

20th Waigani seminar environment and development in PNG up to 2000 and beyond

'Waigani Seminar 1993 - A Piece of the Puzzle of Planning for Sustainable Development in Papua New Guinea'

By: Tahereh Nadarajah, Research Fellow, National Research Institute Coordinator of the Waigani Seminar Sub-Theme: People's Participation and Responsibility.

1. Introduction

The world is faced with many environmental problems that have their roots in current development approaches. The environmental problems - climate change, ozone layer depletion, loss of biodiversity, water pollution, air pollution and soil erosion - all have global character. The global environmental degradation has been brought about by the impact of unsustainable patterns of certain kinds of consumption and production (especially found in industrialised countries).

The urgency of environmental and development issues prompted the United Nations to convene a conference on Environment and Development.

The major principle from the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil, in June 1992 was - sustainable development is not just an option but an imperative in both environmental and developmental terms. This will require major shifts in priorities for governments and people and will involve the full integration of environmental dimensions into economic and sectoral policies and deci-

sion making in every sphere of activity. It will also mean a major redeployment of human financial resources at both national and provincial levels.

While the PNG delegates were in Rio the news was released that the Waigani Seminar 1993 theme would be 'Environment and Development'. It is important to realise that the Waigani Seminar objectives and expected outcomes that have been selected fit in a wider perspective which is formulating a strategy for achieving sustainable development goals in Papua New Guinea. Therefore, there is an attempt in this paper, to familiarise ourselves with the global and national initiatives which strive for balance between development and environmental integrity.

1.1 Background

The essential link between the environment and development was the principal theme of the World Conference on Environment and Development held in Stockholm in 1972. However, it was Brundtland's Report for the World of cooperation among States, key sectors of societies, and people. These goals are proclaimed through 27 principles.

These are broad principles, but Agenda 21 is an action plan - leading up to the year 2000 and into the twenty-first century - to be taken by governments, development agencies and United Nations, organisations, as well as independent sectors, in

every area where human (economic) activity affects the environment. The principal social themes of Agenda 21 include:

- revitalisation of growth with sustainability,
- sustainable living for all; and
- the development of human settlements for a world that is prospering, clean, just and habitable.

Agenda 21 is not legally binding, but it is expected that governments which adopt it will be highly committed to its implementation. The United Nations Secretary-General described Agenda 21 as 'an action plan which marked the transformation of the concept of sustainable development into specific spheres of action for the world development.'

2.2 Convention on Biological Diversity

This is a convention to protect the world's diverse biological life. Discussions have focused on issues such as access to biological resources, how to use and still preserve those resources, and access to environmentally sound technology, especially by developing countries. An international agreement was reached before June 1992, and the convention was signed by 153 countries (excluding the United States of America)

2.3 Climate Change Convention

Negotiations for a climate change convention have been conducted by the United Nations General Assembly, through an

Intergovernmental Negotiating Committee (INC). During 1990-92, there were five meetings of the INC, prior to the Rio Conference. The Papua New Guinea government has sent delegations to some of the INC meetings over the past two years. Negotiations focused on areas for which targets must be set in order to reduce the greenhouse gases, with specific targets and timetables for reducing emissions of carbon dioxide - the leading greenhouse gas - and control of emission of other greenhouse gases.

2.4 Statement on Forest Principles

In the early stages of preparation for the Earth Summit, some industrialised countries called for an international agreement on forestry that would ban the cutting of tropical rainforests. Developing countries agreed on the importance of the issue, if not the strategy. Led by Malaysia, they called for a ban on the cutting.

4. Activities related to the development of a Sustainable Development Strategy (NSSD) for Papua New Guinea

There have been few interconnected, current activities for the achievement of sustainable development in PNG. The activities are as follows:

1. Preparation of the National Report (UNISEARCH 1991).

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One day seminars in the provinces

ONE-TWO day seminars will be run from Goroka Campus, University of Technology, provincial University centres and alternative provincial venues to ensure regional involvement with participation of people at the community and village level.

All, but the Goroka Campus, of these provincial seminars will be run prior to the main seminar in Port Moresby so the views and concerns of the provinces are expressed and discussed in the main Waigani seminar. These provincial seminars will cover one, or as many themes as relevant for each region. However, each provincial seminar should address the following issues:

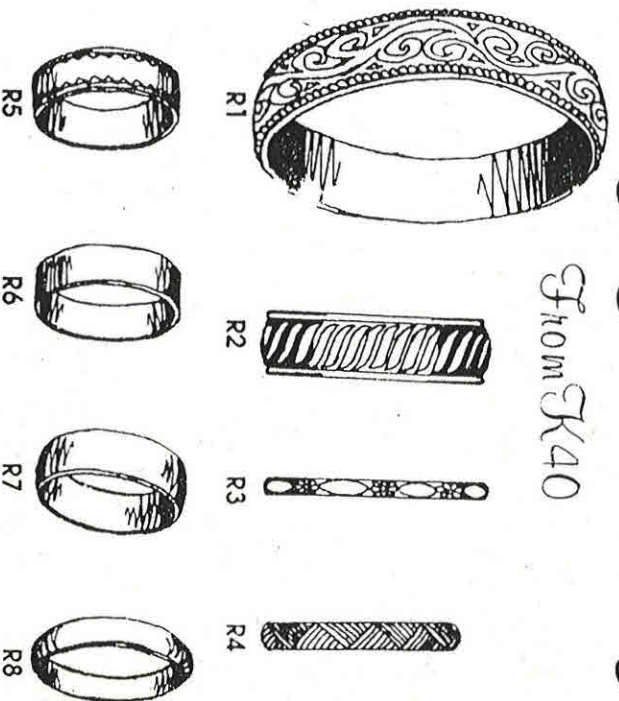
What is sustainable development? Is it a meaningful concept at the provincial and community level, if so how? What are indicators of sustainable development in the context of our province? How can we measure or determine such indicators of sustainable development?

Can we implement sustainable development, and how, in Papua New Guinea at national level? provincial level? village level?

One provincial seminar may choose to address the subtheme that most concerns people in their province.

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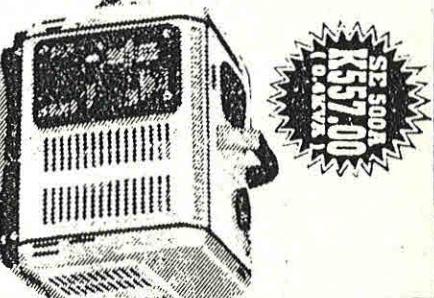
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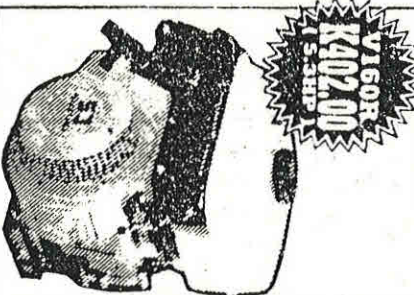
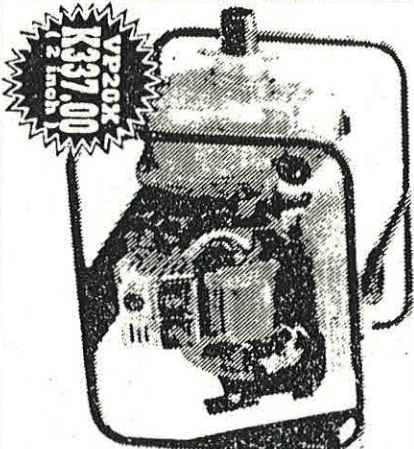


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2. Formation of the Working Group by the National Executive Committee (1991). The committee comprised line government departments. UPNG and NRI. Their function has been to prepare for UNCED 92 negotiations and Post-UNCED activities.

3. Signing of the UNCED Conventions in Rio de Janeiro;

4. A Post-UNCED Seminar (November 1992) in Port Moresby, and the start of dialogue to prepare a National Strategy for Sustainable Development in PNG.

5. Initial steps towards preparation for that process, by DEC and DFA. The proposal for preparation for NSSD is currently under discussion by the Papua New Guinea government; and

6. The Waigani Seminar on Environment and Development - UPNG, August 1993.

1. National Plan 1991: Papua New Guinea started the process of a renewed search for a sustainable way of living in 1991, when the PNG National report was

being prepared (UNSEARCHD 1991). That report was required by the UNCED secretariat as part of the preparation of the countries for the negotiations for various conventions.

These conventions were endorsed by countries in Rio in 1992. The PNG national report mostly highlights the current situation in regard to resource development and elaborates on the existing policies in what is lacking in the research into the question of why these policies have not been implemented. In PNG where 95 per cent of the population live in rural areas, one would want to see the results of the policy implementation at the village level. Basically, the benefits have not reached that level. That is the case with general services, such as education and health, as well as benefits of resources.

The interdisciplinary working committee established by the National Executive Council to coordinate UNCED and Post-UNCED activities prepared a draft docu-

ment to serve as a basis for a framework of a National Action Plan for achieving sustainability. It was envisaged that during the course of the seminar the framework would be further developed to a stage where priority actions could be recommended.

5. Steps towards the preparation of a National Strategy for Sustainable Development (1993): One of the major recommendations from the Post-UNCED Seminar was to start the process of preparation of a National Strategy for Sustainable Development (NSSD), for Papua New Guinea. The proposal to start this process will have as one of its initial steps, the establishment of a National Sustainable Development Commission. This is in accordance with the formation of a World Commission for Sustainable Development, which in turn is one of the major outcomes of the 1992 Rio Conference.

The seminar also perceived the outcomes of the forthcoming Waigani Seminar

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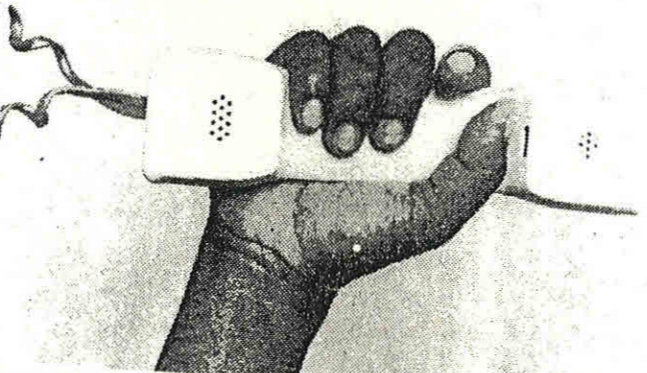
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(August 1993) to be an important component of that process.

The Department of Foreign Affairs, the Department of Environment and Conservation and UNDP (through Natio, 101 Forestry Conservation Process-NFCAP), are putting together the initial proposals for NSSD. This process is not an easy one to plan, and very few countries have even begun the process. Therefore there are not many examples to follow. On the other hand, it is challenging, in that we are in a position to start a process which has a global instrument as its guidelines, yet it will be formulated and be based on the national and local needs of Papua New Guinea.

Because of the relevance of the Waigani Seminar (the topic is Environment and Development), there has been some inter-departmental consultation with the organisers of the seminar and those who are working on the preparation of NSSD. It is important for the government that the Waigani Seminar's objectives are in line with the overall NSSD objectives.

4. Waigani Seminar

The sub - topics of the Waigani Seminar (1993) have been based on the discussion document which was prepared for the Post-UNCED seminar. They are:

- Revitalising Growth with Sustainability;
- Sustainable Living;
- Human Settlements;
- Efficient Resource Use;
- Global and Regional Resources;
- Managing Chemicals and Waste;
- People Participation and Responsibility;

by: Driving Forces; and PNG and the South.

Most of these topics are the main areas identified by Agenda 21 as priority areas for actions. This year, the Waigani Seminar has taken a shift from the traditional course; there will be a few forums throughout the country (on a provincial level), prior to the seminar. It is anticipated that in this way, the grassroots' views will be brought to the attention of policy makers during the seminar. It is anticipated that the outcomes of the Waigani Seminar will form an important component (and guide), to the direction that the NSSD should take. In order to make the seminar focus on the issues, the Executive Committee of the Waigani Seminar emphasises that the participants at all levels, should answer two basic questions:

- What is sustainable development in your view? Define it.
- How would you recognise it in a PNG setting? Give indicators

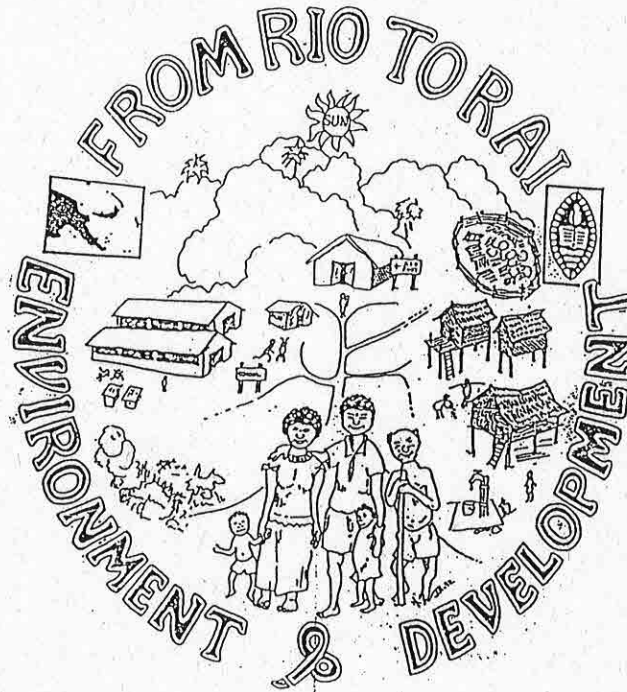
This will also serve as self - evaluation for the groups represented at the seminar. Therefore, the Waigani Seminar would be one instrument in bringing to focus the issue of the sustainability in PNG and hopefully the seminar will, by the help of Papua New Guinea public, have some answers and directions for the policy makers.

THE 20th Waigani seminar to be held from August 22-27, has been identified to be part of, as well as a means to, the move forward in the process of PNG producing its own Agenda 21 - the National Sustainable Development Strategy (NSSDS). It is the university's response to commitments made by the PNG government to both its own people and the global community at the Earth Summit-United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, June 1992.

It has been proposed that people of all levels of the community and the society including academic, community and village representatives, Churches, industries, government and non-government organisations, etc. take part in contributing ideas and make recommendations towards the themes chosen to help implement measures for Sustainable Development.

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Dossier Nr. 28

Environment and Development in Papua New Guinea
up to 2000 – From Rio to Rai

Eine Dokumentation der veröffentlichten Tagungsbeiträge des 20. Waigani-Seminars der Universität von Papua-Neuguinea, 20. bis 27. August 1993

Datum: Januar 1994

SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

The Waigani Seminar

SINCE the early eighties, public interest in environmental issues has heightened. Politicians and decision makers have been forced to take note. In June 1992, Papua New Guinea joined the worldwide community to Rio de Janeiro, Brazil for the Earth Summit. The summit called for a global commitment to the implementation of measures for achieving sustainable development. The important outcome from UNCED 1992 is that the primary responsibility for our common future is in our hands. PNG was a signatory to the Earth Charter and Agenda 21.

Following discussions in Rio, PNG embarked on an official programme of developing national sustainable strategies. To that end, the 1992 Waigani Seminar, to be held in August at UPNG, will concentrate on "Environment and Development in PNG up to 2000 and beyond - From Rio to Rai". The seminar is proposed to be part of, as well as a means to, the move forward in the process of PNG producing its own Agenda 21 - the National Sustainable Development Strategy (NSDS).

The Waigani Seminar will focus upon such questions as:

- what is sustainable development?
- what are the indicators of sustainable development? (how can we measure it?)
- Papua New Guinea at the national, provincial and village levels?

The main seminar programme will be run from Sunday 22 to Friday August 27 on the main Waigani campus of the University of Papua New Guinea. However small seminars are being run in a number of provinces to ensure regional involvement with participation of people at the community level. Seminars have been run to date in Sandaun, Western Highlands and North Solomons provinces. Further seminars are planned for Manus, East New Britain, Fly River (Western), Eastern Highlands and Morobe provinces. Summaries of what happened at these seminars or what is planned will appear in a later issue of the *Times of PNG*.

The objectives of the Waigani Seminar

The objectives of the Waigani Seminar are:

1. To translate recommendations made by participants at the Post-UNCED Seminar held in Port Moresby in November 1992 into action-focused recommendations for achieving sustainable development.
2. To develop a vision for sustainable development in PNG that
 - a. builds upon existing processes currently being applied;
 - b. recognises the Rio declaration and Agenda 21; and
 - c. integrates environmental and development considerations into planning policy directed at each sector of our society.
3. To develop recommendations for priorities and process elements for the NSDS by

identifying
a. sustainable development systems that are currently in place;

- b. major constraints and negative impacts that need priority action;
4. To promote awareness raising and information exchange at all levels of society on the relationships of ecological, environmental, economic and social considerations and values.

Expected outcomes of the seminar

The expected outcomes of the Waigani Seminar are:

1. To assist in the PNG government's efforts to achieve sustainable development by enhancing human resources skills and planning capacity and by incorporating environmental, economic and social values into national policy planning processes;
 2. To contribute to the design of a National Sustainable Development Strategy. This will be fashioned such that it contributes toward a phased program of comprehensive capacity building and support for resource and environmental planning, development and management. Processes for these will include provisions for appraisal, monitoring and research;
 3. To identify and realise synergies between different resource users, community and village groups and institutions;
 4. To improve environmental education and awareness at all levels;
 5. To produce a publication entitled "Environment and Development in PNG: From Rio to Rai. Considerations and Recommendations on Mechanisms for PNG to Develop its own National Sustainable Development Strategy".
- The major seminar will be divided into seven sub-themes:
1. Revitalising Growth with Sustainability
 2. Health and Sustainable Living
 3. Human Settlements
 4. Efficient Resource Use
 5. Managing Chemicals and Waste
 6. People, Participation and Responsibility
 7. Essential Means
- The issues and questions which will be explored in each of these sub-themes are described below"

1. Revitalising Growth with Sustainability

Rapid global economic growth this century has given insufficient consideration to important environmental and socio-economic realities producing world today which can hardly be called 'socially just' and 'ecologically sustainable'. The international economic system has favoured the overexploitation of raw materials both in developed and developing countries often at a serious environmental cost. The same system has also made the fragile economies of developing countries highly vulnerable to changes in world economic conditions over which they have little control. In recent years there has been a net transfer of finances from the developed to the developed world leaving the former

with little resources for combating poverty and preventing further environmental degradation.

The development transition to revitalised growth with sustainability will necessitate new and innovative economic policies both internationally and nationally to bring about fundamental changes in the integration and accounting of environmental and development decision-making.

This sub-theme aims to provide an economic framework for the transition to sustainable development in PNG.

Academia, the public, the private sector, NGOs and representatives of national and provincial governments will grapple with major issues such as:

- what is sustainable development?
- are economic growth and conservation compatible?
- 2. How can we place an economic value on the environment?
- how can we integrate ecological, environmental, economic, ethical and social values into development?
- what are the research implications of ecologically sustainable development?

2. Health and Sustainable Living

The nations of the world have realised that the Earth's carrying capacity is finite, and that global consumption, production and demographic patterns must become sustainable if future generations are to live healthy and satisfying lives. The peoples' needs must be met within the nation's capacity to meet those needs and within the constraints imposed by the environment. Issues that need to be discussed within this theme should include consumption patterns (international and national), combating poverty, demographic trends and health needs. At the Waigani Seminar emphasis will be focused on the latter two, particularly the last.

PNG faces the 21st century after 100 years of explosive change in its human ecology. This sub-theme will examine health and sustainable living within a framework of inputs to health (diet, consumption and reproduction), catalysts (technology, governance and education) and outputs (wealth and quality of life). It will tackle such issues as:

- what will happen if the present population growth continues?
- can we meet the health needs of the present generation?
- how might we fulfil such needs for future generations?
- what needs to be done?
- will the adoption of Western dietary practices, sedentary lifestyle, technology and other impacts on cultural identity produce a decline in the quality of life for the next generation?
- can the special relationship of Papua New Guineans to their land, rivers and sea continue?
- will the country become more urbanised over the next 20 to 40 years?



- How can development strategies avoid adversely impacting on sustainable living in PNG?

3. Human Settlement

Human settlements are complex places where the dynamic interaction between man and the environment is keenly felt. This subtheme of the Waigani Seminar will focus on those settlements which are located on the fringes of or within townships but share many features of rural settlements. They are characterised by temporary structures constructed of a variety of materials, no piped water and no sewerage or solid waste disposal. Economic activities are diverse, often small-scale and outside the grasp of the taxation system. Residents of these settlements are more likely to earn below average wages, suffer more health problems and are subject to a variety of social problems.

Yet despite tremendous constraints these settlements continue to maintain themselves. There is much we can learn from them. This subtheme will focus on major dimensions of these settlements: shelter, basic infrastructure, economic activities and social and cultural dynamics.

This sub-theme will ask such questions as:

- what are the sustainable development systems that are currently in place?
- what are the major constraints and impacts that need priority action?
- how can recommendations be developed that take account of the complex inter-relationship between environmental, economic, social and cultural values?

4. Efficient resource use

This subtheme aims to increase people's awareness in the fields of renewable resource management such as forestry, fisheries, agriculture, water, energy, ecotourism and biotechnology, and in the fields of non-renewable resource management such as minerals and petroleum. It aims to promote care and proper management of these resources. It also will focus on ways to minimise environmental damages in PNG.

PNG is fortunate in that it has abundant renewable and non-renewable resources, but these resources are limited and are rapidly being depleted. Some renewable resources are being managed in a non-renewable manner - for example, the forests are being 'mined'. PNG already has many severe environmental problems through deforestation, land degradation, localised over-fishing, over-population and pollution. To prevent similar mistakes already made elsewhere, we must increase awareness at the village, provincial and national levels. This is the first step toward slowing rapid depletion and destruction of our natural resources.

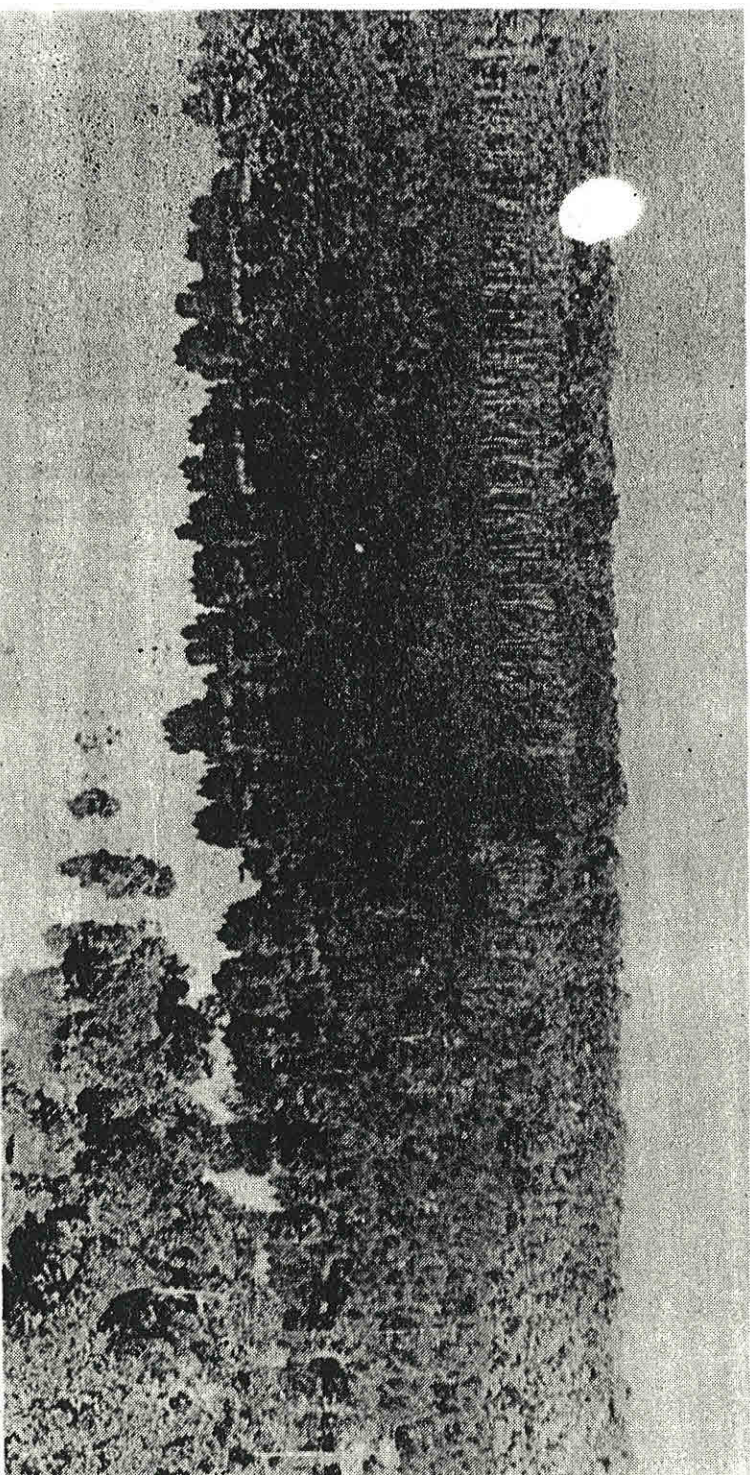
This sub-theme will tackle such issues as:

- what are the most appropriate means of managing biodiversity and other natural resources?
- how can we develop sustainable resource use practices?
- how can we ensure that these policies are enforced?

