

ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY II

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FIJI FORESTRY OUTLOOK STUDY

by

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**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
REGIONAL OFFICE FOR ASIA AND THE PACIFIC**

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Contents

PREAMBLE	4
1. INTRODUCTION	5
2. THE PRESENT SITUATION	7
Fiji economy and economic policy	7
Political situation in Fiji	8
Social and human context for Fiji	8
3. FOREST RESOURCES IN FIJI	10
Land use in Fiji	10
Landownership and tenure system	10
Forest resources	11
Native forest resources	11
Plantation forest resources	12
4. FOREST INDUSTRIES	13
Forestry and logging	13
Exports	13
Imports	16
5. OTHER FOREST ROLES AND DIMENSIONS	17
Fuelwood and wood energy	17
Non-wood forest products	17
6. FOREST POLICIES, LEGISLATION AND INSTITUTIONS	18
Corporatization	18
Main forest policy directions in the future	18
Institutional strengthening and capacity building	18
Indigenous landowners' issues	19
Interaction between people and forests – a social issue	19
7. THE FUTURE FOR FIJIAN FORESTRY IN A GLOBAL CONTEXT	20
Trend of forest product flow	20
Fiji's international and regional roles	20
International environmental initiatives	20
8. CONCLUSION	22
9. CHALLENGES	23
What is needed for a successful response to the challenges?	23
10. REFERENCES	24

INFORMATION NOTE ON THE ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY

The Asia-Pacific Forestry Sector Outlook Study (APFSOS) is a wide-ranging initiative to gather information on, and examine, the evolution of key forestry issues as well as to review important trends in forests and forestry. The main purpose of the study is to provide a better understanding of the changing relationships between society and forests and thus to facilitate timely policy reviews and reforms in national forest sectors. The specific objectives are to:

1. Identify emerging socio-economic changes impacting on forest and forestry
2. Analyze probable scenarios for forestry developments to 2020
3. Identify priorities and strategies to address emerging opportunities and challenges

The first APFSOS was completed in 1998, with an outlook horizon to 2010. During its twenty-first session, held in Dehradun, India, in April 2006, the Asia-Pacific Forestry Commission (APFC) resolved to update the outlook extending the horizon to 2020. The study commenced in October 2006 and is expected to be completed by September 2009.

The study has been coordinated by the Food and Agriculture Organization of the United Nations (FAO), through its regional office in Bangkok and its headquarters in Rome, and implemented in close partnership with APFC member countries with support from a number of international and regional agencies. The Asian Development Bank (ADB), the International Tropical Timber Organization (ITTO), and the United Kingdom's Department for International Development (DFID) provided substantial financial support to implement the study. Partnerships with the Asia-Pacific Association of Forest Research Institutes (APAFRI) and the Secretariat of the Pacific Community (SPC) supported the organizing and implementing of national focal points' workshops and other activities, which have been crucial to the success of this initiative. The contributions of many other individuals and institutions are gratefully acknowledged in the main APFSOS report.

Working papers have been contributed or commissioned on a wide range of topics. These fall under the following categories: country profiles, sub-regional studies and thematic studies. Working papers have been prepared by individual authors or groups of authors and represent their personal views and perspectives; therefore, opinions expressed do not necessarily reflect the views of their employers, the governments of the APFC member countries or of FAO. Material from these working papers has been extracted and combined with information from a wide range of additional sources to produce the main regional outlook report.

Working papers are moderately edited for style and clarity and are formatted to provide a measure of uniformity, but otherwise remain the work of the authors. Copies of these working papers, as well as more information on the Asia-Pacific Forestry Sector Study, can be obtained from:

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Preamble

This report was compiled under the supervision of Dr Alfred Leslie (New Zealand) who was sponsored by FAO via the Secretariat of the Pacific Community (SPC) (Forests and Trees Program), Fiji Islands and the co-writer Acting Conservator of Forests, Osea Tuinivanua, Forest Department, Ministry of Primary Industries, Suva, Fiji Islands.

The scope of the report includes the local working paper on sectoral developments of public and private institutions, policies and programmes with exceptional sector studies and reviews related to the forest sector. A one-day “Fiji Forest Sector Outlook 2020” workshop was facilitated by the Forestry Department with participants from related government departments, non-governmental and private sector institutions. The workshop discussed the current trends of development in the forest sector and the expected sector outlook to 2020.

Further information and copies of reports on the Fiji Forest Sector Outlook Study 2020 can be obtained from:

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1. INTRODUCTION

The Fiji country report to the Asia-Pacific Forestry Sector Outlook Study (APFSOS) prepared prior to the Asia-Pacific Forest Commission (APFC) Session in April, 2008 provides a convenient and timely opportunity to carry out a somewhat overdue review of the state of the forest sector in Fiji and its prospects for the future to 2020. It is 20 years, or so, since the last comprehensive sector review was conducted and in that time some drastic changes have occurred and still are taking place in the circumstances affecting forestry in Fiji.

Some of those changes are internal, arising in part from implementation of the recommendations of the 1988 Forest Sector Review. But more importantly, without doubt, are those relating to the global view of the role of forests in human prospects.

Perhaps the most significant of the internal developments has been the corporatization of the hardwood plantations. The softwood plantations had, after a somewhat chequered and turbulent formative period, been fairly successfully incorporated as Fiji Pine Limited by 1988. The Sector Review recommended that a similar approach should be applied to the hardwood (mainly mahogany) plantations. This was eventually and partly effected by setting up the Fiji Hardwoods Corporation as a state-owned enterprise, a rather different structure to that of Fiji Pine Ltd.

