

# **COFFEE INDUSTRY CORPORATION LIMITED**

## **COFFEE INDUSTRY IN PAPUA NEW GUINEA - CURRENT STATUS, PROSPECTS, CONSTRAINS, & STRATEGIES FOR SUSTAINABLE DEVELOPMENT<sup>1</sup>**

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## **1. Introduction**

World supply of, and demand for coffee has been unbalanced over the years with significant increases in supply relative to world consumption. The latest ICO statistics suggest that global supply increased by 4.4 million bags from 146.4 million bags in 1999 to 150.8 million bags in calendar year 2000. Production increased from 105 million bags to 112.3 million bags in 2000; global stocks fell overall by 2.9 million bags to 38.5 million bags and consumption fell by 1.4 million bags to 102.2 million bags. The USDA revised production figures upwards by 7.3 million bags to the 1999/2000 estimate increasing it to 114.1 million bags and, forecast for 2000/2001 crop year from 108.7 million bags to 115.1 million bags. Calendar year exports were up by more than 3.2 million bags to 88.5 million bags while global consumption in calendar year 2000 was estimated at 102.2 million bags which is 1.4 million bags lower than for 1999.

Papua New Guinea accounts for just a little over one per cent of world production. Over the past six years, production averaged 1.180 million bags annually, of which all are exported. From the global perspective, PNG's contribution to the world coffee supply is insignificant and therefore, does not have any influence in determining prices received by growers. Domestically though, one per cent contribution to world supply translates into significant contribution to the national economy, various regional economies, producing provinces, rural household incomes and small business.

This paper gives an overview of such an important role the coffee industry plays in PNG and discusses about the current status, potentials, constraints, and strategies for sustainable development.

