SOPAC

COUNTRY PROFILE

NEW CALEDONIA

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SOPAC

Our Vision

The improved health, well being and safety of the Pacific and its peoples

The South Pacific Applied Geoscience Commission (SOPAC) is an independent, intergovernmental, regional organisation established by South Pacific nations in 1972, and dedicated to providing geotechnical services to the countries it serves. Its Secretariat is located in Suva, Fiji, and has about 40 professional and support staff.

SOPAC's work for its member countries focusses on three key areas; resource development; environmental geoscience; and national capacity development in the geosciences. To effectively deliver these services SOPAC maintains a regional data centre, provides information services, and offers technical and field services for specific project work.

THIS COUNTRY PROFILE WAS PRODUCED TO PROVIDE A SNAPSHOT OF THE CURRENT ISSUES FACED BY THE COUNTRY AND SOPAC'S ROLE IN ASSISTING COUNTRIES TO ACHIEVE SUSTAINABLE DEVELOPMENT

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NEW CALEDONIA COUNTRY PROFILE

Capital:	Nouméa
Population:	212 800 (1999 est.)
Land Area:	18 576 sq. km
Max. Height above Sea-level:	1 628 m (Mt Panie)
Geography:	Consists of one large and one small island and the Loyalty and Huon groups; islands are surrounded by coral reefs; main island is New Caledonia (16 750 sq km)
EEZ:	1 740 000 sq. km
Climate:	Tropical; cooled by the southeast trade winds; wet season (December to March)
Rainfall:	Varies from 2 000 mm in the east to 1 000 mm in the west per annum
Mean Temperature:	23°C
Economy:	Dominated by the production of nickel, tourism, French aid, agriculture and fishing; exports include nickel, coffee, copra and fish
GDP per Capita:	US$ 13 301 (1995 est.)
Currency:	Comptoirs Francais du Pacifique (CFP)
Energy Sources:	Solar, wind, biomass, hydro
Freshwater Sources:	Rainwater, surface water, groundwater
Natural Hazards:	Cyclone, landslide
Mineral Potential:	On-land – nickel; Offshore - unknown
Languages:	French, English and about 30 other Kanak languages
Government:	Overseas territory of France
SOPAC Membership:	Associate member since 1991
Country Representative:	National Representative of New Caledonia to SOPAC
	Service des Mines et de L'Energie
	BP 465
	Nouméa
	Tel: (687) 273 944
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	Email: lafoy@noumea.ird.NC

New Caledonia

New Caledonia is an overseas territory of France comprising one main island (Grande Terre) and the Loyalty Islands group (to the east). The total land area of New Caledonia is 18 576 sq km within an Economic Exclusive Zone (EEZ) of 1 740 000 sq km. Geographically, New Caledonia is a continental island with a maximum height of 1 628 m above sea-level.

The population of New Caledonia was estimated at 212 800 in 1999[1], with the capital, Nouméa, alone having 120 000 people. The indigenous people of the nation are Melanesians.

New Caledonia has a tropical climate with an average annual temperature of 23°C. Rainfall varies from east to west, with an average of 2 000 mm and 1 000 mm respectively. December to March is the wet season and cyclones occur during this period.

The mainstay of the economy is nickel, followed by tourism. Other exploitable minerals also contribute to the export earnings of the country. New Caledonia's agricultural exports include coffee and copra with trochus, scallops and tuna comprising the range of marine export.

There are several resource and environmental issues, common to island nations, affecting sustainable development in New Caledonia. These include an array of issues from environmental degradation and pollution to resource management. More specific challenges to sustainable development include land erosion and water quality. Sustainable management of resources such as aggregates, terrestrial minerals and renewable energy are other issues in New Caledonia's quest for development.

New Caledonia has been an associate member of the South Pacific Applied Geoscience Commission (SOPAC) since 1991. SOPAC is an independent, intergovernmental, regional organisation, which provides expert technical assistance, policy advice and information on the sustainable management of these natural resources. SOPAC also contributes to a variety of geoscientific training and educational opportunities at all levels to increase the country's capacity in science and resource management. Additional assistance is made available by SOPAC through technical support for the establishment and maintenance of database information systems and for electronic exchange of information. Expertise in hazard assessment, disaster preparedness, mitigation and management is also provided.

Challenges to Sustainable Development and SOPAC's role in New Caledonia

Natural resource development and management holds the key to rapid economic development in island nations. Unwise exploitation of non-renewable resources and exploitation of renewable resources at a pace higher than the natural rate of replenishment could prove detrimental to the sustainable development plans of the country.

MINERALS

The mineral resources of New Caledonia are immense. Nickel and chrome are the most important minerals, with New Caledonia being the largest producer of nickel ore in the region. Apart from these, large deposits of iron, manganese and cobalt also exist in the country. Other mineral deposits include antimony, mercury, copper, silver, lead and gold.

