

PROSPECTS FOR SPICE INDUSTRY IN PAPUA NEW GUINEA

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1. INTRODUCTION

Since the 1980s the Government had stressed the view point of *Crop Diversification* from traditional crops like coffee, cocoa, copra, etc. In this respect the Government, through the Department of Agriculture and Livestock, based on a Medium Term Development Programme (MTDP, 1987 - 1991) initiated a Public Investment Programme that was known as the Alternative Crop Expansion and Diversification Programme (ACEDP). The Programme was known to have been successful given the various constraints until its abolition and transfer to the provinces in 1995.

With growing interest on alternative crops including spice crops such as cardamom, chillie, pepper, turmeric, ginger, cinnamon, etc., the National parliament enacted the *Spice Industry Act, 1989* following which the PNG Spice Industry Board was established in 1991. Since then, the Board has never really functioned effectively like other commodity boards due to funding constraints and had yet to be fully established and operational.

It is hoped that this brief would throw some light on the plight of the PNG Spice Industry Board in its endeavour to rejuvenate, promote and develop the spice and alternative crop sub-sector and seek financial assistance, from the National Government to support the industry and the farmers in a sub-sector that has enormous economic and social potential.

2. BACKGROUND

2.1 Following the need to corporatise government responsibilities in the commodity sector the National Parliament passed the *Spice Industry Act, 1989*. The Papua New Guinea Spice Industry Board (Board) was then established under this Act in 1991, similar to the other commodity boards such as the Coffee Industry Corporation, Oil Palm Industry Corporation, and the Copra Marketing Board with the task to regulate, promote and develop the spice industry and alternative crop sub-sector. However, unlike the other commodity boards the Spice Industry Board is responsible to develop more than one crop. These include:-

cardamom (*genera Ellettaria, Amomum and Afromum*);
chillie, paprika, pimento, tabasco (*Genus capsicum*);
pepper (*Piper nigrum*);
ginger (*Zingiber officinale*);
cloves (*Syzygium aromaticum syn Eugenia carophyllus*);
nutmeg and mace (*Myristica fragrane*);
annatto (*Bixa orellana*);
turmeric (*Curcuma longa*);
vanilla (*Zanilla fragrane*);
cinnamom (*Genus Cinnamomum*) and;
mint (*Genus Mentha*);
herbs and essential oils.

2.2 Due to the lack of funds and direct budgetary support from the National Government, the PNG Spice Industry Board, since its establishment, has not been able to carry out in full all its functions as stipulated in the Act. The only source of funding support has been through grants from the Department of Agri-

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culture and Livestock (DAL). Budget estimates prepared by the Board's Office and submitted to the Government in the last three (3) years for budgetary support has not been granted by Government during the 1998, 1999 and 2000 financial years. This has left the Board crippled and ineffective in carrying out its responsibilities and functions in the agricultural sector and the spice industry.

Programs to develop the spice industry, particularly on extension services, research and training have been funded and carried out by DAL through the Alternative Crop Extension and Diversification Programme (ACEDP). The ACEDP is a Public Investment Programme implemented in 1988 aimed at diversifying export crop base. The Programme funding ceased in 1995 leaving some 28,000 farmers unattended to and a loss of interest and decline in spice production and export.

- 2.3 The Board has only two (2) administrative staff and has been relying entirely on the DAL/ Provincial Division of Primary Industry through the Alternative Crop Expansion and Diversification Programme (ACEDP) for technical manpower and facilitation of field operations. This does not allow the Board to exercise its powers and functions to support a potential industry and its farmers due to the principal reason of 'lack of funds' or no budgetary support.

3. POLICY DIRECTIVES AND OBJECTIVE FRAMEWORK

3.1 Policy Directives

The policy framework in which the spice industry is to be promoted and developed by the Spice Industry Board is spelt out in the **WHITE PAPER ON AGRICULTURE** reflecting current Government commodity policy initiatives on spices, herbs and essential oil crops. Policy directives by the Government includes:

- to encourage the development of appropri-

ate alternative cash crops farming research into their husbandry, varieties and yield potential resistant to pests and diseases which would lead to increase in production per unit of input;

- to develop appropriate alternative cash crops farming and extension systems through effective information network among the research institutions, farming communities and the industry as a whole;

- to develop alternative cash crops farming systems relevant for farm households by integrating cash crops and food crops as additional source of income without compromising crop yields;

- to continue to facilitate development of alternative cash crops towards downstream processing for value adding or exports and domestic consumption, quality improvement schemes to sustain Papua New Guinea's status as quality crops producer; and

- to encourage the development and provision of marketing, marketing research and information for the industry and potential users.