One crucial – and probably the most crucial recommendation – was, however, not implemented. This was the recommendation for institutional restructuring to set up a “holding company” incorporating the indigenous forests, the hardwood plantations, and the softwood plantations into a single unified, overarching coordinating body. With the Hardwoods Corporation remaining within the Ministry for State-owned Enterprises, the indigenous forests and community plantations (mainly conifers) within the Ministry of Fisheries and Forestry, and Fiji Pine Ltd standing more-or-less on its own, coordination of policies and activities in the national interest has tended to be ad hoc and accidental, rather than systematic.

For example, the relatively large-scale clear-felling of near mature mahogany to supply the domestic market and generate revenue to off-set or minimize government investment in plantation management and expansion could be misplaced and/or excessive.

The total resource has a productive capacity several times greater than present or likely domestic demand for timber and wood products. Exploitation of all or even part of that potential, therefore, depends on export markets. And the possibilities in that direction are set by the international outlook for forestry.

In that respect, three recently emerging and continuing developments have to be accommodated. These are:

1. Forests are being increasingly regarded as a global resource, but what people other than the owners want, is becoming more important than what the nominal owners want. With exports being the dominating factor in Fijian forest policy, what people in prospective export markets think of how the forest sector in Fiji is being handled will affect the changes or success with any export-driven strategy.
2. Forests are becoming increasingly valued for their carbon sequestration (absorption and storage of atmospheric carbon) capacity. Climate change is now a major issue in international affairs. The generally accepted, although by no means unanimous, scientific opinion is that climate change is occurring quite rapidly, that it is taking the form of global warming, and that a key driving force is the burning of fossil fuels.

Forests (as carbon sinks) therefore have a key role in off-setting carbon emissions from increasing consumption of fossil fuels and long-term stores of the absorbed carbon.

3. Wood, as a raw material for industrial use, is tending to become a minor forest by-product. The carbon sequestration capacity of forests is overhauling the industrial utilization of wood as the main forest product. Combined with environmental services of forests rising in relative importance and the growth of an increasingly affluent, environmentally conscious middle class means that much of current thinking and practice of forestry is obsolete. Most traditional forestry practices are directed at increasing and improving wood production for industrial use. Management under this system has thus been oriented to what the legal owners of forests say they want. But what those nominal, legal owners say they want is less important, to an exporting country, than what customers in importing countries say they want.

The resulting outlook is riddled with paradox. Carbon sequestration requires that forests remain intact. Industrial utilization of wood involves the felling of forests. Both objectives call for more forest as the global consumption of wood for industrial purposes and for fuelwood, especially in developing countries, continues to grow. While the rate of growth in wood consumption has slowed in recent years it is still running around 0.8 percent per annum. This means that about 25 to 30 million m³ of wood, including wood used to produce energy, are being added annually to world demand.

Two other trends evident in this respect have thus become relevant. On the one hand China, and to a lesser extent India, are emerging as major importers of wood and sawn wood products, rivalling the United States, Japan and the European Union as wood importers. Thus the Asia-Pacific region now accounts for a substantial proportion of a growing world market for wood.

On the other hand, the area of the world's forest plantations is being added to by about 4 to 5 million hectares per annum. Thus the potential global wood supply – 10 to 20 years in the future – is growing roughly twice as quickly as consumption is increasing.

Most of the increase in world consumption of industrial wood has taken the form of pulpwood for the manufacture of paper and re-constituted wood. By comparison, demands for saw and veneer logs are relatively stagnant, if not in decline.

Implications of the above trends for the Fijian Forest Sector

The implications for forestry in Fiji are quite dramatic. Firstly, with supply growing faster than demand, markets for wood and wood products could become more, rather than less, intensively competitive, especially in regard to commodity grade timber and wood raw material. Decorative and appearance grade timbers could, however, be an exception. Their potential supply from natural forests seems likely to decrease while suitable species do not figure highly in plantation expansion programmes.

This present report, therefore, summarizes the present situation and then tries to describe and analyse what the situation in 2020, (the APFC target date) could be and/or what we would like it to be.

2. THE PRESENT SITUATION

The Fiji Islands, being one of a number of recently independent and developing island countries of the South Pacific, shares the unique combination of a small island economy, changing social dynamics and evolving radical politics in a fragile environment. Though there are similarities between island countries, the challenges are different, although continued reliance and dependence on developed Asia-Pacific countries are inevitable.

Forest sector development was consistent with the general direction of colonial policy and identified plantation forestry, community forestry, privatization and sustainable management of the native forests as the main objectives. In that respect, the challenges associated with customary land tenure were and are still crucial. After four decades of forest plantation development, the forest industry was still confronted with critical landowning internal challenges, as well as external factors common to developing countries.

Competitiveness in export markets and regional and global trade issues are also policy issues for the future, which the Fiji forestry sector's overall strategy must address.

To be self-sufficient with forest products is not the answer for the future of the Fiji timber industry. The future lies in export markets.

Fiji's economy and economic policy

The forest sector is an integral part of the economic sector of Fiji. Export earnings from forest products rank third, behind the agricultural sectors, which continue to be overtaken by other sectors as has occurred over recent years. The existing forest sector is, however, underdeveloped. The failure to capitalize on the forest sector in developing industrial capacity, together with Fiji's continuing dependence on primary commodities, especially for major export earnings, has constrained Fiji's economic growth. In particular, growing uncertainty in the outlook for sugar has combined with a slow expansion of the undercapitalized forest industries, to limit growth below its potential.

Tourism is a flourishing industry in Fiji, mainly because of its strategic location and beautiful recreational locations on certain parts of the islands. Intensive capital investment has boosted the dominance of the tourism industry as the main foreign exchange earner for the country.

Postindependence governments have pushed for economic reform and restructuring. Corporatization of the pine industry was followed by that of the mahogany industry. Whilst the native timber industry was gradually on the decline, forcing the closure of many sawmills, forest industry restructuring was costly and has yet to achieve competitiveness in any of the domestic, regional and international markets.