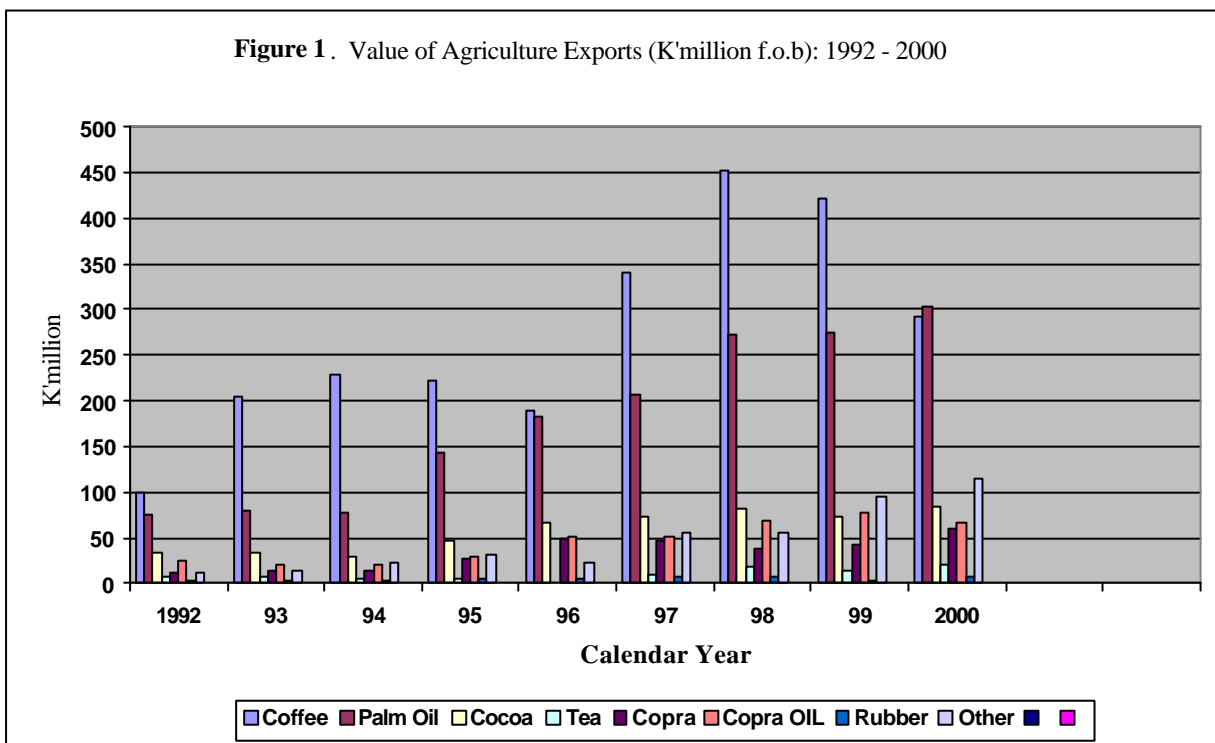
## **2. Current Status**

### **2.1 Coffee in the Economy**

Coffee industry has been and continued to be the single most important and dominant cash crop in major producing provinces, particularly, in the highlands region. The industry is made up of about 280,000 smallholder household growers, 660 blocks ranging from 1 – 30 hectares, 65 plantations, 18 registered exporters, 51 registered processors and over 6,000 roadside buyers. Total estimated area planted to coffee is about 87,000 hectares.

Between 1995 and 1998, earnings from coffee averaged over 42 per cent of total agricultural export earnings (Figure.1), 9% of total exports including minerals, and 4% of PNG's Gross Domestic Product (GDP).

About 2.0 million people depend on coffee as their major source of cash income and forms an important part of PNG culture and business in major producing provinces. The industry has important linkages with other sectors of the economy and is also a net foreign exchange earner. It is unquestionably the major agricultural export earner, a main source of cash income and creates employment for a significant number of people.



Source: Bank of PNG and CIC

## 2.2 Production by Type and Sector

Over 95% of production is washed mild arabica coffee while the remaining 5% is washed robusta. The former is mainly produced in the highlands while the later is basically a lowland crop.

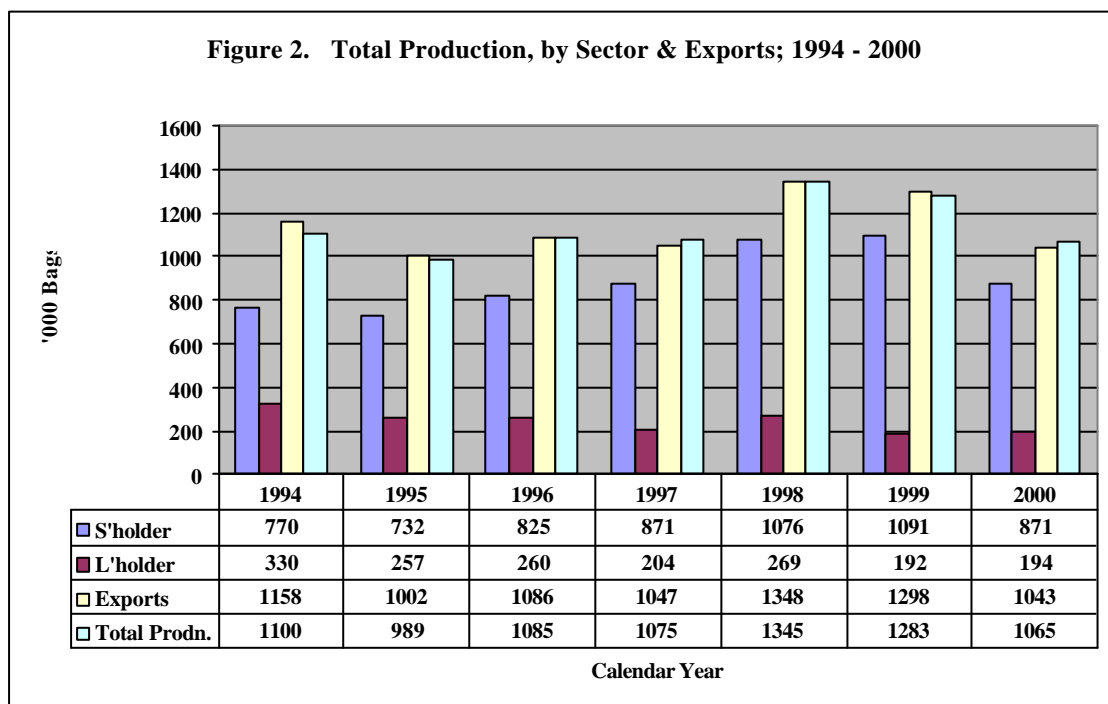
The small holder sub-sector grew mostly on its own accord with little official encouragement. Currently it is the industry's "back-bone" accounting for about 80% of annual production, followed by plantations (15%) and blocks (5%).

