionary business world in Japan realised that fact and made analysis. Then it concluded that as Japanese

¹ Momase is generic expression five provinces, Morobe, Madang, West, and East Sepik Provinces.

fond of mild taste, PNG cocoa is not suitable to use it only. The conclusion is PNG cocoa should be mixed up with the other country made cocoa, such as Ghana and blending them into commercial use.

Apart from the reputation of PNG cocoa in Japan, PNG cocoa has prominent evaluation to all over the world. Cocoa made in PNG got gold title in Paris.

Different from the normal cocoa of Bulk Cocoa, PNG made cocoa has many species of Flavour. That caused, as mentioned before, to obtain gold prize in Paris

Regarding the producing process, cocoa harvesters do until fermentation and brokers buy it, then all cocoa are exporting to Singapore. Over there, PNG cocoa is to be mixed up with other country made cocoa. Then PNG cocoa converted into interim product (partly finished product), such as cacao butter. Then the interim product is exporting to the consumed countries of intermediate cocoa products to countries consumption.

3.2 Production of Cocoa in PNG

The production of cocoa in PNG had lead East New Britain Province produced 20,000ton of cocoa. This situation has been changed because of epidemic disease of cacao trees gave big damage to cacao trees in East New Britain. Regarding cocoa production, the other area of cacao had been also suffered that epidemic, as a result total production of cacao has been decreased.

This tendency had stopped a few years ago, and cocoa production in PNG is recovering. In Morobe Province, village people are planting new cacao trees to the logged sites. However, any systematic facilitation of cacao tree cultivation has not yet fully in progress, although the government set the plan to promote it.

If the government of PNG wishes to promote cocoa industry as one of the strong export device in future, we need to organise a systematic approach to the cocoa industry. All process of cocoa production, starting from cultivation of cacao trees, harvesting cacao beans, and giving guidance of cocoa production including fermentation should be facilitated by the government systematically. These activities made activate cocoa industry in PNG. Regarding quality wise concerned, the quality characteristics are different in each cultivated area. We need to make clear in each quality attribute. Then PNG cocoa can be exported systematically to the worldwide market.

3.3 The result of the field work

We could obtain a lot of valuable information from PNG Cocoa Board in Kokopo. This result was summarised in the report of the second field study. In consequence, we could find that cocoa industry is bright in future. As mentioned previous column, for promoting cocoa industry in PNG, systematic facilitation is necessary from cultivation, then harvesting, processing cacao beans including fermentation. This measure can build a solid substructure of cocoa industry. Then we need to strengthen distribution system of cocoa products in PNG, which include forming systematic purchasing measure from farmers. As a result, cocoa industry will be one of the main export industries in PNG.

3.4 The direction of investment for cocoa industry in PNG

Since we have a few tips that PNG cocoa won a prize for its flavour, the further market research will give us the possibility of investment of cocoa industry in PNG. It depends on the market conditions of chocolate, Japan has an opportunity to import PNG made cocoa for its final confectionary products. Taking into advantage of the distance between Japan and PNG is shorter than any other countries of cocoa production, Japanese confectionary companies should consider to import PNG cocoa as a device of market adjustment of cocoa price. An American company shows interest to purchase PNG cocoa for their final products. Under such condition, Japanese confectionary companies should take action to study about cocoa industry in PNG.

4. Spice

Spice is understood as one of the theme of investment promotion in PNG. At present, this industry has not been developed as cocoa and coffee. Thinking however, that Spice is worth to consider as prospective commodity of investment, the team took study about spice at their second field study in East New Britain. The team members visited the site of spice production, then they found that spice industry is worth to consider as one of prospective commodities of investment. The spice industry can equip with the basic condition for promoting investment from the points of following views:-

- 1) Natural condition is fit for growing kinds of spice naturally in PNG;
- 2) The amount of dealings in each is not bulky. It is easy to transport the products. The freight cost of coastal boat is expensive as compare with the other country, the dealing unit in each is small has advantage.
- 3) A few spice producers are existed in PNG
- 4) Because of the producing process is simple, it will be easy to disseminate the production system of spice to all over the country.
- 5) The price per weight is comparatively high, thus brings farmers show interest in taking up.