Nevertheless the economic future of Fiji's forest sector is bright. Government capital investment in the pine industry should broaden its production and socio-economic contribution to the national economy. Despite landownership problems affecting the mahogany industry, and the absence of significant government investment, the industry could soon operate profitably and develop a competitive advantage inherent in its mahogany products.

The timber industries have free access to regional and international markets. This has allowed the private sector to effectively compete for some niche markets. However, processing companies without forest plantations, and concessionaires, are facing difficulties in maintaining consistent quality and reliability of their raw material supply. Wood supplies from native forests fluctuate, but are generally declining; hence, in the medium-term future,

most wood supplies will come from industrial plantation forests and will be restricted to the pine and mahogany processing companies. Community plantations and private woodlots are available for other local processing companies including some supplies from native forests. Log pricing from native forests varies significantly and is loosely controlled by government and landowning institutions. There is very little – or complete absence of – subsidies and incentives for processing industries, while occasional import taxes mean that local processing industries have little surplus revenue to invest for their future.

The present interim government's economic vision and strategy is for rapid economic growth and recovery and to clean up corruption. A long-term vision and strategy seem, however, to now await the yet to be democratically elected government. Nevertheless, it is undeniable that the future of Fiji's timber industries lies in the export markets. Investment and other incentives in the private processing sector are necessary to maximize wood utilization and produce high grade quality for exports.

The economic challenges for the industry are not, therefore, to compete with neighbouring developed countries like New Zealand and Australia, which have surplus wood supplies, but to restructure to ensure allocation and distribution of resources into assuring reliability of production and consistent supply for high-quality, targeted export markets. Government assistance in one form or another will be essential

Political situation in Fiji

Since independence, the Fiji electoral system has developed a modified Westminster system where party candidates are voted to represent their electorates in the main racial groups of Fijian, Indians and Others (general voters) to Parliament. The party with the majority then forms the government, appoints Cabinet Ministers and, with an absolute majority in Parliament, enacts legislation and sets policies.

Voting on racial lines has proved unworkable, leading to a series of coups since 1987. The danger is that a "coup culture" could be developing in Fiji, causing devastation to the economy and social livelihoods and inducing rapid migration of mainly skilled workers to neighbouring developed countries. The future of the electoral system is being reviewed by the interim government to eliminate corruption and racial discrepancies. It is difficult to predict what and/or who would form the next democratically elected government. Until this situation sorts itself out, uncertainty will dominate. For example, the threat of trade sanctions is always a possibility, acting as a powerful deterrent to any export-driven strategy and the foreign investment needed for such strategy to work.

Social and human context for forestry

In 2006, Fiji's population was estimated to be approximately 853,400 people. The ethnic Fijian population was approximately 55 percent, Indians at 37 percent and the remainder comprising other races. Approximately 54 percent of the population are rural dwellers. The annual rate of population growth is a reasonably high at 1 percent and hence the Fiji population will be approximately 1 million by 2020.

Fiji consists of over 300 islands, of which 100 are inhabited. The two main islands of Viti Levu and Vanua Levu comprise 1.58 million hectares out of the total land area of 1.83 million hectares. Over 1.52 million hectares (or 83 percent) of the land is communally owned through traditional Fijian communal landowning units called *mataqali*, whilst the remainder is private and/or state-owned land. Traditionally, the landowning clans are deeply attached to their lands.

Over 50 percent of Fiji's land cover is made up of native forests. There is about another 5 to 6 percent in pine and hardwood plantations. Livelihoods in rural areas have been traditionally influenced by native forest utilization, especially harvesting, over the last four decades under a system of forest concessions and long-term licensed forests. The intensity of native forest harvesting has declined gradually as large-scale harvesting operations began in the pine plantations from the late-1980s, and from hardwood plantations in early 2000. Similarly, large-scale plantation establishment, which began in the early 1960s, has generated employment for unskilled labour. The combined harvesting of these forests has shifted employment towards semi-skilled workers operating in tandem with higher capital investment, thus improving labour integration in the employment sector.

In native forest processing, the enforcement of forest policy for efficient timber processing has impacted on employment as mills have declined in number from 50 to 27 over the last decade. Prospects for forestry employment in the next decade, however, should increase in plantation establishment and management, in harvesting, in timber processing and value-adding.

Other forest values, though largely unquantified, through conservation, recreation, and ecotourism continue to diversify so that prospects for employment in these areas should also increase.

3. FOREST RESOURCES IN FIJI

Land use in Fiji

The Fiji Islands have a total land area of 18,270 km², with its cluster of islands just inside the Southern Tropical belt near the 180th meridian. The two main islands, and a few smaller islands, have mountainous interiors covered with dense natural forest resources. Landform towards coastal lands is marked by easterly and westerly watersheds with very steep interior rivers and creeks, giving way to undulating slopes and river lowlands, and coastal mangroves.

The climatic and rainfall pattern is associated with strong prevailing south-easterly trade winds, bringing strong wet seasons (rainfall of 2,500-3,800 mm) to eastern parts of most islands, but rainfall as low as 1,600 mm in western lowlands and leeward sides of the islands. Associated with this landform and rainfall pattern are the indigenous tropical forests on most eastern parts of the islands and mainly open dryland forests and grassland on the leeward side on the islands.

Softwood plantations, mainly of pine (*Pinus caribaea*), representing 2.5 percent (46,379 hectares) of the land area, have been established on the leeward and grasslands areas and there is great potential for further plantation expansion. Hardwood plantations of mainly mahogany (*Swietenia macrophylla*), representing 2.9 percent of the land area, have been established on logged over rainforests, mainly on the eastern and central parts of the larger islands.