The small holder sub-sector whose cash cost is estimated at about K127 per tonne (1993) and yields estimated at 700 kilograms green bean per hectare is the most efficient producer, considering that

crop husbandry and maintenance is minimal, fertilizer application and other yield-enhancing inputs is practically nil.

Plantations and blocks are high cost producers but are responsible for PNG's reputation as finest producer of high quality mild arabica coffee. Their costs are estimated at K3,411/tonne in 1996 and can only be profitable at world prices above their costs. As world prices usually remain depressed for extended periods, plantations and blocks can hardly survive in the long run without some kind of support. It is for this reason that the coffee industry's future rests with the small holders.

Trends in production over the years has been that small holder's contribution has been increasing while large holder's contribution is either stagnant or declining (Figures 2).



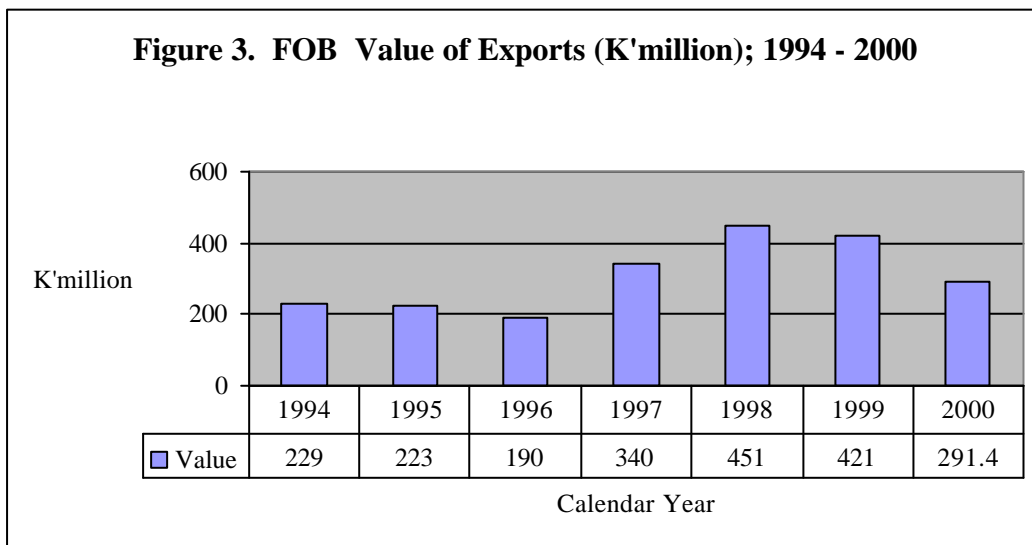
Out of the nineteen (19) provinces in PNG, five highlands provinces are the main producers of coffee, accounting for around 90% of total production. Western Highlands is the largest individual producer (45%), followed by Eastern Highlands (37%), Simbu (6%), Morobe (5%) and East Sepik (5%). Production in the East Sepik has been increasing rapidly in the last few years.

### 2.3 Export Volume, Value & Market Share

Volume of exports averaged 1.180 million bags (70,788 tonnes) over the past 5 years since 1996. After reaching a record export of 1.348 million bags in 1998, it had declined to 1.320 million bags in 1999 and 1.043 million bags in 2000.

During the same period, value of export earnings averaged K336 million, reaching a record of over K451 million in 1998, then fell to K421 million in 1999 (Figure 3). From a low of K190 million in 1996, it had increased to over K451 million in 1998, but declined since then to K276 million in 2000.

