

CHAPTER 7. SECTORAL POLICIES

7.1 OVERVIEW

As outlined in Chapter 6, the Medium Term Development Strategy consists of seven Expenditure Priority Areas (EPAs), which this Chapter first reviews. These are:

- Primary and Preventative Health Care
- HIV/AIDS Prevention
- Basic Education
- Development Oriented Adult Education
- Transport Rehabilitation and Maintenance
- Promotion of Income Earning Opportunities
- Law and Justice

For each of the seven EPAs, it considers the relevant policies and plans, major activities, progress and issues and challenges. It also lists the major development expenditure items under each of the seven priority areas and provides an overview of Development Budget funding since 2003.

The Chapter then turns to a review of Papua New Guinea's key economic sectors, as identified in the MTDS.

- Agriculture
- Forestry
- Fisheries
- Tourism
- Oil and Gas
- Mining
- Manufacturing

Finally the Chapter reviews progress made in addressing environmental issues, an area critical to sustainable development for Papua New Guinea.

7.2 MTDS EXPENDITURE PRIORITY AREAS

7.2.1 Primary and Preventive Health care

The National Health Plan 2001-2010 provides the overall policy and planning directives for the health sector. Its goal is to improve the health of all Papua New Guineans through the development of a health system that is responsive, effective, affordable, acceptable and accessible to the majority of the people. More focussed strategic priorities of the National Health Plan are provided in the Strategic Plan and include: immunization of every child under one year old, reduction of malaria and TB, prevalence in high endemic malaria/TB areas, reduction of maternal mortality in high risk areas and reduction of the increases of HIV and STI). The health sector Medium Term Expenditure Framework guides this approach by allocating resources to these priorities. In 2009 the same strategic public health directions will be targeted.

The challenges for health service delivery are complex. The current health system is not responsive to the population's needs for service because of fragmentation of health systems structures caused by the Organic Law and the operation of two varying legislations in the

provinces. This fragmentation has resulted in deteriorating health service indicators since 1995. The Annual Health Sector Review for 2007 highlighted that many health indicators have worsened while only 7 out of 20 indicated minor improvements. One marked improvement is the declines in incidences and deaths due to malaria. However, the Demographic Health Survey (2006) results on maternal mortality rates are of great concern. In addition, the MTDS Performance Management Framework shows a decreasing trend in the proportion of deliveries that are supervised and the proportion of health centres that receive at least one medical officer visit a year. Furthermore, all regions have reported problems with accessing provincial health services, lack of drug supplies, lack of funds for health service delivery and closed aid posts in isolated location. There is also the need to review and upgrade staffing numbers, levels and mix.

Addressing most of these issues requires a whole of government approach. This is especially in the areas of health facility infrastructure development, maintenance and rehabilitation of medical equipments; improving human resources for rural health services; ensuring funds from both recurrent and Health Services Improvement Program (HSIP) are available at the facilities and district levels for program implementation and service delivery to take place when and where they are needed.

There are a number of underlying issues that contribute to the lack of access to medical services, which lead to poor health indicators. The HSIP is a mechanism to pool funds in the health sector and uses existing Government systems and processes to disburse and account for these funds. However, there are issues pertaining to the use of these funds. This is mainly due to stringent procedures leading to very low draw down of HSIP funds. In particular, capacity issues relating to financial understanding hinder the access of appropriated funds. This is especially the case for the District level where the legal requirements and procedures for requests and acquittal for HSIP funds are too complicated for Districts to fulfil. Another obstacle is the coordination between Provincial administration and District and Provincial Health Offices, where funds are not made available to health facilities to implement programs. There is a need for Treasuries to be established at the district level so that funds can be made available at the district for the facilities use where and when needed.

Major problems in the health sector are also related to the Organic Law on Provincial Government, which mandates Provincial Governments with responsibility over the delivery of rural health services in the province. The National Department of Health has no role in provincial health services delivery and can only support by setting policies, standards and monitoring the health system. In addition the Department procure and transport medicines to the provincial head quarters in order for the provincial governments to transport them to the health facilities in the districts. Many of the issues which affect service delivery are also the result of progress in other sectors, for example, the poor transportations, infrastructure, lack of a continuous supply of water and electricity, lack of telecommunications infrastructure, poor schooling and law and order problems.

The National Health Board has highlighted key issues that must be supported in 2009. These include revising current institutional arrangements for streamlining of public hospitals and rural health services; ensuring that performance is monitored and evaluated; ensuring that an effective recruitment and retention strategy is implemented; encouraging staff to work in rural areas; improving education and training in the health sector; improve human resource management; and making funds available at the district and health facilities level for services and program implementation.

Furthermore, in July 2008 the National Department of Health's Corporate Plan 2009-2013 was launched. The Corporate plan prescribes the roles and corporate leadership of the

Health Department in making sure that the appropriate plans are in place to address the issues at hand. The Corporate Plan directs the way forward and identifies four major areas for action. These include the development a Health Workforce Plan, Information and Communication Plan, Capital Infrastructure Development and Replacement Plan and a evidence based Financial Plan for Service Delivery. The Department of Health is now in the process of developing the new twenty year National Health Plan for the period 2011 – 2030.

The figures in Table 53 show the level of funding from the Government and from Development Partners since 2003. The figures show that the 2009 Development Budget, consistent with the trend since 2003, has increased Government spending in this area. This increase shows Government recognition that increased funding is required to address the immediate challenges in the health sector.

**Table 53: Development Appropriations for Primary and Preventative Health
2003-2009 (Kina Million)**

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	0.3	0.0	0.0	27.1	27.4
2004	0.3	0.0	0.0	26.5	26.8
2005	1.0	0.0	0.0	9.5	10.5
2006	3.0	0.0	0.0	40.6	43.6
2007	12.5	0.0	0.0	78.3	90.8
2008	17.0	0.0	0.0	84.3	101.3
2009	39.6	0.0	0.0	109.8	149.4

Source: Department of National Planning and Monitoring

Table 54 shows the major programs and projects being funded in the 2009 Development Budget. A new major program funded by the Government is the Social Development Program, which will tackle the issue of rural health service delivery by working in partnership with the Churches to improve access to health services.

**Table 54: 2009 Development Expenditure on Primary and Preventative Health
(Kina Million)**

	GoPNG	Donor	Total
Capacity Building Service Centre	0.0	31.6	31.6
Health Sector Resourcing Framework	0.0	21.2	21.2
Social Development Program - Health	15.0	0.0	15.0
Health Sector Improvement Program (HSIP)	5.0	7.1	12.1
District Town and Water Supply	0.0	9.5	9.5
Purchase of Medical Equipment	6.0	0.0	6.0
Other	13.6	40.4	54.0
Total	39.6	109.8	149.4

Source: Department of National Planning and Monitoring

7.2.2 HIV/AIDS Prevention

HIV/AIDS is a development issue that has the potential to significantly undermine social and economic progress of PNG. After the HIV prevalence rate for anti-natal care patients at the Port Moresby General Hospital exceeded one percent in 2004, PNG became the fourth

country in the Asia-Pacific region to declare a generalized epidemic. The UNGASS 2008 Country Progress Report estimated that by December 2007, the national prevalence rate was 1.61 percent with an estimated 59,537 people infected. However, the report highlights a worrying trend of strong increases in the prevalence rate in rural areas (1.65 percent compared to 1.38 percent in urban areas). The increasing trend of the HIV epidemic becoming more rural is of particular concern, not just because the majority of the population live in rural areas, but because reversing the trend is more difficult in rural areas. This is due to low literacy levels and limited access to basic health, education and transport services in rural areas.

In response to the epidemic, the Government has put key policies to guide the national response to HIV/ AIDS. In addition to including HIV/AIDS as one of the seven expenditure priorities of the MTDS, the Government endorsed the National HIV and AIDS Strategic Plan (2006-2011) in December 2005, which provides the broad framework for all agencies and organizations to respond to the epidemic within their own capacity and guides annual operational plans. The strategic framework focuses on seven main areas for intervention: Treatment, counselling, care & support; Education and prevention; Epidemiology and surveillance; Social and behavioural change Research, leadership, partnership and coordination; Family and community support; and Monitoring and evaluation. Other policy responses include the National Gender policy and Plan on HIV and AIDS 2006-2010 which has been developed to guide efforts to integrate gender issues into the response, and integration of HIV/AIDS into sector specific plans, such as the National Health Plan and the HIV and AIDS Policy for the National Education System of PNG.