Traditionally shifting cultivation has been quite common in the rainforests, near villages, throughout the main islands. Increasing accessibility of most parts of the main islands has gradually changed the shifting cultivation subsistence pattern to semi-commercial and commercial agriculture and industries. However the gradual conversion of some forest lands to alternative land uses in agriculture, and especially sugar cane, will continue.

The Rural Land Use Policy for Fiji (2002) enforced the sustainable utilization of resources and the preservation of a healthy environment. Milestones to be achieved by 2010 include:

- Land-use planning regulates forest areas (natural forests and plantations) and protects them against uncontrolled conversion
- Area of afforested land increases by 20 percent

There are large land areas available, with potential for afforestation and reforestation.

Landownership and land tenure system

Much of the land ownership rests on customary Fiji land ownership units known as *mataqali*. Land with extinct customary ownership, which was previously taken over by government, now reverts to the respective landownership hierarchy, the *yavusa*, overlooking the group of *mataqali*, thus increasing the total land under the customary ownership to over 83 percent of the total land area. Ownership of native lands is not transferable through land sales, but user rights can be transferred via land leases. Much of the softwood and hardwood plantations are grown on such native leased land. Native leased lands are, however, almost always problematic, with long-term forestry leases often challenged by customary landowners. Land tenure is, therefore, often considered to be an impediment to industrial plantation development and commercial development.

In general, vagueness in leasing procedures and in the wording of agreements has opened the door for legal challenges, with no clear solution yet in sight, at least in the short term.

Customary landowning clans in rural and interior Fiji have more than sufficient land available for development. Competitive land use is therefore low in the interior or rural areas except in agricultural and urban peripheries.

Forest resources

Fiji's forest resources can be grouped into two main classes. First, the native forests of mainly indigenous species; and second, the man-made forests of exotic softwood and hardwood plantations. Industrial plantations of exotic softwoods and hardwoods are grown on leased land, whilst community plantations are being established on communal land, without the need for communal binding agreements.

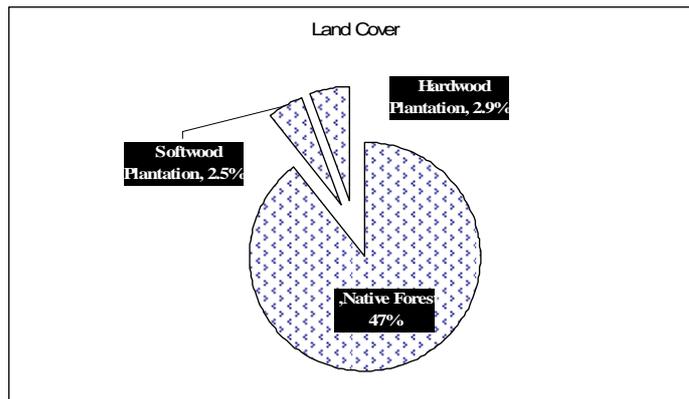


Figure 1. Forest cover distribution over land area

The pre-independence government recognized, in the early 1950s, the importance of afforestation of grassland areas and reforestation of logged-over forests to ensure a replacement wood supply, because native forest harvesting was considered to be unsustainable. Though native forests have provided the predominant wood supply for the last half century, it was clear that the level of output could not be sustained in the coming decades.

The Forestry Department embarked on an intensive research and plantation programme in the late 1950s and early 1960s. The Forestry Department on top of its administrative responsibilities, to manage the native forests, was also tasked with the establishment of softwood plantations on grassland areas and hardwood plantations on logged-over native forests.

Native forest resources

The National Forest Inventory of 1991-1992 classified Fiji's natural forest resources into three forest management classes as Production, Protection and Preserved forests. The native forests are composed of tropical rainforests of mainly nine forest type groupings² and a later inventory made no attempt to modify or expand this forest typing. The recent national forest inventory of 2005-2007, yet to be completed, has reduced the management categories to two, as production and protection forests.

² Land Resource Study, Land Resource Division, Overseas Development Assistance, UK.

Table 1. Natural forest resources (hectares)

NFI 1991/1992	NFI 2005/2007	Est. merchantable forest 2010	Est. merchantable forest 2015	Est. merchantable forest 2020
857,508	Report incomplete	549,394	540,000	530,000

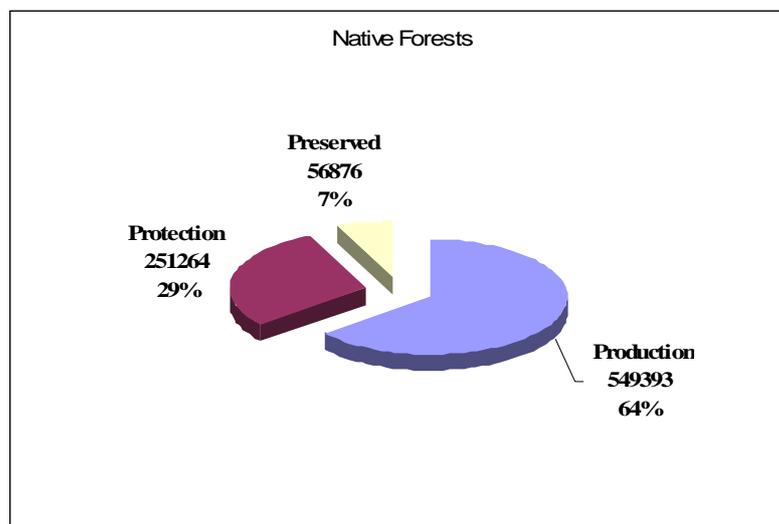


Figure 2. Native forest cover distribution

Native forest harvesting is grouped into four main timber royalty classes according to the commercial value of the various species on the markets. These royalty classes are regularly updated relative to changing market prices. The royalty classes highlight the official charges payable to landowning units for their harvested forests.