[1]SPC Demography Programme

Environmental pollution, adverse social impact and economic redistribution are the biggest concerns arising out of mining and mineral exploration. Air pollution, water pollution and deterioration of land quality are the primary damages inflicted by mining operations. The disposal of mine tailings is an arduous task for small, land-scarce islands. Mining also leads to loss of green cover and diminished aesthetic appeal of natural surroundings, and renders the land unsuitable for other applications, even long after the closure of the mine.

Mineral resource development often leaves indelible scars on the fabric of traditional societies through the resultant change in lifestyle, perceptions and values that it inevitably effects. While displacement and compensation for externalities form a complex range of issues on their own, the assignment of pecuniary or economic value to communally owned properties like land has often led to social disharmony. The loss of land deprives many of their traditional lifestyles and ofetn creates unemployment. SOPAC understands the impact of these externalities on New Caledonia's goal of sustainable development and has attempted to address them while framing policies. Social cost-benefit analysis and social and environmental impact assessments are advocated for all mining projects in New Caledonia.

Capacity development in the member states is one of the top priorities of SOPAC. Training in the field for technical personnel from the member countries is an ongoing process with the aim of enhancing in-country capacity to undertake assessment studies and field surveys. This training is carried out through workshops and seminars and through the courses in the Earth Science and Marine Geology Certificate Programme, which has been undertaken for 21 years. It is hoped New Caledonia will take advantage of these in the future.

ESMG students 2000

ENERGY

The main island of New Caledonia is about 500 kilometres long. Approximately 120 000 people live in the main city, Nouméa. The remainder of the population is spread out over the main island and in the three Loyalty Islands. For this reason there is a strong demand for solar photovoltaic systems in isolated rural areas.

In terms of energy autonomy, New Caledonia produces 11% of its energy needs, 6.7% being produced by hydroelectricity, with the remainder produced by other renewable energy sources, including wind generators and photovoltaic systems. Over 79% of the electricity in New Caledonia is produced by thermal generators.

Energy used in New Caledonia is closely linked with the nickel mining and refining industry. In fact, the nickel industry accounts for 75% of overall electricity consumption.

The growth rate for energy demand in New Caledonia and the pattern of energy use are such that today diesel generation is the main priority. New production capacity must meet future energy requirements as closely as possible. For this reason, diesel generators, with their low unit power output, are most suitable.

· Hydroelectricity

Hydroelectricity is very important in New Caledonia. Two new hydroelectricity projects are now under consideration, though construction might not be immediate.

Although hydroelectricity is an inexpensive energy source, which contributes to a country's energy autonomy, it cannot serve as the principal energy source where the guaranteed output is much lower than the installed capacity.

In the long term, hydroelectricity will play an increasing role, and it is one of the main energy priorities in New Caledonia.

· Wind Generators (éoliennes)

Following the success of wind generators (4.5 Mega Watts) installed by Electricite et Eau de Caledonia (EEC), a power utility, the territorial congress has encouraged the two power companies to conduct an evaluation of potential wind-generating capacity in the islands.

ENERCAL has installed three 60-kW wind generators on the Isle of Pines and is studying wind potential on the islands Ouvea and Mare.

EEC and ENERCAL has conducted a studies of wind generation in different places of New Caledonia.

Given the production cost of electricity on the islands, wind generation is an economically competitive means of production. In terms of "image" it is more attractive than diesel.

· Photovoltaic Systems

New Caledonia is very advanced in photovoltaic electrification.

For example, Tiga Island with a population of 150 is electrified entirely by photovoltaic systems. Each household is equipped with a pre-payment meter and customers pay for a certain number of days of electricity.

The Power Company, EEC, manages the solar installations. The EEC agent on the island issues customers a printed code. The customer, using a keypad, enters this code in the meter. The prepayment meter then counts down the days remaining, and automatically cuts off service until a new credit is entered.

New Caledonia is also advanced in the use of solar power for professional applications.

- Solar water pumping for agriculture and domestic water supply is very successful;

View of Nouméa from Mount Khogi

- Photovoltaic generators power a growing number of radio, television, tele-communication, and navigational aids.

Solar photovoltaic power is the accepted alternative in New Caledonia, wherever grid connection of isolated sites is not practical.

Touho runway

Solar power is viable and technically well developed, but it is not a main priority in the overall energy scheme in New Caledonia. It is mainly as a complement to the main grid electricity system.

WATER

Fresh water is a fundamental resource for island nations. Most development plans are pivotal on the availability of fresh water. Clean water enhances the health and productivity of the work force and has particular implications for the children and future generations.

The Dumbea Dam provides reliable water supply to Nouméa, the capital of New Caledonia. On the mainland, tap water is generally safe to drink. Overall, about 90 per cent of the total population of the nation receive piped water[2].