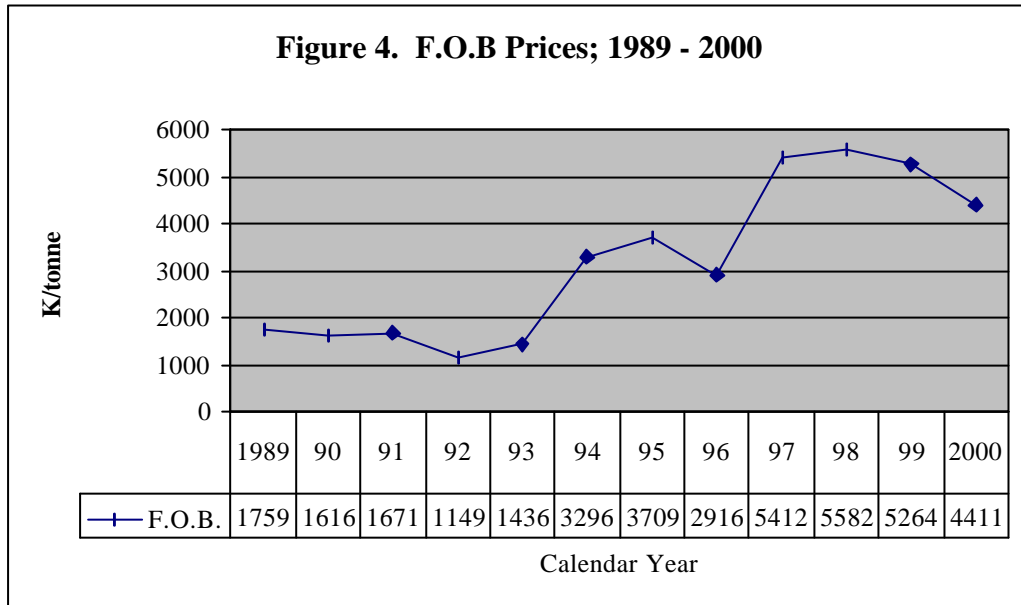
The decline in value resulted from a combination of factors including low world market prices and declining production. Internally, declining world price has been partially offset by depreciation of the local currency.



In terms of market share, Germany is traditionally the major importer of PNG coffee and continued to be the main market. In 2000, 52 per cent of total exports went to Germany followed by Australia with 21 per cent and the US taking up 9 per cent. However, exports to main destinations were lower in volume terms compared with 1999. Exports to Japan increased for the second consecutive year after replacing New Zealand as PNG's fifth largest market, accounting for 4% of total exports.

### 2.4 Prices

Free-on-board (fob) prices of green bean coffee in the last 12 years fluctuated from as low as K1,000 per tonne in 1992 to as high as K5,582 per tonne 1998. From an all time low in 1992, it had improved to reach K3,700 per tonne in 1995 but fell again in 1996 to K2,918 per tonne. Since 1997, prices improved significantly to reach a record high of K5,578 per tonne in 1998, but again started falling since then to K4,411 per tonne in 2000.



## 2.5 Industry Stabilization Fund.

In the late 1980s and early 1990s world market price was on a downward trend and reached its lowest in 1992. The government then stepped in with price support for all export tree crops including coffee, cocoa and copra under the Agriculture Price Support Scheme (APSS), against advise against the scheme by the World Bank and Academics. Total interest free loan advanced to coffee industry under the APSS up to 1992 was K140.7 million. Since 1994 prices improved and the industry began to repay the loan. A significant component was repaid and remaining balance, particularly from European Union Stabex fund of K52,416,671 was converted to grant by the government in February 1999.

Since then, the Board re-established the Coffee Industry Fund and collected a nominal levy of 18 toea per kg, but was suspended in June 2000 following continuous falling prices. The coffee industry fund now accumulates to K28.5 million as at 8 March 2001.

### **3 PROSPECTS**

In the face of increasing world supply, stagnant demand and falling prices, prospects for sustainable growth and development of the coffee industry in PNG remain high. For the rural small holder household families, coffee is a way of life, integrated into their farming systems and becomes part of their culture, social and business activity. Trend in production over the years clearly shows that small holder's contribution has been increasing while plantations and blocks contribution is declining. Potential for further development therefore rests with the small holders based on family units or individuals.