- how can we increase levels of environmental awareness among resource and environmental managers and local resource owners?

5. Managing Chemicals and Waste

The use of chemicals is essential in the development process. They are extensively



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used by all types of societies irrespective of their stage of development. These chemicals, whether natural or synthetic, include pesticides, industrial chemicals and consumer chemicals. Some are in the foods we eat and the clothes we wear. Toxic chemicals and their by-products, hazardous wastes and radioactive substances can adversely affect human health and contaminate and impact on the environment.

In today's world most of our activities result in some pollution and degradation of the environment and involve some degree of risk to our health and the health of other species. It is necessary to increase the benefits but to develop mechanisms to reduce the hazards and minimise the risks. These may include reducing the production or import of dangerous chemicals, and improving the safe handling and the management of chemicals at all stages from production or import right through to disposal. This also includes promoting the use of safer alternatives to harmful chemicals.

It is clear that in Papua New Guinea, like all other countries, the growing use of chemicals has not been matched by effective policies to deal with them. In PNG it is critical that we evaluate now our chemical risk assessment and management strategies. This involves collaborative action by Government, private industry, NGOs and the community, and international organisations.

This sub-theme of the Waigani Seminar will look at options for managing chemicals and wastes both internationally and in Papua New Guinea. It will grapple with such questions as:

- what is PNG's role in strengthening international mechanisms to control the international transport in toxic chemicals, hazardous waste and radioactive substances?
- how in PNG might we reduce risk by "reducing, reusing and recycling" by cleaner and safer technologies, by product stewardship and by changing community attitudes?
- how can we strengthen our capabilities for management of chemicals and improved environmental management?

6. People's Participation and Sustainable Development

Development is for human beings. If "development" is not people-centred, then it is not really sustainable development. If "development" does not improve human health, well-being, self-reliance and prosperity, then it is counterfeit. And if development destroys the environmental foundations upon which future human development must depend, then it is worse than no development at all.

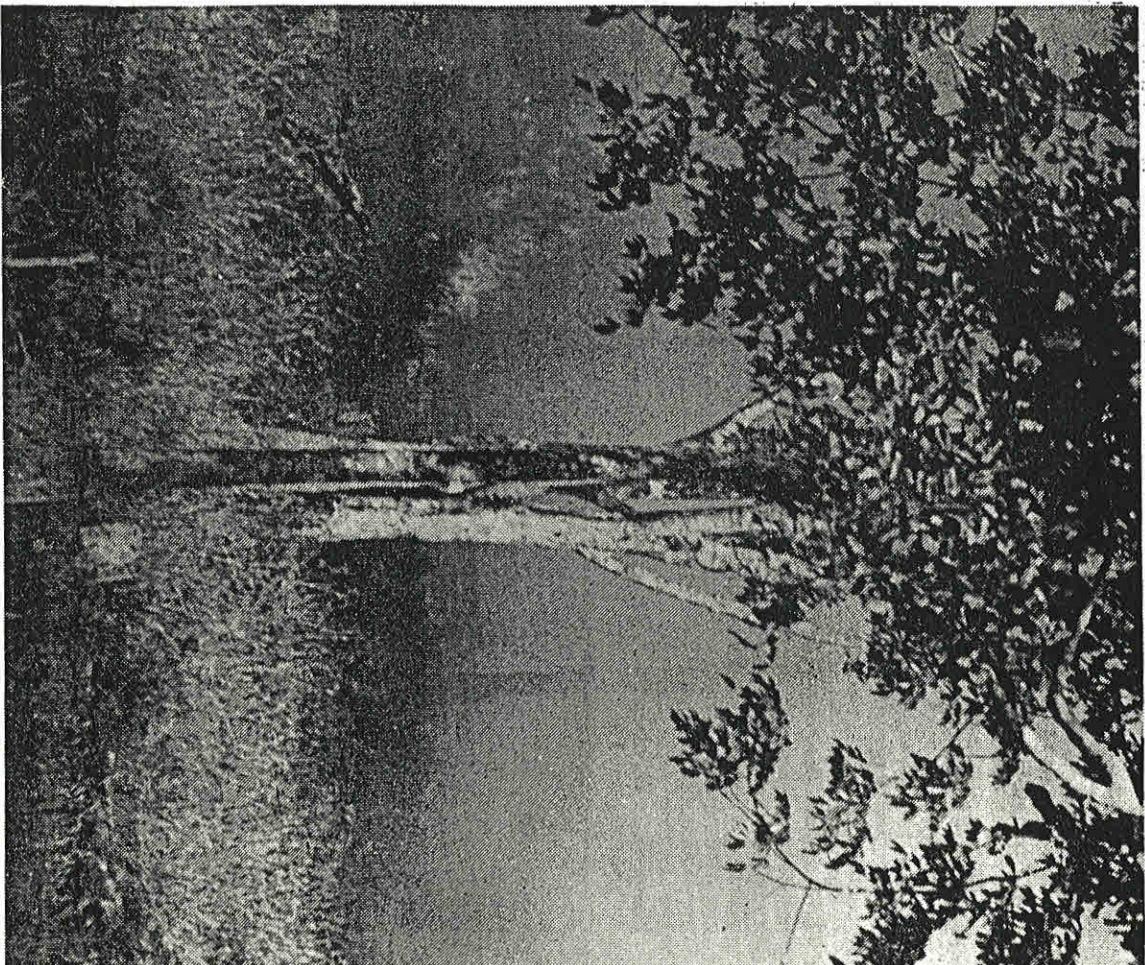
Participation is the very heartbeat of human-centred sustainable development. Participation refers to the degree and the nature of people's involvement as active participants in all aspects of processes intended to improve their lives, or to transform the contexts and conditions within which they must live, and upon which their well-being depends.

If there is no participation, there is no development - at least, as far as human beings are concerned.

- This sub-theme will review issues such as:
- what is the relationship between participation and sustainable development?
 - how can we strengthen people's participation in the development process?
 - how can we ensure effective systems of resources management at the community and village level?

7. Essential Means

To achieve a sustainable society in Papua New Guinea requires us to initially recognise the "essential means". These means include identifying knowledge, value systems and life-styles consistent with us both meeting our needs and ensuring ecological sustainability, finding or making available and being able to evaluate relevant information and data for decision-making (including traditional knowledge), capacity building, using science and technology (including traditional science and technology) for sustainable development, using both international and national legal instruments, changing institutional arrangements to ensure cross-sectoral and



integrated decision making, and determining financial resources and mechanisms to implement sustainable development policies.

This section of the Waigani Seminar is divided into two parts. The first section is on "Information and capacity building" the emphasis being on the former.

Information is essential at all levels of the community for effective implementations of sustainable development. Scientific and technological information is essential for effective decision-making on environment and development. It is necessary that this information is interpreted and presented in formats suitable to the varying levels within a community to assist in effective decision making and implementation. Published information on environmental and sustainable development is required by educational institutions, industry and other non-government organisations for educational and public awareness programmes.

This part will also focus on developing "ourselves" and our human resource potential. In order to develop into a sustainable society we first need our own capacity to make independent and equitable decisions compatible with sustainable development. This capacity encompasses our country's human, technical, organisational, institutional and resource capabilities to choose and implement actions and development options, options determined in part by the public's perceived needs and by the environmental potential and limits.

- Questions to be asked will include:
- Can traditional practices continue to sustain future generations. If not, can aspects of traditional practice and Western ways be integrated to meet people's needs yet remain ecologically sustainable?
 - What information about traditional practices has been documented and disseminated to the community? This seminar will attempt to identify sources of such information, determine whether or not these information sources are adequate and whether the information is being disseminated effectively to potential users.

- In what ways can human resources development be focused to ensure "integral human development" and an ecologically sustainable society?
The second section looks at other aspects

of "essential means" focusing on women's issues, legal instruments, technological transfer, and integrating environment and development issues into economic and political decision-making.

- Questions asked may include:
- how can women participate effectively in decision-making?
 - what areas of law need reviewing and changing so we have effective law making for sustainable development?

- how can we strengthen the scientific basis for sustainable management, and what are the technologies which are both environmentally sound and safe to use?
- what are the financial resources and mechanisms needed to initiate changes to development policy and implementation.

Concluding remarks

The five goals of our Papua New Guinean Constitution cover "integral human development", "equality and participation", "national sovereignty and self-reliance", "natural resources and environment" and "Papua New Guinea ways". The fourth goal states:

"We declare our fourth goal to be for Papua New Guinea's natural resources and environment to be conserved and used for the collective benefit of us all, and be replenished for the benefit of future generations"

Principle 1 of the Rio Declaration on Environment and Development states:
"Human beings are the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature"

To fulfil the above surely entails that we must work towards the establishment of sustainable society, with a better quality of life for all Papua New Guineans both now and in future generations. Such a society must be both socially just and ecologically sustainable. This would be a major aim of a National Sustainable Development Strategy (NSDS).

The 20th Waigani Seminar is an attempt to bring together people from all walks of life in Papua New Guinea to listen and to discuss together with others how we can work together to develop such a NSDS.

- Is it not our responsibility to act now?!
- Is it what our National Constitutions demands from us?!
- Why not participate in the process of formulating a Papua New Guinean National

Sustainable Development Strategy?
If you are interested in obtaining more information on the Waigani Seminar, or would like to participate in the Waigani Seminar please write to:

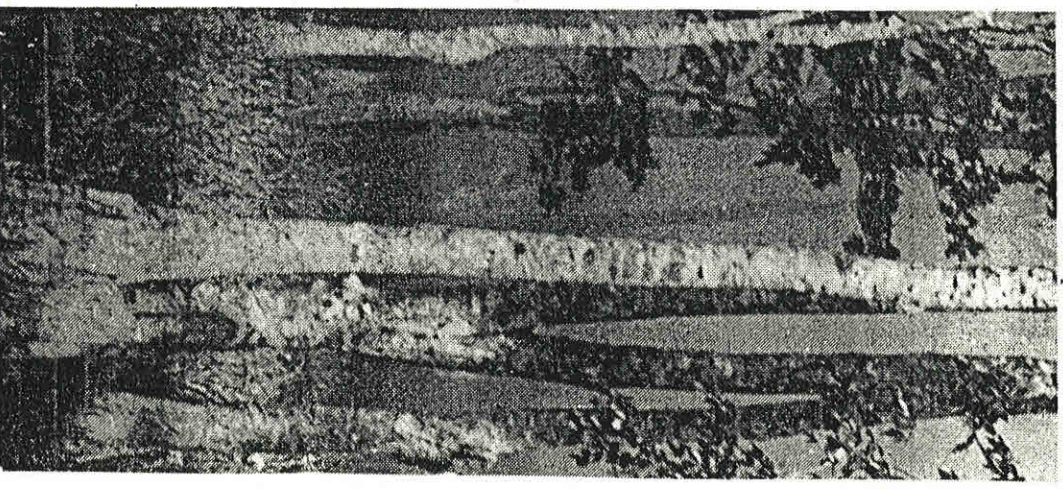
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A full provisional program for the 20th Waigani Seminar and a full list of sponsor to date will be published in next week's edition of *The Times of PNG*.

The above article was prepared by various staff at the University of Papua New Guinea and the National Research Institute for the Organising Committee of the 20th Waigani Seminar. It was edited by Darren Gladman, David Mowbray and Thomas Paka, Environmental Science, University of Papua New Guinea.

This article on the 20th Waigani Seminar is the second of a series to be published by *"The Times of PNG"*. The first entitled "Waigani Seminar 1993 - A Place of the Puzzle of Planning for Sustainable Development in Papua New Guinea" by Taherah Nadarajah of the National Research Institute appeared in the issue of Thursday June 10, 1993 pages 11 and 12. The third in the series publishing the provisional programs will appear in next week's issue.

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His Excellency, Sir Wiwa Korowi,
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PROGRAM FOR THE 1993 WAIGANI SEMINAR

THE 20TH Waigani Seminar on Environment and Development will be held at the University of Papua New Guinea, Waigani Campus, from August 22 - 27.

All persons are warmly invited to attend this important seminar and participate in helping to develop the Papua New Guinea National Sustainable Development Strategy.

Through this article we extend an invitation to all members of the public, government departments, politicians, industry, the private sector, landowner groups, Churches, non-government organisations, students, academics, unions, youth and women's groups and all 'grass roots' to attend and participate...to come, listen and give your views.

This is the third in a series of articles on the 20th Waigani Seminar. The second, covering the sub-themes of the seminar, appeared in the last issue of the *Times of PNG* Thursday July 29 1993, pages 12-13.

SUNDAY August 22: commencing 3.00pm University Forum and Main Lecture Theatre

Opening of Waigani Seminar

The seminar will commence with a series of cultural events staged by a Papua New Guinea cultural group, an Indonesian cultural group and the UPNG Faculty of Creative Arts. Following these cultural events, the seminar will be officially opened by his excellency, Sir Wiwa Korowij, G.C.M.G., K.S.J., Governor-General of Papua New Guinea and Patron of the 20th Waigani Seminar. A screening of films and videos at the UPNG Main Lecture Theatre on the theme of Environment and Development will be shown in the evening commencing 7pm (and shown every other evening during the seminar from 6-7pm).

MONDAY August 23: commencing 8.00am University Forum and Main Lecture Theatre

Introduction to Waigani Seminar

On the morning of Monday August 23 Pias Wingei, Prime Minister of Papua New Guinea will give the opening speech. PNG's Ambassador to the United States and Member of the "Earth Council", Ms Margaret Taylor, will deliver the keynote address.

Other speeches on Monday will introduce the theme of Sustainable Development and will explore what it means - to the nation of Papua New Guinea, to the United Nations, to non government organisations, to the Papua New Guinea community and to the Papua New Guinea land owner. The National Sustainable Development Strategy will be introduced and the various components of such a strategy explored.

On Monday evening at 7pm Ambassador Margaret Taylor will lead a panel of distinguished speakers in discussion with the audience in a public meeting.

TUESDAY to THURSDAY August 24 - 26: commencing 8.00am University Main Lecture Theatre

Topic: Environment and Development in Developing Countries: Lessons we can learn in developing a Strategy for PNG

Commencing 8am morning on Tuesday, Wednesday and Thursday the seminar will focus on the importance of developing a Papua New Guinea National Sustainable Development strategy.

Speeches will be given from overseas persons who can tell all of their experiences in other developing countries in Africa, India and in the South Pacific, and we hear from the experiences of Manus

province where the processes of sustainable development and community government are unfolding.

Speakers include Ms Kheithiwe Mhlango from Africa 2000, Dr Anil Agrwal and Dr Sunta Narain both from the Centre for Science and Environment in India, Dr Jenny Bryant from the University of the South Pacific and Mr Kule en Hamou from Manus.

From 10.00 each morning the conference divides into a number of sub-themes in order to consider aspects of Sustainable Development in greater detail. These sessions will consist of presentations by a number of speakers mostly in the mornings.

Speakers will be drawn from overseas, from representatives of villages, NGOs, government, industry and academia. Following the presentations, a panel of the speakers and some others will field questions from one another and from the audience.

Later, the panel and the audience will participate in workshops to discuss issues in greater detail and to develop recommendations for the National Sustainable Development Strategy.

Evening activities commencing 7.00pm will include on Tuesday environmental drama and plays from the Creative Arts Faculty, Foundation for Peoples of the South Pacific and the Indonesian Cultural Group; on Wednesday will feature student debates; and on Thursday a muna and singing for participants hosted jointly by UPNG and The United States Information Service.

TUESDAY August 24: commencing 10.00am

Four sub-themes are planned:

Revitalising Growth with Sustainability - Main Lecture Theatre

Here we will examine the conflict between growth and sustainability, growth and biological conservation, sustainability and industrialisation, and systems of environmental accounting.

Biotechnology, Biodiversity and Agriculture - Science Lecture Theatre

This sub-theme will explore combining conservation of biodiversity with generating income, methods for appraising a community's resources, biotechnology at the village level and the sustainability of agriculture and small scale farming.

Mining and Petroleum - Arts Lecture Theatre

Discussions on 'Mining and Petroleum' will include company representatives

from Ok Tedi and Chevron and landowner representatives from Porgera, Ok Tedi, Bulka and elsewhere. The economic, social and environmental aspects of mining will be examined from all sides. The role of non-renewable resource based industries in a sustainable development strategy will be addressed.

Managing Chemicals and Waste - Room 255 Science 2 Building

Overseas and local speakers will discuss a range of chemical and waste management strategies appropriate for PNG, together with problems related to implementation and enforcement.

A government person will describe the proposed Regional Hazardous Waste Convention. Ok Tedi, ICI and Ramu Sugar will describe the steps they are taking to protect the environment, ensure stewardship and reuse wastes. Representatives from Hanuabada village and Baruni dump will describe their systems of waste management, reuse and recycling.

WEDNESDAY August 25: commencing 10.00am

Four sub-themes are planned:

Health and Sustainable Living - Main Lecture Theatre

'Health and Sustainable Living' will begin with papers from three experts familiar with Papua New Guinea's health and population situation. The conference will then hear reports on the health situation in selected provinces. In the afternoon, workshops will discuss in more detail how the quality of life of all Papua New Guineans might be improved.

Forestry and Fisheries - Science Lecture Theatre

Likely to be the most controversial of all the sessions, the forestry sub-theme will explore the over-commitment and exploitation of PNG's forest resources, and will examine alternative forest management strategies which combine development with sustainability. With representatives from government, landowners, NGOs and PNG's major log exporters, the panel discussion should prove to be very lively.

The fisheries session will explore the development of sustainable fisheries, and the role of women and informal education in their development.

Water, Energy and Ecotourism - Room 255 Science 2 Building

Representatives of Elcom and the PNG Government will outline their policies for energy development, hydropower, water



conservation and maintenance of water quality.

Proponents of ecotourism projects will discuss their experiences and the role of ecotourism in conservation and development.

Information and Capacity Building as Essential Means - Arts Lecture Theatre

Speakers will discuss use of traditional knowledge and technologies as a vehicle for education and training. Discussions will focus on how we can use relevant information to empower individuals to contribute meaningfully to the sustainable development of our country.

THURSDAY August 26: commencing 10.00am

Three sub-themes are planned:

Human Settlements - Arts Lecture Theatre

The sub-theme will explore the characteristics of settlements on the urban fringe - aspects such as water quality, sewage disposal, shelter, and economic activities.

Settlers will make presentations about the conditions and services available in their area and their strategies for survival.

Strategies for improving conditions and services will be proposed, and lessons learnt from the settler communities will be discussed.

People, Participation and Responsibility - Main Lecture Theatre

This session will be conducted predominantly in Tok Pisin. A wide ranging discussion of issues and case studies will explore the nature of participation in the development process.

Among the topics to be discussed will be the social impact of logging in New Ireland, landowner participation in tim-

The Waigani seminar - coming to a province near you!

Provincial seminars: Fly River August 6 at Tababil - Ok Tedi Mining coordinating; August 9 at Kiunga - Managing chemicals and waste; people, participato and responsibility; August 11 at Balimo - sustainable Forestry; August 13 at Daru Managing chemicals and waste; people participation and responsibility. For further details phone 58 9332.

Manus: August 12-13 at Lorengau - Human settlements For further details phone 40 9088.
East New Britain: August at

Rabaul High school - environment and sustainable development. For further details phone 92 1694.

Lae: August 13 at University of Technology - Human and Financial Resources for further details phone 43 4401. August 21 at University of Technology - Human settlements. For further details phone 43 5401.

Goroka: September 13-14 at UPNG Goroka campus - education for sustainable development. For further details phone 71 1700.



SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

ber agreements, evaluating participation, women's leadership in community forestry, the effects of Ok Tedi and the impact of community theatre in environmental awareness.

Case studies will be presented from the Barai people, Chimbu province, Wau Ecology Institute, New Landowner Group, PNG Trust, Melanesian Environment Foundation, Foundation for the people of the South Pacific, East Sepik Council of Women and others.

Essential Means - Science Lecture Theatre

This sub-theme will examine the various means and mechanisms which may facilitate the establishment of a National Sustainable Development Strategy. The means include the political system, systems of decision making, legislation, the land tenure system, the participation of women, technology transfer, industrial development policies, domestic economic policy and financial resources. Speakers in this session will include Bernard Vogae, Premier of West New Britain.

FRIDAY August 27: commencing 8.00am

Friday is the final day of the 20th Waigani Seminar. The session will begin with reports from each of the sub-themes. Recommendations from the sub-themes will be drawn together and presented as a contribution to Papua New Guinea's National Sustainable Development Strategy.

Ambassador Margaret Taylor will present the final keynote speech 'From Rio to Rai' and formal proceedings will close with a speech from Parry Zeipi, Minister for Environment and Conservation.

With formal proceedings at an end, conference participants will enjoy a farewell lunch to be hosted by the Gateway Hotel.

Forestry and Fisheries - Science Lecture Theatre

This a provisional program for the 20th Waigani Seminar. It is subject to minor



change. It has been compiled by Darren Gladman and David Mowbray, Environmental Science, UPNG for the Organising Committee of the 20th Waigani Seminar.

A fourth article in this series on the Waigani Seminar will appear in next week's issue of *The Times of PNG*. It will feature the provincial seminars held in various provinces including Sandaun, Western Highlands and North Solomons where they have already been held, and for those still to be held in Manus, West New Britain, Fly River Western, Eastern Highlands, Madang and Morobe.

SPONSORS OF THE 20TH WAIGANI SEMINAR are:

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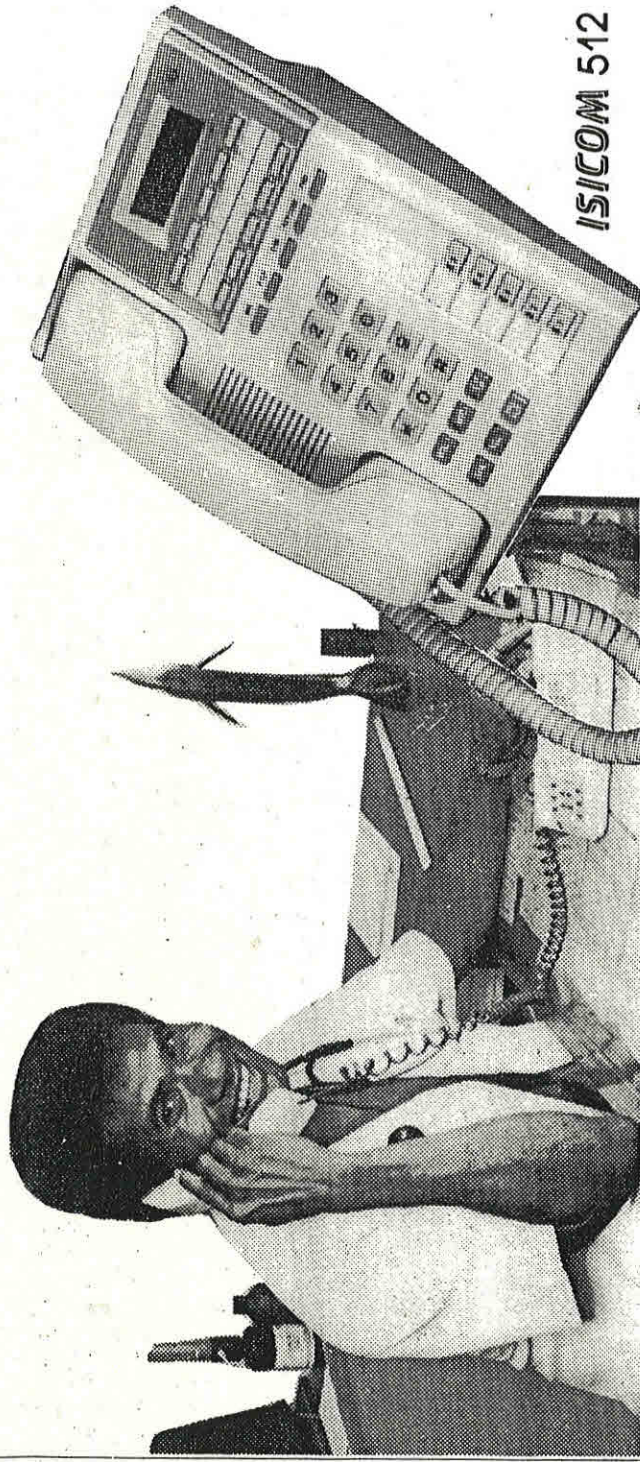
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THE PREVIOUS two issues of *The Times of PNG* (July 29; August 5) outlined the topics to be covered and the program of this important seminar. One feature of this seminar is that small meetings are being held in the provinces. Some have already been held. Some are still to be held.