4.1 Present situation of Spice industry in PNG

Spice industry has no countrywide organisation for promoting industry, like coffee and cocoa industry. However, as mentioned before, the soil and climate in PNG are suitable for growing many kinds of spice. The distribution system is existed in a way by word of mouth. The products are exporting Japan and New Zealand.

The amount of dealing figures is not listed remarkably in the international trade of PNG. Even though, this industry has certainty of developing as one of the typical export industry in PNG.

Among of kinds of spice, vanilla is recognised as prospective products for export. IPA studied vanilla and had written the report. However, the investment promotion of this industry is not active. As mentioned before, spice is one of the candidates for the prospective commodity of investment, but it has not yet established normal distribution system.

4.2 Result of the field study

The present situation of spice industry is what has written above. The team could have an opportunity to visit a company producing some kinds of spice. The result of our study has written in the report of the second field study.

The study has revealed that spice industry is existed in PNG as a niche industry.

The place of spice producing company is located about 30 minutes' drive from Kokopo. The team member visited Amruqa Company and met Ms. Theresa Arek, whose origin is Popondetta. The team members observed that the company was producing many kinds of spice. The amount of production was not big, but it had been exceeding the scale of homemade. Thus, makes enable the company to deal with their products as business base. The company hired about 50 people. Twelve (12) out of them are permanent employees of the company. Since the company produces kinds of oil for cosmetic by squeezing spices, the company obtain certificates to all kinds of their producing oil. The team observed the facilities of producing many kinds of product. They produce nutmeg from seed and mace from arillus of nutmeg (*Myristicaceae fragrans* in botanical name).

The company is exporting many kinds of product. There are two types of oil mills, one is fixed type the other is movable type. Their facilities are simple, but should be keeping with perfect maintenance. The company is exporting its products to Japan and New Zealand. The dealing system is unique. The company does not have contract with dealing companies, but has relation with persons. Ms. Theresa Arek told the team that she was doing her business by Word to Mouth². She looks like expanding her business by buzz marketing, dealing in a way of word of mouth. As to getting raw material for production, the company organises cooperative type group and assure members of the organisation to purchase all their products. As a result, raw materials are assured steadily. The company also aim to develop niche market. It presses patchouli to produce its oil. In addition, the company is planting Tea Tree aiming to develop a new market. The team could not determine the name of the dealing Japanese company with Amruqa Company. The company may afraid to lose its good relation with buyer, which is dealing good business with the company.

In any case, the company is managing with very orderly condition. Among of three elements of management, Man Power, Material, and Monetary Asset, the first two elements are firmly controlled by the company. The expert obtains the information that informed him, this place in East New Britain is suitable place for growing spice. Therefore, the team believes this company has further more expansion of its business.

4.3 The direction of expanding spice industry in PNG

Because of variety of species of spice, the direction of promoting this industry is to be promoting small-scale production. It is not suitable to appoint a place for promoting the spice with setting some designated species aiming to form a big scale production. If IPA wishes to promote spice as one of prospective commodities,

² This indicates "Word of mouse" in dictionary

IPA should conduct countrywide field study to identify the present situation of spice business in PNG. Then, based upon the result of the field study, IPA should set a direction to promote a spice industry. If IPA can set a proper direction of promoting spice business, this industry will be one of prospective commodities in PNG. The reason why the spice industry is prospective in PNG is as following reasons:-

- 1) Processing factory can be built up with a small capital :
A good example can be seen as the example of Amruqa Company.
- 2) Establishing such type of business pursuit, even though the scale is small, some number of people living there can get a job permanently.
- 3) In order to assure the raw material for operation,
- 4) If the spice business is evolving into acknowledged industry, new kinds of spice such as tea tree can be born that makes possibility to develop new spice product to the market.