As long as constraints impeding growth are removed and incentives provided, there is potential to increase production to double the present level to over 3 million bags. This also means income will double to over one billion kina, almost half the national governments annual budget.

While the highlands provinces are currently the main producers, coffee has not been pushed in other provinces although there is substantial potential for development.

The Coffee Industry Corporation Ltd, which is an umbrella organisation responsible for industry regulation, facilitation, research and extension has in place a number of farmer incentives to stimulate interest amongst producers. The incentives are aimed at increasing production, sustaining quality and providing easy access to markets.

#### **3.1 Expansion Programme – MOA with Provincial Governments**

In its efforts to increase production and expand coffee growing into regions and provinces with great potential, the Corporation signed a number of Memorandum Of Agreements (MOA) with Provincial Governors as well as individual Parliamentarians. Under this Agreement, the Provincial Governments will provide the funds and the Coffee Industry Corporation will provide the technical expertise for coffee development in their respective provinces. At present, five provinces signed MOA with the CIC (Southern Highlands, Enga, New Ireland, East New Britain and Milne Bay).

### **3.2 Coffee Nursery**

The Corporation establishes coffee nurseries in central locations around the country to supply planting materials to farmers. The scheme is subsidized by the Corporation to assist growers with easy access to planting materials at affordable prices.

### **3.3 Coffee Credit Scheme**

This is an initiative of the national government and implemented in 1997. The scheme was introduced to assist small holder farmers to have easy access to credit for rehabilitation of their senile coffee trees. Up to the end of March 2001, a total 1 285 farmers benefited under the scheme, worth K3,398,408 for a total area of 1622.07 hectares, mainly for rehabilitation and construction of wet factories. Total repayment to-date is K556,412.75 which goes back into the revolving fund for further lending.

### **3.4 Freight Subsidy Scheme**

Freight subsidy is an initiative of corporation with an initial funding of K400,000 in 1999. Under the scheme, up to 40% of the cost of airfreight is met by the corporation while the balance met by growers themselves.

Although, K400,000 was allocated for this exercise in 1999, only K250,000 was spent and the industry earned more than K1.3 million. In year 2000, another K400,000 was allocated of which K266,509.41 was expended and airlifted 563.38 tonnes of green bean coffee equivalent. This is worth more than K2.485 million in f.o.b. value, or every kina spent yield a direct return of K9.32 in equivalent in foreign exchange. This year, an additional K400,000 is allocated.

### **3.5 Quality**

A Quality Improvement Program was developed in 1991 which includes revising minimum standards of parchment and green bean, and establishing standards for cherry, parchment and green bean. Parchment coffee produced by small holder was graded in four classes, and green bean divided into two grades (Y1 & Y2). This resulted in a marked improvement in the quality of smallholder coffee. The improvement was such that green bean from Class 1 parchment was

superior to Y1 grade from which exporters were able to obtain premium price. This forced the Corporation to establish another green bean standard called *Premium Smallholder Coffee* (or PSC) which is now considered suitable for the Gourmet Coffee Market (Specialty Coffee Markets) in consuming countries.

Specialty Coffee is judged by the consumer (in a limited market place at a given time) to have a unique quality, a distinctive taste and personality different from, and superior to, the common coffee beverage offered. The beverage is based on beans that have been grown in an accurately defined area, and which meet the highest standard for green bean, and for its roasting, storage and brewing.

The value of green beans can be raised by improving quality with the aim of entering “Specialty” Coffee Market”, where prices are higher than ordinary coffee. PNG has a joint project with the International Coffee Organization to develop “gourmet” coffee and for Specialty market in Japan between 1997 and 2000. Under the project, PNG made presentation at the ICO sponsored Gourmet Coffee Project coffee samples at the World Specialty Coffee conference and exhibition in Tokyo, Japan organized by All Japan Coffee Association of Japan in October 1999.