COASTAL MANAGEMENT

New Caledonia has distinctive coastal areas comprising features such as fringing reefs, lagoons, natural beaches and mangroves. There have been rapid changes in the coastal geography associated with increasing reclamation as a part of burgeoning tourism and urbanisation.

There has been considerable land reclamation around Nouméa.

SOPAC undertook a Coastal Mapping Workshop in New Caledonia in 1993[3] to train local officials and numerous other Pacific Islanders in mapping techniques that are useful for coastal-zone management. A field survey on the identification and location of sand resources, lagoon morphology and seismic stratigraphy was conducted in 1999[4]. SOPAC has also carried out a multibeam bathymetric survey of the seabed to evaluate the feasibility of a deep-sea tailings-disposal system[5]. SOPAC has been contacted to plan to undertake geophysical studies for resource assessment in the northern lagoon of New Caledonia[6].

Given the critical importance of sustainable development in New Caledonia, SOPAC will continue to play an important role in coastal preservation and the development of sound policies to ensure better management of coastal resources.

Coast of New Caledonia

[2]Pacific Islands Yearbook, 1994

[3]SOPAC Training Report 55
[4]Task Profile NC 99.001
[5]Task Profile NC 99.010
[6]Task Profile NC 99.011

STEPS INTO THE FUTURE: INFORMATION TECHNOLOGY & COMMUNICATIONS

For effective resource management and planning, the storage and processing of timely and accurate scientific data is critical. Island nations face the fundamental crisis of geographic isolation and high cost of communication between the various islands.

SOPAC has been assisting New Caledonia to train personnel in Information Technology. SOPAC provides support for installation and maintenance of appropriate information-technology systems. These systems can improve the effectiveness of the relevant government department by providing ready access to timely and accurate information.

SOPAC participated in a workshop in Nouméa in 1996 for IT personnel[7]. The objectives were to discuss the current trends in information technology with the intention of further developing the IT coordination and cooperation between regional organisations in this area.

IT training for member country personnel

SOPAC intends to assist the territory in producing digital data sets[8] and provide Intranet and Internet services in Service des Mines et de l'Energie[9].

As a regional data centre, SOPAC has been compiling geographical data on New Caledonia.

Future Directions in New Caledonia

In future, SOPAC will continue its partnership with New Caledonia, to overcome the hurdles in the path of sustainable development. SOPAC will use its key 'ownership advantage' - the expertise in applied sciences - to help New Caledonia manage and develop its non-living resources sustainably. The ZoNéCo (Zone economic de Nouvelle-Caledonia) programme aims to assess the non-living and living marine resource of New Caledonia's Economic Zone. SOPAC partcipated in this programme programme in 1993 and plans to further do so in the future.

SOPAC will further its partnership with New Caledonia in developing terrestrial mineral resources. Policy formulation will be one of the key areas that SOPAC will develop as one of its core professional activities.

Sustainable development, conservation and management will be the guiding principles in the water and energy sectors. Policy development will be an activity in both these areas as well. New Caledonia has contributed to strengthen the Secretariat's expertise in hosting three International workshops (Touho: 1993; Swath-mapping: 1994; Habitats: 1997). SOPAC will complement these in the future by organising training programmes, workshops and seminars to assist New Caledonia in creating a national capacity in geo-science.

[7]SOPAC Miscellaneous Report 226

[8]Task Profile 98.008
[9]Task Profile 98.002

Cultural performers

Island systems management will be a future area of focus, given its ability to improve database management and decision-making processes. SOPAC intends to support the development of information technology and communication infrastructure in New Caledonia to achieve this.

By performing its functions as the specialised scientific organisation that it is, SOPAC has been addressing some of the fundamental factors that have impeded the development process.

Reference Materials

SOPAC provides access to a host of information relating to New Caledonia. This can be accessed through the library database, PIMRIS or the Internet. Some of these reference materials specific to New Caledonia are:

- Maps of New Caledonia
- Project Reports
- Education/Awareness Pamphlets
- General reference material on New Caledonia

Please refer to the New Caledonia Bibliography for SOPAC's full reference and material listing.