3.2 Objectives

With numerous spice crops been entrusted to the PNG Spice Industry Board, the Board's development objectives in line with its functions and responsibilities are to;

- encourage the production of various spice crops as an alternate cash crop and source of income for farm households;

- promote the production, consumption and export of spice crops in the country;

- monitor the development of the Spice Industry to facilitate growth and industrial development;

- promote spice industry as an alternate

means of rural household income, and employment opportunities;

- ensure that the spice industry has a broader production and market base;

- facilitate the development of the sector's export base to increase foreign exchange earnings.

- in collaboration with the Department of Agriculture and Livestock, Provincial Primary Industry Offices and other concerned national and international institutions develop appropriate crop farming extension system and promote applied research to improve efficiency and productivity in crop yield and pest/disease resistance;

- develop and support an effective marketing system for the industry in the domestic and international markets for spice crops to ensure that the sector is viable and that the net income to farmers is maximized.

4. THE SPICE INDUSTRY - STATUS AND PROSPECTS

4.1 Field Achievement to Date

The growth of the industry to date has been relatively encouraging. Programs undertaken by DAL through ACEDP between 1989 and 1995 covering nursery, extension and production, training, research and marketing has resulted in some 28,000 farmers, covering 682 villages across the country, been involved in spice crop farming. Latest estimates as at 1995 show some:

- 930 ha of Cardamom planted
- 283 ha of Chillies planted
- 10 ha of Vanilla planted
- 266 ha of Pyrethrum planted
- 20 ha of Nutmeg planted
- 86 ha of Pepper planted
- * ACEDP programme. Figures do not incorporate private & Provincial

Government initiatives

With necessary climatic condition, information, government budgetary support for programmes, promotion, extension services and marketing support there can be a significant increase in farmers interests in cultivating these crops.

The production and export of spices and essential oils according to the ACEDP for 1992 and 1993 are:

<u>1992</u>	<u>Production (tonne)</u>	<u>Export (tonne)</u>
Cardamon	95.14	73.24
Chillie	15.43	22.25

Vanilla	NA	87.00 (kg)
Pyrethrum	31.51	NA

<u>1993</u>	<u>Production (tonne)</u>	<u>Export (tonne)</u>
Cardamon	96.63	75.82
Chillie	31.86	27.28
Vanilla	935.09 kg	856.31 (kg)

Pyrethrum	272.00	NA
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Factory (Kagamuga Natural Product P.L) has since been closed.

PNG has demonstrated that it has great potential for production and export of spices, particularly cardamom and chillie. In 1986 some 387 tonnes of cardamom was exported representing 3.2% of the total world production (12,000 tonnes). For chillie in the same year, PNG exported 75 tonnes which is about 1% of both total world production and exports. Despite the remoteness, difficulties and funding constraints encountered, these results are positive.

4.2 Crop Production, Export and Potential

Presently there is limited information on the country's total supply position for the various

spice crops, though there is a general awareness that a number of provinces such as, Central, Gulf, Oro, Eastern Highlands, Simbu, Morobe, East and West Sepik, East and West New Britain and Manus have spice programmes and projects. In any case estimates of production of spices in 1996 are as follows:

4.4 Organic Spices

The bulk of production of spice crops are naturally grown and maintained with no chemicals or fertilizers and as such the country is ideally placed to offer organic spices internationally. Organic spice, and other tree and

Estimates of Production of Spices in 1996 (Tonnes)					
Province	Cardamom (dry)	Birds eye Chillie (dry)	Ginger (fresh)	Turmeric (fresh & dry)	Vanilla (processed)
Central Province	1.0	0.5	-	2.0	-
Milne Bay	3.0	0.5	-	-	-
West New Britain	1.0	4.0	2.0	2.0	-
East New Britain	1.5	4.0	2.5	2.5	1.0
Oro	0.5	3.0	1.5	1.5	-
Morobe	-	3.0	1.0	2.0	-
Madang	0.5	2.0	1.0	3.0	-
Eastern Highlands	10.0	30.0	50.0	50.0	-
Simbu	50.0	10.0	30.0	50.0	-
East Sepik	0.5	1.5	-	20.0	Neg.
West Sepik	-	0.5	-	-	-
Total	68.0	59.0	88.0	133.0	1.0

