MINISTRY OF FORESTRY
DIRECTORATE GENERAL OF FOREST PROTECTION AND NATURAL CONSERVATION
BALI BARAT NATIONAL PARK

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THE 20-YEAR WORK PLAN
OF BALI BARAT NATIONAL PARK

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CHAPTER 1

1.5 National Park Management

1.5.1 History of National Park establishment

Pursuant to a Decree of Board of Balinese Kings No. E/1/4/5/47 dated August 13, 1947, the Banyuwedang forest area of 19,365.6 ha was decided as a ‘Bali Nature Protection Park’. The status of this area, pursuant to the Nature Protection Ordinance of 1941, Article 13, Clause 2, was a ‘Wildlife Sanctuary’.

Pursuant to the Bali Governor’s Decree No. 58/Skep/EK/I.C/1977, a forest cluster in Bali Barat was expanded by adding with Sombang autonomous area of 390 ha. Based on a Decree of Minister of Agriculture No. 169/Kpts/Um/3/1978 dated March 10, 1978 on the establishment of Bali Barat Wildlife Sanctuary, it was decided to cover Islands of Gadung, Burung, Kalong, and Menjangan of 19,558.8 ha as parts of the Bali Barat forest area.

In 1982, by virtue of a Decree of Minister of Agriculture No. 736/Mentan/X/1982, the coverage of the Wildlife Sanctuary in Bali Barat forest area was expanded to 75,559 ha. This addition covered waters of 6,000 ha. Therefore, based on this Decree, the coverage of Bali Barat National Park represented 60% of overall forest area in Bali Island. Later, pursuant to a Decree of Minister of Forestry No. 483/Kpts-11/1995 dated September 15, 1995, the coverage of Bali Barat National Park was decided to be 19,002.89 ha.

Pursuant to a Forest Land Register (RTK), the forest area of Bali Barat National Park used to cover RTK No. 19 (a forest cluster in Mountains of Sangiang, Bakungan, Prapat Agung, and part of Banyuwedang) and RTK No. 18 (Banyuwedang Mountain). The entire area represented Bali Barat forest cluster covering a 77,128-zha area.

During the Five-Year Development of periods I until III, by RTK, the area boundaries of RTK No. 19 were consolidated. The forest cluster in RTK No. 19 consisted of a protected forest of 42,550 ha, a production forest of 8,050 ha, a recreation forest of 6,970 ha, and forests in the Wildlife Sanctuary.

Later on, protected forests and production forests were designated to be under
the management of the Office of Forestry, Bali Province whereas the recreation forest and the Wildlife Sanctuary of 19,002 ha - pursuant to a Decree of Director General of Forest Protection and Natural Conservation (PHPA) No. 38/Kpts/DJ-VI/1996 – were designated as the Bali Barat National Park.

1.5.2 Area consolidation

Based on a general guideline on area consolidation, there are some stages of activities such as zoning, preparation of minutes, site planning, development, making an access to the area, and management-unit distribution.

Pursuant to the Decree of Directorate General of PHPA No. 38/Kpts/DJ-VI/1996 dated April 15, 1996 on Designation of Bali Barat National Park (TNBB), zones in TNBB consist of core zone, forest zone, and utilization zone, both of terrestrial and marine. Their respective coverage, location, and utilization are also designated by the Decree.

Overall, the core zone consists of terrestrial and marine areas of, respectively, 7,633.89 ha and 970.00 ha, located in northern, central, and southern parts of TNBB area under very limited utilizations, namely for research, education, and scientific advancement, and other human activities are not allowed.

The forest zone consists of terrestrial and marine areas of, respectively, 6,281.00 ha and 575.89 ha, located in western, southern, and eastern parts of TNBB area, under the same utilizations as those in the core zone, but nature-based tourism activities under a very limited intensity are allowed.