Plantation forest resources

Softwood plantation

Large-scale pine plantations began in the early 1960s. Now with six forest estates established nationwide and reaching a total area 49,000 hectares, pine forest establishment is still far from sustainable at the present and managed level of output. The national pine plantation area is envisaged as warranting a target of 100,000 hectares by 2020.

Hardwood plantation

Hardwood plantation establishment, especially mahogany, began in the 1950s. After a series of trials and when land became available for leasing, mahogany plantations were established at 14 reforestation stations on the main islands. The hardwood plantations now total 50,000 hectares and, like the pine plantations, are considered by some interests, to be unsustainable. Future hardwood plantation should focus on mahogany, with a target total area of 100,000 hectares by 2020.

Table 2. Forest plantation establishment (hectares)

	Actual 2005	Estimate 2010	Estimate 2020
Softwood plantation	48,770	55,000	100,000
Hardwood plantation	53,740	60,000	100,000

4. FOREST INDUSTRIES

The forest industries are evolving from predominantly native forest harvesting, to harvests of smaller-sized logs from large pine plantations and medium-sized logs from mahogany stands. The review of the National Code of Logging Practice was implemented to ensure environmentally sound harvesting practices are adopted and to maximize log removal. These are crucial to ensuring the increase of log production needed in the future.

Inefficient and non-competitive sawmills have been eliminated. The remaining sawmills, however, continue to suffer from inadequate capital investment partly due to doubtful future raw material supply. Further processing in relation to mills is limited, with only two mills producing plywood and veneer. More value-adding, including furniture making, is carried out in the manufacturing sector.

Forestry and logging

Native forest harvesting fluctuated between 100,000-200,000 m³ per year from the early 1970s peaking in 1987 at 220,000 m³. Now it is on a declining trend, falling to 100,000 m³ in 2004 and 61,000 m³ in 2007. As expected, increased plantation harvesting began in 1987 producing 200,000 m³ and continued to increase reaching 300,000 m³ in 2004. Whilst native forest harvesting will remain constant and/or decline till 2020, pine harvesting is expected to increase to 850,000 m³ and mahogany logging to 200,000 m³ by 2020. Log production from 2020 would be reaching 1.1 million m³/year mainly from plantation forests.

Table 3. Industrial roundwood production (m³)

	Actual 2000	Actual 2005	Estimated 2010	Estimated 2020
Natural forests	106,672	104,484	105,000	105,000
Softwood plantations	347,947	321,681	600,000	850,000
Hardwood plantations	nil	17,406	90,000	150,000
Total	454,619	443,571	775,000	1,105,000

Exports

Woodchips

Pine woodchips are the main low value processed commodity and have dominated Fiji's exports of wood products since the early 1990s. Woodchip exports represent over 50 percent of the total value of forest product exports annually; for example, 56 percent (US\$32.2 million) in 1995, 58 percent (US\$24.4 million) in 2000 and 54 percent (US\$20.3 million) in 2006. Pine woodchips are exported to Japan for the pulp and paper industry.

Wood chip production and export will increase from 2008. Wood chip production should increase to 400,000 m³ in 2010 and 650,000 m³ in 2020 from the pine log harvesting nationwide. Beyond 2020 wood chip production for export could increase to over 700,000 m³.

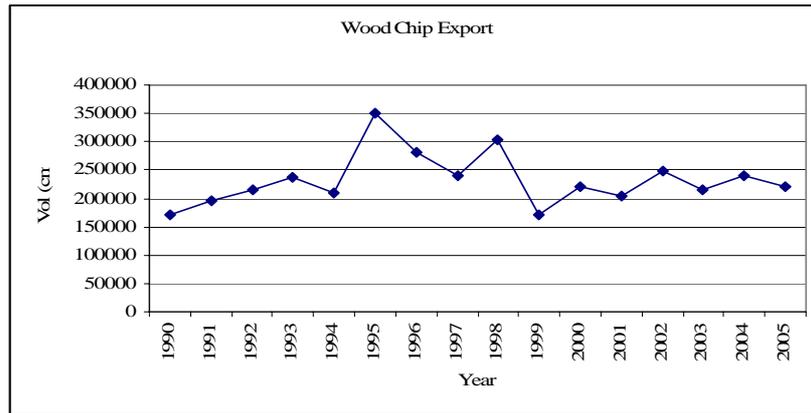


Figure 3. Pine woodchip export

Fiji’s wood chip market will continue to increase in the near future and beyond 2020. The future plan for New Zealand to divert its wood chip exports towards strengthening its own domestic fibreboard production capacity should help to keep markets for Fijian woodchips open. Table 4 shows the current and possible scenarios of woodchip exports.

Table 4. Woodchip export volume (m³)

Actual volume export 2000	Actual volume export 2005	Projected volume export 2010	Projected volume export 2020
221,790	219,987	400,000	650,000

Sawn timber

Fiji has only one large sawmill by international standards, which is producing mainly pine sawn timber and wood chips from softwood plantations. There are 23 medium-small scale mills processing mainly native timbers, including two that also process plywood and veneer. Only one medium-sized mill is dedicated to processing mahogany from plantations, but its output has to be supplemented by other mills to cope with the increasing volume harvested. These mills had previously been processing native timbers for export. Output from portable mills is mainly for local markets.

Sawn timber exports experienced a significant declining trend – since 1990 from 35,100 m³ to 7,590 m³ in 2002 – but, increased to 18,522 m³ in 2006, despite a constant flow of sawlogs during the same period. The changing trend reflects the mahogany domination of sawn timber exports from 2004 (59 percent of total volume exported), which will continue to increase beyond 2010, followed by native timber species. Sawn timber produced from the pine plantations is directed to the domestic demand, with very small volumes exported to neighbouring islands.