The National AIDS Council Secretariat (NACS) plays a coordinating and facilitating role. It has outsourced function to the Department of Health and NGOs, including care and counseling, education and training, advocacy and prevention through information, education and communication (IEC), peer education, monitoring and surveillance. In 2008 NACS have been highlighting that the national response to HIV/AIDS is not a health issue, nor solely the responsibility of the Government. Two important organizations assisting in mainstreaming HIV/AIDS prevention into society are the PNG Business Coalition against HIV and AIDS (BAHA) and the PNG Alliance of Civil Society Organizations (PACSO).

In 2008 a new National Leadership Strategy was implemented to progress efforts to mobilise, build capacity and sustain leadership at all levels to ensure an effective response. In addition, the support in provision of treatment continued in 2008, with the number of anti-retroviral treatment (ART) sites having increased from two in 2004 to 38 in December 2007, which must continue in 2009 given the higher rates of HIV/AIDS. Furthermore monitoring and evaluation has improved significantly over the past few years to identify the groups among the population that are at highest risk. In light of the concern that young women are becoming more vulnerable to the virus, due to engagement in profitable sexual activities, the effort to raise awareness must significantly be scaled up in 2009 to reverse this trend.

Government funding will continue to support the implementation of the national response to HIV/AIDS. In 2008 the program established Provincial AIDS Committees (PACs) in all provinces to work with respective health authorities and NGOs. In 2009 the Government's HIV/AIDS program will include allocation of grants to Provincial AIDS Committees, finance NACS and PACs multi-sectoral coordination activities and also provide grants to NGOs, FBOs and CBOs to implement activities under the NSP. The AusAID funded Sanap Wantaim Program will support the health sector response to HIV/AIDS and fund treatment for HIV positive people and service delivery of management services and Sexually Transmitted Disease Prevention.

Table 55: 2009 Development Expenditure on HIV/AIDS Prevention (Kina Million)

	GoPNG	Donor	Total
Sanap Wantaim- PNG Australia HIV and AIDS Program	0.0	42.4	42.4
Health Program response to HIV Sector	0.0	18.1	18.1
National Strategic Plan on HIV/AIDS - Implementation Program	5.0	0.0	5.0
HIV/AIDS Prevention and Control in Rural Dev. Enclaves	0.0	5.2	5.2
Other	0.0	5.5	5.5
Total	5.0	71.2	76.2

Source: Department of National Planning and Monitoring

Table 55 shows that HIV/AIDS is one area where financial assistance has been dominated by Development Partners.

Table 56: Development Appropriations for HIV/AIDS 2003-2009 (Kina Million)

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	0.3	0.0	0.0	27.1	27.4
2004	0.3	0.0	0.0	26.5	26.8
2005	1.0	0.0	0.0	9.5	10.5
2006	3.0	0.0	0.0	40.6	43.6
2007	12.5	0.0	0.0	78.3	90.8
2008	17.0	0.0	0.0	84.3	101.3
2009	5.0	0.0	0.0	71.2	76.2

Source: Department of National Planning and Monitoring

7.2.3 Basic Education

The Government, through the Department of Education, is committed to achieving Universal Primary Education (UPE). The National Education Plan (NEP) 2005–2014 aims to achieve Universal Primary Education (UPE) by 2015. The overall objectives of the NEP 2005-2014 are consistent with the MTDS and its National Millennium Development Goals. UPE remains the central pillar which guides education reforms in Papua New Guinea. Under this objective, the Government aims to provide the opportunity for all children to complete nine years of basic education.

Gross enrollment at primary-level was 79.9 percent in 2007 – up from 60.9 percent in 2005, which shows significant progress towards the target of universal enrollment in primary school. However, these aggregate figures mask large disparities between provinces. The challenge for the education sector is to address enrollment in provinces with particularly low rates. Despite improvements in gross enrollment rates, retention rates remain low, which is often due to affordability, but also lack of infrastructure and poor quality teaching.

Higher basic education enrollment rates have led to a higher demand in the enrollment at further levels of education. In particular there is a growing pressure for places at secondary school and this increase in demand for secondary places must be planned for in the following years. High population growth rates put additional pressure on the limited

resources in the education sector. The increase in enrollment has also led to higher demand for teachers and facilities, and thus higher funding requirements. There has been a moderate increase in the number of primary teachers attaining their diploma. However, placement of teachers in the rural districts and communities where they are most needed still remains critical to improving accessibility to education.

The quality of primary education and retention rates are also greatly affected by teacher attendance and their level of performance, which can be poor in rural areas, where basic amenities and performance monitoring are lacking. Of concern is the apparent overall lack of improvement in the quality of education. Indicators from the MTDS Performance Management Framework (PMF) show average class sizes have been increasing in recent years and the number of visits of school inspector has decreasing. Performance monitoring plays a vital role in improving the quality of schooling and measures need to be taken to improve this and other factors relating to the quality of education.

In responding to these challenges, the Government has introduced a number of new projects, including:

- Curriculum Teacher/Student Resource Materials Development;
- Production and delivery of reform examination and assessment materials and curriculum standards and monitoring;
- Universal Basic Education Plan to be completed in 2008 and commence full implementation in 2009 under the recurrent expenditure; and
- Education Information and Communication Technology.

A major innovation in 2009 will be the introduction of the Education Information Communication Technology, which will enable more accurate and complete data collection, compilation and analysis to inform sector planning and policies in the future, especially in tracking the progress towards UPE. This initiative will also support the implementation of One Laptop Per Child (OLPC) program in primary schools nationwide, which is likely to greatly improve the quality of education in schools. This initiative will also build capacity within the Department of Education, Provincial and District education staff and for teachers.

The Department of Education has agreed to adopt a Sector Wide Approach (SWAp), referred to as the Education Sector Improvement Program (ESIP), in which all significant funding will support a single sector policy and expenditure framework under government leadership. The aim of moving to a SWAp is to improve education service delivery in PNG through better coordination of all investments against an agreed and prioritized plan. The development and implementation of the new approach is evolving and there is strong support from Development Partners and provincial stakeholders. However, the development of the ESIP is progressing slowly, as the problems encountered in the health SWAp in PNG and other Pacific countries' SWAp experiences are considered.

The total appropriations to Basic Education between 2003 and 2009 are shown in Table 57. Government's share of funding increased significantly between 2003 and 2007, including the large injection of funds in the 2007 Supplementary Budget for the Rehabilitation of Education Sector Infrastructure (RESI) program, which is aimed at not only Primary Schools, but also National High Schools, Provincial Secondary Schools, Vocational and Technical Schools. However, in 2008 and 2009 there has been a decline in Government financing to the sector within the Development Budget. The reasons for this are the increased funding through the RESI program, but also the lack of institutional capacity within the Department of Education to implement programs and projects resulting in under utilization of development expenditure. The Government has allocated funding towards the Social

Department Program (SDP), which will move resources to helping Church-run educational facilities in order to improve basic education services in rural areas.

Table 57: Development Appropriations for Basic Education 2003-2009
(Kina Million)

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	2.7	0.0	0.0	69.0	71.7
2004	5.9	0.0	0.0	141.5	147.4
2005	5.7	0.0	0.0	170.4	176.1
2006	14.4	0.0	0.0	151.5	165.9
2007	26.9	0.0	0.0	74.4	101.3
2008	10.5	0.0	0.0	163.1	173.6
2009	30.8	0.0	0.0	144.8	175.6

Source: Department of National Planning and Monitoring

Table 58: 2009 Development Expenditure on Basic Education (Kina Million)

	GoPNG	Donor	Total
Education Training and Human Resource Development Program	1.0	70.0	71.0
Education Capacity Building	0.5	43.5	44.0
Social Development Program - Education	15.0	0.0	15.0
Basic Education Development Project (BEDP)	1.0	21.8	22.8
Curriculum Teachers/Students Resource Materials Dev	5.0	0.0	5.0
Other	8.3	9.4	17.7
Total	30.8	144.8	175.6

Source: Department of National Planning and Monitoring

7.2.4 Development Oriented Adult Education

Being functionally literate and attaining entrepreneurial and vocational skills that allow productive participation in the economy is essential for people to be able to create an income for themselves and to move people out of poverty and towards greater self-reliance. In an increasingly globalised and technologically advanced world, being able to read and write well and acquire skills and knowledge in information technology is of particular importance. The MTDS, has recognised the need to elevate Development Oriented Adult Education to an expenditure priority status to address the needs of the 50 per cent of adults who are illiterate. In addition to improving economic opportunities, being literate also improves the chances of a person taking preventative measures against HIV/AIDS and other debilitating but preventable diseases such as tuberculosis and malaria.