Spice industry has such potentiality. As one of investment promotion activities, IPA should have field studies much more in depth, Spice will be one of prospective commodity having be brought up by IPA. If so, it will be a very good example of investment promotion activity for IPA. In order to have such success, IPA officers should go to the field site and carry out the field study hard with people engaging in this industry, they will be expecting to be competent personnel of investment promotion. This type of study is not a type of prefeasibility study, the IPA officers come into the people and working hard with them to bring up the new spice industry with people living there. Through this type of works, IPA can expect many competent officers those who contribute to promote the orderly investment, which can make happiness to the people living in developing area. If spice industry has the countrywide promoting organisation, like cocoa board for cocoa industry, this organisation should participate to the study by furnishing their collected information about spice industry in PNG.

Japanese companies show interest in developing spice industry in PNG; it is one of ways for IPA to call on joint study with IPA.

5. Coffee

This industry has been established its reputation as one of the major industry in PNG. Many companies are producing coffee to the market. As compared the coffee industry in East Timor, the scale of industry is far different. The amount of production in PNG is far large scale. The coffee industry in PNG has a certain measure of success. Even though, PNG coffee will have potential to growing its reputation to be the world famous brand, such as “Blue Mountain³” in Jamaica, “Kona” in Hawaii, and “Traja” in

³ *Blue Mountain means the coffee is growing commercially in Blue Mountain range, with altitude only between 800m to 1,200m. The coffee, only made in this area can be called as Blue Mountain Coffee. As the flavour his high, usually it is blended with the other high quality coffee. The area of growing Blue Mountain Coffee is limited, and the quantity is small lot. Consequently, it is known as an expensive coffee. The breed type of Blue Mountain Coffee is the same as the other coffee growing in all Jamaican country. The Blue Mountain Coffee is growing in the harsh climate and the harvest beans are selected strictly. This fact gets the high reputation as the world highest class of coffee beans. Refer from Wikipedia*

Sulawesi, Indonesia. Level up production technology is the key of developing a specific brand for PNG coffee. The team has not carried out the field study in Highland regions, however, the possibility of developing the industry is great for PNG, and the team has listed up “Coffee” as one of promising investment in PNG. The following is the information which the team has collected from various places concerning PNG coffee industry.

5.1 Present situation of Coffee industry in PNG

As for Coffee industry in PNG, the team obtained useful information from Japan. This is information about low land coffee in East New Britain. The quality of low land coffee is inferior Arabica bean species. The low land coffee is recognised as low-grade coffee, such as raw material for producing instant coffee. However, if the coffee producers carry much strict selection into effect, strictly selected low land coffee in PNG will have a reputation as high quality coffee as a result it will be sold as much higher price.

At present, main coffee producing area in Highland Region has many coffee producers. They are competing aggressively. However, there is no specific brand to be identified PNG coffee as high quality brand, as mentioned above. According to the history of coffee in PNG, the origin of PNG coffee started from planting Jamaican coffee in Highland Region in 1930s. Because of the altitude and climate is very similar what Blue Mountain Brand coffee is growing, the Highland made Coffee was once recognised as Blue Mountain like coffee in the Japanese coffee trade market. At present, two types of Blue Mountain coffee are selling in the Japanese coffee shops. The higher price one indicates Blue Mountain genuine coffee and the lower price one is mixed up coffee with Blue Mountain and PNG Highland made coffee.

5.2 The direction of promoting coffee industry in PNG

Historically, PNG Coffee is not derived on a colonial plantation-based system. Production is mostly resumed by small farmers, with about 20 trees per plot. It is called as “coffee garden.” Under such condition, the production of coffee is transporting to coffee processing site. The road maintenance in rural area is not good, that causes problem of sending their products to the processing site. This condition is spreading all over the country.