Figure 4. Sawn timber export

Intensive competition in overseas markets associated, *inter alia*, with increasing freight costs is adversely affecting Fiji sawn timber competing for the same markets. With Australia becoming self-sufficient after 2010, and New Zealand becoming a large softwood exporter, Fiji needs to aggressively look for niche markets for its decorative native timbers in both New Zealand and Australia. Small consignments have been exported to neighbouring Pacific island countries. Fiji mahogany sawn timbers are exported mainly to the United States and nearby countries.

Fortunately, Fiji is currently supported by a strong domestic market. However, a long term strategy for processed forest products aiming at high quality exports into designated markets must be put in place soon.

Table 5 shows the forecasted scenarios of market dynamics for sawn timber (in m³).

Table 5. Production (P), consumption (C), import (I) and export (E) scenarios

P 2005	C 2005	I 2005	E 2005	P 2010	C 2010
70,760	57,711	2,059	13,053	134,500	83,700
I 2010	E 2010	P 2020	C 2020	I 2020	E 2020
3,000	53,800	239,250	147,550	4,000	95,700

Consumption

Fiji’s sawn timber consumption is highly correlated with housing and building construction rates. Sawn timber is the main framing material used in most construction works. The current increasing demand is related to the expanding tourism industry nationwide, leading to imports of specific timber grades not produced locally. However, an estimated 1,000 houses and buildings of all sizes are constructed annually. With the increase in population, a significant increase in the total demand for sawn timber can be expected.

Plywood and veneer

Plywood and veneer are produced by only two factories, both located in Vanua Levu, the second biggest island and, perhaps, where the main remaining native production forests occur in Fiji. The fluctuating trend shows, however, a downward trend in exports for both products.

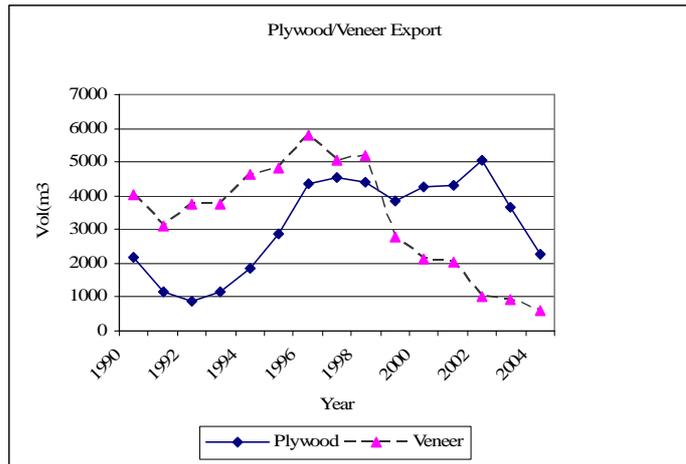


Figure 5. Plywood/veneer exports

Competition in Fiji’s export markets for sawn timber, in particular, is increasing with pricing as a main factor. As an alternative, other processed forest products such as plywood/veneer, need to be promoted, as well as further processing.

Other forest products

Diversification into other forest products is limited to a handful including mouldings, furniture and furniture components, and block board. Export market opportunities for furniture components for high quality markets in the United States and Australia have not yet been fully developed.

Imports

Fiji imports small quantities of specific structural timber and processed forest products that are not produced locally. Since 1990-2002 small quantities of particleboard, hardboard, chipboard and soft board have been imported, mainly from New Zealand, Australia and Asia. Imports of these forest products especially particleboard and soft board have decreased significantly since 2000. Importation of hardboards may continue in small quantities till 2020. Imports of plywood have fallen significantly, from 3,230 m³ in 1990 to 428 m³ in 2006 and will remain unchanged beyond 2010. Imports of specific structural timber and specific hardwood poles and hardboard occurred periodically as shown in Figure 6 and local substitution will continue till 2020.

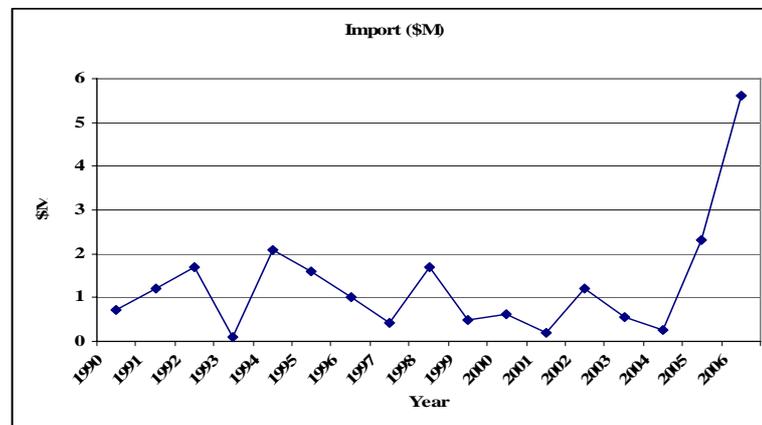


Figure 6. Fiji forest product import value

5. OTHER FOREST ROLES AND DIMENSIONS

Fuelwood and wood energy

Wood and wood residues provide an important fuel source in Fiji, especially for the 54 percent of its population in rural areas. Recorded fuelwood consumption in the commercial and domestic sectors has shown a fluctuating but rising trend. Dependence on fossil fuel and hydro-power has increased significantly in urban and semi-urban areas. However, it is suspected that fuelwood consumption in rural areas has been underestimated.

Production of wood for electric power is limited to one wood-based industry (Tropik Woods Industries Limited, TWIL), which consumes 36,000 tonnes/year hog-fuel to produce 3MW energy. A proposed expansion to produce an additional 9.3MW would require wood inputs of 111,000 tonnes, which would enable the TWIL to utilize all of its available hog-fuel and logging residues, but would also require substantial supplementary hog fuel. TWIL energy consumption is only 3MW meaning that a sustained surplus could be fed into national electricity consumption.