Despite its status as an expenditure priority area, the absence of a clearly defined policy on adult education and the clear delineation of responsibility for which agency of Government should coordinate the sector's response. Furthermore there is no clear way that assesses in which areas (economic or geographical) adult education should be focused. These issues have resulted in funding to the sector being markedly lower than for other expenditure priority areas. Over the past few years development expenditure for this priority area has been of the order of 1 percent. As can be seen from the figures in Table 59, there has been

an overall decreasing trend of funding towards this area, despite a slight increase in Government direct financing.

Table 59: Development Appropriations for Development Oriented Adult Education 2003-2009 (Kina Million)

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	2.0	0.0	10.5	8.1	20.6
2004	1.0	0.0	15.3	5.9	22.2
2005	1.0	0.0	6.1	3.7	10.8
2006	1.3	0.0	6.4	6.4	14.1
2007	3.5	0.0	2.9	9.0	15.4
2008	3.3	0.0	0.4	0.0	3.7
2009	40	0.0	0.0	14.1	54.1

Source: Department of National Planning and Monitoring

The lack of a clearly defined policy and a coordinating agency means that response to this sector is ad hoc with little or no impact. The Department of Education is targeting technical and vocational education as a means of addressing school leavers who are forced out of the education system at year 8 or 10 and thus often become unemployed or underemployed. In addition, the Department of Education runs an adult literacy program that is geared towards enabling the more than 50 percent of adults of the population who are illiterate to become functionally literate and thus be given the opportunity to participate in economic development. The need for alternative education pathways and a demand driven education system is now apparent. Some other major initiatives targeting this priority area are:

- Department of Commerce and Industry funds the Women Textile Training Centre and the Start/Improve Your Business program;
- The Consultative Implementation and Monitoring Council (CIMC) runs an Informal Sector Training program.
- Department of Community Development runs special programs for target groups such as youth and women; and
- The Law and Justice Sector Program conducts training for inmates in PNG prisons as a means of empowering them with skills and knowledge that will make them meaningful contributors to society when they leave prison.

Recognising the capacity problems within the public service, the Government is now seeking to build partnerships with civil society organizations like churches, NGOs and the private sector to deliver services in this sector. This policy shift is consistent with one of the underlying principles of the MTDS, which is to forge strategic alliances.

The major programs in the 2009 Development Budget specific to this EPA are shown in Table 60. The Government has recognised the importance of funding vocational training centres and as such these projects have received priority funding in the 2009 Development Budget.

Table 60: 2009 Development Expenditure on Development Oriented Adult Education (Kina Million)

	GoPNG	Donor	Total
PNG-Australia Targeted Training Facility	0.0	8.3	8.3
Human Resource Training	0.0	3.0	3.0
Vocational Training Support	2.0	0.0	2.0
Young Leaders and Group Training	0.0	1.9	1.9
Provincial Vocational Centre Capacity Building	1.0	0.0	1.0
District Community Learning and Development Focal Points	2.0	0.0	2.0
Employment Orientated Skills Development Project	1.0	0.0	1.0
Other	34.0	0.9	34.9
Total	40.0	14.1	54.1

Source: Department of National Planning and Monitoring

7.2.5 Transport Rehabilitation and Maintenance

Transport infrastructure underpins the social and economic development of the country. Properly maintained infrastructure enables access to a range of services including law and order, education and health services. It also allows movement of people and goods between markets thereby enabling economic activity to take place.

All three modes of transport (land, air, and water), while major Government assets, have been subject to a lack of maintenance and rehabilitation. Reasons for this include lack of adequate funding, poor prioritisation, poor implementation of responsibilities between the National and Provincial governments and allowing a 'build-deteriorate' cycle rather than a 'build-maintain' cycle.

The Government has identified the importance of maintaining and rehabilitating transport infrastructure in the MTDS and annual budgetary allocations have reflected the priority status of transport infrastructure. As in previous Budgets, the Government, through the Development Budget (including direct financing, tax credits and loans) and Supplementary Budgets, has increased funding towards this priority area. The Government remains the 'lead financier' in the sector. In addition, AusAID funding is expected to increase in this area, after the signing of the PNG-Australia Partnership for Development, which includes 'key *national roads, ports and airports providing access to market and services*' as the first priority outcome.

Table 61: Development Appropriations for Transport Maintenance and Rehabilitation 2003-2009 (Kina Million)

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	93.5	0.0	137.5	147.6	378.6
2004	89.4	0.0	115.0	240.8	445.2
2005	105.6	69.2	137.5	211.5	523.8
2006	193.1	71.1	100.5	173.7	538.4
2007	159.8	85.4	132.3	185.9	563.4
2008	148.0	73.7	116.4	220.8	558.9
2009	283.3	40.0	131.2	197.9	652.4

Source: Department of National Planning and Monitoring

Efforts to maintain and rehabilitate transport infrastructure to good and usable conditions is continuing, as evidenced by the annual assessment of the national road network under the Road Asset Management System (RAMS), with each 10km stretch of road classified as either good, fair or poor. The proportion of national roads in good condition has been improving each year from 2003 to 2007. The condition of the 16 priority roads nominated in the National Transport Development Plan (NTDP) 2006 – 2010 have also shown a significant improvement in recent years, from 26.7 percent of the priority roads being in 'good' condition in 2005 to 37.3 percent in 2007. Road Asset Management System (RAMS), with each 10km stretch of road classified as either 'good', 'fair' or 'poor'. As funding is targeted towards the priorities stipulated in the NTDP, this percentage is expected to increase further, albeit with a lag after the appropriations due to letting of contracts and completion of works.

The Civil Aviation Authority has succeeded in having four of the 22 regional airports fully certified and it is expected that up to four additional airports will be certified by the end of 2008. PNG Ports Corporation has increased its maintenance activities targeting the existing Lae Port, and planning major upgrades to the Wewak Wharf. In addition, loan financing of around US\$100 million from the Asian Development Bank has been secured to finance the extension of Lae Port, which caters for over 80% of exports, however, the project cannot yet commence due to complications in the implementation of the project.

However, a number of constraints remain. The increasing volume of maintenance and rehabilitation contracts has put pressure on both the public and private sector's capacity to implement projects. There are a range of reasons including lack of qualified engineers and technical staff - in both the private and public sectors; private contractors having cash flow difficulties; delays in the procurement and approval processes of Government; competition from the mining sector for resources and years of neglecting to train engineers and technical staff. Sector agencies, with the support of donors, are discussing a range of strategies to address these capacity constraints.

In addition, the prioritisation of rehabilitation and maintenance works still needs to be improved. While Government is increasing the amounts available to the sector it is spread amongst the priorities of the NTDP 2006 – 2010 and non-priority areas. Such an approach is reducing the impact of the additional funding by spreading resources too thinly. Both donors and Government agencies must be committed to ensuring that the 16 priority roads, which have been identified as having significant economic and social importance, are prioritised. The Government's Transport Sector Coordination Monitoring and Implementation Committee (TSCMIC) can take the lead in co-ordinating the agencies and donors in this sector.

The major items in the 2009 Development Budget for the transport maintenance and rehabilitation priority area are shown in Table 62. In line with the aim to empower the rural economy, a major new program for the transport sector is the Provincial Roads Program. Loans for transport infrastructure have also substantially increased in 2009 due to the substantial estimated loan drawdown of the Highlands Region Roads Improvement Investment Program (HRRIP).