The utilization zone consists of 1,673.00 ha terrestrial area and 1,930.00 ha marine area located in the central, southern, and western parts of TNBB area as well as in the western part of Menjangan Island until Banyuwedang Bay. This area can be utilized for the same activities as those in the core and forest zones as well as for constructing infrastructure facilities for the nature-based tourism and recreation development. In details, this zoning is shown in Table 1.18 below.
Table 1.18. Zoning of the TNBB area, 1996/1997

<table>
<thead>
<tr>
<th>No.</th>
<th>Zone</th>
<th>Coverage (ha)</th>
<th>Location</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Core zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Terrestrial core zone</td>
<td>7,633.89</td>
<td>Northern, central, and southern parts of TNBB area</td>
<td>This core zone is absolutely protected; human activities are not allowed except for education, research, and scientific advancement</td>
</tr>
<tr>
<td>1.2</td>
<td>Marine core zone</td>
<td>970.00</td>
<td>Northern and southern parts of TNBB area</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Forest zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Terrestrial forest zone</td>
<td>6,281.00</td>
<td>Western, southern, and eastern parts of TNBB area</td>
<td>The forest zone allow the same activities as those in the core zone, and can be utilized for nature-based tourism under a limited intensity</td>
</tr>
<tr>
<td>2.2</td>
<td>Marine forest zone</td>
<td>575.89</td>
<td>Western, southwestern, and northern parts of TNBB area, and around Terima Bay</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Utilization zone</td>
<td>1,673.00</td>
<td>Western part of Menjangan Island until Banyuwedang Bay; central, southern, and western parts of TNBB area</td>
<td>In the utilization zone, activities are the same as those in the core and forest zones, and can be utilized for constructing infrastructure facilities for the nature-based tourism and recreation development</td>
</tr>
<tr>
<td>3.1</td>
<td>Marine utilization zone</td>
<td>1,930.00</td>
<td>Western part (Bali Strait), around Penginuman, and</td>
<td></td>
</tr>
</tbody>
</table>
1.5.3 Area carrying capacity building

The development is a process to achieve a long-term objective as planned. Such changing process is undertaken to fulfill needs in order to increase satisfaction.

However, changes as resulted in a protected area such as Bali Barat National Park (TNBB) are often caused by natural power or phenomena and human activities in utilizing the existing natural resources.

Natural changes are, among others, caused by climatic changes such as long dry seasons so that the ground water and the surface water depleted. The depleted ground water affects negatively to the soil moisture so that affects the survival of flora; some flora species died because their function in storing water decreased.

When it occurs continuously, forests will be deforested. Such conditions will affect the sustainability of surface water supply.

The decreasing surface water supply will cause flora and fauna died, the soil surface damaged, etc.

The forest fire can accelerate the flora extinction in the National Park area. It most likely happens in dry seasons.

In addition to the forest damage caused by natural power or phenomena, is can also occur due to the lack of awareness and concern among communities in the surrounding area toward benefits and the importance of the National Park. Collecting branches as fuel wood and illegal collecting of flora and fauna still often happen. It became the concern of the management of TNBB, for example, by making coordination with the Office of Fisheries of Bali Province. Under this coordination, it was agreed that the fishing and the construction of floating dock need to be done outside of the TNBB area. This effort aims at reducing or even abolishing the illegal collecting of flora and fauna by communities on the pretense of fishing.

Therefore, such effort needs to be intensified in the next 25 years prior to the more adverse damage within the boundaries of TNBB area. Extension services on community awareness and the community empowerment such as through the provision of crop seedlings needs to be continued.
Squads of forest firefighters must be well prepared prior to possible big fires. All of efforts in carrying capacity building are urgent to be implemented in the next 25 years. This carrying capacity building supports physical and social carrying capacity.

1.5.4 Area utilization

Sub-section 1.5.2 described that in the consolidation, the TNBB area is divided into three zones, namely core zone, forest zone, and utilization zone (refer to Table 1.18). These three zones consist of, respectively, terrestrial and marine areas. In the utilization zone as regulated by the Decree of Director General of PHPA No. 38/Kpts/DJ-VI/1996, activities are allowed for research, education, and scientific advancement as described in Sub-section 1.5.5 as well as for the nature-based tourism altogether with its supporting activities such as cottages, bars and restaurants, etc. Until 1996/1997, only few activities of the nature-based tourism were conducted in the TNBB area such as diving, scuba diving, and snorkeling in Menjangan Island waters with the support of Labuhan Lalang as a hub of services. Jayapra cemetery is also an attractive tourism object. In developing tourism objects of Jayapra cemetery and Labuhan Lalang, TNBB has coordinated with the Buleleng District Government. In addition, a hot spring located in the common border of TNBB and Pejarakan buffer zone is also a quite attractive recreational place.