Non-wood forest products

Non-wood forest products are collected on a commercial basis only in the recently developed pine resins industry. Bamboos, ferns and tree ferns are collected legally and illegally for commercial and communal needs. Sandalwood is commercially extracted for oil and other potential uses.

The native forest cover provides habitat for wild pigs, which are hunted mainly for rural communal consumption. Commercially bottled waters for international markets are now sourced from forest areas.

6. FOREST POLICIES, LEGISLATION AND INSTITUTIONS

Corporatization

The Government corporatized Fiji Pine Limited and Fiji Hardwood Corporation Limited in 1991 and 1999 respectively, as part of its privatization policy for public assets. The privatization was intended to facilitate the involvement of overseas investors, to promote capital, skills and securing of overseas markets. Secondly and especially, an aim was to promote landowners' ownership and participation in the industry. An additional rationale for the corporatization was to facilitate efficient and competitive ability in export markets.

Initially, a mountain of challenging issues was encountered, but Fiji Pine Limited has now successfully overcome most of these and is well-established in domestic, regional and international markets. Fiji Hardwood Corporation Limited is yet to surmount these initial challenges.

Main forest policy directions in the future

The revised Fiji Forest Policy of 1950 embraced the sustainable management and utilization of forest resources, whilst the preservation and integrity of the environment were maintained including its related services. The forest policy framework aimed to ensure the maintenance of sustainable forest resources; the involvement of landowners as an integral part of the resource sustainability; the strengthening of the industry to drive the economy through export of high quality processed forest products; and the recognition of institutional support and investment with the development of the forest administration to provide competent services.

The challenges to the policy objectives are manifold, particularly the fulfilment of conditions for the sustainable management of forest resources. Land has been identified as the constraining factor and the willingness of landowners to become involved is crucial. The up-skilling of the labour force is secondary, for the moment, but the focus on high-quality processed forest products for export markets as the main outlet will soon raise up-skilling to high priority in order to meet the high competition from neighbouring developed Australasian countries.

Institutional strengthening and capacity building

The restructuring in the forest sector, with the corporatization of Fiji Pine Limited and Fiji Hardwood Corporation Limited has clearly recognized the economic roles of softwood and hardwood plantations and, to a degree, the native forests. The same applies to forest resource development, forest industries and to non-commercial forest activities.

The Forest Department's remaining administrative and regulatory responsibilities now comprise a variety of forest activities for education and training, research and development, community forestry and the sustainable management of forest resources through control of logging, and on revenue collection.

Restructuring is necessary for the Forestry Department to strengthen its forestry training in areas of forest resource development and forest industries, and the stimulation of rural landowners to actively participate in the industry. Resource and timber research aims to maximize native forest resource development and utilization, and the sustainable forest management of all national forest resources. The restructure is not merely to minimize the size of the public sector, but mainly to facilitate the best allocation of resources for the private and commercial sectors.

Indigenous landowners' issues

Land is a fundamental constraint in all forestry development in Fiji. Transfer of customary-owned land through sales is outlawed. Fijian landowners may lease land for specific land uses under specified conditions and for specific periods, through the agency of the Native Land Trust Board.

Native production forests under concessions and plantations of softwood and hardwood are effectively secure until the lease periods expire, when they either revert to landowners or the leases are extended. Landowners may reject continuation of leases and this is proving to be a constraint to industrial investment and one that cannot be easily resolved.

Interaction between people and forests – a social issue

Other non-forestry economic development and growth factors associated with rural development have created opportunities for new life styles. Given this increasing market-orientation of the rural population, as they are drawn into rapid commercial and industrial development, most rural people and landowners become part of the mobile population that would prefer not to remain forest-dependent and, instead, seek education that opens up other alternative lifestyles.

The increasing population growth, coupled with increasing urban drift and persistent low rural incomes, are now regularly confronting the forest sector with different forest use and water issues. Conflicting forest and land uses arising from the need for watershed management to reduce extensive downstream flooding are now coming to the fore.

7. THE FUTURE FOR FIJIAN FORESTRY IN A GLOBAL CONTEXT

Trend of forest product flow

Fiji's dominant market for its pine wood chips is Japan representing 50-60 percent of forest product value exported since 1995. Sawn timber and processed products have a wider export distribution, including the Asian markets in Japan, Hong Kong, Malaysia, China and Taiwan, other Pacific Island Countries, the United States, New Zealand and Australia averaging 25 percent of forest product value exported within 1994-2004. Fiji is not a log exporter. Small quantities of processed products, not available from domestic producers and/or for which domestic production would not be price competitive, are imported from neighbouring Asia-Pacific countries.

Fiji is self sufficient in most of its forest products. However, for the forest industry to thrive it must concentrate on its export markets. Intensive competition is coming from its neighbouring countries, like New Zealand, Australia and Asian suppliers for the same processed products. Fiji's paper requirements are imported from New Zealand and Australian markets.

Fiji international and regional roles

Fiji, like its neighbouring developing Pacific Island countries, is a member of the South Pacific Forum, South Pacific Regional Environmental Programme (SPREP) and Asia-Pacific Forestry Commission, where most forestry issues are subject to wider discussion and consultation, including trade and obligations under international conventions to which Fiji is party.

Although Fiji's role in the global context is insignificant, the export strategy for its forest products is elevating the importance and extent of distribution within the Asia-Pacific region. The increasing and maturing softwood and hardwood plantations can support an expansion of forest product exports to neighbouring Pacific Island countries.

In the South Pacific, Fiji and other countries depend on New Zealand and Australia for technical assistance, professional forestry training and specific development assistance in the forest sector.