Table 62: 2009 Development Appropriations on Transport Maintenance and Rehabilitation (Kina Million)

	GoPNG	Tax Credit	Loans	Donor	Total
Provincial Roads Program	110.7	0.0	0.0	0.0	110.7
ADB Road Maintenance & Upgrading Project (5 Highlands Provinces)	35.0	0.0	50.5	0.0	85.5
PNG Transport Sector Support Program (TSSP)	2.0	0.0	0.0	80.7	82.7
Performance Grant	0.0	0.0	0.0	65.3	65.3
World Bank Road Maintenance Project	14.0	0.0	36.3	0.0	50.3
Bridge Maintenance Program	50.0	0.0	0.0	0.0	50.0
Tax Credits & TCS Administration	0.0	40.0	0.0	0.0	40.0
Highlands Region Roads Improvement Investment Program	8.0	0.0	30.0	0.0	38.0
Usino Junction-Yamagi Road Project (Ramu)	0.0	0.0	0.0	20.0	20.0
Key Roads For Growth (KRFG) - Highlands Highway Maintenance (AusAID)	1.0	0.0	0.0	17.8	18.8
ADB Community Water Transport	2.4	0.0	8.6	0.0	11.0
Other	60.2	0.0	5.8	14.0	80.0
Total	283.3	40.0	131.2	197.9	652.4

Source: Department of National Planning and Monitoring

7.2.6 Promotion of Income Earning Opportunities

In PNG there are limited options available for individuals who wish to participate in the economy and earn themselves an income. This has resulted in an increase in law and order problems, prostitution and poverty. In addition labour productivity in PNG is often low, so those who are participating in the economy tend to earn low incomes. Increasing incomes of poorer and average Papua New Guineans is crucial to enabling the majority of the population to afford basic goods and services and to improve health and education, which would improve PNG's socio-economic indicators, some of which are the worst in the Pacific region.

In response to this, the Government has included Promotion of Income Earning Opportunities one of its seven MTDS expenditure priority areas. To increase income earning opportunities the MTDS states that the government should focus on facilitating development-oriented adult education, expanding informal learning opportunities in partnerships with civil society organizations and establishing micro-credit and micro-savings institutions. These areas have been specifically addressed in the Development Budget, but also included in agricultural projects that have microfinance and skill-building components.

Recent data show improvement in key indicators relating to income earning opportunities. Firstly, the growth of microfinance and credit are encouraging with both the microfinance institutions and the National Development Bank reporting increased lending since 2005. Plans to establish branches of these institutions nationwide would create competitiveness, leading to improved services and thus increasing opportunities for both the private sector and ordinary Papua New Guineans to participate in economic activities. Secondly, formal employment in the non-mining sector has been increasing since 2002 with the formal employment index in this sector increasing from 103.8 in 2002 to 131.1 in 2007. The key sectors contributing to the increase in formal employment are retail, building and

construction, agriculture, forestry, and fisheries. Government's large investments in rehabilitating public infrastructure have undoubtedly played a significant part in this growth, with the provision of major contracts focused largely on roads and buildings.

While the increasing trend of formal sector employment should be encouraged in order to promote sustained benefits, the majority of Papua New Guineas depend on income from the informal, rather than from the formal sector. Therefore the finalization of a National Informal Sector Policy, which is currently being drafted, should encourage better coordination and development of this sector to provide more profitable income earning opportunities for the unemployed and provide alternative options for those engaged in illegal activities or dependent on others for survival.

In addition to proactive participation by Government to improve opportunities in the informal sector and access to credit, it is critical that the Government provides a climate that attracts investment. To do this, the Government must reduce impediments to investment and businesses, show consistency and discipline in Government spending and sound macroeconomic management. These factors will encourage new investments, re-investment and business diversification, which lead to job creation and increased incomes. Recent changes to PNG's taxes are intended to promote business and employment, including the green revolution tax incentives, the concessions to investment in tourism and the reduction in tax on Zoom, relied upon by PNG's islands communities and fishing industry. However, the Government needs to improve its efforts in this area in order to reverse the deterioration in rankings in the World Bank's *Doing Business Survey* between 2005 and 2007.

A major obstacle to encouraging business is the poor infrastructure in PNG, in particular transport and electricity. Government's investment in transport infrastructure will have a direct impact on the operating costs and thus the profitability of business in PNG. However, the quality of other utilities such as electricity remains poor, forcing many businesses to purchase diesel generators, which are costly to purchase, maintain and operate. Introduction of competition in the mobile communications industry has significantly reduced prices and led to increased service coverage and provides an example of the benefits that can accrue to the economy when competition is introduced. Wherever this proves to be appropriate, the Government should promote competition in service delivery.

Table 63 shows that the total amount of funds going towards this priority area has been increasing in recent years with a large increase in Government direct financing and loans in the 2009 Development Budget. Many of PNG's major Development Partners focus their strategies on poverty reduction and rural development and as such support for income earning opportunities in the form of grants is continuing.

**Table 63: Development Appropriations for Income Earning Opportunities 2003
2009 (Kina Million)**

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	26.8	0.0	59.6	133.6	220.0
2004	22.6	0.0	38.5	71.8	132.9
2005	48.2	18.7	32.5	67.5	166.9
2006	49.2	0.0	10.8	85.9	145.9
2007	51.5	0.0	8.2	67.9	127.6
2008	38.4	0.0	17.0	141.4	196.8
2009	209.8	0.0	5.0	57.4	272.1

Source: Department of National Planning and Monitoring

Table 64 shows funding allocations in the 2009 Development Budget. Support in 2009 is focused in the traditional sectors such as agriculture and mining, but areas such as tourism and projects that promote entrepreneurialism, business skills and Small and Medium Enterprises are also featured in the Development Budget. The Government is implementing several key impact programs in 2009, including the Development of Business Growth Centres, the Strategic District Markets Program and the Fisheries Development Project. In addition the National Agriculture Development Plan is being funded in the 2009 Development Budget.

Table 64: 2009 Development Appropriations on Income Earning Opportunities (Kina Million)

	GoPNG	Loans	Donor	Total
National Agriculture Development Plan (NADP)	80.0	0.0	0.0	80.0
PNG Incentive Fund	0.0	0.0	21.8	21.8
Development of Business Growth Centres	20.0	0.0	0.0	20.0
Strategic District Markets Program	20.0	0.0	0.0	20.0
NADP Credit Facility	20.0	0.0	0.0	20.0
Fisheries Development Project	15.0	0.0	0.0	15.0
Other	54.8	5.0	35.6	95.3
Total	209.8	5.0	57.4	272.1

Source: Department of National Planning and Monitoring

7.2.7 Law and Justice

Addressing crime and corruption remains one of the country's critical challenges, with the current law and order problem posing a major impediment to economic development. The law and order situation is extremely costly to the nation, through discouragement of saving, business and investment and destruction of public and private properties. Furthermore the current levels of crime and violence substantially reduce the quality of life in both rural and urban communities, especially for women who are at risk from sexual violence and assault. Only by making the probability of punishment for criminal activities higher, will more people move from engagement in such activities to legal economic activities that are of benefit to the nation. To address this challenge, the law and justice sector, has adopted the Law and Justice Sector Policy, which aims to improve the functioning of the formal law and justice system; improve sectoral coordination and resource use; and increase focus on crime prevention and restorative justice.

To improve the effectiveness of the formal law and justice system, crime must be deterred and the rule of law upheld. In particular this goal requires that law and justice agencies form partnerships with communities to enhance service delivery. In particular the sector realizes that the involvement of communities and strengthening of the informal systems is required. In addition, involving communities creates a sense of ownership of the security in the community.

To improve sectoral coordination, the law and justice sector have, since 2006, adopted the Sector Strategy Framework (SSF), which has the overall goal of ensuring '*A Just Safe and Secure Society For All*'. Because all the services in the law and justice sector impact upon each other and affect the overall efficiency of the sector, such a coordinated approach is essential to an appropriate resource distribution.

The Sector Strategy Framework (SSF) focuses on five key areas:

- Improved policing, safety and crime prevention;
- Improved access to justice and results;
- Improved reconciliation, reintegration and deterrence;
- Improved accountability and reduced corruption; and
- Improved ability to provide law and justice services

The SSF provides the structural framework for organization at the sector level and at the agency level, as these strategies are incorporated into all corporate and annual plans. These corporate plans contain key objectives and performance indicators for each results area. Each Corporate Plan also identifies which activities benefit civil society directly and which activities require civil society engagement in its implementation. Furthermore to improve efficiency and impact, agencies are encouraged to submit multi-sectoral proposals in the priority areas and include the role of civil society in the proposal.

The foundation created over the last four years has enabled the sector to seriously start to address reforming the use of Recurrent Budget funds and reform service delivery in priority areas using the Supplementary and Development Budget funds. Priority areas include; Restorative Justice, Good Governance, Corruption and focusing on implementation at the Provincial and Local Government level. Resources for the sector also seek to enhance service delivery at the local level through cooperation amongst agencies, and communities. This includes examining the different components of the Law and Justice Sector at different levels and seeking to strengthen any agency operations that may be weak in order to improve the overall delivery of services at local level. Resource allocation should also include identifying linkages with other agencies and communities to deliver the service on behalf or in partnership the relevant partner agency.