Under such difficult condition, it is a tendency to change the crop from coffee to the other economical crop.

Facing such difficulty the government has changed the promoting policy of this industry to allow foreign capital to invest much easy than before. The topic of enhancing coffee industry is confining in quantity matters, and not quality wise.

For promoting coffee industry in PNG, it is necessary to promote increasing coffee production. The government of PNG recognises that problem and recently government take action to invite more number of coffee producers into the country. At the same time, the government should promote producing much higher quality of coffee product, aiming to set a new name for highly selected coffee. In this regards, introducing highly selecting technique is important. IPA should strengthen its activities to invite such type of investors for further promotion of coffee industry in PNG.

6 . Tourism

PNG is rich country in terms of beautiful scenery. It has rich resource of tourism. Developing tourism by utilising such beautiful resources is important for the country as well as promoting the second industry.

However, inconvenience of transport, difficulty to secure safety, such beautiful resources cannot be utilising perfectly. The team carried out the business opportunity in tourism industry when the team carried out the second field study in Kokopo. The following is the points of importance of promoting tourism industry in PNG.

6-1 Present situation of tourism management

Regarding tourism in PNG, East New Britain area is suitable place for tourism industry. The team envisaged that all business personnel concerning tourism, such as hotel operators are expecting to promote tourism. However, occupancy rate is keeping nearly 70% in each hotel, with guests of businesspersons, and participants of meeting. Under such condition, hotel business community has no intention to promote tourism by themselves aggressively. Even though, their expectation to promote tourism is strong and they listed up the following hindrance condition for tourist promotion.

- 1) Tourists visit by tourist ship do not drop much money for shopping
- 2) Airfare is very high
- 3) Maintenance of road for tourist is poor

Although they listed up the above problem hindrance of tourism, they did not show any solution for increasing tourists by overcoming these problems by themselves. Their attitude was passive and having been waiting for promotion implemented by authorities. The team did not have any study whether the other tourist spots has the same condition what the team obtained by its field study in East New Britain.

6-2 Management of Scuba Diving

Scuba Diving is recognised as one of the core of tourism in PNG. As to the scuba diving business in PNG, there are two types of operations. One is hotel is holding trainer of scuba diving in permanent base, together with tourist boat. Madang Hotel Resort is operating this system. The other case is establishing Scuba Diving Company and will manages it with a few qualified trainers. The team had an interview in Kokopo with a company, which operated scuba diving exclusively.

The name of the company is Kabaria Dive Company, which had one banana-boat⁴ and three qualified Australian divers. They are guiding scuba diving 2 times diving for 1.5 hour with 400pgk. Most of the customers are coming from Australia. Japanese guests are few because of no Japanese diving instructor. Kokopo Beach Bungalow (hotel) is looking for scuba divers, and it is tied up with PNG JAPAN Inc. They are trying to promote scuba diving tourists from Japan.

As to the Japanese tourist scuba divers, if a company sets permanent instructor for scuba diving, Japanese scuba divers will be increased. If not, its number will be decreasing.

Apart from the above information, the team receive an explanation about tourist promotion in Rabaul from Mr. Samson T. Kakai, who had been working in Travelodge in Rabaul before the eruption. From his explanation, the team members could understand tourist agency in Rabaul has a tourist-promoting plan, but it has not been functioning well. It seems that they do have a plan but may not implement yet.

6-3 Current situation of hotel management in PNG

Looking at maintenance work in hotels in PNG, three hotels in Kokopo have maintenance work with average level. The maintenance work in the other hotels in Port Moresby and Madang are also in average.

There are no decisive disadvantages as far as maintaining hotel facilities. As to their receiving condition of guests to their hotels, no problems are found except for higher hotel accommodation fee than normal price rate in the world.