Such utilization also relates to the utilization of TNBB which requires to be paid attention in preparing a 25-Year Work Plan of TNBB. The breeding of black-winged starling in Tegal Bunder also attracts tourists’ interest, but the breeding conditions are very sensitive to visitors so that limiting visitors’ activities needs to be taken into consideration in order not to disrupt the conservation activities.

Another utilization of TNBB is as a site for research and education for the scientific advancement. Until 1996/1997, the number of activities was limited and mostly conducted by the Forest Research and Development Agency (FORDA), Indonesian Institute of Sciences (LIPI), and universities in Bali and Java. In addition, visits to TNBB for educational purpose were only made by students as members of nature-loving student clubs such as the Mapala Wanaprasta Dharma club from Udayana University and other universities in Java and Bali.
For the sustainability of natural resources in TNBB in the next 25 years, the management of such activity needs to be well planned. Such plan needs to be supported with data on the number of nature lovers, their origins, and the purpose of activity.

1.5.5 Research and development

One of TNBB functions is as a site of research and scientific advancement.

Until 1996/1997, TNBB has been as a research site of various research institutes such as LIPI, FORDA, and universities.

Under the Decree of Director General of PHPA No. 38/Kpts/DJ-VI/1996 dated April 15, 1996 on the Designation of Bali Barat National Park (TNBB), research and scientific advancement can be conducted in the core zone, either terrestrial or marine area. Although the Decree stated explicitly that human activities in this zone are not allowed, research, education, and scientific advancement are allowed. These activities should be able to support preservation/conservation and protection of the TNBB area and whatever within its boundaries. In supporting them, TNBB plays its role in providing the research site, research objects, and infrastructure facilities. Infrastructure facilities are presented in Sub-section 1.5.9, Construction of infrastructure facilities. The management of TNBB provided more research infrastructure facilities from time to time (RKT, 1996, page 9). Until 1996/1997, there were nine types of research conducted in the TNBB area, both terrestrial and marine areas, covering flora, fauna, marine, ecosystem, geology, archaeology, social, tourism development, and environmental impact monitoring. These nine types of research have resulted in 32 titles of research as shown in Table 1.19. The research shows that flora was the most interesting aspect researched in TNBB, viz. 10 titles. Fauna and ecosystem were, respectively, 5 titles, geology and tourism development were, respectively, 3 titles, archaeology and social were, respectively, 2 titles. The environmental impact monitoring has not received adequate attention yet as having only one title of research. The interest to conduct research needs to be encouraged by providing more educational infrastructure facilities.

Table 1.19. Research activities conducted in Bali Barat National Park, 1996/1997
<table>
<thead>
<tr>
<th>No.</th>
<th>Type of research</th>
<th>Total (titles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research on flora</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Research on marine</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Research on fauna</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Research on ecosystem</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Research on geology</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Research on archaeology</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Social research</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Research on tourism development</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Research on environmental impact monitoring</td>
<td>1</td>
</tr>
</tbody>
</table>

Objects of research activities are basic research and applied research, and they should support the development and preservation/conservation of TNBB in addition to the interest of scientific advancement, tourism services, and silviculture.

All of the research efforts will be able to help directing the TNBB development efforts to the planned development goal in the next 25 years.

Therefore, results of each research shall be submitted to TNBB (RKT, 1996/1997, page 13).

### 1.5.6 Protection and surveillance/security of the area

Protecting of the Bali Barat National Park (TNBB) area aims at keeping intact everything within TNBB boundaries, both flora and fauna, in terms of quantity and quality. The security is any activity aiming at protecting the area from any disturbance, both from residents in the surrounding of the TNBB area and, as a preventive effort, from natural disturbance. Both protection and security are linked one to another; thus, they are combined in this report. In protection and security efforts of the TNBB area, establishment and enactment of laws and regulations as well as the security in a physical term at site, including reconnaissance with guardhouses and patrols.

Protection and security efforts of potential natural resources in the TNBB area need to be well planned and holistic because of the complex problems and interlinked with socio-economic conditions of the surrounding communities. The management
of TNBB has approached formally the related government officials at village, subdistrict, district, provincial, and national levels.