The Sector also has a twofold approach to current social injustice facing women and children of Papua New Guinea by using external and internal strategies. The external focus aims at promoting human rights of citizens through *Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)*, *Convention on the Rights of the Child (CRC)* and with an emphasis on reducing violence against women and children in the country. The internal strategies include encouraging agencies to put in place policies and practices that ensure all employees are treated equitably; gender equality is promoted; greater involvement of women in decision processes of agencies; family and sexual violence issues are addressed; and HIV/AIDS responses are integrated into agencies.

Table 65 shows an increase in Government funding to the sector until 2008 and also recent increases in donor funding in the Development Budget. There is a substantial decrease in Government funding in 2009.

Table 65: Development Appropriations for Law and Justice 2003-2009 (Kina Million)

	Direct Financing	Tax Credit	Loans	Grants	Total
2003	4.0	0.0	0.0	56.9	60.9
2004	0.8	0.0	0.0	73.3	74.1
2005	13.5	10.0	0.0	510.3	533.8
2006	26.8	0.0	0.0	76.6	103.4
2007	30.5	0.0	0.0	96.0	126.5
2008	31.0	0.0	0.0	108.3	139.3
2009	10.0	0.0	0.0	96.0	106.0

Source: Department of National Planning and Monitoring

Table 66 contains the major funding items for the 2009 Development Budget. The Law and Justice Sector Program targets: sustainable service delivery at operational levels, including provinces, restorative justice, including diversion from criminal justice and fraud; and corruption focused on improving service delivery.

Table 66: 2009 Development Expenditure on Law and Justice (Kina Million)

	GoPNG	Donor	Total
Law and Justice Sector Program	10.0	59.4	69.4
Law and Justice Initiative (SGP)	0.0	15.2	15.2
Border Management & Transport Security (SGP)	0.0	10.9	10.9
Justice Advisory Group (JAG)	0.0	5.3	5.3
Other	0.0	5.2	5.2
Total	10.0	96.0	106.0

Source: Department of National Planning and Monitoring

7.3 ECONOMIC SECTORS

7.3.1 Agriculture

Agriculture is an important sector and is key in providing income creating opportunities and sustaining the livelihoods of over 85 percent of the population. Furthermore, agricultural exports contribute significantly to the revenue of the country. In the first quarter of 2008, 18 percent of the total value of the country's commodity exports was attributable to agricultural exports.

As highlighted in the MTDS 2005-2010, the promotion of agriculture is a significant strategy for achieving export-driven economic growth, rural development and poverty reduction. The sector's policy focuses on adopting a holistic planning approach to developing the agriculture sector. Consistent with this approach, the Government launched the National Agriculture Development Plan (NADP) in 2007 as the vehicle for engagement of all relevant stakeholders, especially the private sector. To fund the NADP, the Government has committed K100 million annually between 2007 and 2016. The 2009 Development Budget allocates K80 million to NADP projects in the provinces and districts and K20 million for the NADP Credit Facility. The broad components of the NADP are: research and extension; training and information; industrial tree crops, food and horticulture; spices and minor crops; livestock and aqua-culture; gender issues, HIV/AIDS; and strengthening of the NADP management.

In 2008 NADP fully expended the K100 million on 34 projects, which were mostly from private individuals. A total of 300 projects to the value of K900 million have been received and screened for funding under NADP in 2009. The total value of these projects indicates the strong demand for funding in the agricultural sector. While substantial revenue earnings continue to come from the major traditional agricultural crops such as copra, cocoa, coffee, tea, rubber, and palm oil, the Government also plans to extend its focus on exporting spices and nuts. PNG's spices and nuts have the potential for earning substantial revenue for the country. However, there remain some substantial issues around the NADP, with little impact shown for the amounts expended to date.

However, the agricultural sector is vulnerable to changes in world commodity prices, natural disasters and crop diseases, which can significantly reduce crop yields. These risks represent a significant source of vulnerability for rural incomes and food security. To protect

against some of these risks, the Government heavily promotes Research and Development in agriculture. The National Agricultural Research Institute (NARI) has been highly successful in its innovative research. Some of NARI's research areas focus on finding disease tolerant crops, drought tolerant crops, high yielding crop species, biological control of weeds and techniques for crop yields. The information is packaged and disseminated to small holder farmers through extension officers and trainings.

Another strategy within the Government's Policy for the sector is the rejuvenating of the agricultural assets such as coconut and cocoa plantations. Around 60 percent of the 34 projects funded under NADP in 2008 involved revitalizing the tree crops by replanting new crops.

Lack of infrastructure continues to be a major constraint within the agriculture sector. A good road network is essential for facilitating growth in the sector. Poor telecommunications infrastructure also implies that disseminating vital information to stakeholders in the sector is problematic. The Government has been heavily investing in transport infrastructure and maintenance in recent years. While much of the current focus is on maintaining and rehabilitating existing priority roads, the Government's proposed Long Term Development Strategy is focusing on building new key economic roads that are likely to boost the agricultural sector.

7.3.2 Fisheries

PNG is abundant in marine resources, its fisheries zone of 2.4 million square kilometres being the largest in the Pacific. The fisheries sector, which also includes inland aquaculture, is important to the livelihood of many people in PNG.

The MTDS 2005-2010 recognises the country's comparative advantage in the fisheries sector and as such promotes the sustainable primary production and downstream processing of fisheries. The Government is committed to managing fisheries resources in a sustainable manner and intervening to empower the coastal communities to participate actively in commercial fishing. In this vein the 2009 Development Budget has allocated K15 million for the new Fisheries Development Project, which includes the setting up of fish markets, storage facilities and value adding processing facilities in order to further develop on-shore facilities.

The establishment of onshore downstream processing is important to maximize the benefits of the fishing industry and provide more employment opportunities. Most of the fish caught in PNG waters never reaches the shore in PNG. However, license fees from the fish industry have brought in less than K25 million annually – a minimal amount considering how much the industry is worth in PNG and that it could profit substantially if it engaged in export driven processing, as the value added is much higher for downstream processing. A large percentage of purse seine catch in PNG involves catch and transshipment. Domestic contract loining (South Seas Tuna) and combined domestic catching and canning (RD Tuna Canners) are also present in PNG. A recent study (*DEVFISH*) found empirical evidence to support the views that as on-shore activities increase, benefits to the economy of the tuna industry significantly increase. A strategy must be implemented to re-structure fiscal, operational and management regimes to progressively increase the volumes of tuna processed on shore.

The Pacific Zone Marine Industrial Park, formerly known as the Madang Marine Park, is the government's economic impact project intended to attract more downstream processing in PNG. Unfortunately, the project implementation has barely commenced, even though the project plan has been around for several years. The principal lead agency for coordinating

the implementation of the project has changed frequently over the last few years and currently rests with Industrial Centre for Development Corporation. Progress must be made in 2009, given the importance for the country in job creation and increased revenues in the fisheries sector that are expected to result.

While marine resources form the most important aspect of the fisheries sector, developing the fresh water or aqua culture resources is taking on prominence. The government is promoting inland fish farming, especially in the Highlands. Fresh water trout are relatively cheaply obtained and provide an important source of diet for the people.

The Government and its Development Partners also co-fund some projects, including the Wewak fish market and jetty and the PNG Maritime Boundaries Project (Delimitation Project). The latter project seeks to extend the country's boundaries of PNG's continental shelf by another 150km from its current 200km. If successful, this project will enable PNG to have a much larger marine area, implying more potential revenue from the fisheries sector. However, there will be a cost associated with the surveillance of the extended area.

Some key strategic areas the sector has been focusing on include: improved research, development and information dissemination; easy access to credit services; improved market access for fishery and marine products; and building institutional capacity at both provincial and lower levels to improve coastal fisheries management. However, lack of capacity and funding are the major constraints to objectives that can be pursued in the fishing industry.

PNG has signed an interim Economic Partnership Agreement with EU. It is now in the process of finalizing the legal text of the interim agreement with a view to signing a comprehensive EPA at the end of 2008. The main objective of the Agreement is to obtain better market access for key PNG's exports to the European Union market. The specific details in the EPA will have significant implications for the exporting and competition in the fisheries sector.