In this article a brief outline is given for each provincial seminar.

Through this article we extend an invitation to all members of the public, politicians, government departments, industry, the private sector, landowner groups, Churches, non-government organisations, students, academics, unions, youth and women's groups, village persons... all "grassroots" to attend any of these venues... come and on this year's Waigani Seminar... wherever near you... in your province.

Provincial Seminars:

Sandaun Provincial Seminar held June 30
A day long seminar held in Vanimo. A full report on this seminar will be published when available. This seminar was coordinated by the Division of Policy Planning and Programme Coordination of the Department of Sandaun.

North Solomons Seminar held July 6-8
A three day seminar held at Buika. A full report on this seminar will be published when available. This seminar was coordinated by Romeo Tohiana, the Provincial University Centre Director.

Western Highlands Provincial Seminar held July 5-9

A week long seminar held at Mount Hagen. A full report on this seminar will be published when available. This seminar was coordinated by Mr Cleuis Topa, the Provincial University Centre Director.

Fly River seminars held August 6-13
These have been held or are about to be held in four locations throughout the province. They were coordinated by Sowati Ole, the Fly River University Centre Director. Locations and topics covered were:

August 6 at Tabubil - Ok Tedi Mining coordinating.

August 9 at Kiunga - Managing Chemicals and Waste; People, Participation and Responsibility.

August 11 at Balimo - Sustainable Forestry.

August 13 at Daru - Managing Chemicals and Waste; People, Participation and Responsibility.

Persons from Morehead and Lake Murray were expected to also participate.

The objectives of these seminars were to propose ways of better management of the resources of the province and to discuss peoples' environmental concerns.

Mannus Seminar held August 12-13

Mannus provincial government has been addressing the issue of sustainable development at the provincial and community levels for over a year now. A provincial seminar was held on the west coast of Mannus in 1992 which discussed what is sustainable development, its indicators, and strategies for implementing sustainable development on a provincial basis. Earlier this year two seminars were held which looked at sustainable development using the community government as a base, and one that used the village as a base. Both emphasised sustainable development in the rural areas.

A further seminar looking at sustainable development in the urban setting was held from August 12-13 at Lorengau. The target groups were the Lorengau Town Community Government, business, Church, administrative community and the general public. These seminars were organised by the Division of Natural Resources of the Department of Mannus Province.

Morobe - Lae Seminars to be held August 13 and August 21

Two Seminars will be held. These are being coordinated by Professor Michael White, Pro Vice-Chancellor of UOT.

The first to be held on Friday August 13 will cover the topic "Efficient Human Resources Use". It will be held in Lecture Theatre L3, in Department of Business

Studies at Unitech commencing at 8.30am.

The workshop will focus on the development of human and financial resources in PNG. In conjunction with UPNG, the Department of Business Studies at the PNG University of Technology will host this seminar to provide an opportunity for the people of Morobe to discuss policy issues. For further information people are asked to contact:

Prof. Aidan

Department of Business Studies

University of Technology

PMB Lae phone 43 4401 fax 45 7384

Topics covered will include efficient use of human resources, women - "a forgotten resource", small business, finance as a resource, entrepreneurial and financial resource use in small business.

The second is to be held on Saturday August 21 and will cover the topic "Sustainable Human Settlement Developments"

Topics covered include role of NGO's in capacity building for shelter development, women's place in shelter provision, the role of landowners in human settlement development, innovative financial strategies, PNG's initiatives in financing shelter development, the role of the informal sector of the economy in human settlement development, infrastructure planning and sustainable human settlement development, PNG Village Services Development Program, obstacles for Integrated Development Planning in PNG.

For further information and the full programme people are asked to contact

Dr Sababu Kaitilla and Mr Cleuis Conduran
Department of Architecture and Building
Department of Business Studies
PNG University of Technology
PMB Lae
phone 43 4501 Fax 45 7633

Madang Seminar on Wednesday evening August 18

In Madang a public forum will be held on the evening of August 18 at 5.30pm at Madang Apex Hall. This forum is being coordinated by the University Centre and the Madang Visitors and Culture Bureau.

It will feature discussions of the issues of Environment and Sustainable Development Deforestation, arboviruses and mosquitoes and Malarial research.

The Malabo Theatre will give a public performance "Holim Pas Long Pasin Jumbuna" on cultural preservation as a feature of the evening's activities. For further details phone 82 3003.

East New Britain Seminar in Rabaul on Friday August 20

This seminar entitled "Environment and Sustainable Development" is being coordinated by Joe Lera, the University Centre Director. It will be held on Friday August 20 either at Malaguna Technical High School or in the Tobunbun Hall of Rabaul high school. For venue details people should ring phone 92 1694.

Issues to be covered at this seminar include women and the environment, women in development, forestry in East New Britain and chemical management and soil conservation.

Eastern Highlands Seminar on September 13-14 at Goroka Campus of University of Papua New Guinea.

This seminar will be held after the main Waigani Seminar. It will be held at the Goroka Campus of the University of Papua New Guinea in Goroka on Monday 13th and Tuesday 14th September. Its theme is "Education for Sustainable Development."

On the Monday the seminar will focus on the Grade 7 and 8 transition to community schools and discuss maintaining standards, teacher training and upgrading and inspections. Certainly for development within PNG to be sustainable, more students must have access to an education so they can make more informed decisions. The government's plan to subsidise community schools and restructure education so that grades 7 and 8 are included in the community school partly addresses this objective. This discussion will focus on efforts to assist in this restructuring.

The Tuesday theme is "Establishing Environmental Education in PNG School Systems" and will include a discussion on possible problems in implementation of environmental education in PNG schools and how and why they needed to be avoided. Environmental education is an area of education in particular the language, social science and science curricula, but also mathematics, expressive arts, religious strengthen teaching of environment and development issues through our school curricula. This includes how we can better understand and use our own traditional

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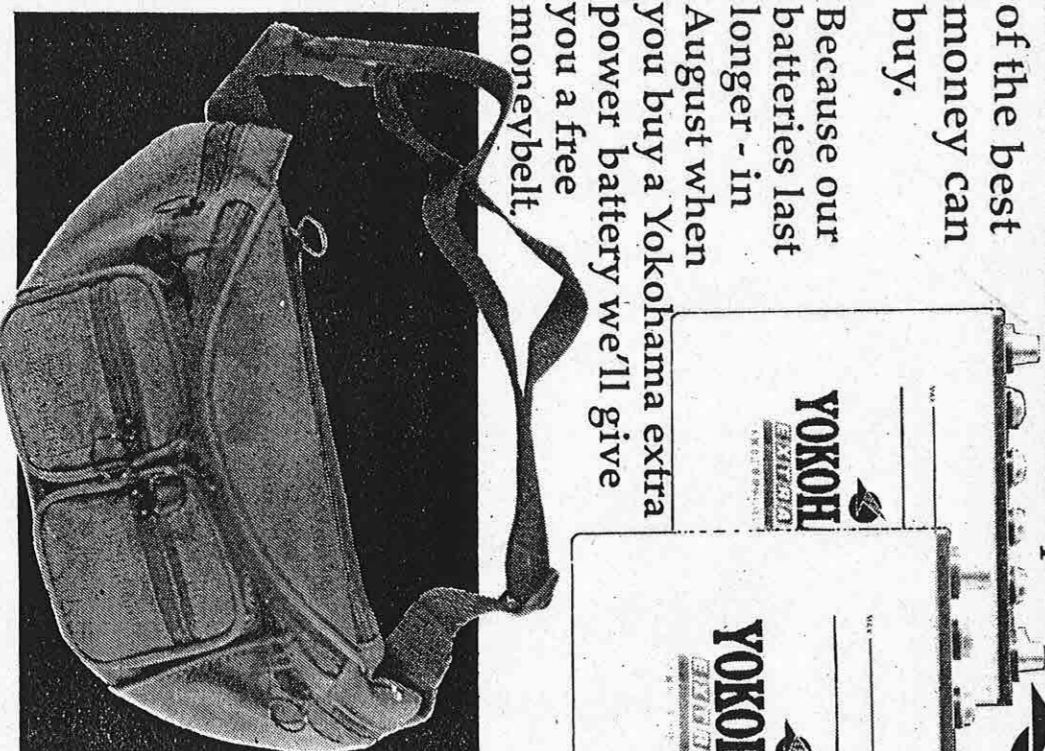
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SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

from page 11
Knowledge and technologies and integrate Papua New Guinean and western ways for a sustainable future.

More details on this seminar will be published in the "The Times of PNG" in early September. For further details on this important seminar you can contact:

Felix Bablis, Seminar Coordinator at Goroka Campus
Coroka Campus
University of Papua New Guinea
PO Box 1078 Goroka
phone 71 1700. Fax 72 2620

The main seminar of the 20th Waigani Seminar on Environment and Development will be held at the University of Papua New Guinea, Waigani Campus from August 22-27.

Is the government robbing the nation of its freedom and democracy?

from page 4

nal law is used to assassinate politicians. The execution of Mr Bhutto, the former Prime Minister of Pakistan is an example. We have the death penalty in Papua New Guinea, and the government wants to reverse the onus of proof. Judicial assassination could occur in Papua New Guinea, if this legislation goes through parliament.

No good reason. There is no evidence that any alteration in the onus of proof required on a trial has anything to do with the incidence of crime. Crime and the onus of proof are not connected socially or logically. Crime occurs out in the villages and the suburbs. The onus of proof is a rule operated by the National Court.

Most accused, pleaded guilty. Even with the most serious crimes, most accused persons plead guilty. The onus of proof is only used on a trial. Altering the onus of proof is not likely to have a serious impact on the rate of convictions.

Beyond reasonable doubt: part of the fight against colonialism. The struggle against colonialism was a struggle against injustice, and a racist legal system which oppressed native peoples. Although the rule requiring the state to prove its case beyond reasonable doubt originated in struggles for freedom and democracy in the United Kingdom and the United

States, they were also part of the anti-colonial struggle of the emerging Third World nations. Freedom, democracy, and the rule of law was an essential part of the decolonisation process. The rule requiring the state to prove its case beyond reasonable doubt came from the need to protect accused from harsh and oppressive criminal law. It is sidely recognised as being the best way of ensuring that justice is done. It is better that a guilty person goes free, than an innocent person is wrongly convicted. These are not empty phrases, but arise from the experience of countries who have had to struggle for their freedom, this struggle for freedom was part of the anti-colonial movement. To do away with these protections is to go back to the arbitrariness of colonialism.

You cannot mix different processes of dispute resolution and do justice. The argument is made that traditional Papua New Guineans did not use technical rules of evidence to settle disputes. Therefore we can do away with constitutional safeguards. This argument is wrong. The rules of evidence arose if countries when it became necessary to protect individuals from harsh and oppressive criminal laws involving the death penalty, long imprisonment, and transportation. Traditional

Sponsors of the 20th Waigani Seminar

Representatives from each of these provincial seminars and other persons from various provinces have been paid by the United Nations Development Programme and by various non government agencies to journey to Port Moresby to participate in the main seminar. They will present to the main seminar a summary of their provincial discussions and recommendations.

This is the fourth in the series on the 20th Waigani Seminar. Earlier articles appeared in "Times of PNG" on June 10, July 29, and August 5. It was prepared by David Mowbray, Environmental Science from correspondence with the provincial seminar organisers for the organising committee of the 20th Waigani Seminar.

All full time participants at the 20th

dispute resolution is quite different to the processes of the National Court. Traditional dispute resolution is based upon respect, settling the trouble, talking the trouble out, and restoring the relationships. It is a win-win model. The National Court uses an adversarial system, in which one party wins and one loses. It is a zero-sum model. In a murder case either the accused is acquitted, or the accused is failed or hung. The two processes are quite different. They have different processes and different results.

"Beyond reasonable doubt" does justice. It is also argued that to support the rule which requires proof beyond reasonable doubt is "Papua New Guinean," because the rule is "foreign." This argument ignores the history of the rule and its association with the struggle for freedom, democracy, and the struggle against colonialism. It is an argument which is chauvinistic, McCarthyism, and it is wrong. It is a counter argument that seeks to discredit opponents, rather than address the issues. The rule is part of democracy, the tradition of freedom, that has been adopted into many societies because it works, and has real benefit in the search for justice. Reversing the onus attacks grassroots. The government proposes to alter the onus

of proof for select crimes only murder, rape, robbery, arson. These are largely the crimes of the poor and grassroots. It does not want to alter the onus on misappropriation, fraud, theft, false-presences, forgery the white-collar crimes of the elite. The new law would be discriminatory against particular classes and strata in Papua New Guinea.

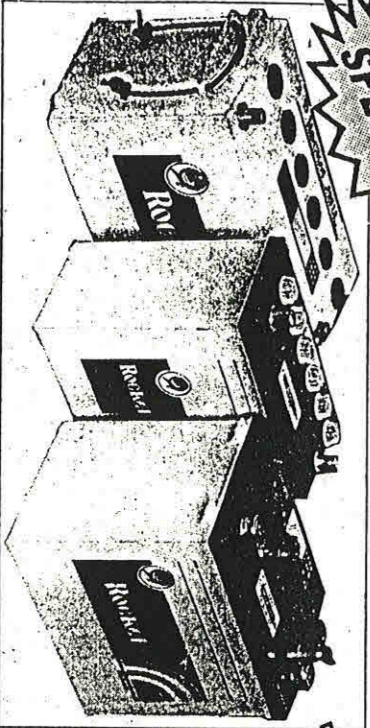
Reversing the onus will discredit the judicial system, and Papua New Guinea. The rule that accused persons may only be convicted of criminal offences if the case against them is established beyond reasonable doubt, is respected throughout those legal systems to which Papua New Guinea belongs. The idea that a court can sentence a person to imprisonment using a lesser standard breaches fundamental principles, and would put Papua New Guinea courts and judges outside of respectable international standards. Internationally, our court system would be seen to be discredited. Other politicians and lawyers would talk disparagingly about our system and our judges.

B.D. Brunton, Director, Individual Community Rights Advocacy Forum Inc. Box 49, P.O. University.

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Swinging away! □ Miss NCD C Bonnie Moi walks down the catwalk in her traditional Motuan attire on Saturday. She was the second runner-up to Miss PNG, Sharon Onsa.

SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

THE 20TH WAIGANI SEMINAR on Environment and Development commences next Sunday afternoon on the main Campus of the University of Papua New Guinea.

The last three issues of "The Times of PNG" have outlined the topics to be covered, the programme and listed some of the meetings held in the provinces.

An invitation is extended to all persons, whether politicians, government officers, persons from the private sector, land-owners, women's groups, church people, youth, unionists, village persons, all grassroots... to attend and contribute to this Waigani Seminar.

What is Sustainable Development?

This Waigani Seminar focuses its attention on Sustainable Development for Papua New Guinea. Our objective is in part to assist in PNG developing its own National Sustainable Development Strategy.

Perhaps it is appropriate to ask ourselves, what is sustainable development?

The World Commission on Environment and Development, the group that prepared much of the early work for the Rio conference, defined "sustainable development" as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In essence sustainable development means improving the quality of human life within the carrying capacity of supporting ecosystems. That is for sustainable development we must meet the basic needs of our people within limits imposed on us by our environment and its ability to cope indefinitely.

To the average person in a Papua New Guinean village this sounds little more than big words, by academics. At the Waigani Seminar we shall attempt to define what sustainable development means to a village person and to our nation as a whole. What are basic needs? How can the needs of both the present and future generations be met? What are the limits imposed by our environment?

Furthermore what do we mean by other related terms eg sustainable growth (a contradiction in terms?), sustainable use, sustainable economy, sustainable society... what indeed is a "national sustainable development strategy"? What is meant by these terms will be debated at the seminar. What they mean to us in Papua New Guinea is critical.

The Waigani Seminar aims to assist our people and our Government to develop our own Papua New Guinean strategy for a sustainable future. The Waigani Seminar focuses arounds number of key issues or sub-themes and a series of priority actions. These are outlined in the Diagram attached called "A Framework Priority Action Plan".

The following two articles present some thoughts on the subject of sustainable development.

oment.

The first has been written by Dr Nizar Mohamed who is the New Zealand Post UNCED Coordinator and at present an adviser to the Papua New Guinean Government. He provides a simple model to emphasise the key components of sustainable development strategy. He also lists some key features of a successful national sustainable development strategy.

The second is an extract from an Environmental Science textbook used at the University of Papua New Guinea. G. Tyler Miller provides in his text "Living in the Environment: An Introduction to Environmental Science, 7th edition" a list of important "Principles for Understanding and Sustaining the Earth".

Sustainable Development - some key concepts by Dr Nizar Mohamed

Principles for Understanding and Sustaining the Earth
extracted from G. Tyler Miller 7th edition Living in the Environment.

Recognition of these principles is crucial for the way forward. Surely we must recognise that environmental, resource and social problems are caused by a complex, poorly understood mix of interacting factors as illustrated by the attached (simplistic) model, also from Miller.

The population, energy, poverty, pollution, urban, war, and environmental degradation problems we face are all interrelated. It is believed by many that • we can only stabilise population only when poverty is sharply reduced • as long as third world countries are burdened by enormous debts, they will feel driven to pay the interests on these debts by depleting and degrading their natural resources, mostly for exports to developed countries • we can not solve pollution problems by continuing to rely on pollution cleanup instead of pollution prevention • we can not sustain the earth for us and other species by continuing forms of economic growth based on depleting Earth's natural capital that supports all life and economic activities • we must formulate integrated approaches to the problems we face at the local, national and global levels. We must recognise that everything is connected to everything else in a seamless web of life.

OPENING OF THE WAIGANI SEMINAR

The Waigani Seminar will be officially opened by the Waigani Seminar patron His Excellency, Sir Wiwa Korowi, the Governor General of Papua New Guinea at 4.00pm next Sunday 22nd August at the Main Lecture Theatre on the Main Campus of the University of Papua New Guinea. Seminar sessions will commence at 9.00am

on the Monday morning and will continue throughout the week. Daily sessions will run from 8.00am to 5.30pm and with evening sessions.

REGISTRATION FOR THE 20TH WAIGANI SEMINAR

Registration begins at the Forum on Sunday at 2.00pm. Late registration will be held on Monday 8.00am and throughout the week. All full time participants need be registered. Fees are K20 per person but only K5 for village persons and villagers. It is hoped that organisations can contribute extra by paying K50. Only registered persons are provided with the materials and are subsidised for meals and can attend functions. Persons who attend single sessions are requested to pay a small contribution.

This is the fifth in a series of articles on the 20th Waigani Seminar. It was prepared by David Mowbray, Environmental Science for the Organising Committee of the 20th Waigani Seminar.

Sustainable Development - some key concepts

What is sustainable development? Agenda 21, the main outcome of UNCED, provides a common framework of action for all countries to achieve sustainable development. Countries are expected to use the directions provided by this frame work and develop their own policies, programmes and actions to achieve sustainable development.

The Brundtland Commission defined sustainable development in broad terms as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Thus the concept of sustainability allows for social and economic development while ensuring that the natural environment and the social, cultural and spiritual fabric of the country is protected and maintained according to the wishes and aspirations of all its peoples. Achieving the goal of a sustainable society requires recognition of the organic nature of human society and of its links with nature.

The concept of sustainable development can be explained by a model (Figure 1) which shows the interactions of social, environmental and economic objectives. At the centre of this model, the area common to all three spheres, is the well-being of the community and the individuals who are its members, as well as the well-being of nature. The three main circles represent: A viable natural environment capable of supporting life, now and in the future. A sufficient economy that provides sustainable livelihoods for all. Nurturing communities that provide opportunities for meeting social, cultural and spiritual needs.

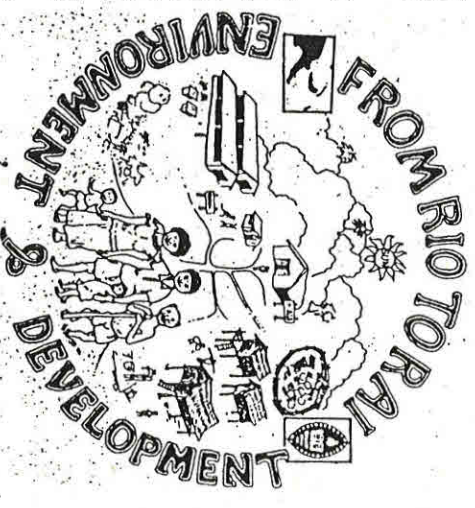
The interactions of society, economy and environment are shown by the overlapping areas for the three circles: A sustainable economic environment (the economy-environment relationship) which uses the resources of the natural environment to meet present needs without compromising the ability of future generations to meet their needs.

An equitable social environment (the environment-economy relationship) that ensures that all citizens have fair access to levels of income and political power which allows them to participate fully as members of society. A liveable built environment (the community-environment relationship) which provides for the safety and security of all individuals, and for their aesthetic and spiritual needs.

A National Sustainable Development Strategy (NSDS)

Agenda 21 called for all countries to "adapt a national strategy for sustainable development based on, inter alia, the implementation of decisions taken at the Conference, particularly in respect of Agenda 21".

The constitution of PNG provides for a sustainable approach to national development through the fourth goal of the National Goals and Directive Principles, which states: "Natural Resources and Environment: Papua New Guinea's natural resources and environment should be conserved and used for the collective benefit of all and should be replen-



ished for future generations."

The Waigani Post-UNCED Seminar recommended that:

"The Departments of the Prime Minister, Finance and Planning, Environment and Conservation, and Foreign Affairs be directed to prepare for the NEC, a substantive policy submission on the implications and appropriate implementation procedures for a Strategy for Sustainable Development in Papua New Guinea."

The process of developing such a strategy for Papua New Guinea is just beginning and the Waigani seminar will provide a valuable input into the preparation of the NEC submission. This will require participants to have a clear understanding of what is involved in a national sustainable development strategy.

As stated in the recent IUCN/IIED guide: "A national strategy for sustainability is a participatory and cyclical process of planning and action to achieve economic, ecological and social objectives in a balanced and integrated manner... The process encompasses the definition of policies and action plans, their implementation, monitoring and regular review."

The key features of a successful NSDS are:

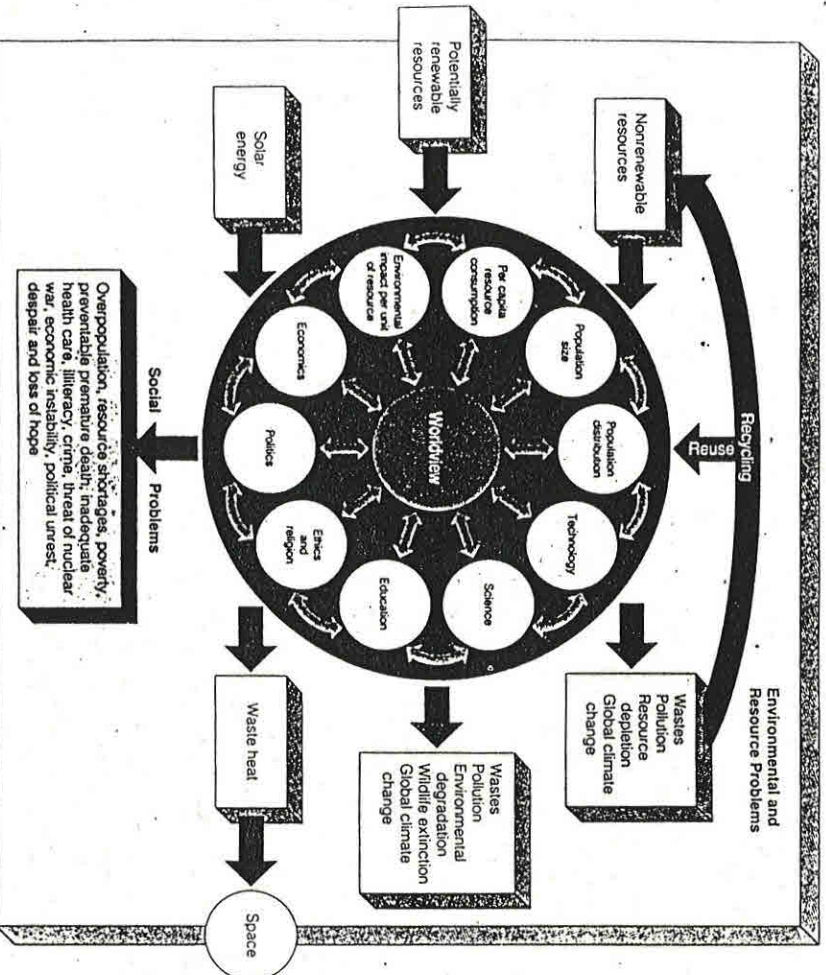
An overall goal of sustainable development which balances ecological, economic and social objectives by a holistic approach with a long term perspective. In practice, sustainability can only be negotiated and defined at a local level. This requires a flexible process involving trade-offs between potentially conflicting goals and long-term versus short-term needs, negotiated amongst all stakeholders in society.