4.3 Country Potential

The Country (PNG) is rich with a lot of business opportunities, in agriculture. PNG has a sub-tropical and tropical climate with fertile land for all forms of spice crops. Following a study requested by the Department of Trade and Industry and commissioned by the Commonwealth Secretariat in 1996 on the 'Export Potential for Spices in PNG', the 1996 indicative figures on area and production are relatively low compared to the country's capabilities. The study revealed that PNG has the potential to develop a viable spice export industry to the tune of US Dollar 60.0 million (K 180 million) annually).

food crops are currently very much in demand all over the world, particularly Europe, the United States and Canada with increasing popularity in Australia and New Zealand.

The advantage of producing organic spices is the reduced negative effects on the environment and reduced cost of chemicals to the farmer and the industry.

4.5 Employment

With the current and increasing level of unemployment support by the agriculture sector in providing meaningful employment and active, productive participation in the informal

sector is important. The spice industry is mainly supported by smallholder farmers. Youths and women participation is an important aspect in the industry, which is smallholder and family units based.

4.6 Export Marketing

PNG spice crops such as Cardamom, Chillie, Vanilla and Nutmeg have very good export market. The recent floating and devaluation of the Kina has made PNG spice crops competitive internationally. Added with the fact that spices are high value crops (price per unit bases), the spice industry has become favourably, an high-income cash crop.

Markets for PNG spices have been identified in Europe, the Middle East, Asia, and the United States. For instance, there is keen interest and orders from the United States for vanilla. Sri Lanka for chillie (5,000 tonnes/year), Singapore for chillie (50 tonnes/year), Japan for ginger, England for vanilla, chillie, cardamom (100 tonnes per crop/year), etc. The PNG Spice Industry Board is now placed with the difficult task of assisting the farmers and the industry and their crops in attaining these markets and revamping the industry to be more commercially viable.

One of the major problems that the Board will have to address is that of marketing. There are no effective marketing network established as yet. Many of the local companies that are involved in purchasing produce from farmers and exporting are inconsistent in servicing the farmers need to dispose of their harvest. These firms do not have the capital to stay in the business long enough and their purchase and export activities are not consistent so that the farmers have a steady income, in the long term causing a decline in interest in maintenance of spice crop farming. The Board will have to address this problem to ensure production, standards/quality control and marketing is maintained and competitive internationally.

4.7 Registered Spice and Herbs Exporters

One of the functions and powers of the Board is to register and maintain a registry of buyers, processors and exporters of spices in the country. To this effect the Board has to date screened applications and has registered nine (9) exporters as per *PART VII of the Spice Industry Act. 1989*. These registered exporters have been issued Certificates of Registration and include:

1. Mr. John Kuttson, P.O. Box 66, BANZ, Western Highlands Province.
2. Village Spices, P.O. Box 5573, BOROKO, National Capital District.
3. Folleywell No. 6, Pty Ltd, P.O. Box 1593, RABAU, East New Britain Province.
4. Niugini Spices & Trading Co. Pty Ltd, P.O. Box 2431, LAE, Morobe Province.
5. Railoma Trading, P.O. Box 3908, LAE, Morobe Province.
6. Bangui Boi-Products Pty Ltd, P.O. Box 1234, MADANG, Madang Province.
7. Pauru Metropolis Investments Ltd, P.O. Box 225, BOROKO, National Capital District.
8. Dua Estate Ltd, P.O. Box 323, MAPRIK, East Sepik Province.
9. Dabola Cocoa Exports Ltd, P.O. Box 53, WEWAK, East Sepik Province.

The registration of applicants requires that the Board screens applications based on approved guidelines. Conditions for application consideration, registration, certification, cancellations and appeals are provided for under the *Act*. **however funding constrains has prevented the Board to fully exercise its responsibilities in this respect.**

4.8. Extension Service Support

With the passage of the Organic Law on Provincial and Local Level Governments these provinces and the local governments are given more responsibilities and resources. In line with this, reforms the extension services have become the responsibility of the provincial/

local governments. Development programmes and in particular, the Alternative Crop Expansion and Diversification Programme (ACEDP) administered by DAL has since 1996 been transferred to the Provinces. This transfer of the ACEDP to provinces, however, lack the necessary funds transfer and as such provinces where ACEDP projects were carried out (e.g., Central, East New Britain, Enga, Milne Bay, Oro, Eastern Highlands, Southern Highlands and Western Province) have suffered badly; leaving provincial spice support activities and spice farmers unattended.