7.3.3 Forestry

About two thirds of Papua New Guinea's total land mass of 46 million hectares is forested, making PNG host to the world's third largest rainforest after Amazon and Congo. Of this, it is estimated that 15 million hectares is rich in timber species that is acceptable and accessible for development. This places the ongoing challenge and responsibility on the country for more effective planning, coordination and management of its forest resources to derive the maximum sustainable benefits while minimizing any detrimental impact to the environment and society at large.

Recognising this challenge, the Government has articulated the need to ensure that these benefits are maximized through '*sustainable primary production and downstream processing*' in the fourth Guiding Principle of the MTDS 2005-2010. The sustainable development of forest resources is also the basis for the National Forestry Policy (1991), whose two core objectives are:

- Management and protection of the nation's forest resources as a renewable natural asset; and
- Utilisation of the nation's forest resources to achieve economic growth, employment creation, greater Papua New Guinean participation in industry, and increased viable onshore processing.

In addition to the National Forestry Policy, the forestry sector also has supporting policies (Draft Reforestation Policy, Draft Downstream Processing Policy and Draft Eco Forestry

Policy), a National Forest Plan, and legislative and regulatory frameworks (Forestry Act 1991, Logging Code of Practice 1996) to encourage sustainable forest management. However, these need to be reviewed and made more relevant, practicable and accommodative to the changing circumstances in areas of forestry. Furthermore, it has been reported that lack of implementation and enforcement of these policies and laws have been due to weak institutional capacity of the PNG Forest Authority (PNGFA) and funding issues restricting effective monitoring and enforcement. It is expected that the finalization of the Reforestation policy would contribute to enhance efforts in sustainable forest management and lead to possible reduction in natural rainforest logging in the long term.

PNG's forestry sector continues to be dominated by large scale logging mainly for log exporting with its largest export timber species being taun, malas, kwila and calophyllum. West New Britain, East New Britain, Western and Gulf provinces represent the highest log exporting provinces. The exports of PNG round logs has increased from 1.4 million cubic meters in 2001 to 2.8 million cubic meters in 2007, the latter valued at over K560 million, calculated at an average price of K202/m³. With the latest progress on the Government's ten major forestry projects, the increasing trend between 2005 and the first quarter of 2008 in log exports seems likely to continue. The State Purchase Option (SPO) is a statutory requirement stipulated in all approved timber permits that allows the PNGFA access to more than 500,000 cubic meters of round logs based on 25% of the total annual log export quota, on behalf of the Government. To fully operationalise the SPO, PNGFA is currently executing Government direction to establish a State Marketing Agency (SMA) in the structure of the National Forest Service. Once established the SMA would play a key role in marketing and trading of the state's share of log production.

As well as providing significant tax earnings to Government, royalties and levies to landowners are currently estimated at around K30-40 million a year. However, as mentioned, reduced reliance on log exports from natural forests, promotion of plantation forestry and more downstream processing of forest products could provide more long term sustainable benefits to the economy of Papua New Guinea.

In 2008, one of the significant accomplishments of the PNGFA has been the completion of the Guidelines on Forest Clearance Authority (FCA) for large scale agriculture and other land use development, which has been endorsed by the National Forest Board. The development of these Guidelines was critical given the current trend of clearance of large areas of natural forest. Initially, the Forestry Act 1991 had provisions primarily for pure forestry operations and only permitted forest clearance of areas not exceeding 50 hectares for agriculture and not exceeding 12.5 kms for road constructions. However, amendments to the Act in 2000 made provisions to exceed these limitations and thus created a need for the Guidelines of FCA. This has been envisaged as timely and useful to enhance the implementation of the Government's National Agriculture Development Plan (NADP) which will involve large scale forest clearance for agriculture development. However, there remains a concern that the project proponents may not fully implement the project objectives and instead abandon it after benefiting from forest activities. Hence, the effective collaborative efforts between the Department of Agriculture and Livestock and PNGFA are critical.

As part of the revised tax regime since 2007, timber permit, timber authority and timber licence holders are now required to pay a new levy called "premium levy" of K8/m³ in respect of the exports of natural unprocessed logs. The levy is being administered using similar arrangements as currently applied for development levies paid in petroleum projects. The government has offset the cost to the industry of paying this levy by reducing the log export tax. At the same time the log export tax was changed to a flat rate for the purpose of simplification. However, there may be a need to create more awareness on this tax regime in order to clear any misunderstandings from the industry and landowners.

The log monitoring and reporting activity carried out by the Government funded SGS company since 1994 has proven beneficial in terms of detecting inaccurate reporting of log exports by companies. By detecting and correcting these discrepancies, additional export levies, additional foreign exchange and tax revenue, which could otherwise have escaped the Government, are being collected. The Government will continue to examine ways to improve compliance in this sector, including the possibility of giving the monitoring agency greater powers to punish malpractice and incentivise best practice in the sector.

PNG is a signatory of several international agreements and conventions, including the International Tropical Timber Agreement (ITTA); UN Forum Convention on Climate Change (UNFCCC); Kyoto Protocol (KP); Convention on Biodiversity Conservation (CBD); and UN Convention on Desertification. These are global opportunities available to PNG to explore for the sustainable management of its forests. PNG has already established itself as a key advocate in these areas at the global level, and needs to develop relevant programs in order to participate and benefit more meaningfully from monetary and technical assistance available under these international agreements.

Climate change is increasingly becoming a global concern for which forests play an important part in carbon sequestration. PNG had been instrumental in forming the Coalition of Rainforest Nations to push for compensation to developing nations for reduced emissions from deforestation and degradation (REDD). The COP 13 Meeting in Bali was an important step in acknowledging REDD and in including it in further climate change negotiations. At the current rate of deforestation either through logging activities or clearance of forests for conversion to agriculture, the objectives of REDD cannot be met. PNG will need to seriously address this issue otherwise it may not be able to benefit from incentives that will be provided by the international community. In view of the above, the PNG Forest Authority has developed a draft Forestry and Climate Change Framework for Action that is intended to be incorporated into the National Policy on Climate Change when it is finally ready. Furthermore there is a lot of political support for venturing into carbon trading both from reforestation and afforestation and REDD.

7.3.4 Tourism

Papua New Guinea has many attractions for tourists, including natural beauty, world-class diving, unique bird watching, deep sea fishing, cultural richness and trekking, in particular the Kokoda Track. At present tourism contributes around K500 million to the PNG economy. There was a recorded increase of tourists from 22,919 in 2006 to 27,737 in 2007, although these figures may include business migrants falsely claiming to be tourists. However, the tourism industry has the potential to further increase GDP, Government revenue and foreign exchange earnings, as well as to increase formal employment and informal income earning opportunities, including through demand for Papua New Guinean cultural arts and crafts.

The overall goal of the tourism sector is to *'increase the overall economic value of tourism to the nation by doubling the number of tourist on holiday in PNG every five years and maximizing sustainable tourism growth for the social and environmental benefits for all Papua New Guineans'*. If this goal is achieved, the *PNG Tourism Sector Review and Master Plan 2007 – 2017* estimates that this would result in:

- Tourism would be worth K1.1 billion by 2010 and K1.78 billion in revenue by 2015.
- Holiday makers would spend K363 million in 2010 and K727 million in 2015;
- Total employment in tourism sector would increase by 4,800 jobs by 2010 and 13,000 by 2015.

Over the past four years the Government has recognized the potential of the industry and as such, has classified tourism as an economic sector that must be promoted. The MTDS 2005-2010 states that PNG's comparative advantage in tourism must be promoted. Through the Development Budget, several projects have been funded in the tourism sector, including the Kokoda Track Development, Model Provinces Development, Small Medium Enterprise (SME) Tourism Loan Facility, of which in the 2009 Development Budget the latter project has been allocated K1 million. The SME Tourism Loan facility is supported by the National Development Bank and has been successful in helping Papua New Guineans to obtain finances in the form of a loan to assist with small scale tourism projects.