Following that presentation, two delegations of Japanese roasters visited PNG to study the coffee industry in response. Since then exports to that country has increased over the last two years.

It is evident that interest in PNG small holder coffee is gaining momentum where 80% of PNG coffee is produced in their natural habitat without any fertilizer, pesticides or weedicides or any other artificially manufactured inputs.

Samples provided to Specialty Coffee Association of America (SCAA) confirmed that some of the coffees from Morobe and Simbu areas meet the gourmet quality. World coffee prices are dipping lower and PNG must improve the quality of its small holder coffee to obtain better price in specialty markets in Japan and USA. PNG is a founding member of the Specialty Coffee Association of America (SCAA).

## **4. Constraints**

Despite, efforts by the corporation to increase production, sustain quality, improve market access, research into new technologies, and provide effective extension services, the industry is faced with some major constraints. These includes; aging coffee trees, high level of debts, deteriorating rural infrastructure beyond repair, increase in law & order problem, continuous threat of quality problems, land disputes, shortage of labour, threat of pests & diseases, and long-term downward trend in world coffee price.

### **4.1 Aging of Trees**

Trees in the small holder sector are between 25 and 47 years old. Some plantation trees are equally old while others are much older. If the tree stock is not replenished or brought back into full production capacity through rehabilitation and replanting, the industry is in danger of facing eventual decline. There are very little or no reinvestments in the plantations, while trees in the blocks are relatively young as they were promoted and planted in the 1980s. The corporation's effort to convince small holders to prune their aging coffee trees is ongoing.

### **4.2 Industry Debts**

The coffee industry's debt to the Rural Development Bank (RDB) at present is around K28.3 million. According to the RDB, about K5.23 million of the loan is in good level of repayment and these are for projects under reasonable management. A large proportion of loans outstanding from commercial banks and those relating to the government's plantation acquisition scheme in the 1980s increased total loan portfolio to over K100 million. Blocks are indebted from loans taken in the 1980's based on very optimistic development plans but unrealistically very high management costs. This huge debt acts to suppress investment in the industry.

### **4.3 Coffee Quality**

As long as the industry exists, the issue of quality will always be foremost. As a small producer selling to an increasingly small number of buyers in overseas markets, PNG has to produce high quality coffee in order to meet consumer satisfaction to survive.

The corporation developed a number of initiatives to improve quality but as new problems arise, new strategies have to be developed. The quality of coffee being supplied currently is quite satisfactory, but there is no room for complacency.

Various new quality problems have arisen in recent times, including the “chemical” or “phenolic” taste which results from improper drying.

#### **4.4 Pests & Diseases**

Whilst the spread of coffee leaf rust in 1996 has been contained, other pests and diseases are potentially dangerous. Coffee Berry Disease (CBD) which grows on trees and spreads rapidly under climatic conditions in most coffee producing provinces in PNG has destructive potential. Coffee Berry Borer and Pink Disease are all real potential threats to the industry as well. Coffee Berry Disease is found in Irian Jaya and therefore all quarantine measures are applied to prevent it from entering PNG.

#### **4.5 Unfavorable Long Term World Prices**

World coffee price is on a downward trend and is likely to remain for a long time. Prices are also expected to be more volatile in the absence any of economic clauses to support price. The new ICA which comes in force on 1 October 2001 does not allow for any economic provision to stabilize price. This means that PNG must have some policies in place to support price which will continue to play an important role in decision making by growers. Small holder's can, and normally withstand prolonged periods of low prices but the plantations and blocks will have no chance of surviving in the absence of price support or any other types of support.

Despite bleak prospects for world coffee price in the long-term, production must still be encouraged because of its importance to the country and in particular the growers.

#### **4.6 Land & Labor Shortage**

Certain areas with high population densities are already facing problems of land shortages that threatens coffee in two ways. First, in some parts of producing provinces, area planted to coffee are being removed making way for food crops. Second; there is little room for large scale plantation expansion because land tenure system is based around individual or family ownership.

Coffee production is a labor-intensive activity and there are already indications of labor becoming scarce in certain areas. Coffee must be picked when ripe, and if left for too long, it either falls to the ground, lost completely, or chemical processes are set in motion that destroys its quality.