Whilst the extension services in each province are the responsibility of the Provincial Government planning and coordination, training, research and marketing will be the Boards activities. It has been observed that after decentralization and the structural adjustment programme, field staff have been constrained by lack of proper directions, absence of incentives and motivation, management and funding constraints which impede adequate execution of field work. The Board sees that the revitalization of the extension service is a necessity with the assistance of the Alternative Crop Expansion and Diversification Programme (ACEDP) of the Department of Agriculture and Livestock.

4.9 Constraints

Funding levels for spice development programmes and projects both at the National (Spice Industry Board and National DAL) and Provincial/District Level have never been sufficient or nil in most cases. Funding support from government is most essential to develop all development aspects of the industry including; development projects, provincial extension support services, crop research, strengthening of the PNG Spice Industry Board, training, improvement of marketing arrangements, facilitating quality testing laboratory, encouraging down stream processing, and developing export oriented programmes. To develop an economically

viable industry all phases of the industry development programmes needs to be supported with funds and technical manpower by government or donor agencies.

Research and training is at a low level and in need of sufficient scientific trained manpower and laboratory facilities. Though wide variations in yield and quality are noticed for spices in the field, high yielding varieties with superior quality are yet to be selected. Most of the cultivation and processing methods followed by farmers are conventional too. Extension personnel are not only inadequate but also to a certain extent ignorant of improved technologies. As a result quality of spices is greatly lost, for instance:

- i) Good quality green cardamom capsules are allowed to over-ripe on plants and partially to the ground. A fair percentage of harvest capsules are split open without the desired green colour. Capsules are dried using inefficient hot air chambers built with metal sheets. There is no temperature controlling system and firewood is used excessively. The dry product obtained as a result is only good for disposing as cardamom seeds.
- ii) Processing of Vanilla beans in many areas is carried out traditionally. That is, the green beans without sorting are directly dried in the sun not adopting "Bourbon Method" for producing quality beans. The boiling method which is recommended for making better quality products is not familiar to many processors and growers.
- iii) Turmeric processing is carried out unhygienically by cutting the rhizomes and fingers without washing and then drying on unclean surface.
- iv) The quality of dried birds-eye chillie varies from farmer to farmer.

To strengthen spice production it will be necessary to develop information manuals (on

crop husbandry techniques, post-harvest preparation, etc.), nurseries projects and demonstration plots, training/workshops, purchase and export of produce for smallholder farmers. This will be done through the implementation of effective management of the industry by the Board, extension services, research and marketing programmes in order for the industry to be reactivated and promoted.

5. SCOPE AND FUNCTIONS OF PNG SPICE INDUSTRY BOARD

5.1 Scope of PNGSIB's Operations

The Board endeavours to promote and develop the spice industry and alternative crop sub-sector as a means of income generation, create employment opportunities, increase foreign exchange earning for the country and encourage meaningful participation for the rural people.

The major constraint imposed on the Board is the lack of initial budgetary support by the government for the Board to carry out its functions and execute development programmes in the country to develop the spice and alternative crop sub-sector.

Some of the major infrastructure developments that are already in existence throughout most commodity growing regions in the country would serve to link farmers who intend to participate in spice production and selling. With government budgetary support, the PNG Spice Industry Board's scope of operation would be to:

- initiate programmes and activities to promote and develop the spice and alternative crop sub-sector.
- resurrect the Alternative Crop Expansion and Diversification Programme (ACEDP) as the Board's 'Extension Arm' which would continue to liaise and jointly carry out programmes

primarily aimed at promoting spice and crop diversification in the country to include cardamom, chillie, pepper, ginger, turmeric, vanilla and essential oils. Other crops to be encouraged are mint, mace, cloves and cinnamom;

- In view of the locality, soil and climatic conditions to select those crops with optimum production and market potential, and to increase small farmers' income by rehabilitation and or expansion.