The Government has also introduced other initiatives to boost the industry further. Since 2004 taxation incentives have been in place to encourage more marketing and promotional activities overseas by tour operators and hotelier sub-sectors., which is likely to have significantly increased the number of overseas tourists. The Tourism Master Plan 2007-2017 (TMP) has been launched and will provide guidance to the sector's growth and development for the next ten years. The key objectives of the TMP include: developing PNG as a globally recognized destination offering a range of unique niche tourism experiences; generating investment and employment through profitable business opportunities and subsequent development of the economy; celebrating, protecting and enhancing PNG's unique cultural heritage and natural environment by showcasing these attributes; providing visitors with an enjoyable, distinct and memorable experience; demonstrating partnership and collaboration across all stakeholders; and providing a broad distribution of benefits across PNG thereby improving the lifestyles of rural and urban communities. Effective implementation of the TMP should deliver further sustainable benefits to the economy.

Successful implementation of the TMP is crucial to maximize the net benefits from the tourism industry and achieve all the TMP's objectives. As such the 2009 Development Budget has allocated K3.5 million for the implementation of the TMP. To facilitate implementation, a review of the Institutional arrangements within the Ministry of Tourism and Culture's portfolio is currently being undertaken. The Review aims to assess the current institutions (PNG Tourism Promotion Authority, the National Cultural Commission and the National Museum and Arts Gallery), their linkages, and their capacity with the aim of proposing an appropriate structure which could help support and enhance the growth of tourism and culture, both at the national and provincial levels and foster a more effective partnership and collaboration between the institutions. The review is yet to be finalized, but consultations with relevant stakeholders have already commenced and will continue in 2009.

Despite the fact that some limited progress has been made in the sector, the Government must address the major impediments to tourism, which include the law and order problem, poor transport infrastructure and the high cost of air travel.

7.3.5 Oil and Gas

The oil and gas industry in PNG has contributed immensely to improving the economy of the country since the 1990s. The industry is estimated to have contributed over K1 billion to real GDP over the period of 2005 to 2008. However, PNG's oil production is showing a downward trend due to a natural decline in the current oil fields. Therefore gas has the potential to become PNG's most important natural resource.

Since the abandonment of the PNG Gas to Queensland Pipeline Project in 2006, the commercialization of gas has remained an important agenda for the Government. The Government is pursuing this in partnership with ExxonMobil through the PNG LNG Project.

The PNG LNG Gas Agreement was signed between the Government of PNG and ExxonMobil on 22nd May 2008 which paved way for the FEED (Front End Engineering Design) entry decision by the co-ventures. Gas commercialisation for PNG shows great potential as indicated by the big interest of international companies already initiating discussions with the Government.

The project is expected to yield large economic benefits, including an increase of around K10 billion in real GDP each year during the operational phase. The project has an expected life of 30 years and is the largest private sector investment that has ever been considered in PNG. It will lead to large Government revenues and direct cash payments to landowners. Other benefits include the large number of jobs that would be created and the resulting multiplier effect on economy. However, the project also comes with economic challenges, including Dutch Disease effects, which could be detrimental to the other economic sectors. Strong governance and transparent public financial management will be crucial in translating the economic benefits into improved living standards for the population.

As per the PNG LNG Gas Agreement signed in May 2008, the decision on the State Nominee to be the custodian of the States' equity in the project must be made within 180 days after the signing. In October 2008 the NEC nominated the Independent Public Business Corporation (IPBC) to be the State Nominee, who will make the decision on the financing options to fund the State Equity in the LNG project.

The Government must continue to have a pro-active approach in further developing its oil and gas industry as it ventures into establishing the regulatory and policy environment to accommodate for the entrance of ExxonMobil and its co-ventures in the integrated LNG project. More importantly, the Government must be cognizant of various landowner issues, deal with those issues, expectations and demands that will arise as a result of different ethnic groups that are affected by the project footprint, which covers four provinces (Southern Highlands, Western, Gulf and Central Provinces). The Benefit Sharing Agreement (BSA) and National Content Plan decisions are likely to be a challenge for Government as it consults with all stakeholders including the affected area landowners of the project (whose clans or groups would be incorporated under the Land Groups Incorporation Act), affected Local-level Governments and affected Provincial Governments. Even though the Government has been involved in such negotiations before in existing oil and gas projects, the LNG project will have intensified challenges due to the much larger scale of the project.

The Government has now formulated new regulations and regulatory amendments as deemed necessary by the PNG LNG Gas Agreement. These relate to tax exemptions, insurance, labour, pricing, and valuations, which was endorsed in September 2008. The Oil and Gas Act 1998 and the Oil and Gas Regulations 2002 have been amended and inclusions made accordingly for the LNG project to progress.

Although there has been a general decline in oil production, revenues from the oil industry can be increased further by engaging in downstream processing of current and newly discovered oil fields. The development of a petrochemical industry at Konebada Petroleum Park and the proposed gas pipeline will enable such downstream processing to take place.

Under the 2008 Budget K50 million was allocated for the Konebada Petroleum Park infrastructure. In addition some new field discoveries are being made including the gas and condensate discovery at the Japan Energy Corporation's Cobra 1A well located in Gobe, Southern Highlands Province.

7.3.6 Mining

PNG's mining sector continues to be a major export earner for the country since the early 1970s. Recent high prices of minerals, namely gold, silver and copper, in the world market has further boosted revenue earnings from the mining sector, leading to large Supplementary Budgets since 2006. Most of the new mines will enter their production phase from 2009 and there are still more potential mining lease areas indicating a favourable outlook for the industry's contribution to export earnings and GDP over the next ten to twenty years.

The Government's experience in the mining industry over the years has resulted in the evolution of an enabling policy and regulatory environment that provides incentives for developers to invest in the mining industry in PNG. The fiscal incentives and less rigid policy stance by Government, combined with the current high mineral prices, have led to a rapid increase in exploration activities and indicate great potential for further growth in the industry. The number of Exploration Licence (ELs) applications in 2008 totalled 82 of which 47 ELs were issued and 35 were renewals. There are 13 advanced exploration projects nearing pre-feasibility or feasibility stages with significant drilling programs currently underway. The sector has been further developed with the inclusion of Simberi Gold Company Ltd and Mt Sinivit (Wild Dog) Ltd to current operating mines namely Lihir Gold Ltd, Ok Tedi Mining Ltd, Porgera Joint Venture Ltd, and Kainantu Gold Ltd. Upcoming mines include Hidden Valley Ltd that will commence production in the 2nd quarter of 2009 while Ramu NiCo Management Ltd will commence production in early 2010.

The world's first off-shore Exploration Licence was issued by the Government of PNG to Nautilus Minerals in 1999 for the mining of gold, silver and copper in the Bismarck Sea at depths of 1,000 metres. The use of innovative engineering and the use of remotely operated robotics will feature in the mining operations that will lead to a production rate of 1.8 million tonnes annually when it starts operations in late 2009. PNG is also diversifying its mining industry with the granting of a mining licence to the Metallurgical Chinese Corporation to mine nickel and cobalt in the Ramu District, Madang Province, in 2007. The production rate from the Ramu project is expected to be 33,000 tonnes of nickel and 3,300 tonnes of cobalt for a 20 year period starting in 2009.

Though there is large potential for the industry to expand at a fast rate, there is also a growing concern on the environmental impacts of these mines. The disposal of mine waste has been an issue for PNG, for example the Ok Tedi Mining Ltd court case, and the accusations made against Tolukuma Gold Mine Ltd for disposing mine waste into the Angabanga River. The Department of Environment and Conservation (DEC) is the agency responsible for conducting Environmental Impact Assessments of development projects such as mining, and needs the necessary resources to perform its mandated responsibility effectively. As such DEC was allocated K1 million for Mine Monitoring in the 2009 Development Budget.

Another issue is the benefits that should be conferred to the landowners, Provincial Governments and Local Level Governments of the mine impacted areas. There is a concern that benefits such as MOAs for infrastructure projects and royalties are being misused by the leaders/chairmen of the Landowner Associations and that members are losing out on benefits including health, education and transport services.

To better assist the Government to effectively manage and administer the mining sector, the Mineral Resources Authority (MRA) was established in 2006. The MRA's role is to perform the technical and operational roles relating to the administration and management of the mining sector - functions which were previously under the Department of Mining. The tasks

include the regulatory operations of mineral tenements management, responsibility for mining safety and technical and coordination functions of project coordination and liaison, geological survey, and conducting promotional activities on PNG's mineral potential. The Department of Mineral Policy and Geohazard Management retains its responsibility for the development and maintenance of the policy and regulatory environment of the mining industry as well as performing its function in the monitoring and management of hazards relating to volcanic activity and earthquakes.