The influx of young people into urban centers leaves only the older generation to produce coffee and if the trend is not reversed, it is a concern for the coffee industry in the long term.

#### **4.7 Deterioration in Rural Infrastructure**

Most rural roads and bridges deteriorated to beyond use as a result of years of continued neglect by responsible authorities. Essential services are therefore not getting to the majority of the population making it extremely difficult for rural farmers to bring farm produce to markets, while the country keep on importing basic food items to meet demand of the growing urban population.

Coffee producers are hard hit because they must sell their produce, which unlike food crops cannot be consumed. Due to worsening and dangerous condition of roads, they either cannot sell their coffee, or surrender at very low prices to buyers who risk their lives at most times to go into the villages to buy coffee. This destroys morale and discourages production altogether.

#### **4.8 Law & Order Problem**

Law and order related problems continue to be an issue and generally affects the industry. Increasing number of producers and buyers have been robbed, roadside buyers are no longer moving around freely to buy coffee in remote areas, theft of coffee bags on roadsides and cherry coffee from plantations is becoming a daily activity. Theft of coffee from plantations and blocks is now spreading to the small holders as youths in particular, lose respect for both law enforcing agencies and traditional institutions because of frustration at not being able to continue school or securing paid employment.

## **5. Strategies for Sustainable Development - 2001 and Beyond**

The CIC developed a number of strategies to increase production through research, extension, quality improve and promote marketing all aimed at ensuring a viable coffee industry in PNG.

### **5.1 Production**

Strategies to increase production aims to facilitate the production of up to 2.0 million bags by year 2007 principally through rehabilitation of small holder gardens re-planting. Plantations and blocks will require substantial financial support to reach full productive potential. Expansion in the plantations is not anticipated due to current high level of debts, high overall production costs and unavailability of land given the tenure system and particularly the increasing rate of land disputes throughout the country.

The Corporation has been establishing nurseries throughout the country to facilitate new plantings and issuing new processing licenses to provinces with great potential for coffee production. It also continues other assistance including; pulper subsidies with EU funding, freight subsidy and mini credit facilities.

### **5.2. Research & Extension**

Applied research and effective extension services are vital to improving the level of efficiencies in production, quality and marketing. To sustain small holder production and enable growers to survive price volatility, the corporation is looking at coffee-based farming systems research (CBFSR) and on-farm client-oriented research (OFCOR). Technology developed will be adaptive as opposed to radical and focuses on crop diversification and inter-cropping as these practices are familiar to growers. Coffee research will focus more on the problems of small holders than plantations.

### **5.3 Quality**

The quality improvement programme is continuing with initiatives already in place, with the inclusion of establishment of wet factories and installation of vital quality analysis and assurance equipment. The Corporation establishment a Chemical Analysis Laboratory, which is the first of its

kind in the coffee-producing world. A coffee tasting panel is being trained in Lae and in Australia to enable the analysis of all coffee leaving the PNG both visually and by cup tasting against established standards.

## **6. Summary & Conclusion**

World coffee supply is increasing every year with demand stagnant or increasing by only marginally. Producers are mainly from developing countries whose people's incomes are primarily dependent on exports of a few cash crops. High volatility of world prices for coffee affects incomes of the rural majority, and PNG is no exception. It produces just a little over 1 per cent of total world production, but supports a significant proportion of the country's population.

For the rural small holder household families, coffee is a way of life. Prospects for sustainable growth and development of the industry remain high and to realize the potential to increase production to over 3 million bags is a long term objective, as long as constraints are removed and incentives provided.

Some of the constraints are aging coffee trees, high level of indebtedness, deteriorating rural infrastructure beyond repair, increase in law & order problem, continuous threat of quality problems, land disputes, shortage of labour, threat of pests & diseases, and long-term downward trend in world coffee price. Strategies for sustainable development in the long term are to remove those constraints and provide incentives.

In conclusion, I take this opportunity to express my sincere appreciation to UNCTAD for making it possible for me to attend this important workshop and share the experiences coffee industry in PNG with participants.

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