- In collaboration with the Provincial Government (Division of Primary Industry) determine and carry out planning, training and research on spice and alternative crops in the respective provinces;

- Establish pilot project such as nurseries and demonstration blocks in selected areas in each region for seedlings/cuttings distribution and training/demonstration for farmers;

- Re-activate farmers' commitment to spice and alternative crop production by establishing regional marketing outlet and engaging in produce buying from farmers which would be sorted, graded, packed, labelled and exported.

5.2 Functions

The functions of the Board as prescribed by the *Spice Industry Act, 1989* are aimed at promoting and developing a viable industry in the country. These are:

- a) to control and regulate the processing, marketing and export of spices;
- b) to promote the consumption and export of spices;
- c) to promote research and development programmes for the benefit of the spice industry;
- d) to compile statistical data on production, imports and exports of spices and to be familiar with production trends throughout the country and provinces and interna-

tionally;

e) to register buyers, processors and exporters of all or any of the spices;
f) to keep a register of buyers, processors and exporters of spices;

g) to formulate a register of processors and of spice grading systems for each of the spices;

h) when required by the Minister, to act as an agent for, and to carry out the obligations of the State in international forums or agreements;

i) to make known to the spice industry the activities of the Board; and

j) to do all things which it is required by the *Act* to do or which are necessary or convenient to be done by the Board for giving effect to the *Act*.

It is envisaged that the programs that are developed and executed by the PNG Spice Industry Board will enable technology, information and knowledge to be developed and commercially utilized so as to assist a viable, competitive industry with the goal to further its development aspirations in this new millennium.

6. PRESENT STATUS OF THE BOARD (SIB)

6.1 Board Structure

The Spice Industry Board was officially launched in 1991. There are seven (7) members to the Board, being:

1. the Head of the Department responsible for Agriculture matters, ex-officio, or his nominee;

2. four persons who are representatives of smallholder spice growers; and

3. two persons who are representatives of larger commercial spice growers or exporters.

The farmers and industry representative for the Board are appointed by the Minister to represent the interest of the group and one of which is appointed Chairman and I am the current Chairman.

The Board members are appointed for a period of three years, with the present members' term commencing in August, 1998 and will expire in August, 2001.

6.2 Board Office and Administration

The Board has a small administrative office run by an Executive Officer appointed by the Board to administer the functions and affairs of the Board; while it relies solely on the Department of Agriculture and Livestock/Provincial Division of Primary Industry through the Alternative Crop Expansion and Diversification Programme (ACEDP) for technical support and facilitation of field and extension services. In this respect the PNG Spice Industry Board does not have an extension arm or Agency, as in the case of the Cocoa/Copra Extension Agency, Coffee Extension Agency, etc.

With the non-funding of the ACEDP from 1995 and under the current structural adjustment programme facilitation of field and extension services would now have to be sought from Provincial Division of Primary Industry. In any case most Provincial Divisions of Primary Industry are constrained with insufficient funds and as such do not have the capacity to operate effectively. It is recommended that the ACEDP be resurrected as a Public Investment Programme to support the Board. (See *attachment 2 on Proposed Board Corporate Structure*).

Currently the Board's Administration and Office facilities are located at the DAL Head Quarter, Konedobu, National Capital District

and include;

- Staff (2) : 1 Executive Officer
1 Administrative Clerk
(Support Staff)
- Facilities : Vehicle 1 (2x2 Hyundai Sonata Sedan)
: Office Space (provided by DAL)
: Utilities (Telephone/Facsimile/Electricity, etc. provided by DAL.)
: Office Equipment's 1 PC (Olympia)

6.3 Board Meetings

Since the passage of the *Spice Industry Act, 1989* followed by the establishment of the Spice Industry Board in 1991, Board Members were appointed by the then Minister. As a legally instituted body, Board meetings were convened. Following the passing of the first Board Chairman, Mr. Harding, Board meetings failed to be held on a regular basis. Coupled with the lack of budgetary support to enable the Board to be more independent, the *Spice Industry Act, 1989* has not been fully administered.

In order to re-activate the Board, new Members were appointed in August, 1998 for a three (3) year term. Due to funding constraints only two (2) meeting have been convened in March and November, 1999. Meeting will be held this year (2000) to deliberate on issues of the industry when funds permit.