A participatory approach that empowers all stakeholders to participate effectively in all stages of the process: setting objectives and priorities, identifying issues, designing and implementing programmes. It involves the building of partnerships and a consensus approach to decision making. It also requires access to all relevant information as a basis for informed decision-making.

An integrated approach that takes account of all the main factors that influence achievement of objectives by integrating ecological, economic and social perspectives as well as the plans, policies, and programmes of interacting sectors and interest groups. At the same time, it seeks to set priorities so that actions are focussed on the most urgent needs of the country. Strategic choice of objectives, targets, issues and actions will allow the NSDS to concentrate on the priority issues, the key influences on those issues, and the most effective ways of dealing with them.

A cyclical process of planning and action that concentrates on turning policies, plans and programmes into actions. The ultimate goal of a successful strategy is the attainment of its objective; the intermediate products are the actions it sets into motion to achieve these objectives.

Monitoring and evaluation to measure progress towards a common goal should be an integral part of a NSDS. These require the use of indicators that look at interlinkages and inter-relationships and provide feedback for changes of course. This is essential as many outcomes are uncertain and conditions and processes change over time and effective monitoring and evaluation allows the strategy to respond to these changes.



SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

Uiari - Ok Tedi brought first sustained development to PNG

MINING at Ok Tedi has brought the first sustained development to the Western province of Papua New Guinea and established a major new national industry, according to Ok Tedi Deputy General Manager, Kipling Uiari.

He said Ok Tedi Mining Limited was proud of its accomplishments within a relatively few years, adding that it would make increasing contributions to Papua New Guinea over at least the next 15 years.

Mr Uiari was speaking at the 20th Waigani seminar at University of Papua New Guinea, Environment and Development in Papua New Guinea up to the year 2000 and beyond - from Rio to Rai.

Mr Uiari, a former PNG Secretary for Labour and Industry who has worked on the project since 1980, said development of Ok Tedi was providing significant benefits to the people of Papua New Guinea.

"We have established a major new PNG industry earning more than K400m a year - a quarter of PNG's total exports in 1992 - which will continue to provide support for national development well beyond the year 2000," he said.

"Our achievements can also be judged by asking: What will be left after mining? Will people be better off?"

Mr Uiari said that after mining at Ok Tedi, a modern town and healthier, better educated and skilled local population would be in a good position to pursue new opportunities for development, such as tourism.

"Tabubil is a K300m town with an airstrip, a hydro power station, roads, water supply, communication facilities, a hospital, schools and a supermarket," he said.

"Importantly, the life span of the local people has been increased from about 30 years to more than 50 years, they now own and share in the running of businesses with a turnover of K50m p.a., and have gained an education and work experience.

"Beyond the immediate landowners, and beyond our obligations to the State, we have established a development trust for villages along the Lower Ok Tedi and Fly River system.

"By the end of mining, these people will also share more strongly in the sort of benefits now enjoyed by the landowners of the mining lease.

Mr Uiari said the price Papua New Guinea paid for this development was the temporary and reversible effect of mining on the environment.

"During the development of the Ok Tedi project there have been criticisms of its environmental impacts, many of them based on inaccurate information," he said.

"Ok Tedi Mining Limited is a responsible resources development company which recognises that all environmental effects must be carefully considered.



On site at Baruni Dump, at far left is Joseph

Effects of waste management in urban villages

by JENNIFER PARINA

THE WAIGANI SEMINAR was told on Tuesday that waste management is a continuing struggle for the urban villages in Port Moresby city.

Thomas Willie, who comes from Hanuabada Village, told the audience the problem has grown over the years corresponding to the pressures from the growing city of Port Moresby.

He said domestic sanitation, garbage removal and burial grounds for the dead were some of the major

problems experienced by the villagers.

He drew specific examples of waste management or the lack of it, from his village but said similar cases may be experienced in the other urban villages too.

Mr Willie said people who live over the sea dispose of their waste directly into the sea, which creates a buildup of silt under the houses, reducing the effectiveness of the tides to sweep the wastes out to the sea.

As a result, a deep ooze has been established under the houses, not only by human waste but household

Making a living from "recycled waste"

IT WAS well past 2pm, the time scheduled for Joseph Amatefu Aisa to present his paper 'Managing Waste, Reuse and Recycling: The Reality' to the Waigani Seminar on Tuesday.

Unfortunately, power failure had delayed the sessions and Joseph came forward to present his paper at something to three in the afternoon.

"I had expected to see some well dressed person with neck-tie and the lot but was surprised to see somebody, old enough to be my father, go out carrying a flour bag, the contents of which he revealed later on during his talk.

Unlike the speakers who had earlier on presented their talks from well-typed A4 size papers, ranging from 10, to 15 pages, Joseph's was just a mere two page paper written out in an exercise book.

"Good afternoon. My name is Joseph Amatefu Aisa and I come from Baruni Dump.

"I get copper, aluminium, can stainless steel and sell to Small Industries. "I get K5, K20, K50, K70, K100!" he said. Everybody laughed as he presented

his talk in simple, broken English but his message came through loud and clear.

"That... people who live at the settlement next to the Baruni Dump in Port Moresby have adjusted to the environment to feed and fend for themselves.

They collect from dump the whatever is suitable for reuse and recycle and sell it to earn their living.

In other words, the dump is what they rely on to earn their bread and butter.

The aluminium, brass copper, empty cans and steel, they take to the Small Industries Centre to sell, Joseph said, as he took out samples from the bag and showed to the audience.

The food wastes, he said, are used to feed the pigs which they then sell at prices ranging from K100 to K600.

Apart from that, the people also sell bottles and vehicle parts which they also get from the dump, Joseph said.

Pieces of cardboard, timber, plywood, corrugated iron and so on are used to build their houses or build make-shift homes, he added.

ugly and smelly, he said.

The villagers also appear to have little regard to proper rubbish disposal or littering, Willie claimed.

He showed slides of derelict vehicles and the drains filled with household rubbish that often blocks the flow of water in the drainage system.

However, Willie said there has been an improvement in this area, as women's groups and youth groups have been employed to clear off the rubbish.

The closure of the Badinagwa cemetery has promoted the practice of villagers burying their dead within or

adjacent to the village, Willie said.

"This practice is now well established and graves are now located beside houses, in gardens, adjacent to roads and schools, etc," he said.

Willie attributed these problems to the lack of land, most of which he said has been taken up by the growing population in the village.

He said their grievances have been brought before the Motu-Koitabu Council but to date nothing has been done.

He told the seminar these are environmental problems, and need to be addressed immediately.

Green accounting locally and globally

PARTICIPANTS at this week's 20th Waigani Seminar were informed of actions being taken in the area of "green accounting" by both PNG national and international monitoring groups.

It is no longer valid to measure growth by comparing Gross Domestic Product (GDP) of two or more countries. Life quality indicators such as water and air purity and access to health care must be taken into consideration. Care must be taken to ensure that non-economic activities, especially those of women, are not neglected in the counting. Therefore a new measurement called Environmental Domestic Products (EDP) is being tested.

Most development projects cause some damage to the environment. In addition, there are depletion losses as both renewable and non-renewable natural resources are used up. The extent of environmental degradation and depletion losses are what EDP attempts to measure.

In delivering a paper by Dr. Peter Bartelmus of the United Nations Statistical Division, Ms. Reona Shaw stressed that the concept of EDP is still in the testing stage and data thus far collected is tentative at best.

Dr. John Asafu-Adaye of the University of Queensland went on to inform participants of efforts PNG is making in the area of a National Sustainable Development Strategy (NSDS). Recognising the flaws in measurement system that is

currently in place, Dr. Asafu-Adaye suggested that a three-point plan be initiated.

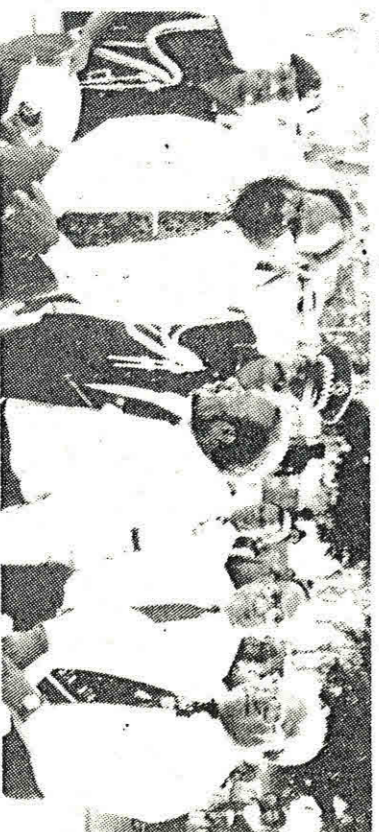
Sustainable development units (SDUs) in government departments are necessary. SDUs which monitor data collection in Land and Physical Planning, Environment and Conservation, Forestry, and Village Services would be a crucial first step. Coordinating the already existing expertise within these departments must be given priority he said.

Public awareness programmes and a redirection of government resources provide a necessary second step. On-going training of government planners and in-depth preliminary research is also needed for the establishment of an effective national strategy.

Environmental Impact Statements conducted by non-aligned and independent bodies are required on each resource project in the country before they are given the green light.

The challenge to create an international image of environmental concern was put forward at this week's 20th Waigani Seminar. Richard Welch, from the University of Otago in New Zealand, academics, politicians, and public servants were urged to arrive at a consensus regarding a National Sustainable Development Strategy (NSDS).

"Compared to other so-called less developed countries, Papua New Guinea is potentially advantaged," explained Dr. Welch.



Governor General Sir Wiwa Korowi on his way to open the 20th Waigani Seminar on Sunday with the Vice Chancellor of UPNG, Joseph Sukwianomb and the Deputy Secretary for Foreign Affairs, Maimu Rakka Nou.

Being a relatively small nation-state on the geographic periphery of Indonesia and Malaysia, gives PNG the edge. It is possible for this country to create for itself an international image of legislative protection biodiversity.

Since the Rio Summit of 1992 global concern for the environment

has returned to the spotlight. The World Bank, United Nations Development Fund, and other such agencies now aim to help nations establish their own national plans for sustainable.

"Be in the right place at the right time with the right idea," said Dr. Welch. "Tell the (agen-

SUSTAINABLE DEVELOPMENT

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A plea for people to take care of their environment

An address by his excellency Sir Wiwa Korowi, GCMG, KStJ Governor-General of Papua New Guinea

MY MANY official duties give me considerable pleasure but today's gathering is one very close to my heart. I am especially proud to be patron of this very significant occasion - The 20th Waigani Seminar.

It is a wonderful achievement for an initiative like this to withstand the test of time. I doubt many of the organisers or participants of the first seminar in this series could have dreamed that today's event would be such a marvellous success. Here's hoping we can achieve some very practical results from this seminar.

If we do, we will honour the foresight of those who organised what became known as the first Waigani seminar. There is an even more vital reason, though, for us to work especially hard to make this seminar a great success. It may sound trite, but it is true ... that the fate of our world depends on the success, or otherwise, of events like this today.

You people in this room potentially hold the fate of our world in your hands. You people are in the vanguard of the environmental movement and, upon your determination, rests the future of our flora and our fauna. You people must be the conscience of society ... and you must honour your ideals through good times and bad. It is an awesome responsibility. I know. But all great movements in the history of humankind have started with the sincere beliefs and dedication of a few stalwarts ... stalwarts who had the courage of their convictions.

The environmental movement is not new, yet I fear it is still misunderstood. Indeed, there are millions of people today who believe they are supporters of the environmental movement. Sadly, though, I suspect they pay only lip service to the underlying principles of the environmental movement.

We are ... almost all of us ... consumers. And ... as consumers ... we despoil our planet. Now I don't for a moment advocate that we all return to a primitive lifestyle, eating nuts and berries and living in the forests. That may be okay for some but it is, let's face it, unrealistic and unworkable. If we are to succeed in our task of saving the planet for future generations, we must ... above all else ... be practical.

The specific challenge we face at this seminar is to help design a national sustainable development strategy. This is an admirable task. And I urge all participants to apply every ounce of brainpower you have, to come up with solutions to the problems facing our nations. We need your understanding and experience. Perhaps ... above all ... we need your patience and persistence.

by JENNIFER PARINA
THE USE AND management of resources for sustainable development will not work if the basic needs of people are not addressed properly. This was the message Mr Kule'en Hamou, Assistant Secretary of Natural Resources with the Department of Manus gave to the Waigani Seminar last week. "If sustainable development is better understood and appreciated

The task we confront is not easy. We have to overturn centuries of abuse, neglect and disdain for our natural environment. Old habits die hard, we know that. Unfortunately, though, old worlds die hard, too. And our earth is under grave threat. I am confident that you people can act as advance troops, if you like, to push ahead and show the rest of us the way. You are the pathfinders and we will follow in your footsteps. But we will follow only if you can convince the people of the merits of your case.

That is a simple statement but I fear it may be terribly difficult to achieve. My concern is this ... that we are not yet talking the language of the people. And, if the people do not understand us, they will not follow our lead. Let me explain ... Take, for example, the phrase: National sustainable development strategy. What do you think that means to those workers who labour at manual tasks because they have limited education or opportunity?

What do you think it means to people who live in squatter settlements? What do you think it means to grass roots villagers in remote areas of this nation? Let me also ask you what you think they will make of such phrases as ... "Rationalising growth with sustainability" ... "Efficient resource use" ... "Managing chemicals and waste" and "People's participation in the development process".

It doesn't stop there, though. We even talk about: "An information exchange at all levels of society on the relations of ecological, environmental, economic and social considerations and values". Ladies and gentlemen, I appreciate that this is the accepted language of people with your level of education and involvement in this issue. But it is not the language which ordinary people can understand. And if we do not reach the common people ... directly and clearly ... we will have lost the battle.

I urge you to start thinking about sustainable development and associated issues in very simple concepts. I urge you to mentally put yourselves in the shoes of those who do not even wear shoes. I urge you to resist the temptation to become isolated in ivory towers. Please understand, and accept, that I am not being critical. But I do passionately want to protect our environment.

And I know from my life in my village - Ialibu, in the Southern Highlands - that we must think like the common man if we are to succeed. We need to talk about very simple things. For instance: we need to put back what we take out. And I don't just mean that we replant trees after felling them. If we take out ebony and rosewood, we must replace exactly those trees. If we do not ... we will be judged by our children as having failed them. They will ask: "What have you done to

Manus government, at one time, concentrated more on economic development, but this did not work. "Despite the large expenditure on economic development projects, the quality of life of Manusians saw no real improvement," he said. "These are the people who make direct and immediate decisions on the use of resources. In other words, people and their human capital development is the primary resource that we should concentrate our efforts on", he said. Mr Hamou said the

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us?" "Why have you destroyed our land?" "Where are our forests? Why are there no fish in our rivers? Where are all the wild animals?" And what will we be able to say to them? Can we say: "We are sorry but we did not think development would cause this much damage?"

I was terribly saddened last week to read about the horrible damage done to the Fly River as a result of development. People say: ... Ah, but we have the best environmental studies in the world. And they say: ... But we have spent millions of kina to protect the environment. Well, I say to them: It doesn't matter: You have failed the people. You have destroyed their lives. Government is now talking about repatriating people.

I suppose it doesn't sound too bad ... If you say it fast enough. But what does it mean to the innocent people who are forced off their land? What does it mean to them to have their spiritual bond to the land smashed by some ministers and bureaucrats in Waigani? They talk about giving these people money ... some sweetheart compensation deal.

But what money could repair the damage to these people's souls? Ladies and gentlemen, we were made to subdue the earth, and to replenish it. But also that we be good stewards of what God has given us ... the earth. Can you imagine the joy of catching a fresh barramundi from a beautiful clear river, throwing it onto a fire and eating it straight away?

It is magnificent ... I know ... I did it myself for many years. But, today, we are forcing people to eat poisoned fish. We are going against nature and it is inhuman and unacceptable. We really do have to stop ... and take stock of our situation ... before it is too late. Will we come back here in a few years to the 25th Waigani seminar and discuss how we can overcome the same mistakes with Porgera and Lihir? I do hope not!

Friends, I was fortunate to attend the so-called Rio Conference organised by the United Nations last year and it shocked me. As many of you would be aware, it was one of the world's largest conferences with almost 170 countries represented there. The message was loud and clear: We have to live with nature or we are killing ourselves. I came away from Rio with mixed feelings, not knowing exactly how to get a message across to my government.

Some of the experiences related by your countries really shocked me. They said: "We are victims of what has happened to us. We want the world community to help us get back to our former way of life." But, of course, it is almost always too late to go back.

From such knowledge and skills, the villagers then buy their own chainsaws, produce treated timber from their own trees, purchase roofing iron and either with clan or hired labour, build their own houses at relatively cheap prices. For the outer islands, the villagers will be trained in sandbrick production, coconut timber production and house profiling after which they will use their own resources to build or improve their houses.

From the survey, the leaders at all levels, village, community and provincial, then analysed the needs in the context of the particular situation, developed integrated strate-

That is why we must be so careful here in Papua New Guinea and, frankly, I am afraid we are not being careful enough. We are allowing people to walk all over us here. This is not a message which will be universally liked but it has to be said. The time will come when this nation realises the damage that has been done. Future governments will panic that these things were allowed to happen.

The question to be answered is who will ultimately be held responsible for them? You know, we think we have plenty here in Papua New Guinea but really our resources are very limited. To preserve our heritage for the future we need a coordinating body for our relevant ministries so that planning is properly done.

We must make sure that what we harvest is replaced. We must make sure that there is a parallel development to put back renewable resources such as trees and fish as we take them out. Let us take time to ask: Are we able to replace this? Or should we proceed with this project? If we are destructive of nature's harmony there will be a very serious price to pay. We see that in the destruction of fertile land through poor cropping techniques and over-use.

I am particularly aware of the effects of global warming. It is happening now in my own village at 4000 metres above sea level. Today we are growing unusual crops for this altitude such as corn, cucumbers, and bananas of a sort never grown there before. So, the physical changes are there and we must recognise them before it is too late. We must also recognise social changes. We are living in a situation where our younger people no longer value the customary uses of land, our river systems and other aspects of the natural environment.

If our attitudes do not change, they will find themselves as foreigners in their own land. Nobody will be able to tell them what they have missed and they will never appreciate their lot. You just can't get that sort of experience from books or television. Ladies and gentlemen, these are painful messages I carry but they must be heard. It is only being harshly realistic now that we can find cause for optimism tomorrow.

This 20th Waigani Seminar is a wonderful initiative to help guide us into the future. I am very proud and honoured to officially declare the seminar open. As you take part in your discussions over the next few days, please carry this message with you ... If you are determined ... we can change the course of history. If we are courageous ... we can convince others of our beliefs. If we care ... we can change the world. I wish you every success in your endeavours.

For resource management, Mr Hamou said several major groups have been formed to look after this area. Major resources that they are concentrating on are: human capital, land, agriculture, forestry, and fisheries, he said. People have been made aware of the importance of their resources and have been trained in how to make better use of these resources to satisfy their needs. Mr Hamou said.

Manus has a lesson for the rest of PNG

Manus government, at one time, concentrated more on economic development, but this did not work. "Despite the large expenditure on economic development projects, the quality of life of Manusians saw no real improvement," he said. "These are the people who make direct and immediate decisions on the use of resources. In other words, people and their human capital development is the primary resource that we should concentrate our efforts on", he said. Mr Hamou said the

SUSTAINABLE DEVELOPMENT

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Working in partnership to achieve sustainable development

by DOMINIC KAKAS

THE 20th Waigani Seminar is part of the beginning of a whole new outlook on sustainable development in Papua New Guinea and hopefully the beginning of a new partnership between the private sector, government and landowners towards this goal.

This partnership is expected to extend across local and national boundaries - at least that is what many concerned people would like to think so.

Sustainable development has many definitions - the Waigani seminar defines it as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Titled "Environment and Development: From Rio to Rai", the 20th Waigani Seminar aimed at finding ways the country can achieve sustainable development into the year 2000 and beyond. It is part of the process of Papua New Guinea producing its own Agenda 21 - the National Sustainable Development Strategy and National Action Plan.

Many people, including Professor Lance Hill, Dean of Science at the University of Papua New Guinea, say the topic is timely and of national, regional and global concern.

As usual, skeptics would say that the seminar is all rhetoric meeting where academics, think tanks and idealists talk and do nothing. No-one has paid heed to the recommendations of the 17th Waigani Seminar in 1986 on "Ethics of Development." What is to prevent the same from happening to the recommendations of this seminar?

"Okay, a lot of people comment on Waigani seminars that it is a place where academics get together, talk and make recommendations and nothing happens. I think that is not far because it's the role of the university to raise issues in the public arena and make critical comments," said Professor Hill. It is the government's role to take the recommendations to task - the ball is now in its court, he said.

Professor Hill believes enough interest and concern has been expressed by the political leadership, to ensure that the recommendations from the seminar will form the basis of a national sustainable development strategy.

Both Prime Minister Parris Wighti and Governor General Sir Wiwa Korowi agree that steps have to be taken now to ensure that the lives of the future generations are not compromised.

The Policy Coordination Monitoring Committee, headed by Sir Barry Holloway, has set up a 15-member task force to draft a policy paper on a national sustainable development strategy. The 15 members include five from non-governmental organisations, two from business and industries and six from various government departments such as finance and planning, foreign affairs and environment and conservation.

"The Waigani seminar recommendations will be taken into account. Our main purposes are to analyse the implications of a national sustainable development strategy for Papua New Guinea by sector and to advise cabinet of the implications of such a strategy," said Iamo Ila, secretary of

the Environment and Conservation department and chairman of the task force committee.

According to Ila, the country made a commitment towards such an effort when Sir Wiwa signed various declarations made in the Rio Earth Summit last year, one of which called for the establishment of national sustainable development strategies in signatory countries.

The Rio declarations and recommendations will also be taken into account, says Ila, but whatever form, a national sustainable development strategy must be home-grown and designed from the Papua New Guinea perspective.

Both the Papua New Guinea and New Zealand governments are paying for the services of a consultant, Dr Nizar Mohamad, to help the task force draw up a policy paper on a national sustainable development strategy. This is to be submitted to the National Executive Council by mid-November.

"The policy paper will set up what the major issues are and suggest ways in which a national sustainable development strategy can be developed," Dr Mohamad said.

The national sustainable development strategy, when it comes out, will be different from previous government policies in that it will have more input and participation from grassroots people. In the past bureaucrats made policies, the government approved and slapped them on the people, whether they understood or even liked them, says Ila.

"It's a national strategy that we are talking about so it will have to be decided by everybody," said Dr Mohamad.

A national sustainable development strategy, according to Dr Mohamad, is still a long way away. "It will take many years. A lot needs to be done. But we have taken the first few steps in the long journey forward," he said.

Over 400 people registered for the 20th Waigani seminar which began on August 21 and ended last Friday. The seminar was different this year in that for the first time grassroots were given the chance to participate through mini seminars held in provincial centres.

Some of the notable international participants included John Sawhill, president of the Nature Conservancy, a non-profit organisation widely recognised as one of the most successful in the field of conservation, Jan Hartke, president of EarthKind and Garry Harshorn of the World Wildlife Fund. United States Vice President Al Gore, a passionate defender of the environment for more than 20 years, gave a televised address to the seminar participants.

But why the interest from the US vice president and such high profile groups?