In addition, they also approached informally prominent leaders of communities, women's organizations (PKK), and youth clubs (Karang Taruna) as another alternative in natural resource preservation/conservation of the TNBB area. Potential problems which may undermine the success of natural resource conservation in the TNBB area are forest encroachment, illegal collecting of branches for fuel wood, illegal grazing, forest fire, wildlife poaching, illegal collecting of forest products, and activities in waters which can damage coral reefs.

In dry seasons, forest fires often occur due to, either human or natural causes. Therefore, preventive and controlling actions are needed.

The preventive and controlling actions for protection and security of natural resources in the TNBB area include:

a. Prevention and control of forest fire. This effort aims at protecting natural resource potentials in the TNBB area against extinction and degradation. In order to achieve this objective, various activities have been undertaken such as constructing fire monitoring towers, placing forest fire danger signs, especially in places prone to fire, constructing fire break, controlling fire, and providing equipment/apparatus for fire prevention and control.

b. Prevention and control of other disturbances. Other disturbances to the area are wildlife poaching and illegal logging. These illegal activities highly affect natural resource preservation and conservation efforts in the TNBB area.

In order to achieve this objective, various activities have been undertaken such as routine patrols, settlement of violation cases, and constructing and procuring the forest security equipment.

The coordination with related government agencies was in terms of control and joint operations in securing potential natural resources in the TNBB area. These activities can be materialized in doing patrols throughout the TNBB area. Protection and security activities conducted by TNBB are shown in Table 1.20.

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of activity</th>
<th>Planned (unit)</th>
<th>Actual (unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Routine patrols</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Integrated security operations</td>
<td>40</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Settlement of violation cases</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>4</td>
<td>Control of violations</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Construction of fire break</td>
<td>25</td>
<td>-</td>
</tr>
</tbody>
</table>
1.5.7 Organization and institutional aspect

1.5.7.1 Organization

Historically, Bali Barat National Park has existed since Bali was under the control of the Board of Kings. It can be checked through an excerpt of a Decree of the Board of Balinese Kings No. E.1/4/5/47 dated August 13, 1947 stipulating Bali Barat forest as a Wildlife Sanctuary.

This forest area of Wildlife Sanctuary was expanded by adding with forests in Menjangan, Kalong, Burung, and Gadung Islands as parts of forest area of Bali Barat National Park pursuant to a Decree of Minister of Agriculture No.169/Kpts/3/1978 dated March 10, 1978.

In order to manage Bali Barat National Park of presently 19,002.89 ha, pursuant to the Decree of Director General of Forest Surveillance/Protection and Natural Conservation No. 38/Kpts/DJ-VI/1996, there is a need to establish a management agency of Bali Barat National Park addressed in Cekik, Jembrana as stated in the Decree of Minister of Agriculture No. 736/Mentan/X/1982 dated October 14, 1982.

This management agency of Bali Barat National Park has the following tasks:

- Administrative Sub-division is responsible for administering personnel, finance, correspondence, supplies/equipment, and internal affairs.
- Programming Section is responsible for planning and programming of Bali Barat National Park development and reporting its implementation.
• Utilization Section is responsible for utilization, promotion, and providing information. Functional Group on Conservation is responsible for breeding in the Park as well as preserving/conserving flora and fauna altogether with its ecosystem.

• In the implementation, the functional group on conservation is divided into breeding, protection, preservation and conservation sub-groups where a senior functional expert leads the respective sub-group consisting of adequate number of members.

1.5.7.2 Job descriptions

In implementing their tasks, Head of Bali Barat National Park, Chief of Sub-division, Chiefs of Sections, and Leader of Functional Group on Conservation shall adopt principles of coordination, integration, and synchronization, both in their respective work unit and with parties outside the National Park pursuant to a Decree of Minister of Forestry No. 096/Kpts-II/1984 dated May 12, 1984 on Organization and Job Descriptions in Bali Barat National Park.