6.4 Board Programmes and Activities

To-date the present Board has been handicapped to fully institute programmes to promote and develop the industry. Programmes and activities implemented to support the spice and alternative crop sub-sector have been carried out under the Medium Term Investment Programme (MTIP) called the Alternative Crop Expansion and Development

Programme (ACEDP). This programme has been implemented jointly by the Department of Agriculture and Livestock and the Provincial Government (Division of Primary Industry). Funding for this programme has ceased since 1995 and the programme has been disbanded. The Board has been relying on the ACEDP for funding and development of the agriculture extension and research component of the industry.

In brief activities the Board undertook were;

1. To draw up guidelines for the registration of Spice Exporters;
2. Participate in the Port Moresby Show (June), Goroka Show (September) and Morobe Show (October);
3. Assist farmers with technical information, pamphlets, etc.,
4. Assist Rarai (Bereina District) spice farmer and Vanapa Spice Project farmers with funds to expand their projects;
5. Eastern Produce Spice P/L (Spice down stream processor) with funds for spice processing;
6. Represent PNG at the 4th Meeting of the International Spice Group meeting held in Colombo, Sri Lanka (23rd-27th September, 1996).
7. Be party to the Memorandum Of Agreement on the Smallholder Agriculture Credit Scheme and screen applications from smallholder farmers for the same.
8. Register industry participants as Exporters as per the requirement of the *Spice Industry Act, 1989*. To date nine (9) company applications have been screened and recommended to the Board for approval.
9. Investigate and inform the industry members on export market opportunities.

10. Prepare Pre-Feasibility Study Report for the Karamui Spice Project, Simbu Province and the Draft Memorandum of Understanding between the DAL, SIB and Simbu Provincial & Local Level Government to rehabilitate the KSP.

11. Prepare Project Propossal for funding of the Morobe (Munum & Markham Highway) Spice Development Programme.

12. Support for vanilla cultivation and processing graduation ceremony for 223 vanilla farmers in Wosera District, East Sepik Province (21-23rd September, 1999).

13. Carry out study to report to the Board the status of Spice/Vanilla industry in East Sepik Province and recommend development measures (10th-16th September, 1999).

14. Draw up Memorandum of Understanding for the Komo Magarima Spice Development Programme between the Department of Agriculture and Livestock, Southern Highlands Provincial Government and the PNG Spice Industry Board.

- To evolve appropriate control measures for pest and disease.
- To modernize or improve harvest and post-harvest practices.

2. *Launch a Major Development Programme with the Involvement of the National DAL and Provincial Division of Primary Industry*

- To encourage farmers to grow selected spice crops.
- To distribute quality planting materials.
- To train farmers on improved cultivation and processing methods.
- To train extension personnel.

3. *Produce Organic Spices*

- To achieve better value spices.
- To capture markets in selected European countries.

4. *Strengthen and Corporatise the PNG Spice Industry Board*

- To regulate and monitor the spice industry.
- To instigate and or take up production programme in collaboration with the Provinces and Districts.
- To provide market information to processors and exporters.
- To ensure quality and standards for spices exported.
- To give propaganda for PNG spices abroad.

5. *Provide and Support Agricultural Credit Scheme*

- To assist growers take advantage of the Smallholder Agricultural Credit Scheme to meet a part of the cultivation and processing cost.
- To monitor the growers supported under the Credit Scheme to ensure farmers project is successful.

7. SPICE DEVELOPMENT ACTION PLAN

In view of the need to develop a potentially large agricultural sub-sector industry in spices with the aim of assisting farmers increase and diversify rural income base, improve basic living standards, generate employment in the plantation and formal sector, increase foreign exchange earnings for the country the spice industry would need to be supported by government. The following action is proposed by the Spice Industry Board for the steady growth of the spice industry.

1. *Intensify Research*

- To select high yielding superior quality varieties.
- To develop suitable agronomic practices to maximise productivity.

6. *Ensure Marketing Arrangements*

- To help the growers for easy disposal of the product at the optimum price.
- To develop linkages between growers and exporters.
- To support an export drive programme to increase and promote PNG spices internationally.
- Conduct marketing training, seminars, workshops for spice offices, farmers and exporters.

7. *Establish Quality Testing Laboratory*

- To check quality of spices before exports.
- To monitor contamination and further improve the quality of spices.
- To find out biochemical constituents.

8. *Encourage Down-stream Processing*

- To add more value to spices.
- To secure higher unit price.

9. *Look for External Funding Support*

- To launch a major programme for spice development and export.