Papua New Guinea has vast natural areas in near-pristine ecological condition. It is among the world's last great marine and terrestrial frontiers, but at current trends of development these may be nothing but memories. Papua New Guinea and other countries in the Asia/Pacific region offers hope for the future. It is also in the Asia/Pacific region, according to Marc Schechter of the Nature Conservancy, that the battle between natural resource conservation and sustainable economic development are more apparent

and more critical. Nations are in rapid transition - from the tiny islands of Micronesia and Polynesia to vast archipelagos of Melanesia and Indonesia, the common problems of population, growth, resort development, resource exploitations and alien species invasion are already destroying lives and hopes for the future.

The common arguments put forward by developing nations, as expressed by Malaysia's Prime Minister Mahathir Mohamad, is that the north has cut down most of its trees to develop itself, now it is telling people from the south nations to live under trees. The south needs development too.

Professor Mohamad believes there is now much more cooperation between nations of the south and north towards sustainable development and nature conservation. "I think people are becoming much more realistic now and moving towards the middle ground," he said.

"We need to find solutions to the vexing problems that have pitted humans against the environment. We need to explore new ways of living, to seek out ways in which people and wildlife can flourish in a compatible fashion," says Sawhill of the Native Conservancy.

These ways are often expensive and do not justify the end product. Is sustainable development economical? It would cost more to build a tailings dam for the Ok Tedi mine in the Western province than what the mine can earn in its 30 years of operations nor will it be profitable to log by helicopter basing on current prices.

Logging should be done by helicopter if Papua New Guinea seriously wants the forest to survive, says Tony Power of Ivin Enterprises, in his paper titled "Sustainable Forestry in Papua New Guinea: Beyond the Rhetoric". It will be expensive, Power admits but adds, "If they want our logs they must buy it at our price."

Hard maybe but not impossible says Ezekiel Peter, a geography fellow and environmentalist at the University of Papua New Guinea. Peter believes it requires a lot of commitment from developed countries such as USA and Japan who consume a third of the world's resources each year - at the expense of poor third world nations. If the countries of the north are serious they must either cut down on their consumption or be willing to pay more for

products that apply environmentally sound methods. The former would not be in the best interest of developing countries as that would mean less markets for their exports. The latter would not be in the best interest of developed countries.

It also calls for cooperation and commitment from the General Agreement on Tariffs and Trade, the body responsible for coordinating, regulating, pricing, legitimating and administering the flow of goods and services from one country to another as imports and export. In short, GATT is the body that sets the rules for world trade.

Peter said, "Although politicians and policy makers are now proclaiming the need for international cooperation on environmental problems, GATT is currently being negotiated in a shroud of secrecy, almost totally without reference to the environment. The GATT agenda of promoting free trade will have a severe impact on attempts to protect resources."

But the battle has to be fought on the home-front as well. What is sustainable development to a villager who has lived most of his or her life in almost total isolation from government and its services? As one landowner of a logging concession in the West New Britain said, logging operations have brought in health centres, schools, roads and cash to buy western goodies. Can he be expected to opt to continue to live in a bush hut and walk when he can own a motor vehicle and live in a iron roofed house - just by selling a few trees on his land? What other alternates can he be offered?

Some practices, such as the 50 metre buffer zone in logging areas, are sound from a purely conservation point of view but cannot stand up in reality, says Kembi Watoka from the Environment and Conservation department. What can landowners whose land is covered by the 50 metre buffer zone be offered when royalty payment is to be done by stumpage? These people want benefits.

"Villagers in the West New Britain area have been known to cut trees in the 50 metre buffer zone and demand payment from the contractor. If the companies cut them we can penalise them but if landowners do it we can do nothing - it is their land," Watoka said. Maybe a new system of payment has to be devised to give

them the incentive to let their trees stand, he offered.

A simple villager may find it hard to understand global warming, green house effect and increasing levels of carbon dioxide in the atmosphere. He may instead say mother nature will heal itself as it has done all these years.

Maybe a major educational campaign with government backing needs to be carried out. This has been done on a small scale by such groups as NANGO and Melanesian Environment Foundation.

Papua New Guinea environmentalist and ambassador to the United States Margaret Taylor said, "I want to look at my children and grandchildren in the face and not be responsible for the mess."

She said the educated elites of the country failed to ensure what the future generations can enjoy what the past and present generations are enjoying. It took an earth summit in Brazil before Papua New Guinea could act. But better late than never, she said and called on everyone to support the cause.

It is now time, as Doctor David Mowbray, chairman of the 20th Waigani Seminar said, the job of the educated to comfort the afflicted and afflict the comfortable - both within Papua New Guinea and in the developed world, one might add. The time has come to educate the people, to make them aware that one cannot keep on cutting trees, pouring waste in the river system and expect them to be there for future generations.

However, at the end of the day, the successful implementation of government policy, laws or initiatives depend on the landowners and the grassroots people. The government is aware of the fact as mentioned by Guy Kula from the Environment and Conservation Department during the presentation of his paper, "Government Review of National Sustainable Development Strategy", at the Waigani Seminar.



□ Dancers from the Indonesian Cultural Group of Irian Jaya who entertained participants of the 20th Waigani Seminar in Port Moresby last week.

SUSTAINABLE

20th Waigani seminar environment and

Recommendations

The 20th Waigani Seminar on Environment and Development ran last week from 22-27 August on the main campus of the University of Papua New Guinea.

Recent issues of "The Times of PNG" have outlined the topics covered, the programme, listed some of the meetings held in the provinces, and introduced readers to the ideas on what is meant by the term "sustainable development."



The following summarises the main points and recommendations made by each of the seminar working groups:

Subtheme 1: Revitalising growth with sustainability

This group made direct proposals:
 Session 5: Revitalising growth with sustainability
 Suggested recommendations:

- 1/ Provisions be made by the government for resources developers to identify, investigate and maintain unique environmental quality including ecosystems in those areas where resources are developed including their immediate boundaries. This would allow developers to exploit resources within the carrying capacity of the natural environment.
- 2/ Bottom-up project planning be the feature of development planning in the 1990s since top-down planning has been largely unsuccessful to stimulate economic growth and effective service delivery in many parts of this country.
- 3/ A National Information Unit (or a Department of Information) be charged with the responsibility of disseminating information between decision-makers and the field of action since government assistance facilities have not been effectively advertised to intended beneficiaries.
- 4/ National government establish a Environmental and Natural Resource Data Unit (ENRDU) with responsibilities to collect, store and analyse data to aid decision-making in resource on the availability of adequate data required for informed planning and decision-making.
- 5/ a Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) be given equal consideration. Social objectives are as crucial as are natural resource and environmental objectives.
- 6/ It is strongly recommended that independent consultancy firms (preferably national firms) be assigned to undertake EIA/SIA studies regarding development projects.

The national government through its education ministry include Environmentalism as one of the core themes in school curriculum. There is potential to achieve environmental awareness nation-wide without intensive resource commitment through the school networks.
 Professional foresters produced by the Forestry Training college in Bulolo and the University of Technology be employed to teach village personnel and NGOs to manage our forests sustainably. College and university programmes be revised to include new demand created as a result of introducing a NFS scheme.

The NFS personnel can provide natural resource and environmental data to the ENRDU if the latter is established.
 b/ National government immediately suspend issuing new logging permits to foreign companies. The history of current logging companies be investigated against forestry and environmental legislation in PNG as well as overseas. Should their history be anti-social and anti-environmentalism their activities in this country be carefully monitored.

Furthermore, forestry and environmental acts be amended to include a "polluter pays" policy in which developers found guilty of any environmental related legislation be severely punished. For example, revoke permits or freeze assets.
 Subtheme 2: Sustainable living and health

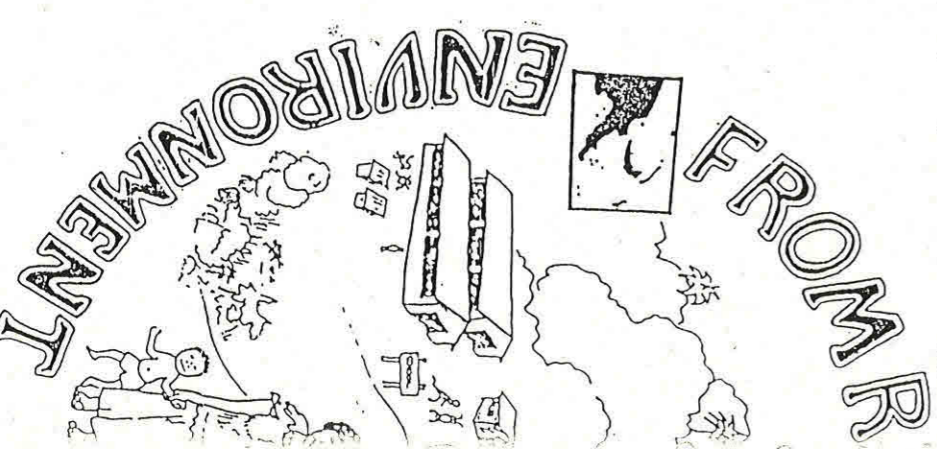
The following resolutions or observations emerged from the workshops:
 The Sub-/Theme Session ended with a plenary session reporting from the workshops on *Inputs, Catalysts and Outputs for Sustainable Living and Health*.

It is not possible to summarise all the issues addressed during the day. Discussions were extremely multi-disciplinary and wide-ranging and included development economics, agriculture in PNG, the nutrition system, population dynamics and policy, family planning, health problems and health services.
 The following resolutions or observations emerged from the workshops:

- Inputs for Sustainable Living**
 The continued dependence of PNG on staple food imports is a threat to food security and exports jobs.
 PNG needs to invest in nutritional research to develop better weaning food for children.
- National nutrition policy and planning**
 are vital elements to health and need to have direct inputs into the health system.
 Women and children need more representation on planning and decision-making bodies.
- The Department of Education** needs to improve its curriculum to allow children to experience agriculture, explore its links to nutrition, and avoid junk foods.
 The health workforce, including doctors, should be trained and oriented towards providing rural health services.
 There is an urgent need to revitalise health services at the village level to treat disease. Health information and education should be available everywhere. Booklets such as *Facts for Life* require educational backup.
- Adults** require awareness and motivation regarding exercise, stress management, and moderation or elimination of the use of drugs, especially tobacco, betel nut and alcohol. This is the only way to control the emerging problem of chronic degenerative disease, including heart attacks, hypertension, obesity, diabetes and lung disease.
- Catalysts for Sustainable Living**
 There should be a focus on Agents for Achieving Sustainable Living and Health. These agents include:
 - doing better what we do well
 - strengthening what we know
 - education that is non-clinical and multi-faceted
 - multi-disciplinary research
 - linkage of grass roots to policy making
 - networks that allow products and services to flow
 - "desectorising" service delivery at the village level
 - governance that links communities and bureaucracies to ensure access to resources without corruption
 - population mobility permitting exchanges
 - physical infrastructure
- Outputs for Sustainable Living**
 There is not enough information about family planning. Such information is especially important to persuade men to adopt or permit family planning.
 "Health" is too clinical and needs to be more education oriented.
 Education about sexuality is important and need not be confined to schools. It affects all aspects of life, as well as STD prevention and family planning.
- Subtheme 3: human settlements**
 The following points were made:
 - Settlements, whether they be planned or unplanned, are an inevitable part of our cities and towns and are here to stay.
 - Settlements are built on land, whether it be government or traditionally owned.
 - Punitive measures taken by various authorities in physically removing settlements are only temporary resolutions. Settlers will go and settle elsewhere.
 - No matter what legislations are put up in relation to settlements, people always have a way of getting around it.
 - Settlement dwellers form the backbone of the formal and non formal sectors of our towns and cities.
 - Adequate shelter is a fundamental human right. The following recommendations were made:
 - Recommendations to government
 - Recommendations to government

The following recommendations to Government were drawn from presented topics of energy, water and eco-tourism are dealt with under separate headings.
Energy

- To ensure that energy needs are met sustainably, it is recommended that the government:
 - Reduce energy demand by promoting greater energy efficiency through: the minimisation of systems losses in Elcom's service industrial processes, motor vehicles and appliances; the recovery of waste heat energy and industrial processes; and other demand management mechanism.
 - Reduce dependence on pollutive and non-renewable sources of energy by giving priority to less pollutive and constructive projects.
 - Ensure that stocks of renewable energy sources are renewed at a rate that is sufficient to meet future energy demands. In particular, efforts should be made to plant trees to replace fuel wood.
 - Investigate means of providing sustainable energy to villages outside of the Elcom power grid through small-scale technologies such as micro-hydro electricity generators and biogas systems.
 - Investigate the feasibility of large institutions (eg. universities) and businesses (eg. piggy-bags) meeting their own energy needs through biogas production and greater energy efficiency.
- Water**
 PNG has an abundance of water resources. The main needs are to sustain water quality and to supply large urban centres and all villages with a sufficient, healthy and reliable water supply. To ensure that future water needs are met sustainably, it is recommended that the government:
 - Promote more efficient use of water resources by all sectors of the community.
 - Reduce pollution of water resources through: the education of villagers about disposal of sewage and other wastes; education of business about environmental protection standards; and prosecution of offenders under the Environmental Protection Act.
 - Provide sufficient resources to the Department of Environment and the Bureau of Water Resources to monitor water quality and prosecute those polluting water ways.
 - Ensure that all established laboratories carrying out waste testing become registered laboratories so that their results can be used by the Bureau of Water Resources. There is currently only one registered laboratory located at Unitech. More registered laboratories will increase the number of samples that can be processed, and reduce delays in receiving analysis results. It is suggested



Khehiwe Moyo-Mhlanga, the national coordinator for the Africa 2000 Network in Zimbabwe spoke of her African experiences.

She ended by stating, "We need to go back to the drawing board and find out what rural people really want from development. Furthermore we often have to get out of their way, so they can make their own decisions and implement their own plans. Only then can we say that sustainable development has been achieved."

The Minister for Environment and Conservation, Parry Zeipi, presented an opening statement on behalf of the Prime Minister Pias Whigt. He stated "Papua New Guinea has the opportunity to learn from the mistakes of others, who have over-exploited their resources, poisoned their waterways, and polluted their air. We still have an almost uniquely unpolluted environment, and extensive resources. But we too have environmental problem; most of them are still localised or not yet severe, but warnings bells are being sounded and we should not ignore them."

Dr Anil Agarwal from the Centre for Science and Environment, India, stated that "Sustainable development is where we learn from our mistakes... otherwise we still enter the zone of irreversibility. It is a much harder task to return to sustainability the longer you leave it, and the more ecological damage you have caused. The quicker we learn and act the easier the pathway to sustainability."

Ambassador Margaret Taylor, in her closing remarks, stressed that if we are going to have sustainable living there must be meaningful participation of village people, with special emphasis on guaranteed education for every child, health, family planning and programmes aimed at assisting women and under-privileged groups. These are prerequisites for sustainable development, or "sustainable living" in her terms.

Mr Kules en Hamou from Manus province, in his paper on Village Development and Resource Management in Manus emphasised that from experiences in Manus, that if sustainable development is to be better understood and appreciated at all levels from the individual to community government levels, then people and their human capital development must be the primary resource that we should concentrate our efforts on. "Sustainable development policies and plans stand more chance of succeeding from the bottom up than from the top down." (Mr Hamou's paper will be published in next week's Times together with the paper presented by the premier of West New Britain).

Two other important points made throughout the seminar were:
 Firstly, if we are to have sustainable development we must first have peace and social harmony, and secondly, as stated by a women's representative from the East Sepik, Mary Soondrawy, "For true sustainability it must come from the heart and mind of a person to make a real commitment."

SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond



Sub-theme 5: Managing chemicals and waste

Draft recommendations:
Chemical and waste management has aims to reduce pollution and conserve resources.
Management of chemicals and waste involves:

- (a) Assessment of the risks that chemicals and wastes pose to the natural, social, and economic environment.
- (b) Legislation and regulation controlling the import, manufacture, transport, storage, use and disposal of chemicals and wastes.
- (c) Adequate resources and infrastructure to enforce existing legislation and regulations.
- (d) Education and training of chemical users, waste producers, and the general community about the risks

associated with chemicals and wastes. Education and training about better chemicals and wastes on the natural, social, and economic environment, and review of existing legislation, regulation, and chemical and waste management practices.
The recommendations are listed under these headings.

Risk assessment and research.

It is recommended that:
The government fund research to assess the effects of chemicals and wastes on the natural, social and economic environment and the risk that these materials pose to sustainable development.

The government establish a formal process to involve representatives from government departments, industries using or producing chemicals and waste, and the general community in the process of assessing risks. This process would provide participants with information about potential risks so that an informed decision about how to manage risks could be made.
The government fund research into waste minimisation technologies appropriate to PNG.

Legislation and regulation.

Recognising that PNG already has some excellent environmental protection legislation in place, it is recommended that:
The government introduce stan-



The government extend chemical registration regulations (currently for pesticides only) to all chemicals being imported, produced, or formulated in PNG.

The government take legislative steps to avoid the import of wastes into PNG, including legislation to close loopholes in conventions which allow the transport of recyclable waste.

Cases have been reported of more developed countries exporting 'recyclable' waste into less developed countries, despite the absence of adequate recycling facilities in the recipient countries.
The government introduce refund schemes for recyclable wastes.

That the government make the producers and importers of packaged products more accountable for litter problems resulting from their products.

That the government ban disposable plastic shopping bags and promote the production of cheap reusable shopping bags to substitute disposable bags.

Infrastructure and enforcement

It is recommended that:

The government allocate sufficient resources to greatly strengthen the Environmental Protection Division of the Department of Environment and Planning so that it can:

- frequently monitor the management of chemicals and wastes by mining, agriculture, forestry, manufacturing, and commercial enterprises, and the disposal of wastes from domestic premises; and
- enforce existing environmental protection legislation by prosecuting breaches of the law.

The government provide better services and infrastructure to communities to allow better waste management and hygiene, and manage demand for services and infrastructure by reducing the rate of migration to urban centres and through population control measures.

The government support NGOs and/or form an independent statutory body to promote the independent investigation of chemical and waste management practices.

The government eliminate nepotism within government departments by ensuring that people are employed on merit rather than through the 'wank tok' system. This action would ensure that the best available people are employed to enforce environmental protection legislation and provide education to the community.

That there be greater integration and cooperation within and between government departments in the drafting and enforcement of legislation and regulations related to chemical and waste management issues.

The government funds and supports community-based recycling and waste management schemes.

Education and training

It is recommended that the government:

- Makes greater efforts to educate chemical users and waste producers about associated risks and

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Check your cooling

You can really help your workplace by being careful with your cooling

- * Air conditioning units use a lot of electricity. One air conditioner can use enough electricity in a day to keep a fan going for a whole year.
- * So if you have air conditioning - it should be a priority savings target.
- * Consider turning it off altogether. Its cooler and dryer at this time of year and you may find you can do without air conditioning. If so, that will make a tremendous contribution towards reaching your savings target.
- * If you need to have air conditioning on, there are two things you should do. Firstly raise the temperature to at least 26°. A small increase in temperature can make a large difference in energy use.
- * Then make sure the filter screens are clean and are kept clean. Dirty filters make the unit work harder than necessary.
- * Keep your windows and doors closed. Consider closing your curtains to stop direct sunlight entering the room.

These simple steps could save you 25 percent of the electricity normally used for cooling - much more if you turn your units off. That will help you meet your saving target and keep the power on.

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Recommendations

problems.

• Recognise that the majority of the community are not literate in English and that many are not literate in any language, and:

- Translate all legislation and written information material produced by government departments into Tok Pisin, Motu, and non-English languages such as Malaysian, Japanese, and Indonesian.

- Make use of films, slides, videos, audio-tapes, drama and diagrammatic posters and pamphlets to communicate messages to people with little or no literacy; and

- Educate representatives from different communities about chemical and waste management and provide them with resources and training so that they can be a source of information and advice to their communities.

• Concentrates greater effort on education at the grass-roots level.

• Make information regarding government and private research into chemical and waste management in PNG freely available to the community so that the community can participate in informed decision-making about future chemical and waste management in PNG.

• Require the chemical industry and chemical retailers be required to conduct more community education about the safe handling, use and disposal of products that they manufacture and sell.

• Introduce environmental education into the school curriculum. This should include education about chemical and waste management.

Monitoring and review

It is recommended that the government:

- Provide the Environmental Protection Division of the Department of Environment and the Bureau of Water Resources with sufficient resources to employ and fund officers to monitor emissions from mining, forestry, agricultural, industrial, and domestic sites. These officers should also monitor levels of particular chemicals in the environment and monitor the effects of these chemicals on the environment over time. The results of the monitoring process should be used to modify existing standards and education programs.
- Encourage individuals in the community to report incidents of bad (potentially harmful) chemical and waste management to government departments who would then be required to investigate these incidents and prosecute those breaking laws.

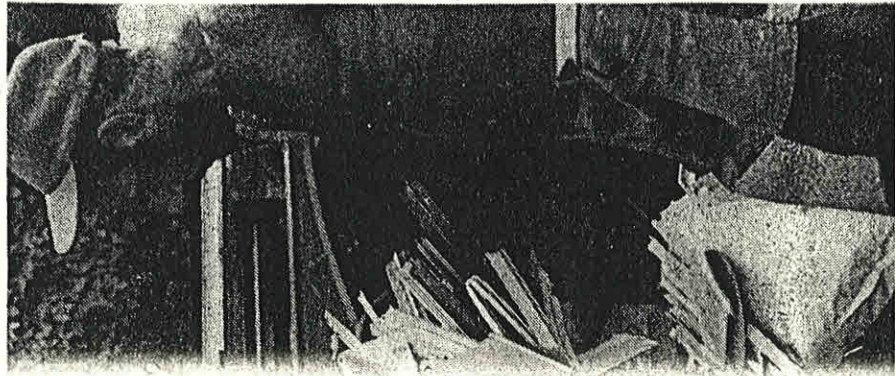
Further recommendations: linkages to enable communities to more effectively manage their own resources and protect their own resources:
Government, city authorities and the universities recognising that sustainable development/sustainable living can be more effectively be achieved in local communities if these communities participate more in management and decision making.

1. That communities like the Baruni dump settlers become the managers of the dump, i.e. they be contracted to manage the dump, and that government assist these communities with income

SUSTAINABLE DEVELOPMENT

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Foundations



5. Information systems and capacity building need to be structured so that people are central. This will ensure empowerment of people and communities and will respect existing relationships between knowledge and power.

6. Guarantee women's participation so that they become equal partners at all levels of society.

7. Encourage appropriate technological transfer approved by the people to enhance sustainable use of resources by women that meet their local consumption needs and provide for export opportunities.

8. Ensure a two way information flow between villagers and government organisations by supporting NGOs or other institutions.

9. Take control of science and technology to adopt what is needed and appropriately adapting it to local needs/conditions.

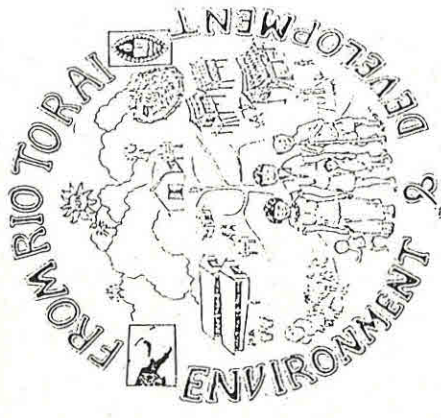
10. Training at tertiary level needs to be coordinated and a community of colleagues developed.

11. The effectiveness of teaching as a vehicle of knowledge transfer needs to be evaluated. This requires broad consultation across all levels of the community.

Session: "enabling means"

1a. Building up of legal advising capacity specifically clienting landowners groups and government contract signers; and also strengthening legal research.

1b. Improve enforcement of environmental legislation by strengthening Department of Environment and Conservation and other enforcement



agencies through decentralisation of their functions.

2. Protect what we already have socially, culturally, spiritually, and in physical resources, and build on that.

3. The status of women needs to become equal in all aspects of resource allocation.

4. There needs to be a capacity to determine all people's needs, especially those who cannot read.

5. Develop strategies to make the most of the mining boom to fund development of sustainable, improved standards of living and in a way that takes into account economic, social, cultural, spiritual and environmental aspects. Emphasis needed to strengthen infrastructural needs in rural areas e.g. roads, aid posts, schools.

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agreements;
b. social activities such social disintegrated as a consequence of company sponsored negative activities i.e prostitution.

c. reforestation
d. long-term sustainable programs to maintain the level of activity when companies leave the project sites.

e. other significant areas such as preservation of traditional knowledge and cultural heritage.