7.3.7 Manufacturing

The Government is committed to increasing the value of exports produced by Papua New Guinea's manufacturing sector. This has the potential to increase formal employment growth and broaden the tax base. However, despite the potential investment opportunities in downstream activities, at present PNG imports almost all processed food, clothing, footwear and inputs for industry and commerce.

The Government has put into place strong policies which will lead to the development of a strong domestic production base to replace reliance on the non-renewable resource industries such as mining and petroleum. The Government seeks to encourage value adding of the country's natural resources by manufacturing them into finished products such as petrochemical, canned tuna, furniture, biofuel - both for domestic consumption and exports. The tax incentives and concessions granted to businesses under the import substitution policy as well as creation of special industrial zones are policy interventions aimed at encouraging domestic processing.

The Government needs to be consistent in its efforts to removing impediments to business and investment in order to effectively address prevailing problems including the costs associated with security, insurance and transportation being faced by the industry. Infrastructure improvements and lowering of input tariffs would greatly reduce production costs. The manufacturing industry has been urged to adopt cost-reducing, efficient techniques on the factory floor and within management to prepare itself for foreign competition when protective tariffs are phased out.

The Tariff Reform Program (TRP), which was introduced in 1999 and reviewed in 2007, was aimed at relaxing duty rates of most goods with exception of goods that are produced or could potentially be produced in PNG to be set at zero. Under this structure most of PNG's imports now enter the country duty free, but the benefits from tariff reform are difficult to measure. Despite many impediments to business, the PNG manufacturing sector is expanding with small increases to real GDP estimated over the past few years and a further small increase projected for 2009. Parallel to the introduction of the TRP, the government introduced a Value Added Tax (VAT) now named Goods and Services Tax (GST) to offset revenue losses from reduced tariffs and to replace provincial sales taxes. Protection of domestic industries also results in negative rates of protection for export industries that have to sell their outputs on world markets at international prices while purchasing inputs from protected local industry at higher than world prices. In this case the negative effective rate of protection is a measure of the penalty imposed by the tariff structure on export industries.

The reduction in effective protection of local industry and a negative effective protection for export industries represent very substantial achievements of the TRP, which is consistent with the requirements of World Trade Organisation. The tariff reform has brought about a substantial improvement in the efficiency of resource use across Papua New Guinea industries.

The contribution of manufacturing sector to the real GDP growth was projected to decline to 0.3 percent in 2007 compared to 0.4 percent in 2006. The expected decline was mainly due

to effects of high oil prices impacting business growth, scaling down of production by a major oil refinery as a result of mineral companies importing fuel directly from overseas suppliers; and lower shipments of processed coconut oil to overseas markets due to delays in shipment. In 2007, the total nominal value of sales in the manufacturing sector increased by 7.5 percent. The manufacturing sector, including downstream processing of natural resources and the manufacture of industrial goods, is targeted for greater expansion from 2009 onwards.

The challenge remains for the Government to play a proactive role to create an enabling environment that will allow local industries to take maximum advantage of new opportunities as they emerge in the global market, as well as the promotion of foreign investment, which can provide both jobs and new sources of tax revenue. The substantial growth in formal employment in the recent past from the manufacturing sector needs to be sustained. Much of these increases are attributed to the full operation of the InterOil Refinery since 2004 and the expansion in the Tuna Processing Industry in developing product varieties in response to an increase in domestic and international demand. Other major initiatives are expected to further promote growth in the manufacturing sector and its contribution to the economy and Government revenue in the medium term. These initiatives include the LNG processing and exporting plant and the associated developments and spin offs of a petrochemical industry as a key component of the Gas Commercialization Strategy, and the fisheries, cassava, sago and palm oil processing projects.

7.4 ENVIRONMENT

Environmental sustainability is a unique challenge for PNG. Being one of the most bio-diverse countries in the world, containing one of the largest forest areas (29 million hectares) in the world and having a large proportion of the population whose livelihoods depend on resources such as fish, forestry, land and water resources for agriculture and natural resources for food and shelter, the importance of the environment for PNG is immense. PNG's natural beauty and endemic species are irreplaceable.

However, the current trend is not encouraging. Fisheries are declining and forest areas are decreasing rapidly. Urbanisation, poverty, industrialisation, lucrative natural resource development, growing demand for energy and growth population rates put additional pressure on the environment. Furthermore PNG is particularly vulnerable to the effects of climate change such as cyclones, drought, rising sea levels, floods, tsunamis, landslides and bush fires. Environmental experts have predicted that in the near future, PNG will struggle to provide the large amounts of funds that will be necessary to cope with such disasters.

The MTDS PMF environment indicators for Department of Environment and Conservation (DEC) investigation of pollution complaints (only half of the complaints registered were investigated in 2007) and the international performance rankings for environment protection in PNG reflect poor performance. However, some improvements are being made recently. PNG was marked only 1.5 on a scale of 1 to 6 in 2005 and 2006 for the responsiveness of its policies and institutions to environmental concerns by the *World Bank's Country Performance and Institutional Assessment*, however, this improved to a score of 2 in 2007. Data on the proportion of undeclared logs discovered also shows slight improvements. However, monitoring of progress and improved indicators for the environment are necessary.

For these reasons, the environment and geophysical sector must be considered a priority area for the country's development efforts. The Government must ensure that long-term

sustainable socio-economic growth and development are achieved while not compromising the environment in the process. The MTDS 2005-2010 has acknowledged the importance of balancing protection of the environment with development aspirations, and underscored the need for 'ecologically sustainable development'. This challenge implies that the environment must be recognised as a cross-cutting issue in all development plans.

Future development strategies, such as the proposed Long Term Development Strategy (LTDS), will need to go a step further than the current MTDS and promote the mainstreaming of environment into economic and development planning; developing and implementing strategic environmental plans and sustainable development indicators; take measures to manage the conflict between economic developments and social costs; and the increased involvement and coordination of relevant stakeholders in achieving sustainable development goals. Furthermore, when formulating strategic plans, lessons learnt from past natural disasters and environmental risks to future investments must be considered.

Papua New Guinea's natural environment is currently managed by the Department of Environment and Conservation (DEC). DEC tries to maintain its strategic focus by helping address environmental issues arising from maritime exploitation, environmental impact and assessment, environment protection, water resource management, compliance and enforcement, conservation, parks and wildlife, and now climate change. Through DEC, the Government is pushing not only to protect and preserve the environment, but to apply the techniques of 'sustainability' for all its development projects and programs. The Government of Papua New Guinea is a signatory of international agreements including the Kyoto Protocol and the Millennium Development Goals (MDG), which aim to ensure environmental sustainability (MDG 7) by integrating the principles of sustainable development into country policies and programs and to reverse the loss of environmental resources by 2015. MDG 7 also promotes the improvement in the lives of slum dwellers and the proportion of people with access to safe drinking water and basic sanitation.

DEC has several ongoing projects to promote environmental sustainability under the 2009 Development Budget, including Mine Monitoring (K1 million), Biodiversity Development Program (K300,000) and Protected Areas and Clean Development Mechanism (CDM) (K300,000). The Government has also approved new initiatives such as the *Water Policy* and *Land Development Project* to support the effort of sustainable environmental development and simultaneous economic improvement. Development Partners are also investing in various elements of environmental sustainability such as the Global Environment Facility, administered by DEC on issues such as adaptation and mitigation to climate change. Establishment of the Office of Climate Change and Carbon Trade in May 2008, which aims to coordinate between the agencies and stakeholders on issues relating to climate change and carbon trading, reflects the Government's commitment towards and ownership of the effort to tackle climate change and benefit from carbon trading.

Other steps taken by the Government is the instruction to relevant central and line agencies and authorities to establish a Technical Committee to provide oversight and coordination of the PNG environmental sustainable economic growth and the PNG Carbon Emission Initiative. Furthermore, at the 2005 United Nations Summit on Climate Change in Montreal, PNG led a coalition of developing countries in proposing a plan whereby developed countries would pay developing countries to preserve their rainforests. In March 2008 Prime Minister Somare and Prime Minister of Australia, Kevin Rudd, signed the Papua New Guinea – Australia Forest Carbon Partnership. This Partnership addresses environmental challenges by improving livelihoods for forest dependent communities; promoting protection of biodiversity; Reducing Emissions from deforestation and forest degradation (REDD); forest carbon monitoring and measurement; and supporting PNG's participation in the emerging international carbon markets.