As to the labour management, the team found that a hotel, which has been supplying hotel uniform with embroidered of the name in each person after completed trial period. An employee told the team that he was given the uniform after terminated his trial period, when he was getting to be accustomed his daily work, he recognised his discharge of duty was different. The owner of the hotel is PNG national. He is trying to keep their employees as long as possible. As a result, maintenance of hotel facilities is excellent.

6-4 Activity of Tourist Authority

In order to promote tourism, the government has established PNG Tourism Promotion Authority (TPA), and it trying effort to promote tourism.

An officer from TPA joined the second field study, and the team had the second field study jointly. TPA is under supervision of Department Art & Culture. Its operation is tourism promotion.

Regarding tourism promotion, PNG Tourism Sector Review and Master Plan (2007 to 2017) is the basics of tourism promotion. In accordance with the Master Plan, Quality Assurance Programme of Accommodation Facilities is carrying out. The programme aims to establish standard for facilities of hotel and the other

⁴ A *banana boat* (or *water sled*), is an unpowered, [inflatable](#) recreational boat meant for towing. It was invented by Glenn Matthews in the late 1980s. Different models usually accommodate three to ten riders sitting on a larger, main tube and resting their feet on two laterally flanking tubes, which stabilize the boat. The main tube is often yellow and [banana](#)-shaped. Some models have two main tubes. Excerpted from Wikipedia

infrastructure, concerning tourism. TPA is leaving executing the programme to industry group of hotel industry.

The actual activity implemented by TPA is publishing various booklets introducing tourism in PNG. The other activities are entrusting to industry group of tourism. Under such condition, the activity of TPA seems to be not being put into place to check what the tourism promotion is going on. TPA has a word of "Product for tourism." It means to make one example of good case for promoting tourism as a drawing card, and then try to expand such example to all country over.

However, it is existed only as an idea, and IPA seems not to disseminate its activity to all over the country. In any case, IPA is publishing many kind of booklets for tourism promotion.

6-5 The direction of promoting tourism industry in PNG

Tourism investment, especially in case of hotel management, if potential investors try to invest in PNG, the following four points are important to pay attention.

- 1) Regarding land acquisition for hotel construction, it is necessary to confirm whether the government is prepared some area for hotel reservation. Institution of PNG land ownership is unique. Some 97% of land in PNG is held in a form of under customary principle of land ownership. This customary land ownership may cause problem when investors wish to acquire the land for hotel construction. The investors, those who are interested in managing new hotel, should make sure land acquisition by confirming relation between the government and land owners in the proposed hotel constructing site,
- 2) Regarding recruitment of new employees for hotel management, it is necessary to consider recruiting as many people as possible from the area, where the hotel is to be constructed. Sense of common bonds is important element of sustainable management. If the top managements show empathy to the people who are working with them, they will wish to work to the company for long time. People in PNG have such nature of observing the rule of the company. Thus makes sustainable management in PNG. The required mind of sustainable management in PNG is endurance.
- 3) Power interruption is very common all over the country, it is happening frequently. PNG Power house has a burden of demand and cannot apply normally. The newly built hotel must equipped generators with enough capacity to supply electricity to all facilities of hotel.
- 4) As to water supply, PNG has abundant rain fall more than 1,000mm per year. It used to be popular to supply water from storage tanks of rainfall water. These days, facilities of water reticulation are getting to be popular in major cities in PNG. Hotels in PNG have tendency to relay on such facilities. Their water supplying service have not perfect, hotels should equip to supply water system, in preparation of failure. The frequency of water failure is not as many as electric power interruption. Even though, hotels should secure to keep some amount of water to apply minimum demand of hotel operation.

The investors which are planning to invest hotel business in PNG, they should study the above four point when they carry out their feasibility study.

7. Honey

The team could not have an opportunity to study this commodity Honey. Some local farmers, apiary workers are calling for investors to have joint activity setting a project to manage apiary. Accordingly, honey can be recognised as a prospective investment in near future. The following is the offering subject for the future investment in PNG. We need to wait until it is certified as a suitable commodity of investment.