2 a/ Introduction of the Alaskan Mill, a small scale saw-milling industry which is suitable to rural people and environmentally sound.

b/ Integrate timber development to the way of live of rural communities.

3/ Better mechanisms be sought to compensate local resource owners in meaningful ways. For example, initiate long term projects which will benefit local people long after logging/mining activities cease.

4 a/ We strongly recommend that resource owners and surrounding communities be actively involved in the decision-making process throughout the whole cycle of the project.

b/ Bottom-up development planning is more promising than the traditional top-down model duplicated in PNG.

4/ Government be the facilitator rather than provider. Local resources can be effectively utilized should government assistance schemes be adequately advertised.

5/ Government recognise the role of NGOs and provide support by way of providing the means necessary to undertake activities in rural areas.

6/ Government also recognise Community Theatre and their activities as an effective means to communicate to the large illiterate sector of the population.

7/ It is strongly recommended that legislative reforms relating to natural resources and their development are essential for sustainable development to have any impact on the rural community.

Subtheme 8: ESSENTIAL MEANS

Session: information and capacity building.

1. Recognise value of traditional knowledge and structures within which they operate and enhance practice with government institutions, NGOs's and community.

2. First consultants must be Papua New Guinean villagers and landowners.

3. Established formal linkages between community structures and government structures.

4. Encourage people to be custodians of their traditional knowledge and develop strategies for synthesis of traditional and other knowledge. Custodianship of traditional knowledge requires property rights to be articulated.

4. Community schools need to be broadened to include community education integrating all members of the community and traditional knowledge. Curriculums and teaching methods should be redefined within local culture and knowledge.

generating and marketing schemes that are economically sustainable.

2. That the universities form linkages with these communities and assist them in providing skills for effective management (reuse, recycling etc) and in other ways to assist these communities improve their quality of life.

3. That the universities form linkages with city authorities and local communities e.g. Motu, Koita villages and other Port Moresby residents to help determine strategies of more effective waste management.

Subtheme 7: PEOPLE PARTICIPATION AND RESPONSIBILITY

Session 16: People participation and responsibility. General recommendations

Assumption

People participation is a fundamental prerequisite in achieving sustainable development. With this assumption we recommend the following:

1. Capacity building

Sustainable community development is usually facilitated and supported by some outside helper. That person is, in turn, supported by an organisation or outside community which provides him or them with training. That organisation should be sustained through regional organisations which give long term technical support. There are we recommend a National Sustainable Development and Technical Assistance Net. This centre identifies four to five main regions and NGOs to train and provide with modes financial support.

2. Creating information services to assist bottom-up development

This requires that NGOs prepare tailor-made packages of awareness information which address people's needs. This requires funding.

3. Funding bottom-up sustainable process
It is proposed that a system of 'protected funds' be established for NGOs who are working with community. This system should be managed by a regionally elected council and sustained for at least a decade.

4. Clan focus

Focus on community level activities and projects should use clans as the basic unit. Where possible, foster inter-clan participation activities.

5. Capital for development

Capital for development should be generated locally. In general people can do that. In some cases a bit of assistance can help. The village bank and local credit scheme can drive social and economic development from the inside.

Session 16: PEOPLE PARTICIPATING AND RESPONSIBILITY.

Suggested recommendations

We recommend that:

1/ The government set up a commission of inquiry into the activities of logging companies in PNG with special reference to New Ireland, New Britain, Western, Morobe and Madang provinces. Special investigation be held into the following:

a. fulfillment of requirements as stated in the

SAVE POWER NOW

Here is a useful suggestion to help you save power at work.

Check your lighting

You can help your savings by being careful with your lighting

* Let's start by saying that good lighting is essential. Don't be tempted to turn off security lighting or to turn off so many lights that you are working in the dark. Normal lights only use a small amount of electricity, so don't try and save by turning off anything that is needed.

* Check first to see if you have any incandescent lights - rather than the more usual fluorescent tubes. If you do have bulb type lights, target your savings at them first - they use four times as much electricity as normal tubes.

* It's also worthwhile to check to see if all your lights are needed. Considerable savings can be made by removing bulbs (or tubes and starters) in areas where they are not necessary.

* Get into the habit of turning on only what you need - turn everything else off. Lighting which is just there for good looks should go off - particularly if it usually stays on all night. Check all the switches - if it's not necessary, off it goes. And think before you turn it on. Do you really need it on now? If you are going to use it later - turn it on later.

These simple steps could save you 10 percent of the electricity normally used for lighting. That will help you to meet your saving target and keep the power on.

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SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

Commercial forestry contributes to destruction 80,000 hectares of forests per year

THE THEME of this year's Waigani Seminar, *Environmental Development in PNG up to Year 200 and Beyond - From Rio to Rai* is very significant and timely for Papua New Guinea. It is significant because this is the first time the seminar has focused on the environment, more so that forestry environmental issues have dominated the seminar.

And it is timely because it was held at a time when reports of unscrupulous and increasingly taking place in many parts of the country.

Latest available information on the current status of PNG's forests indicates that of the country's 4.2 million hectares of forested areas, around 15 million hectares are deemed suitable for commercial forestry. Of this, six million hectares are currently accessible and offer the prospect for profitable logging.

forestry is estimated to have been responsible for the annual destruction of 80,000 hectares of rain forests. Even though large tracts of rain forests are still intact, the full consequences of the felling undertaken so far are incalculable.

It became apparent from the seminar that much of the six million hectares have been taken up by logging operations. And logging activities are going at a very fast rate with 8.1 million cubic meters of logs have so far been harvested in 1993.

The high level of cut can only be sustained until the end of the century. After that, it drops drastically, and by 2,014, it will almost come to nil.

The current harvest levels - and harvests for the next seven years to year 2000 - was twice the recommended sustainable level of cut.

The destruction, however, is far more advanced in some provinces than others such as the Bamu

region in the Western province, some areas of the New Ireland province and more damagingly so is the damage caused by the Gogol Naru timber project in the Madang province.

The Gogol project is one of the most controversial projects so far as proper environmental management is concerned. It has attracted widespread publicity and attention both in PNG and in other countries.

According to a German expert, Reimund Kube, most of the Gogol timber area has been clear-felled now and patterns of drainage have been changed by the construction of too many roads, landings and by silting rivers.

In his report titled, *Tropical Lowland Rain Forest*, Mr Kube said landowners say that some places that were wet have become dry after clear-felling.

Other sites that were dry before are becoming swampy, for example former landings

due to the compaction of the soil.

Mr Kube said that five months after clear-felling, the topsoil on some sites had lost very considerable amount of nutrients and organic matter. Heavy equipment like tractors compact the soil as well as churn it up. This leaves it to expose to the sun and rain. The disturbance to the physical and biological properties of the soil might have a more serious long-term than the chemical degradation.

"It is too late for the Gogol valley now. The two benches in the reserves established are totally inadequate in size. Thus, all the small stands of the former forests that have been left become especially important to form something like a network."

"These stands are vil-

lage reserves; the protection forest on very steep slopes and along the rivers; also the remaining single trees that have not been cut because they are not appropriate for pulp wood or because they are marked by the landowners who want to preserve them like the Galip nut tree (*Canarium*) and others."

Most of the large fruitivorous birds which depend mostly on seeds from the primary forest species are very likely to disappear for good. And the forest along the rivers that should have been preserved 20 metres within the bank of permanent following water streams, have been cut at many places as well.

It is hoped that the deliberations from the seminar would form some basis for the

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6. Recognise the rights of all adults to land in legislation and through other mechanisms. This will involve affirmative action concerning the status of women as participants in decision-making and equal partners in action.

7. Improve productivity of non-mining goods so that they become internationally competitive through increased efficiency, maximised human resources and in a sustainable way.

8. Increase financial resources available for sustainable development by a variety of means including:

- increased funding from existing donors;
- seeking new donors;
- increased private and voluntary contributions through NGOs and other schemes for fund-raising that can have tax concessions; and
- environmental taxation policy that is industry specific.

9. Incorporate environmental costs in project appraisals. Environmental levies must be imposed immediately.

10. Need to develop human resources through training and valuing of traditionally held skills and knowledge.

11. The people of PNG need to be informed of all components of activity which can better enable them to achieve sustainable development. These need to be in local language, Tok Pisin or Motu and would include:

- legal rights and information;
- innovation in productive activities; and
- financial services available.

12. Establish a Local Environmental Facility (LEF) to promote sustainable development. The LEF needs to be structured to receive funds directly from environmental levies, voluntary contributions, national and provincial government grants and any other sources.

13. Reallocate much needed resources from defence to sustainable development activities.

14. Positively discriminate in favour of competent Papua New Guineans as consultants for sustainable development and where foreign consultants are used, they be required to engage in counterpart training as part of their consultancy.

15. Any development initiative be required to establish records that incorporate traditional knowledge which will preserve it and provide information to 'developers' so that sustainability is ensured.

Next week's *The Times* of PNG will include the recommendations for subthemes.

OVERALL many recommendations and points were made. Some further recommendations need to be added, as some participants felt strongly that important recommendations were left out. Participants have been requested to forward these recommendations to the Chairman of the Waigani Seminar Organising Committee.

Much work needs still to be done. The recommendations need to be analysed and be presented currently to government. All papers presented at the conference will be edited and published at a later stage.

development of a national sustainable policy. PNG has never had and still has no form of environmental policy in place. Meanwhile the existing guidelines on felling and obligations on reforestation are ignored.

The World Bank in 1991 warned PNG that although the bulk of the rainforest is still intact, its fate would be sealed if the practice of uncurbed felling for commercial forestry were to take hold in PNG.

The government is just as concerned as Reimund Kube, the World Bank, the participants of the Waigani Seminar and others involved in the country's forest industry.

It is because of this only reason that the government, through the Minister for

Forests, Tim Neville, introduced the new national forestry guidelines. Mr Neville said in a submission to the cabinet on May 17 that guidelines are intended to serve as the means for government, through the Forest Authority, to regain control of not only the country's tropical rain forest but other aspects as well in the forestry sub-sector.

He said these guidelines will apply to all future forestry projects and provide a basis for reviewing existing projects. The guidelines fully incorporate advice from the Board of the Forest Authority, following their consideration of submissions from the National Research Institute and the Forest Industry Association.

At the conclusion of the meeting participants agreed to call on:

- further sponsors be requested to provide funds to specifically produce over the next twelve months a full seminar report.
- the Waigani Seminar Organising Committee continue to operate and immediately draw up recommendations for action, and to produce the publications
- the PNG government to immediately allocate sufficient funds to specifically enable the Waigani Seminar Organising committee to complete its tasks

Ambassador Margaret Taylor described the seminar as "extraordinary" in that so many people from so any different walks of life and parts of PNG had participated and discussed so many different issues.

She explained how she had once lived on the Rai Coast, how she had gone with the PNG delegation to Rai. However now we must all now return to Rai. We can all learn take heed of all the recommendations. We can learn from what is happening in Manus province. Education is crucial. "However what is essential is our common commitment and full participation to redirect our nation."

In the words of our Governor-General: "If we're determined... we can change the course of history. If we're... we can convince others of our... rageous... we can convince others of our... we can change the world."

The 20th Waigani Seminar was an important part of the process of Papua New Guinea producing a truly sustainable development strategy. That process is just begun. The road to sustainable development is no easy road to travel... but we must be travellers on that road... the road from Rai to Rai from now to 2000 and beyond is opened...

This article is compiled from the draft recommendations compiled for the closing session of the 20th Waigani Seminar. If has yet to be rewritten for submission to government. However, we present it here so that it is immediately available for everyone to read. It reflects the concerns and suggested actions people believe are necessary. It was compiled by Dr David Mowbray, Environmental Sciences, University of Papua New Guinea, assisted by many others.

For more information on the 20th Waigani Seminar, for donations and requests on proceeding, for information on how you might contribute to developing our national sustainable development strategy:

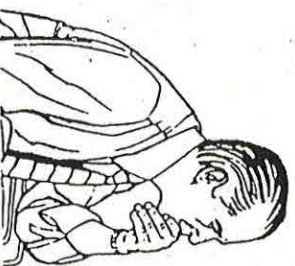
Write to/contact:

Dr David Mowbray, Chairman 20th Waigani Seminar Environmental Sciences, University of Papua New Guinea Box 320 University PO NCD phone: 26 7393 413 fax: 26 71 87 or for direct information on how you can participate in the process of PNG developing its own National Sustainable Development Strategy.

Write to/contact:

Dr Nizar Mohamed National Sustainable Development Monitoring Committee Department of the Prime Minister and NEC phone 27 65 48 fax: 27 6773.

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Reorienting education towards Sustainable Development

By Mark Solon PhD,
Pro Vice Chancellor and Principal-
Coroaka Campus
University of Papua New
Guinea.

*Presented at the Waigani Seminar
on Education for Sustainable Development
12th-31st September 1993*

Introduction. This paper briefly examines current Papua New Guinea's (PNG) curricular on environmental education and presents possible approaches to reorienting PNG's education curricula towards promotion of attitudes and values, ethical awareness, and development skills for sustainable development at various levels of education in the country.

Significance of Environmental Education. Education is critical for promotion sustainable development and improving the capacity of people in PNG to address environment and development issues. Formal and informal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns.

Education is also vital for achieving ethical awareness, values and attitudes and skills and behaviour consistent with sustainable development and for effective public participation in decision making.

Effective environment and development education should account for the dynamics of physical/biological and socio-economic environment, and human development. This implies an integrated and multi-disciplinary approach to curriculum development, methodology and communication (UNCED Conf 151/4, 1992).

PNG's Environmental Education. A cursory examination of current educational curricula in PNG suggests that environmental education is either non-existent or remains in an embryonic stage.

Environmental issues in PNG's communities, schools, and high schools are hardly discussed or taught except through observation of United Nation's World Environment Day. Distribution of environment posters from the national curriculum office; preparation of posters by children and teachers; singing environment songs; cultivation of ornamental trees and collection of unbiodegradable refuse and other wastes in the school grounds; represent the few environment. Significant as they are, such activities become historical events of minute significance until the following year's - World Environment Day.

Similar practices can be observed in most PNG's tertiary institution. Although some efforts are being taken in the nation's universities to offer programs in environmental studies, they are embryonic in nature. Their effects are limited to the world of academia whilst the nation's populace remain unaffected and ignorant of the environmental danger that besets PNG and the world.

It is imperative that education in

this country be reoriented towards environmental issues as resource preservation and sustainable development. Curriculum planners must be challenged to seek alternative approaches to teaching which encourages development of positive attitudes and behaviour about the environment.

Approaches to curriculum development. Broad and interdisciplinary nature of environmental or ecological knowledge presents challenges for the traditional curriculum developer and calls for interdisciplinary and evolutionary approaches to curriculum development in our schools.

Traditional curriculum officers perceive various subject knowledge as discrete disciplines and encourage indept development of knowledge in particular disciplines such as biology, human geography, physical geography, economic and chemistry as more significant than an integrated and multi-disciplinary approach to knowledge development.

Environmental knowledge however, constitutes a complex and interdependent nature of our environment and various forms of life that inhabit this planet. Similarly, methods of studying and understanding our environment must utilise various and interdisciplinary approaches to comprehend the subject.

Curriculum developers of environmental education in PNG must account for the complex ecological nature of life and the environment and should design

educational curricula that would enable a student to integrate information and knowledge from various traditional disciplines to analyse and study the interacting effects of human behaviour on other forms of life in the natural world and to explore alternative ways to create a habitable and interdependent place for all forms of life on this planet.

An Evolutionary Approach. Current curriculum in PNG schools reflect the traditional disciplinary approach to education. Presentation of knowledge in various subjects are neatly packaged into disciplines such as maths, science, social science and English. A dramatic introduction of an alternative form of knowledge presentation into the current system may counter productive to educational processes in the immediate future.

It is proposed that an evolutionary approach to environmental education be introduced in PNG's understanding of environmental issues such as pollution be introduced in primary schools and their co-relations with traditional subject disciplines must gradually be established.

Environmental Education in Primary Schools. Environmental curricula in PNG's community schools should begin with the basics described elsewhere in this paper emphasising an integration of environmental issues with traditional subjects. Discussions about careless disposal of plastic related products in towns and villages can be helpful for beginners in kindergarten and grades one. Use of various artistic mediums to illustrate healthy or polluted environments, utilisation of oral skills to describe a healthy village in a health lesson or listening to and re-telling legends on ways to live on, and respect traditional land are significant approaches to primary education.

The primary curricula should promote literacy, numeracy and skills development with an appreciation of the village and rural natural environment and develop an awareness of the need to sustain such environment for our benefit.

Environmental education in secondary schools. Emphasis on environmental education in PNG secondary schools should shift from the children's village and rural environment to urban environment.

Curricula emphasis should be placed on relating subject disciplines with environmental issues. Examples of an integrated and multi-disciplinary approach to environmental education are many. Excursion to landfill sites, measurement of the levels of degradation of the environment caused by such sites and debating effects of human behaviour on the environment represent possible cross-subject learning activities in secondary schools.

Similarly inter-relating human health issues with the level of environmental pollution in health and science is another example.

Geography lessons should include studies of urban settlements and their impact on the physical environment. Health lessons should incorporate studies of treatment and disposal of urban wastes and their effects on human health. In science analytical procedures can be conducted to test safety of public utilities such as water, air and the soil. Oral and written discourse in English lessons should encourage discussions based on alternative sustainable use of resources.

The curricula at the secondary level should encourage an understanding of human activity, and



the environment and the development of approaches to sustainability.

Environmental Education at tertiary or under-graduate level. Tertiary and undergraduate education in PNG is characterised by indepth pursuits of knowledge in traditional academic disciplines. This tradition may appear contrary to the inter-disciplinary nature of ecological or environmental education. However, at this level some flexibility is asked for and both approaches should be utilised to promote environmental education. Use of analytical processes or instruments in chemistry to determine pollution levels in the air, rivers and oceans and their effects on other ecological systems in this country would represent significant method in teaching environmental education in universities.

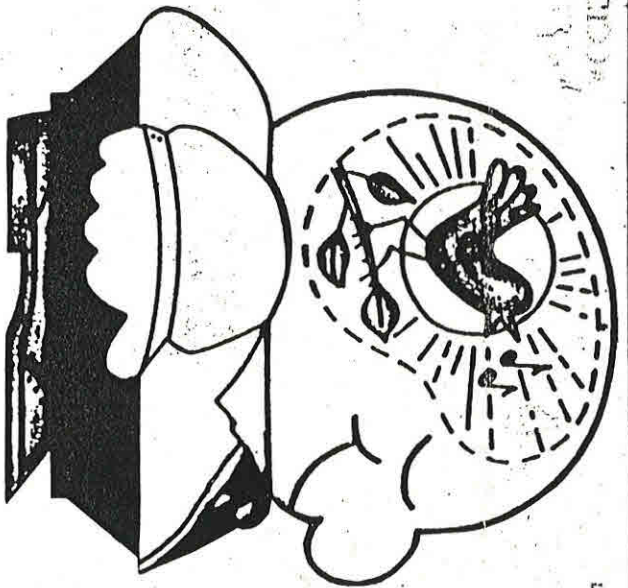
Graduate Education. A basic understanding of several environment related disciplines should be a prerequisite to graduate programs in environmental studies at this level. Indepth and specific environmental study approach should be the hallmark of graduate level education. A student should be allowed to major in two environment level education. A student should be allowed to major in two environment related discipline. Permitted majors in economics and ecology is an example. Another example would be a study in bio-chemistry and biology.

Doctoral students of environmental education should be allowed to liaise with supervisors and dissertation committees and be encouraged to conduct research into significant areas of environmental knowledge.

Other Approaches. Other radical approaches have been suggested - (Zucchetto 1991). Development of separate programs and departments in environmental studies throughout the system is one of them. It may be one way to respond to the need to promote environmental awareness nationally and globally.

Challenges. The need to develop environmental educational programs is internationally recognised. Much effort is being made to introduce these into schools. Nevertheless, Papua New Guinea and the world's effort are severely challenged and handicapped by a shortage of qualified teachers and faculty members who can initiate and play leading roles in promoting environmental education and thereby raising awareness amongst PNG's population.

Possible alternatives. The success of any educational reform is dependent on the production of qualified instructors and teachers who can effectively promote public education especially that of the young generation of this country. An immediate alternative is for the authorities to provide resources for teacher education institutions and for the same institutions to develop educational programs which promote environment and sustainable development.



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SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

A quarter of next to nothing: Participation and

This paper was presented at the 20th Waigani Seminar last month by Dr Brian Brunton, director of the Individual and Community Rights Advocacy Forum.

Introduction

Non government organisations are commo-
rtable with many of the initiatives of the
present government in the struggle to save
forest resources. So far as it goes, the gov-
ernment seems to be getting some of the
things right. The protests of the logging
industry, and their conservative landown-
er friends, tell us that the State cannot be
too far off the mark. The failure of the State
to ban the export of logs completely is in
our view, a major mistake, but we recog-
nise that the politics of banning log exports
in Papua New Guinea is sophisticated,
particularly because we suspect that very
big large amounts of money were paid
before the last elections to ensure that the
political fix remains deeply imbedded.
These beliefs do not touch the present Min-
ister of Forests, who has struggled within
the government system to do what he sees
as best to protect the rainforests, although
the laws of defamation prevent us being
more specific about who gave what to
whom. Tim Neville is respected within the
NGO movement as an honest broker.

This does not mean that we agree with
everything his officials do. In particular,
we are concerned about the amount of
money that landowners receive, and will
receive under new arrangements. We
believe that the State is quite wrong in lim-
iting the consideration paid to landowners
for these timber rights as a token royalty,
and a share of the profits paid to a trust
with landowners as the beneficiaries, and
not directly to the landowners. This is little
in the recent history of this country to lead
us to believe that such a trust will operate
efficiently and fairly. Apart from that there
are fundamental problems with the State
appropriating, out side of the tax system,
the profits from the sale of private prop-
erty.

This paper argues that if the landowners
are the best conservers of rainforests, they
can only be effective if they are fully sensi-
tive to market forces, and that they should
be allowed to husband their trees, subject
to regulation and state monitoring, in the
same way as farmers husband their crops
and animals.

The Premise

The paper starts from the proposition that
traditional landowners are not likely to be
influenced by arguments about their glob-
al duty to defend the biosphere in general
and their own part of the tropical rain-
forests, in particular. Papua New Guinean
landowners have a variety of views about
the value of their rainforests. Some see the
use value of rainforests as being most
important. This is the point of view which
landowners express when they see the

need to use the forests selectively, in a tra-
ditional manner. Others see exchange
value of the forests as being paramount.
This is the view that landowners express
when they decide that commercial
exploitation is necessary in order to
advance their way of life. I use the word
"advance", relatively, but it is the way
landowners themselves use it, when they
make the decision that the trees are to be
cut, money is to be made, and services are
to be purchased.

To place the choices so starkly: one or the
other, of course neglects those choices that
involve a balance between conservation
and exploitation. These concepts are con-
troversial and emotive. They not only split
modern politics, as we can see by the war
of newspaper advertisements funded by
logging interests and conservative
landowner associations close to the loggers
on the one hand, and the National Forest
Authority and NANGO on the other hand,
they also split customary groups, as we
saw in the recent fight at the Hawaii LFA,
near Wewak, were pro-logging groups,
physically attacked anti-logging groups. It
follows that the discourse of "develop-
ment" and conservation, is unlikely to
win landowner groups to the cause of con-
servation, or keep the peace, or keep the
trees in the ground.

The theory that the organisation which I
work for, ICRAF, has chosen to follow, is
that peasant farmers are market sensitive,
and that if they are informed about the
market they will respond rationally to it. It
is not a theory that I find any comfort in,
but in the absence of any other theory to
provide a basis for action, it will have to
do as a matter of practice. There are neverthe-
less problems. If market is supreme would
it not be "rational" for landowners to
allow every last stick to be logged, provid-
ing the price is right? The answer is: Prob-
ably not.

Papua New Guinean rainforests are
mixed species, and in any case natural for-
est contains trees at different stages of their
life. Proper husbandry aims to access the
market at the maximum rate of return.
Young stock has to be nurtured, so that it
enters the market optimally. Species that
are unfashionable at one time, or in one
market, may at a different time, or in a dif-
ferent place be more profitable. These are
the things that landowners and farmers
learn about, and react to elsewhere. One
does not anticipate that a farmer, properly
informed about market conditions, and
acting rationally, would sell immature
stock.