Cultural centre

For more information please contact:
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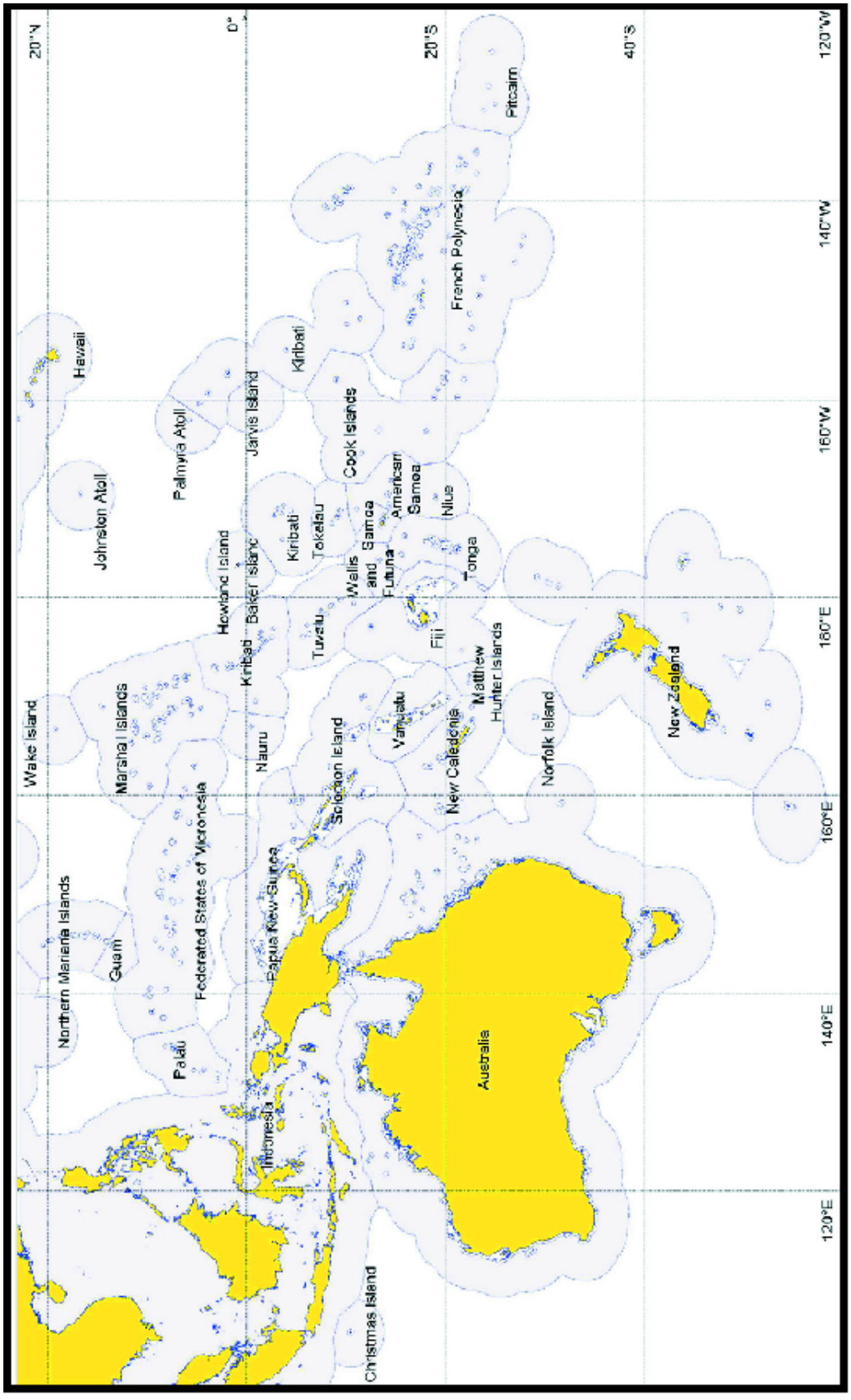
Issues and SOPAC's Responses for Further Development

ISSUES	CONSTRAINTS	RESPONSES FOR FURTHER DEVELOPMENT
Water & Sanitation	· Demand greater than supply	· Development and implementation of resource policy and legislation · Conducting research and feasibility studies to address water and sanitation issues
Coastal Management	· Natural erosion occurring, manily in Bourail (west coast) and on some islands within the lagoon	· Locating an economically viable, alternative aggregate resource · Dialogue with the government and private sector on sustainable coastal development and management · Development of policies and legislation
Minerals	· Inadequate scientific research to define full potential of resources	· Development of resource advice on the management and development of terrestrial and deep-sea minerals · Encourage further research
Energy	· Demand often exceeds supply rate · High costs	· Development of energy policies and legislation · Enhancing human resource capacity in the energy sector through workshops, technical training, etc.
Information Technology & Communication	· High costs	· Developing regional data sets in GIS and RS · Collaboration with IRD and IFREMER · Assisting in development of Internet access in New Caledonia
Human Resource Development	· Weak human resource base · Limited financial and institutional resources · Limited expertise	· Conducting workshops and technical training programmes to improve national capacity in the geosciences · Running the Earth Science and Marine Geology course to improve the human resource base · Fellowship attachments



South Pacific Region Maritime Limits

SOPAC Member Countries: Australia, Cook Islands, Federated States of Micronesia, Fiji Islands, Guam, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Kingdom of Tonga, Tuvalu, and Vanuatu. French Polynesia and New Caledonia are Associate Members.