To develop a viable spices industry in Papua New Guinea the action plan with a development budget would have to be supported by Government. Initially the Spice Industry Board would have to be corporatised, including the re-instituting of the Alternative Crop Expansion and Diversification Programme as an "Extension Arm Programme" for the Board and funding for this to be made available by the government.

8. REVENUE AND BUDGET

8.1 Revenue

The Spice Industry and alternative crop sub-sector is at the cross road where it is considered as having enormous economic potential

but require initial Government support. Recent estimates suggest that PNG has the potential to develop its spice industry into a more than US Dollar 60.0 million per year industry contributing substantially to foreign exchange earnings, creating employment and providing income to rural farmers. However at this stage the Industry has declined from the mid- 1970's high to generate less than K5.0 million in export earnings due to the lack of Government support, fluctuating world prices and ineffective management and marketing.

With the given situation that the industry is small, the Board is in a situation where it cannot generate sufficient revenue by imposing fees/levies, etc., support from the National Government for both the Board's establishment, administration/operation and development programmes is required.

8.2. Development Budget

The Board, through the DAL, submitted a Development Budget Estimate for K1.2 million to the Department of Finance and Planning for government funding in the 2000 financial year. **This Development Budget was aimed at fully establishing the Board with its own staff, office accommodation, office facilities (furniture, vehicles, computers, etc.).** Unfortunately this submission was turned down and not funded. It is hoped that the current Government would support the Budget request this time.

8.3 External Funding Support

In the meantime the DAL and the Board have prepared and submitted the following:

- a) A Joint Technical Assistance Proposal for the European Union STABEX funds to support the spice industry and the Board with a study/review of the industry and recommend appropriate development strategies, including funding source, technical support and institutional requirements

to strengthen and develop a viable industry. Through the findings of the study a corporate plan for the SIB will be formulated. It is estimated that this study will require K100,000 to be carried out over a month period.

9. SUMMARY

The White Paper on Agriculture highlights, amongst its commodity policies, the need to encourage the development of appropriate alternative cash crops. Following the government's effort to diversify the country's cash crop base from traditional crops like coffee, cocoa, copra and oil palm and with growing interest in spice crops the *Spice Industry Act, 1989* was enacted by Parliament which facilitated the PNG Spice Industry Board to be established in 1991.

The PNG Spice Industry Board was officially launched in 1991. To-date it is still been looked after by the Department of Agriculture and Livestock (DAL). The Board has its own administrative staff based in Port Moresby, but relies on DAL, through the Public Investment Programme (PIP) known as the Alternative Crop Expansion and Diversification Programme (ACEDP) for the facilitation of field operations. This funding for the ACEDP has been discontinued since 1995 leaving the Board to depend on the provinces to identify and implement their spice development programmes.

The Board functions and responsibilities are prescribed in the *Spice Industry Act*. These include regulating and promoting the spice industry. Unlike other commodity boards, the PNGSIB is responsible for the development of 11 crops.

The PNGSIB is responsible for an industry that has enormous economic potential which can generate foreign exchange, provide employment and generate income for over 28,000 rural farmers. In order to effectively carry out its responsibilities and initiate programmes for which budgetary support from government is required.

In line with the current reforms and to promote and develop the spice and alternative crop sub-sector the PNG Spice Industry Board should be corporatised and financially supported like the other Commodity Boards with its own funds, staff and equipment.

The Board is empowered by the *Act* to impose fees and levies as a source of revenue to facilitate its operations. As the industry is small it would be premature to impose levies at this stage and as such it is hoped that the government will initially provide for the Board the required budgetary support. At the same time a project proposal has been prepared jointly by the DAL and PNG Spice Industry Board's Office and submitted for the European Union STABEX funds and Chinese Government Aid to seek funds to support the administration of the Board and the industry.

RECOMMENDATIONS

- * It is considered that the National White Paper on Agriculture be acknowledged and that policy directives on spices and alternative crops be implemented by the government.
- * The PNG Spice Industry Board be corporatised as a Commodity Board to effectively address Government Policy directives, its aims and goals, functions and responsibilities as prescribed by the *Spice Industry Act*. In so doing be supported to regulate, monitor and promote a viable spice industry in Papua New Guinea.
- * The Spice Industry Board's Development Budget be supported for funding in the 2000 financial year.
- * The DAL Public Investment Programme (PIP) known as the Alternative Crop Expansion and Diversification Programme (ACEDP) be resurrected and funded to become the Boards 'Extension Arm'.