Buyers and sellers acting rationally, at
arms length, fully informed about market
conditions, are the indicia of free-market.
Others have association market with the
essence of democracy and freedom,
although I am not quite so sure about that
myself. Market needs to be checked and
monitored to ensure it that it is free, or else
the space created to ensure the competi-
tiveness of farmers and sivilculturalists can be
occupied by the monopolists, the
exploiters, the pirates and the thieves. The

freedom to trade can also be an opportuni-
ty to steal - I have no doubt that it may be
so in the case of the logging industry in
Papua New Guinea.

Free markets and democracy

The problem facing the administration of
Papua New Guinea's rainforests is a prob-
lem of freedom. The absence of true
democracy and market in colonial Papua
New Guinea meant that the legislative
model for controlling forest resources was
essentially one of bureaucratic feudalism.

The colonial state - by virtue of its status,
appropriate the trees from the landowners
almost as of right, and in return the
landowners get next to nothing. The
landowners were induced by promises of
"development" and royalties, or else they
believed that the colonial government had
the power to take the trees and dictate the
terms.

The culture of bureaucratic feuda- lism

As we shall now see, these arrangements
were given the veneer of contract, but in
essence it can be said that for the past 30
years Papua New Guinean landowners
have been ripped-off by the colonial gov-
ernment and the Independent State of
Papua New Guinea over the sale of timber
rights. Up until the beginning of this year
log prices were modest. In 1991 Sheddin
Agribusiness (consultants to AIDAB)
assumed a log export price of K75 per
cubic metre. In January 1993 prices
increased slowly, and then in February and
March rocketed so that they exceeded the
minimum export prices by 300 to 400 per
cent. The bureaucracy, and the structure of
the legal relationships were inflexible to
this market surge, and so the bulk of this
massive windfall from the price increases
went to the loggers. Clearly, the funda-
mental alteration in market conditions
warranted a complete re-negotiation of all
existing contractual arrangements. The
ideal put forward by the logging compa-
nies that they have contracts set in stone, is
an illusion. Rio Tinto Zinc knows only too
well that a deal is only a deal so long as
market conditions remain stable. Once
market conditions alter, all deals are open
to re-negotiation.

Legally, the existing agreements between
the State and landowners (the Timber
Rights Purchases (TRPs) lacked adequate
consideration. Huge areas of timber were
sold-off by illiterate and uninformed ven-
dors, unrepresented by independent
lawyers, for next to no money at all. In a
true sense these agreements were
inequitable and unconscionable.

The agreement to sell timber rights to the
State did not provide fair consideration for
the sale of those rights, and was so compli-
cated that it could not be understood by
the customary landowners. It was written
in English (with no written translation in
tok pisin or ples tok) in such a convoluted
manner that the vendors could appreciate
they were selling their property for a nom-
inal sum, fixed by the State, and that they
would lose a greater portion of the mar-

ket value of their trees to foreign logging
companies. The landowners did not know
what they were signing. There could be no
meeting of minds, which is the essence of
contract. Technically there was, and could
be no consensus ad idem.

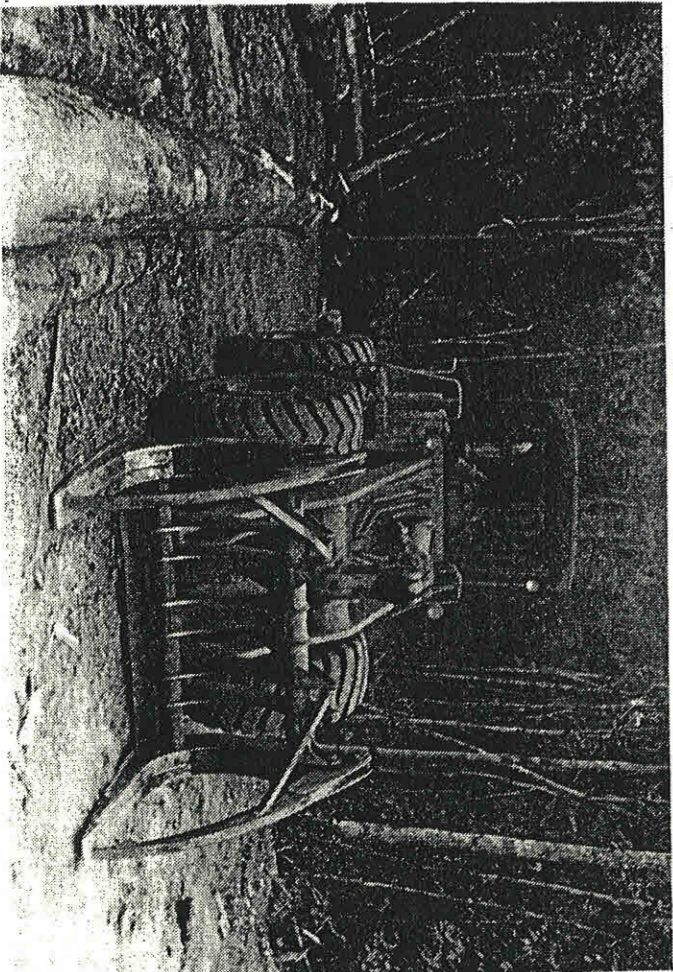
The consequences of being ripped-off on
the sale of timber rights have been disas-
trous for landowners and the rainforests of
Papua New Guinea. Because landowners
do not get a fair market-value for their
resources they cannot be affected by the
market. They cannot become price sensi-
tive. They cannot respond rationally to the
market. They are dependent subjects of a
manipulative bureaucracy, which assumes
unto itself, or passes to agents, the task of
monitoring, harvesting and marketing.
The dependency is the basis for calling the
bureaucracy feudal. As we now know that
bureaucracy has been a disaster for the
rainforests. It has been inept, and com-
pletely outmanoeuvred by logging compa-
nies who have done as they pleased over
the past ten years. The resource owners
have been left powerless.

The bureaucracy is still learning that it
may well have to pay for its negligence
and ineptness. Modern concepts of the law
of equity in Canada and Australia suggest
that the state has a fiduciary responsibility
towards native land owners. A fiduciary
relationship creates a relationship of
"utmost trust", which, perhaps can be
breached if the fiduciary is wantonly care-
less with the property entrusted to it. The
grim trail of Commissioner Barnett's
report would raise serious questions to be
addressed by a court of equity.

Under Papua New Guinean law a private
landowner cannot sell timber privately.
The Forestry act provides for the sale of
timber rights by customary owners only to
the State. The Act provides a regulatory
framework for the agreement over the sale
of timber rights, to include the size of the
customary land from which the timber
rights are to be purchased, the boundaries
of the land, the price, the method of calcula-
tion of the price, the method of payment
for the timber rights. On the face of it, this
part of the act looks as if it is providing
for an arm's length agreement, but in prac-
tice the State dictates the terms to
landowners.

A completely different part of the act
gives the Minister for Forests power to fix
royalties. No statutory definition of royal-
ty is provided in the act, and the act does
not describe the relationship between the
price paid by the State to the landowner,
and the royalty fixed by the minister. On
paper they appear to be quite different
but in reality landowners did not get paid
for selling their timber rights in an arm's
length agreement at all. They only got
paid a royalty, at a paltry rate (25 per cent
of an amount fixed by the minister: hence
"a quarter of nothing").

The real legal relationship between
landowner and State (or the colonial
Crown) was to be found in the practice of
the State. As a matter of practice landown-
ers never set the conditions of the agree-
ment for the sale of their timber rights. The



SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

Responsibility with Forestry Resources

conditions of sale were always imposed on them on a take-it or-leave-it basis. They were told their timber rights were to be bought from them, and they were told the conditions under which the sale would take place. As most landowners who signed these agreements were illiterate, and never represented by lawyers, it is unlikely that few (and we think none) understood what they were to be paid, and how they were to be paid.

I will now set out in detail the contractual arrangements as they appear in standard Timber Rights Purchase (TRP) document a creature of the old Forest Act Ch. 216. Under the new Forest Act the statutory arrangement for these agreements remains the same, but the name changes. They are now called Forest Management Authorities (FMA's), but do not let that fool you. I will quote from the Taurama TRP so it has some relevancy for you. You should remember that this document is in English, and that it has never been translated into the local languages of the landowners. The landowners who signed it had no advice or guidance from their own independent lawyers.

The full legal effect of the English text is difficult, if not almost impossible to understand. One would need to be experienced in business matters, the law, or accountability to appreciate the full impact of these arrangements. The full implications of what Papua New Guinean landowners faced can only be understood if the statutory framework and the contractual arrangements are set out together, in full.

Forestry Act Ch 216

The Forestry Act Ch 216 (the "old" Act) READS:-

"8. Purchase of timber rights.

(1) Where the customary owners are will-

(a) the term during which the rights are to be exercised; and
(b) subject to Subsection 5
(i) the sum to be paid by the State for the rights; and
(ii) the manner of payment of the sale price for the rights; and

(iii) the basis on which that sum has been calculated, including:-

(A) the estimated volume, weight or other measure of quantity of merchantable timber in the area covered by the timber rights purchase; and
(B) the price being paid per unit of volume, weight or other measure of quantity; and

(iv) any other matters agreed on between the State and the owners.

(5) It is a condition of every agreement under this section that where the volume, weight or other measure of quantity of timber ultimately logged from a timber rights purchase area exceeds the estimated volume, weight or other measure of quantity set out in the agreement in accordance with the requirements of this section, the customary owners who were parties to the agreement, or their heirs or assigns, shall be paid an additional sum in respect of the excess, calculated at the same rate per unit of volume, weight or other measure of quantity as is provided in the agreement.

16. Royalties on permits and licences

(1) The royalty payable on timber and forest produce taken under a permit or licence is a fixed by the minister in the permit or licence.

(2) Notwithstanding Subsection (1), the minister may -

(a) at least once in every year during the currency of the licence or permit; and

(b) where in his opinion there exists a special reason to do so, at any time other

vendor customary owners and the purchasing State. What follows is the essence of the contractual relationship itself. This is set out in the Timber Rights Purchase Agreement.

The Timber Rights Purchase Agreement

Timber Rights Purchase (the standard agreement) reads:-

Clause 1

The vendors on their own behalf and on behalf of each of the persons, if any who are listed as absent in Schedule 1 hereto hereby dispose of and the State hereby acquires pursuant to Section 8 of the Forestry Act Chapter 216 (hereinafter called "the Act") at the price and on the terms and conditions hereinafter set out the right of felling, cutting, removing and disposing of the timber and other forest produce and of removing gravel and other road making materials on the land described in Schedule 2 hereto and which is delineated and edged in red on the plan annexed hereto ("the Timber Rights Purchase Area")

Clause 2

(1) The sale price, manner of payment, estimated quantities of timber and rates for calculation of payment are set out in Schedule 3 hereto

(2) Where the volume, weight or other measure of quantity of timber or other forest produce ultimately logged from the Timber Rights Purchase Area exceeds the estimated volume, weight or other measure of quantity set out in Schedule 3 the vendors, their heirs or assigns, shall be paid an additional sum in respect of the excess, calculated at the same rate per unit in volume, weight or other measure of quantity as is provided in Schedule 3.

Clause 3

The right of felling, cutting, removing and disposing of the timber and forest produce on the Timber Rights Purchase Area may be exercised for the term and from the date set out in Schedule 4 hereto.

Clause 4

Subject to this agreement the vendors shall not by sale or other dealing allow any person to acquire any interest in the timber, other forest produce, gravel and other roadmaking material, either while it is standing or after it is felled, but the exclusive right of felling, cutting, removing and disposing of the timber, other forest produce, gravel and other roadmaking material shall vest in the State and those claiming under it...

In a TRP agreement the way in which the sale price is to be calculated is contained in a schedule at the back of the agreement. This is what a standard schedule, extracted from the recent April-Salumei TRP, looks like:-

"SALE PRICE

The sale price is K20,140,017 to be paid as follows:-

1. K142.00 upon the signing of this agreement; and

2. the balance, and any increase due to production above the estimates set out below (Ym3 and Zm3) and any increase due to increase in royalty rates levied by the State on permit or licence holders in the Timber Rights purchase areas from to time (sic), to be paid every six months calculated on the royalty receipt received by the State during the previous six months until the expiry of this Agreement.

The sale price is calculated by the following formula.

$$\frac{R(i) \times Ym3 \text{ and } R(ii) \times Zm3}{4}$$

and the six (6) monthly payments are calculated by the following formula.

$$\frac{R(i) \times Am3 \text{ and } R(ii) \times Bm3}{4}$$

where: R(i) is the royalty levied by the State for softwoods (at the signing of this Agreement being K2.25 per m³).

R(ii) is the royalty levied by the State for hardwoods (at the signing of this agreement being K3.06 per m³).

Ym3 is the estimated volume of softwoods in the Timber Rights purchase areas (sic), and is estimated as 8,145,175m³.



Am3 is the actual volume of softwood harvested and from which the State has been paid royalty during a six (6) month period.

Bm3 is the actual volume of hardwood harvested and for which the State has been paid royalty during a six (6) month period.

The initial payment of K142 is to be recovered by the state through the collection of four times its value (K568) in royalty debited to pay Timber Permit or licence operation in the Timber Rights Purchase Areas prior to balance payments being made.

Further payments of the balance will fall due when the initial payment has been so recovered."

We should remind ourselves, that this schedule is an extract from the April-Salumei TRP Agreement made between the State and hundreds of people who were illiterate in both English, the language of the agreement, and in tok pisin the language used to communicate with them through a tok ples interpreter. The April Salumei Timber Rights Purchase Area was approximately 466,650 hectares. The nominal sale price, according to the agreement was K20,140,017, if the lunacy of the text is adhered to, but taking the average price of hardwood at, say, K210 per m³ and multiplying that by the estimated volume of hardwood in the TRP (8,145,175 m³), the value of that part of the resource may be K1,710,486,750. In fact the value is a lot more because the prime target of this TRP is Kauri. It was estimated that there was somewhere between 775,000 and 1.08 million cubic metres of Kauri in the April Salumei TRP. Under current law it is illegal to export kauri logs, so the April Salumei TRP was being put forward as a plywood project. The market price of kauri logs is thought to be close to K1000 per cubic metre. Projections show the cost of logging to be about K56 m³, and the minimum selling price to break even to be about K897. The market price of the kauri resource in the April Salumei, may be between K775 million and K1.8 billion.

Again we should reflect: an acquisition of real property (trees in situ) involving close to half a million hectares, K2.5 billion in assets, and illiterate vendors, all without the vendors having access to independent professional legal advice.

Although the intention of this legislation may well have been good, the effect of these provisions for landowners was that they were ripped-off. The royalty set by the minister is about six kina per cubic metre; the average f.o.b. price of Papua New Guinea logs is about K200 per cubic metre. Under new arrangements yet to be brought into effect the landowner will get a larger royalty, and other benefits. These will be described later.

A close reading of the agreement (TRP) (we have yet to see what an FMA looks like) shows that the landowner at the time of the sale of the timber rights is entitled only to that money which may be paid at the time of signing the agreement. This money, known as saekhans moni was either one or two kina per individual. For the timber rights of the April-Salumei TRP, 466,650 hectares, a total of K142 was actually paid out, and then the State would take that back four-fold in the royalty payments (because under these agreements the landowner only got a quarter of the royalty, the balance going to the State and provincial governments).

Continued next week

SUSTAINABLE DEVELOPMENT

20th Waigani seminar environment and development in PNG up to 2000 and beyond

A quarter of next to nothing: Participation and Responsibility with Forestry Resources

by DR BRIAN BRUNTON

Part 2

Although the TRP stipulates a set figure, a price for the sale of the timber rights from the landowners to the State, at best this is but a rough guide to what the landowners may get by the end of the agreement, in reality this figure is more likely to be illusory. The reason for this lies in the indeterminate nature of the description of the consideration paid by the State to the landowners for the timber rights. One thing is certain, landowner are not entitled to a fixed sum for their timber rights. The price which the landowner is meant to get upon so many variables as to be meaningless.

Again looking at the formal consideration in the April Salumer TRP, which we say is meaningless, but nevertheless taking it as a substantial figure for our purposes, why should a vendor sell for K20 million something that may have a market value of closer to K2.5 billion? Clearly the consideration is inadequate, and the agreement inequitable and unconscionable.

Forestry Act 1991

Let us now look at the new Forestry Act 1991, and the proposals for the equivalent of the TRP, which is now known as a Forest Management Agreement. The new act incorporates a lot of the old form of the TRP:-

"58. Forest Management Agreement.

A Forest Management Agreement shall-

(a) be in writing, and
(b) specify the monetary and other benefits, if any, to be received by the customary owners in consideration for the rights granted; and

(c) specify the estimated volume or other measure of quantity of merchantable timber in the area covered by the agreement; and
(d) specify a term of sufficient duration in order to allow for proper forest management measures to be carried to completion;

(e) be accompanied by a map showing clearly the boundaries of the area covered by the agreement; and

(f) contain a certificate from the Provincial Forest Management Committee to the effect that it is satisfied as to-

(i) the authenticity of the tenure of the customary land alleged by the person or land group or groups claiming to be the customary owners; and

(ii) the willingness of those customary owners to enter into the agreement, and (g) provided that a portion of the area covered by the agreement

(i) has been identified and dedicated; or (ii) shall, after the agreement has been entered into, as logging progresses in working plan areas, be identified, by the customary owners as areas for forest management purposes."

Draft Pro-forma Forest Management Agreement

The terms of the draft Pro Forma Forest Management agreement dated May 27/1992 suggests the following:-

4. Acquisition of Timber Rights and Purchase of Timber

4.1 Subject to clause 5 (customary user rights retained by traditional owners) the exclusive right to carry out logging, forest management practices and related forestry activities in the timber production areas during the agreement period shall vest in the authority (the National Forest Authority) and in persons claiming under the authority.

4.2 Where timber is obtained by the authority or persons claiming under the authority pursuant to the exercise of timber rights assigned under sub-clause 4.1 the title to such timber shall vest in the authority at the time it is felled, or in the case of timber felled by natural or other causes, at the time it is removed.

9. Monetary Benefits to Land Groups

9.1 In respect of all merchantable timber felled or gathered within the forest management area by the authority or persons claiming under the authority, the authority shall pay stumpage at the rates specified in Schedule 4. -

(a) 75 per cent of which shall be paid to the land group holding the block on which the timber was felled or from which it was gathered; and

(b) 25 per cent of which shall be paid to the Development Trust Fund established by deed of trust executed on the date of this agreement a copy of which is annexed hereto and marked with the letter "A."

9.2 The land groups shall not be entitled to impose charges or make any claim for compensation in respect of the extraction or use of quarry materials by the authority or persons claiming under the authority in the exercise of timber rights conferred under this agreement"

The all-important Schedule 4 referred to in clause 9.1 was described in the following terms:-

"Schedule 4 - Stumpage rates

(See schedule 2 of old act)"

Schedule 2 of the Forestry Regulations under the old act set out the rates of royalty to be paid by a licensee under a licence. Under Section 16 of the old act (above) the minister had power to fix royalty rates. As of May 27 1992, the mechanism for fixing the consideration to landowners for the transfer of their timber rights appeared to follow the mechanisms and mystification established under the old act.

The key to understanding what is in store for landowners is in Part VI of the new act, which reads as follows:-

"Part VI. - Forest Finance

119. Forest Revenue System.

There shall be established a forest revenue system which shall form the basis for prescribing royalties and other forest charges.

120 Royalties

(1) Subject to this section, the royalty payable and the forest produce taken or deemed to be taken under a timber permit is at a rate fixed by the minister in the timber permit, on the volume of merchantable timber or forest produce calculated at stump.

121 Levies

(1) The minister, after consultation with the board, may, by notice in the National Gazette, fix levies in respect of, but not limited to, all or any of the following:-

(a) follow-up development;

(b) provincial development;

(c) Papua New Guinea Forest Authority
(2) A levy under subsection (1) may be imposed on all holders of timber permits and of timber authorities and of licences or on such categories of holders of timber permits and of timber authorities and of licences as at specified in the notice.
(3) A levy under this section shall be paid and collected as prescribed"

The Corporate Mind-Set

Regulations under the new act have not been published, at the time of writing. There is a three cornered debate going on between the Department of Finance, the National Forest Authority, and conservative landowner representatives over the content of the regulations. At stake in this debate is the apportionment of the super-profits from the current high prices available for south sea log. The Department of Finance would be seeking to maximise the input into consolidated Revenue, the National Forest Authority needs revenue to support its new empire, its monitoring structures and programmes. The conservative landowners seek to keep the bulk of the surplus nominally with landowners, but more realistically with the logging companies.

In a paper out of the bureaucracy entitled *Forest Revenues, Their Distribution, Funding*

Arrangements for the PNG Forest Authority we get a glimpse of the view of the National Forest Authority over the apportionment of the super-profits. Here are some extracts which give us the direction of the corporate thought processes:-

"1.6 With the banning of round log exports of many tropical timber producers (ie. Indonesia, Malaysia), the prices of PNG logs have been rising in response to market scarcity. Under the current fiscal regime, PNG gains little of the windfall profit of rising prices. Secondly, a key element of the National Forest Policy is to phase down log exports in favour of creating new investment and employment in domestic processing facilities. The national government can no longer rely on the log export levy as its principal source of forest revenue.

2.0 The Stumpage Appraisal Revenue System

2.1 A "Stumpage Appraisal" revenue system is to be introduced. The system will replace the existing array of log export taxes, levies and royalties
2.2 The Stumpage Revenue System is comprised of two distinct levies, termed Minimum Stumpage and Additional Stumpage...
Forest Authority receives K15 per cubic metre from Minimum Stumpage (and of the balance)
Additional Stumpage 25 per cent of the Papua New Guinea share to consolidated revenue.

Forest owner trusts receive 75 per cent of Papua New Guinea share of surplus.
Direct to forest owner K5 per cubic metre from minimum scammage
2.3 Minimum stumpage is a fixed levy applied to all trees harvested. The initial levy is proposed at K20 per cubic metre... (of this K5 per cubic metre will be paid directly to landowners as a royalty)

2.4 Additional stumpage is specifically aimed at procuring excess revenue that is evident in the industry during periods of high log prices and/or particularly high value species. Revenue from this levy will vary with international log prices.
We can see from this that if the free on board (fob/export price) of timber is K210, if and the costs of getting the log to the wharf is K50 per cubic metre (including the logging company's 20 per cent on capital invested), that K160 is ready for distribution. According to the plan:

the landowner would get in the pocket as a royalty	kina
the National Forest Authority	5
would get	15
consolidated revenue would get	35
the Forest Owner Trust	105

There is a major question of policy raised by these proposals. Putting aside for the time being that under this scheme the rip-offs by logging companies are quite properly brought under control and a message is sent to the industry through the 25 per cent (effectively a levy of 21.9 per cent on the surplus after costs of production). Additional Stumpage Levy. The message being: process in-country, and do not export logs. These things aside, by what right does the State seek to appropriate the profits of the landowners and put them into a trust?

Unless this arrangement is the subject of an agreement, part of the levy which seeks to divert part of the surplus to a trust, is a compulsory acquisition of the profits of a timber rights sale, and under the Constitution, must be compensated with fair market value.

What should an agreement to sell timber rights to the state contain?

Two types of agreement should be contemplated: short-term, and long-term agreements (I acknowledge the research and advice of Docie Carpenter F-Law J.S. for help in inspiring much of what follows).

Small Short-Term sales

It may be in the vendor's interest to sell short-term and in relatively small amounts of timber to ensure sustainability, sensitivity to price fluctuations, and control over the logging operations. My own view is that small is good, because the resource stays under control, the associated disturbance to the rainforest can be minimised, and the process can be prolonged in definition.

In these circumstances, when the trees are ready for immediate harvesting, the vendor should ask of the State that current market value minus the costs incurred by the logger for logging, harvesting and delivering the timber to the mill or ship.

For a longer-term agreement the consideration may be more complicated. The State might pay the landowner, or the landowner may ask for, more than the current market value if it thinks that the price of timber will increase in the future. The State may also pay the landowner a lump sum for future cutting rights that is less than current market value. The lump sum is discounted because the State assumes the risk that something will happen to the timber (fire), or that the market price will decrease.

What do I say to the question that the National Forest Authority cannot afford to buy timber rights with an up-front lump-sum payment? I say "come into the twenty-first century". The landowners are proprietors, if you want their private property you better pay for it at around world market prices. The landowners did not ask you to set yourself up as a monopoly purchaser, but if you choose to do so, then you must be prepared to pay. Where are you going to get the money from to pay these up front costs? Well, in business it's normally not the vendors problem to tell the purchaser where to find the cash, but if you are asking, you might care to borrow it from a bank, commercially, like any other cash-strapped purchaser has to, or you might ask one of those Fukin connected logging companies to which you have given so many timber permits and licences, to lend you the money. They are good at financing arrangements. Otherwise if you have not got the money, if the heat is too much, get out of the kitchen.