7-1 Brief summary of honey industry in PNG

The honey industry in PNG depends on the European Bee (*Apis Mellifera*) which was introduced in the early 1940s by early settlers and missionaries. In 1977 commercial honeybee keeping was launched with assistance from New Zealand Government under a bilateral agreement with PNG government. Then Highland Honey Pty was established. The company commenced its operation in East and West Highland Province. The amount of production could reach to 100t. However, this operation was collapsed to the following reasons.

- 1) Draught in 1977
- 2) Invasion by Asian Bee (*Apis cerena*)
- 3) Lack of technology in honey bee husbandry
- 4) Inconsistence government resource support

Nevertheless, honeybee husbandry could revitalise by the government's food safety policy, the honeybee industry revitalise as small farming industry in rural areas. There are five hundred people are engaging in honeybee husbandry with four thousand hives. As a result, total yearly production has reached to 50tons equivalent 700,000pkg.

Present honey production is concentrated into East Highland Provincial area.

This result is owned by investment value of roughly p/kg 2.1 million without government input in training, extension, and development.

This fact has tendency motivating honeybee industry to extending its operation to the other highland provinces.

It can be seen the extension is going to Simbu, The Eastern and Western Highland, Southern Highland and Enga Provinces.

7-2 The future of honeybee industry in PNG

As reviewed the above-mentioned fact, honeybee industry in PNG can be identified as in the early developing stage. However, a good result has been found by the result mentioned above. For strengthen the industry, there are many things remain to improve, such as distributing system, nurturing honeybee husbandries and many other things to tackle for the industry.

It was seen some honey products made in PNG in the supermarkets in Port Moresby. Now, we cannot find it. As such, many problems remain, we need to solve for enhancing honey industry in PNG.

Taking into account considering about contamination by agricultural products, overall number of bees for honey production is decreasing. PNG land has not been affected too much about agricultural contamination. The demand of honey has tendency to increase. This is a good timing to promote honey industry in PNG.

Accordingly, enhancing honey industry is very interesting them for newly investment promotion.

Regarding population density in PNG, Highland area has highest density in PNG. Many competent personnel of managing honey project can be found in the area. Thinking about the fact, that many highlanders have success of their business, and they lead the county. Highland is very attractive area for promoting honey industry. Actually, people in the area establish an association of promoting the industry.

Evaluating the above facts, the team recommend to IPA to designate honey industry as one of potential investment in PNG.

Reference: the Company, which wishes to implement joint project with investor;
POA BEEKEEPING SUPPLIES P.O. Box 1159 Goroka East Highland Province PNG

8. Process of finding the prospective commodities

The following is the summarised table of the process of studies for materialising actual investments.

Name of the commodity	Place of investment	Process of field study	Grade of prospective	Point of investment
Sago	East Sepik	F/S	1 st	Transportation Understanding by inhabitants
Katsuobusi	All coastal area	PreF/S to F/S	2 nd	Sub material: Select Investment place
Cocoa	Bougainville & New Britain Islands Momase Area	Field Study	3 rd	Study for 1 st process
Spice	East New Britain	Field study Pre F/S to F/S	3 rd	Study prospective spice
Coffee	Highland New Britain	Field study Pre F/S to F/S	3 rd	Quality up Improve selection
Tourism	ENB Highland Momase	Joint pre F/S	3 rd	Specify a kind of promoting tourism
Honey	Highland	Field Study Joint Pre-F/S	4 th	Study of important points of investment

Preparation works for the feasibility study

1. Decide the prospective products for investment promotion

1.1 We need to decide the theme of the feasibility study.

1.2 What we need: Visit offices of each industry as many as possible

1.2.1 Make a report of the result of visit in each industry

1.2.2 Review the reports and decide the theme of the feasibility study

2. Prepare all information about feasibility study in each theme respectively

2.1 Information in general

2.1.2 Expected material for utilise

2.1.3. Labour force.

2.1.3.1 Labour law relating with labour affair

2.1.3.2. Minimum wage system

2.1.3.3 Social insurance includes a number of categories such as

1) pension insurance,

2) medical insurance,

3) at-home care insurance,

4) unemployment insurance, and

5) Workman's accident compensation insurance etc...