International environmental initiatives

The shape of the future to which Fiji will be forced to adapt is dictated by the need to accommodate two matters of increasing international concern. These concerns relate to:

1. Sustainable forest management, and
2. Climate change.

(1) With regard to sustainable forest management, Fiji is cooperating with other regional and international organizations to move towards sustainable management of its forests. Cooperation with the FAO/Secretariat Pacific Community (SPC) (Forestry), German Agency for Technical Cooperation (GTZ), South Pacific Applied Geoscience Commission (SOPAC), ITTO, and United Nation Forum of Forests (UNFF) has been pursued financially and technically including institutional strengthening, as far as Fiji's difficult economic position allows.

Obstacles to sustainable forest management, identified by the 2006 International Tropical Timber Organisation Diagnostic Mission, are gradually being dismantled. Unfortunately the

lack of coordination, referred to earlier, between the several bodies and authorities involved continues to hamper progress.

(2) With regard to climate change, Fiji is party to the Kyoto Protocol. In this respect, the forestry sector could make an appreciable contribution to the carbon sequestration aspect of the Protocol, (big for Fiji, although tiny on the global scale) by expanding afforestation of the relatively unproductive grasslands and reforestation of logged-over areas. As mentioned earlier, another 100,000 hectares could be added to the pine resource, but this cannot be justified in terms of timber production. As a contribution to carbon sequestration, it could be eminently justified if a way of paying for it and recompensing the customary landowners who own most of the suitable land, could be found. The present embryonic carbon trading mechanisms seem to be too unwieldy and procedurally cumbersome for application in the Fijian situation.

8. CONCLUSION

Fiji has built up a forest resource that has the growth capacity to become a very powerful engine for economic and social development and transformation. But it is, at present, only potential. Whether and to what extent this potential can be turned into a reality depends on how forest and forest industry policies develop. As the 1988 Forest Sector Review pointed out – and the ITTO Diagnostic Mission of 2006 reiterated – that will take a combined, coordinated effort by all parties concerned, to push the national interest, rather than each simply concentrating on its own interest. And, as the Diagnostic Mission also pointed out, this holistic perspective is almost totally absent. Individualistic, short-term thinking prevails; the long-term national interest hardly gets a look in. That, given the ruling economic philosophy is only natural, but it will not obtain for Fiji what the resource could deliver.

Many possibilities and proposals exist and many factors bearing on them have to be evaluated and compared. Some of the more obvious considerations include the following;-

1. The sustainable timber production capacity of the existing resource is already several times greater than current domestic consumption, and is likely to remain so for many generations.
2. Therefore to cash in on the capacity of the resource, most of the wood grown will have to be exported. That alone is ample justification for an export-driven strategy.
3. There is, therefore, no general justification for more afforestation that would add to the timber production capacity. There may, of course, be other reasons, but they are not economic ones.
4. The chances of success with an export-driven strategy depend ultimately on the world beyond Fiji. And in that world, two sets of considerations count most heavily. The first and most obvious is the price and quality competitiveness of Fijian wood products in targeted export markets. The second, and of ever-increasing importance, is how favourably the end consumers in prospective export markets view Fiji's handling of its forest resources.
5. With regard to competitiveness, mahogany is the only substantial part of the resource in which Fiji could develop a distinct comparative advantage.
6. With regard to the way in which Fiji handles its forests, most of the countries in which export markets are to be found are tending to show more concern for the conservation of forests than for their timber production.

9. THE CHALLENGES

The situation summarized in those conclusions sets a number of daunting challenges for the forest sector in Fiji.

The first and most outstanding is how to capture for Fiji the maximum possible value of the mahogany component of the resource, which, of course, raises the question of what that maximum possible value is.

The second is how to get the combined coordinated action from all parties concerned or interested in that resource that is necessary for a successful response to the first challenge.

A third is how to increase the national return from the pine resource, without unnecessarily compounding the problems associated with a surplus over domestic requirements that would have to be exported.

A fourth challenge is how to limit the utilization and management of the indigenous forests to a sustained yield of the relatively few inherently high value species.

The fifth and crucial challenge is how to reconcile the use of the forests for timber production, which is unavoidable if the resource is to make the massive contribution that it could to Fiji's development, given the global (and hence the importing countries) priority on forest conservation.

What is needed for a successful response to the challenges?

Two needs are fairly obvious. One is a deeper, more comprehensive and less secretive knowledge of the international markets for mahogany. The second is a single decision-making authority to determine and lay down a national policy for the whole resource, leaving the various individual units to implement it, but with the central authority having the power to ensure that what and how they do it complies with the national policy.

The mahogany market research project would be well beyond Fiji's capacity to mount on its own. Nor would it be of interest to Fiji only. But Fiji should take the lead in persuading the international organizations (ITTO, FAO, The World Bank, the EU, for instance) and some bilateral donor countries, who could get it started immediately.

The single authority is a simpler matter. Little more is needed than to implement fully the institutional reform structure recommended by the 1988 Sector Review. The partial implementation that was done left out the crucial proposal for an overall "holding company" to act as the final authority. That failure should be remedied without delay.

To reconcile timber production with forest conservation is primarily a matter of applying sustainable forest management. This was the subject of the 2006 diagnostic mission, so there is little more to add at this stage. Perhaps, however, it is worth emphasizing that the standard of timber harvesting is the governing factor. And in that respect, Fiji is still falling well short of achieving a satisfactory level other than in the pine operations. The emerging interest in biofuels could, therefore, offer a way of reducing the wastage and residual stand damage in logging that contribute so much to the poor impression. Wood as a source of energy other than electric power generation does not figure much in Fiji's biofuel thinking. However, the fast track wood-based ethanol process being developed in the University of Melbourne School of Forest and Eco-Systems Management would be worth looking at for a large scale solution to the logging and wood residues problem.

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