What is good about the NEFA's proposals?

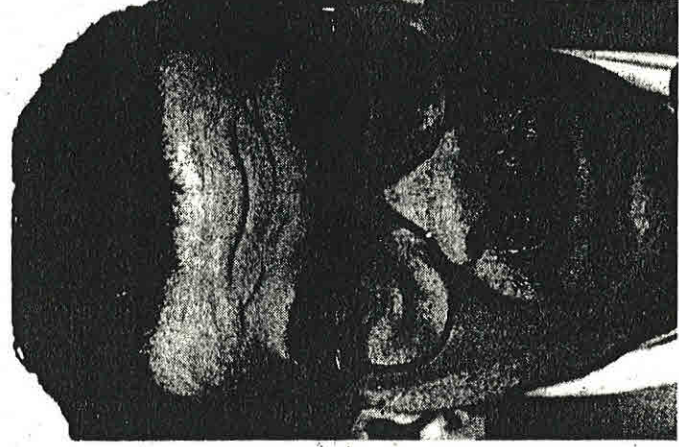
1. Nevertheless, it is probably best that the National Forest Authority keeps its position as the sole purchaser of timber rights. Private dealing should be banned. The NEFA should be the timber industry regulator, and environmental regulation should be in the hands of a strengthened Department of Environment and Conservation which should have the powers to enforce compliance with sustainability and environmental goals.

2. The part of the additional Stumpage Levies that discourage the export of logs should stay in place. The government's policy of encouraging domestic processing is correct. ICRAF believes that log exports should be banned, and the extent to which the World Bank, AIDAB, the National Forest Action Program, the bureaucrats, and the politicians will not bring in an export ban on logs, we say that their policy is wrong, and that the rainforest resources of this country are seriously jeopardised. The levies are a poor option, but better than nothing. The argument that logging has to go on to protect workers' jobs does not stand scrutiny. The loggers are poor employers.

3. The K15 per cubic metre Minimum Stumpage Levy seems excessive to fund the NEFA in its monitoring function. We suggest they get K5 per cubic metre and that be tied to reforestation and sustainability. K5 per cubic metre should go to the Department of Environment and Conservation to fund it as a watch-dog over the NEFA. The NEFA should be kept lean, and on its toes.

Blazing light of the Antilles

The Antilles: Fragments of Epic Memory (the Nobel Lecture) by Derek Walcott Faber & Faber 30pp £2.99



IT'S the practising poet's right to speak as no critic could about poetry, from within the lived experience of making it. To speak, in fact, like this: "Poetry, which is perfection's sweat but which must seem as fresh as the raindrops on a statue's brow; combines the natural and the marvellous; it conjugates both tenses simultaneously, the past and the present, if the past is the sculpture and the present the beads of dew or rain on the forehead of the past."

Despite the density of the prose, you can imagine Derek Walcott's Stockholm speech working well as a speech, because it has what Hazlitt praised in Burke's oratory, the gift of making each thought divulge a development of itself, so that successive sentences seed out of their predecessors. Nobel lectures are often grim things. Labouring against the ironies of global recognition, attempting to represent the cultures they came from, the honoured writer's find themselves imitating their own work, even parodying it. But this is something special - not just a piece of blotting paper held out to the Swedish academy. It actually illuminates the difficulties, the particular shaping dilemmas of Walcott's achievement.

Walcott sets out to argue with the insidiously pathetic vision of the Caribbean as a half-place, tropically triste, uttering only cracked echoes of Africa and Asia. "There are no people there in the true sense of the word," wrote the historian J A Froude, cited by a Victorian confidence that real people grow patiently from their origins, instead of arriving in ugly dias-

ments. He finds Port of Spain Athenian, and you remember the Homeric confidence of Omeros which made Martin Bernal's *Black Athena* seem redundantly literal. He points to the absence of ruins, which properly makes Antillean archaeology the study of the people, who possess their past as intimately as their blood-vessels. You remember Omeros's dramatic discovery of the memory within the forgetting of Africa.

But he cannot leave it at that. Essential aspects of his subject jostle for consideration, even in travesties of the Caribbean.

The argument refuses to resolve, because it corresponds with a parallel argument Walcott is having with himself over history and the lyric impulse, completion and incompleteness, making versus remaking, the simultaneous screening and revealing powers of each metaphor. His celebration of the Antilles has a strenuous to-and-fro tug-of-war movement. It applauds emergence, and then lauds the tough serenity of living in the present tense.

Shaking off his own presumption that a performance of the Ramayana in a Trinidad village will be a shaky imitation of the actors' lost India, he writes, "The sigh of history meant nothing here." Fearing later that his talk of "a fresh people and a fresh language" begins to sound like an idyll, he swiftly adds, "it is not that history is obliterated by this sunrise."

Walcott's prose acts out, you begin to realise, the same capacity to sustain doubt and contradiction which, in his poetry, assures him stanzas may be built that "contain the light" of the Antilles.

□ Derek Walcott: dense prose

poras. Real people speak real languages, rather than creole; and can write poetry. Walcott's scorn is magisterial, whether he describes 19th century travellers who "carried with them the infection of their own malaise", or Ray-banned tourists who see his native islands as "drinks with umbrellas" floating across a pool.

On one level the lecture lovingly vindicates the possibilities of the Caribbean condition, "the human variety more exciting than Joyce's Dublin". His eye restores the whole dignity of living amidst frag-

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from page 21

4. Logging companies should be no more than contractors. The NFA should advise and educate landowners about cost structures in the logging industry (ICRAF will do this in any case). The foreign companies should be replaced by local contractors because the business of cutting down trees and hauling them to a mill or a wharf is not beyond the capability of Papua New Guinea companies. Foreign investment in the timber industry should be limited to downstream processing, and we should get rid of those foreign logging companies that do not process in-country.

What government policies need to be changed?

5. The idea that landowners should get 25 per cent of a national figure fixed by the minister as a royalty should go, as should the suggestion that landowners be limited to a royalty of K5 per cubic metre. Landowners should be paid, up-front a fair market value for what they are selling. If they do not get this then they should refuse to sell their timber rights.

6. The convoluted and virtually unreadable TRP or FMA agreements must go too. All agreements between landowners and the NFA should be in plain English and a language in which the vendors are comfortable. The consideration paid by the purchaser to the vendor should be in clear and unambiguous language.

7. The idea that the NFA has a single pro forma FMA needs to go. The NFA should get used to the idea that landowners can access independent legal advice and bargain at arm's length with the NFA. In a free market economy, liberal-democracy, everything has a price. The bureaucratic feudal attitude that the State by virtue of its status has right to dictate terms should be changed. Landowners may draw comfort from the likely market trend in tropical hardwoods. The secular movement in prices over the next 20 to 30 years will be up; the trees can wait in the ground and get bigger; and increase in value can be this generation's sacrifice or gift to the next generation. Landowners in Papua New Guinea do not have to go into the market, unless the price is right.

8. The idea that the State can appropriate part of the profits of the sale of timber rights and investment in a "trust" is paternalistic. Trust established for infants and lunatics! What government is really saying when it proposes to establish trusts for landowners is that landowners are stupid and cannot be trusted to look after their own property. The Department of Finance wants to get control over these profits so it can direct the way the monies are to be invested.

They rationalise their ambitions by saying that landowners will go on a spending spree and overheat the economy.

Landowners are agriculturalists, farmers and peasants. Farmers and peasants are generally shrewd judges of market, better I would venture than bureaucrats. In a democracy the owners of private property, subject to proper industry regulation and the income tax laws, should be allowed to dispose of their surplus as they will. Proliferate spending can be minimised if proper advisory services, in small-business, investment, superannuation and other saving options are made available to landowners on how to look after their profits. That is the role of the State. The most likely way that landowners will spend their profits will be on housing improvements, water and electricity supply, schooling, health services, transport, whitegoods and entertainment. What is wrong with that? Yes, some of the money will be "wasted". In all booms there are confidence tricksters, fools and tragedy. But a much more real fear would be the dead hand of the bureaucrat running a multimillion trust fund.

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GOVERNMENT WARNING: SMOKING IS DANGEROUS TO HEALTH

Education towards sustainable development

The following is an edited version of a speech made by the Minister for Education, Andrew Baing, at the Goroka Campus. UPNG, early this month. His address followed on from the Waigani Seminar held in Port Moresby in August on environment and development.

THIS gathering provides a wonderful opportunity following on from the Waigani Seminar for more input into the National Task Force for Sustainable Development recently established within the Prime Minister's Office as a result of our government's pledge to work towards sustainable development through the signing of Agenda 21, at the Earth Conference in Rio De Janeiro. I will also take the opportunity to deal with the issue of expansion of access to post grade 6 education.

Agenda 21 and Education

There is only one specific principle that relates to education and that is Principle 21, which states:

The creativity, ideals and courage of the youth of the world should be mobilised to forge a global partnership in order to achieve sustainable development and ensure a better future for all.

However it must also be remembered that education, raising of public awareness and training are linked to virtually all areas in Agenda 21, especially to the ones on meeting basic needs, capacity-building, data and information, science, and the role of major groups.

Agenda 21 calls for us all to:

Reorientate education towards sustainable development; increase public awareness and promote training.

Education, including formal education, public awareness and training is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues.

While basic education provides the underpinning for any environmental and development education, the latter needs to be incorporated as an essential part of learning.

Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns.

It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making.

To be effective, environment and development and education should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication.

Specific objectives must focus on:

- Reducing the high illiteracy levels and redressing the lack of basic education among women and bringing their literacy levels into line with those of men;

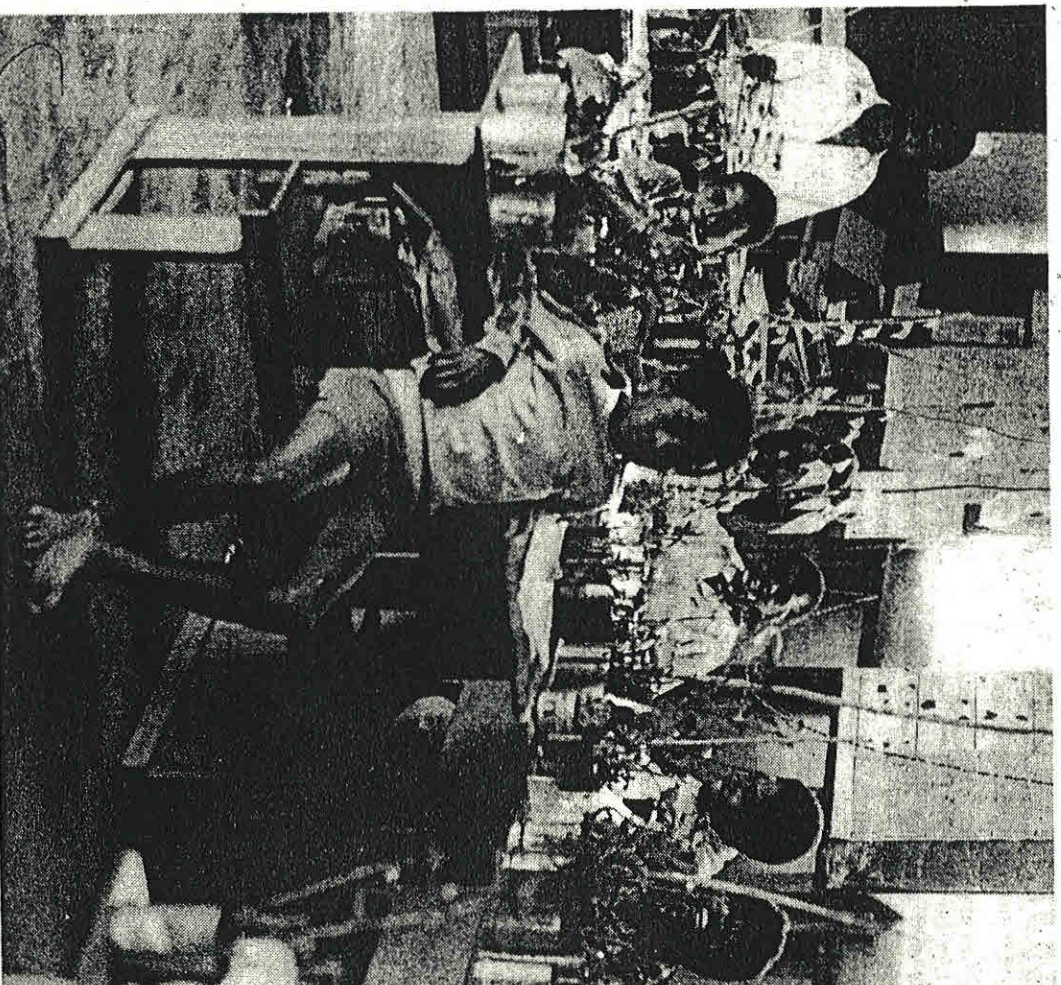
- Promoting integration of environment and development concepts, including demography, in all educational programmes, in particular the analysis of the causes of major environment and development issues in a local context;

- Giving special emphasis to the further training of decision makers at all levels.

Possible activities that this seminar could consider are:

- The preparation of strategies aimed at integrating environment and development as a cross-curriculum issue, into education at all levels within the next three years. This should be done in cooperation with all sectors of society. These strategies can then be built into the curriculum reform that my department is undertaking. Due respect should be given to community-defined needs and diverse traditional knowledge systems, including science, cultural and social sensitivities;

- The establishment of a national advisory environmental education coordinating body



□ A system which served us well in the past is no longer fulfilling our needs.

to provide a source of information and focal point for international ties. This could possibly evolve from the National Task Force in Sustainable Development that is presently preparing recommendations to the NEC.

- The development of programmes for all schools with the participation of students and staff which involve school children in local and regional studies on environmental health, ecosystems and in relevant activities, linking these studies with services and research, in national parks, wildlife reserves, mines etc.

- The facilitation and promotion of non-formal education activities at the local, regional and national levels by cooperating with and supporting the efforts of non-formal educators and other community-based organisations.

- The promoting of all kinds of adult education programmes for continuing education in environment and development.

Successful education for sustainable development also has budgetary implications and may require a shift within existing education budgets in favour of extended primary education for all, with focus on environment and development; as well as the promotion of the more effective use of existing facilities, for example, multiple school shifts, distance teaching, etc.

I would like to emphasise that we must also recognise appropriate traditional education systems in local communities and the important that non-governmental organisations can make in designing and implementing educational programmes.

Extended Primary Education

I have referred above to an extended primary education. By that I am referring to one spanning eight or nine years rather than the six currently offered. In his first major policy statement to the nation from the floor of Parliament in August 1992, Prime Minister Wingti committed this government to restructuring the education system in a concerted effort to increase access.

He made this commitment consistent with the recommendations of the Education Sector review of 1990/91 which had discovered that the central issue at the secondary level of education is access. Though the number of provincial high schools has increased in the past decade (20+), the number of community

school pupils has also increased greatly, leading to a smaller percentage of grade six children being selected for high school.

Sixth to Seventh Grade Transition Rates

The transition rate from grade six to grade seven has been fluctuating between 33 and 37 per cent during the past ten years. We have been unable to get it any nearer to the government's long established target of 50 per cent. As you are aware, there is overwhelming public demand for a 100 per cent transition rate: we are even further away from that.

Even the current poor transition rate has been maintained in recent years only by:

- The worsening attrition between grades 1-6 resulting in fewer children completing grade six;

- In a number of provinces, the 'ad hoc' addition of extra grade 7 classes in many schools without any additional facilities, materials and equipment or teachers;

- Over-crowding grade 7 classes throughout the country, especially in the urban areas;
- The opening of unapproved, unplanned and inadequately funded and resourced high schools in one province;

Secondary Enrolment Ratio

The present secondary enrolment rate is only 15.5 per cent, despite the opening of 20 new high schools between 1984 and 1992 and the blocking up of many others. Eighty five per cent of our children in the secondary age group are not receiving a secondary education. This compares very unfavourably with other countries in the region and with Low Income and Lower Middle Income countries, as defined by the World Bank, which have secondary enrolment rates of 22 and 42 per cent respectively. As a lower middle income country PNG should at least match 42 per cent. As a resource-rich country one would probably do far better than that.

Prospects

The experience of the last ten to 15 years has shown that we are unable to make any significant headway in increasing access to grade 7 using our existing strategies. Our Planning Section has calculated that we could achieve a 50 per cent transition rate by the year 2010, ten years later than the government target, if dur-

ing that time we built 144 new provincial high schools. This would involve building about seven new schools at a cost of K21m a year! We have neither the financial resources nor the construction and management capacity to do this.

Secondary teacher supply

Even if we should be able to mobilise the necessary resources and capacity, where would the trained secondary teachers come from? The combined efforts of the Waigani and Goroka campuses of UPNG have left us with a deficit of 260 teachers today, consisting of about 130 vacant positions and 130 inadequately trained teachers. Add to that figure the number of contract officers that we still rely on in our high schools and you will see how badly we have done in secondary teacher supply. And please note that attrition among secondary teachers is not excessive, as is often claimed by some uninformed commentators.

The Restructured System

A system and a curriculum which served us well in the past is no longer fulfilling our needs and changes must be made. In an attempt to tackle many of our problems at the same time, we have embarked upon a variety of alternative strategies which involve a re-structure of our institutions and a reform of the curriculum. Basically, what is involved is that basic education would be for nine years. It would consist of two levels of schooling, elementary and primary. Elementary school would cover three years, preparatory, grade 1 and grade 2. These schools would be village or settlement based, teach for three hours per day and provide initial and early education in a language which the children speak. Because the schools would be village based, this would allow all children to enroll at the correct age of six years. Content would be reorganised into an integrated activity based curriculum. This should lead to greater understanding and interest by the children encouraging them to stay in school and become functionally literate. Towards the end of the elementary school they would then begin to transfer their literacy skills to English.

Primary school would cover grades 3 to 8 and be located in our present community schools. The language of instruction would be mainly English, with broad freedom to use a language which the children understand better to establish new concepts and enhance understanding. The curriculum would be organised into two three year cycles. Each cycle would continue to be strongly integrated but would become more subject specific at the upper level. The final cycle, covering grades 6, 7 and 8, would see the introduction of practical skills as a very important subject. All children would go through to grade 8 at their primary school. This would give greater opportunities for more years of education to many more children. Similarly, because of the removal of grades 7 and 8 from the high schools, we would be able to take many more children on to grades 9, 10, 11 and 12.

Why extend primary schools?

I have described already how the strategy the increasing access to grade 7 by means of building provincial high schools is failing us. What benefits do we expect by building up grades 7 and 8 in primary schools? - and please note we are building up grade 7 and 8 in primary schools, not pushing them down from high school. Some of the advantages include:

- Land is already available whereas it takes up to five years or more to negotiate land upon which to build a provincial high school;
- Infrastructure development costs are much lower. The per pupil place costs in a new provincial high school are now about K9,000. In a primary school they are between K100 and K2000.

- On our early experience of these developments, communities are much more willing to mobilise their own financial and manpower resources to assist. It is most encouraging to see how communities, education agencies to local projects and even private companies are

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contributing finance, goods and services, thus reducing the cost to government. This seldom happens in respect of the establishment of a high school and I want to commend all donors very highly.

- Education can continue to be more community based. There will be no need to send children away from home, at the age of just 13, for grades 7 and 8;

- Boarding will virtually be eliminated leaving primary responsibility for discipline with the parents into the difficult early adolescent years;

- While we have been experiencing a severe shortage of secondary teachers, there is currently a temporary surplus of primary teachers. Several thousand primary teachers have to be commended for the way in which they are upgrading their educational qualifications - they are the biggest clients of UPNG's Extension Studies Department.

The Department of Education, which controls primary teacher education, can control primary teacher supply ensuring that the supply matches demand. Secondary teacher supply, on the other hand, is controlled by UPNG with few opportunities for intervention by the department to ensure an adequate supply.

A new Diploma in Primary Teaching (Inservice) has been designed and will commence during this year's Lahara season. This

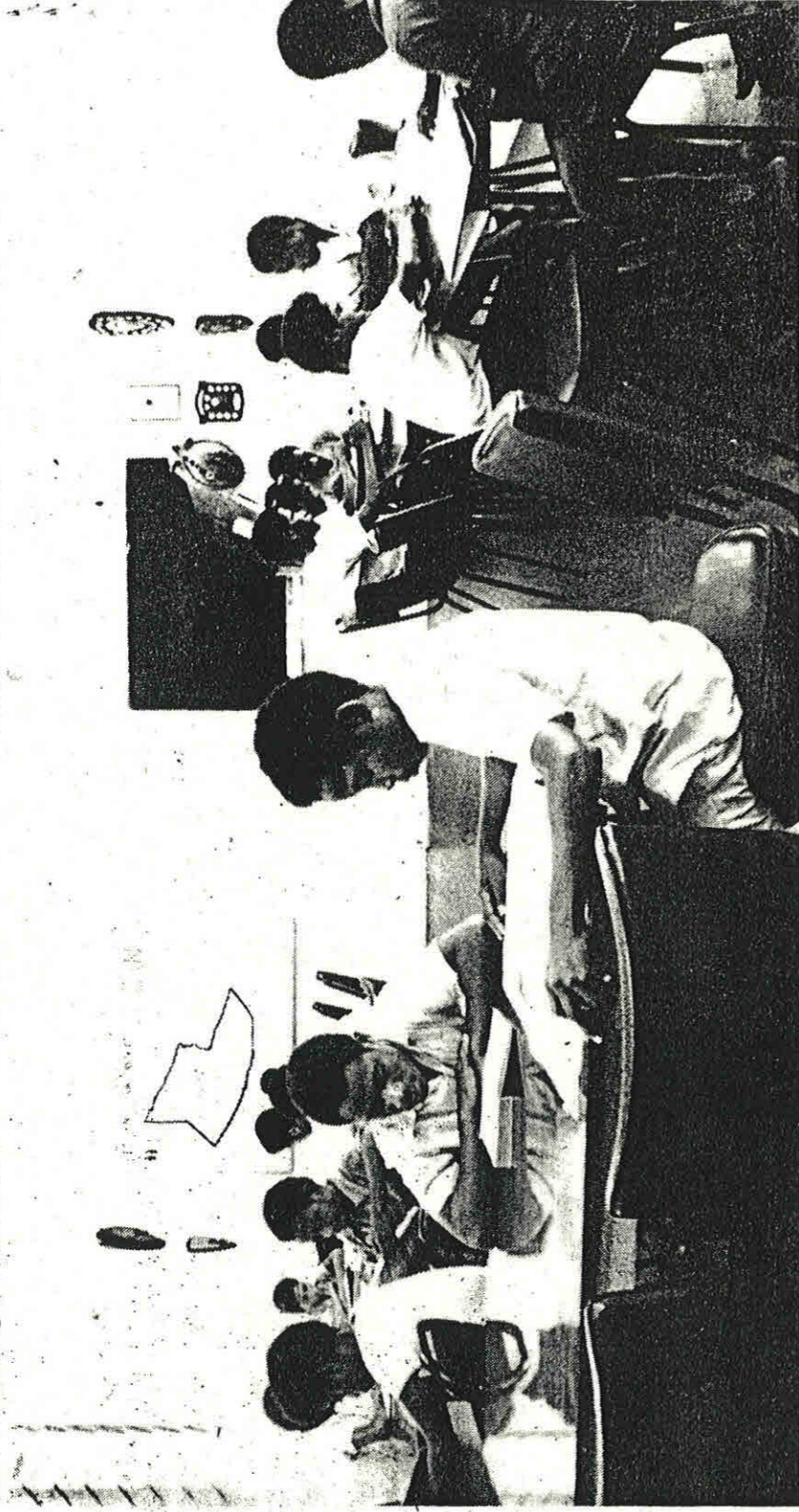
this programme.

The curriculum will be the same in all grade 7 and 8 classes whether in primary school or provincial high school and a standard system of monitoring and assessment will be applied.

Conclusion

So, ladies and gentlemen, as you can see we have embarked on an exciting and concerted attempt to increase access beyond grade 6 with concurrent quality inputs to ensure quality. The focus for any discussions at this conference, therefore,

must be not should we proceed by expanding access in this way: we have started and we will continue. Rather the focus should be on how you can contribute. That you can and must contribute, I have no doubt, and I will leave it to you to decide how you can best do this.



□ In the restructure, basic education will be for nine years.

Welcome to MBA

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