2.1.3.4 Training facilities: Apprenticeship, Vocational School,
Administrative, Accounting school

2.1.3.5 Accounting: General accounting system

Depreciation period for construction in process account

Remittance system of profit

Tax system: System of withholding taxes etc.

2.1.3.6 Articles of association: Level of availability to establish article

Attorney, Advocate, Solicitor, Barrister

2.2 Information in specific

2.2.1 Construction: availability to hire constructor

2.2.2 Energy: availability to obtain power from ELCOM

2.2.3 Port: availability to use public port

2.2.4 Road: availability to use public road

2.2.5 Other infrastructure: Any necessary infrastructure built by the investor

9. Summary

Geographically PNG is located, surrounding several developed countries including Japan. The transporting distance between these countries and PNG is short. PNG has abundant natural and mineral resources. Many suitable lands for agriculture project are existed and rich resources of tropical rain forest. Utilising these natural resources, establishing industry of the first processing is possible. The tendency of investment in PNG is going from underground resources to first process industry utilising these natural resources. This gives PNG much more value added from their resources.

At present, some of agricultural resources are facing the stage to level up these productions.

It means that in order to keep a stable condition of export of these commodities, the activities of strengthening the basic condition of production can be improved.

In another words, these commodities should aim to improve their production with much more stable condition and improve quality of products, thus assuring a stable condition for export.

In order to find these prospective commodities, feasibility Study is necessary, which should be carried out by the proposed investors. In order words, implementing a stable feasibility study is indispensable for the success of orderly stable investment.

Through IPA-JICA joint field study, the team found that Sago is worth to implement feasibility study. All necessary information for the feasibility study has been written in the first field study.

Regarding Katuobushi, IPA-JICA joint field study team contacted with National Fishery Authority and Forest Authority. Then we have decided to implement joint-pre feasibility study, in order to identify Katsuobushi is worth to carry out feasibility study by a proposed investor.

These two commodities, Sago and Katsuobushi are selected as the leading candidate of prospective commodities. The other few commodities are added to be prospective commodities. They are necessary to conduct field study at first, and then prepare all working conditions of pre-feasibility study, which will be implemented in a form of joint study with the other government authority(s).

Then the other commodities, such as coffee, cocoa, spice, and tourism are recommended to take up feasibility study by applicants of these investments.

The following is the summarised table of the process of studies for materialising actual investments.

Name of the commodity	Place of investment	Process of field study	Grade of prospective	Point of investment
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			1 st	Understanding by inhabitants
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 - 2.1.3.2. Minimum wage system
 - 2.1.3.3 Social insurance includes a number of categories such as
 - 6) pension insurance,
 - 7) medical insurance,
 - 8) at-home care insurance,
 - 9) unemployment insurance, and
 - 10) Workman's accident compensation insurance etc...
 - 2.1.3.4 Training facilities: Apprenticeship, Vocational School, Administrative, Accounting school
 - 2.1.3.5 Accounting; General accounting system

Depreciation period for construction in process account
Remittance system of profit
Tax system: System of withholding taxes etc.

2.1.3.6 Articles of association: Level of availability to establish article
Attorney, Advocate, Solicitor, Barrister

4.2 Information in specific

- 4.2.1 Construction: availability to hire constructor
- 4.2.2 Energy: availability to obtain power from ELCOM
- 4.2.3 Port: availability to use public port
- 4.2.4 Road: availability to use public road
- 4.2.5 Other infrastructure: Any necessary infrastructure built by the investor

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