According to this Decree, Bali Barat National Park is lead by a Head reporting to Director General of PHPA whom is responsible for the following work units:

• Administrative Sub-division,
• Programming Section,
• Utilization Section, and
• Functional Group on Conservation,

as shown in Figure 1.
Furthermore, the Decree of Minister of Forestry No. 096/Kpts-II/1984 dated May 12, 1984 on Organization and Job Descriptions in Bali Barat National Park stipulated tasks of respective work units.

Job descriptions in the National Park: each head of work unit is responsible to lead and coordinate his/her respective subordinates, give guidance and direction for performing tasks, and submitting periodic reports to his/her respective superior.

### 1.5.7.3 Oversight

Each head of work unit shall oversee his/her subordinates on performing their tasks, and then take actions pursuant to the prevailing laws and regulations.

### 1.5.7.4 Personnel

a. Requirements and qualifications

There were 92 personnel in Bali Barat National Park as of March 31, 1996 having qualifications based on educational levels as follow: Elementary School (SD),
Junior High School (SLTP), Senior High School (SLTA), Diploma, and Bachelor as shown in Table 1.21. A position of Chief of Programming Section (Echelon V) was vacant. In the subsequent year, 1997/1998, the status of existing personnel is expected to change through promotion, either of regular or functional.

In order to anticipate the increasing activities and service quality in 1997/1998, a number of personnel in various ranks will be needed as shown in Table 1.22.

Table 1.21. Status of existing personnel in Bali Barat National Park by educational level and rank, 1996/1997

<table>
<thead>
<tr>
<th>No.</th>
<th>Rank</th>
<th>Educational level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>SLTP</td>
</tr>
<tr>
<td>1</td>
<td>IVa</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>IIIa</td>
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<td>-</td>
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<td>3</td>
<td>IIIc</td>
<td>-</td>
<td>-</td>
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<td>4</td>
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<td>-</td>
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<td>-</td>
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<td>11</td>
<td>Ic</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>Ib</td>
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<td>13</td>
<td>Ia</td>
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<td>-</td>
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<tr>
<td>Total</td>
<td></td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Annual Work Plan (RKT) of Bali Barat National Park, April 1, 1997 until March 31, 1998
Table 1.22. Number of personnel required in Bali Barat National Park, 1997/1998

<table>
<thead>
<tr>
<th>No.</th>
<th>Rank</th>
<th>Educational level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>SLTP</td>
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<tr>
<td>1</td>
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<td>6</td>
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<td>IIb</td>
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<tr>
<td></td>
<td>Total</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Annual Work Plan (RKT) of Bali Barat National Park, April 1, 1997 until March 31, 1998

Tables 1.21 and 1.22 show that Bali Barat National Park still require personnel from various educational levels to fill out various ranks of personnel as shown in Table 1.23.

Table 1.23. Number of additional personnel needed in 1997/1998

<table>
<thead>
<tr>
<th>No.</th>
<th>Rank</th>
<th>Educational level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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<td>-</td>
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<td>3</td>
<td>IIIc</td>
<td>-</td>
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<td>4</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Annual Work Plan (RKT) of Bali Barat National Park, April 1, 1997
b. Education and training

The management of Bali Barat National Park can achieve maximum results as targeted when it is managed professionally and efficiently. It can be achieved when it is supported by highly-skilled, highly-dedicated human resources. As resulted from the research, the management of Bali Barat National Park and officials of the Ministry of Forestry have anticipated by developing their human resources through various training, courses, upgrading, workshop, and scientific meetings.

Until 1996, personnel working in TNBB have attended various training, courses, and upgrading as shown in Table 1.24.

Training, courses, and upgrading as attended by the TNBB personnel varied which were basically relating to administration, including finance, personnel management, project management, and office management, and technical management which was directly relating to TNBB management, including diving, shooting, for forest rangers, flora and fauna management, buffer zone management, forest fire fighting and control, wildlife breeding techniques, and natural resource conservation as shown in Table 1.24.

Table 1.24. Training, course, and upgrading programs attended by the TNBB personnel until 1996

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of training, courses, and upgrading</th>
<th>Number of personnel/number of course unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Forest rangers</td>
<td>51</td>
</tr>
<tr>
<td>2</td>
<td>Extension services and refreshing on forestry</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>P4 (Pancasila upgrading) and Pre-promotional training</td>
<td>91</td>
</tr>
<tr>
<td>4</td>
<td>PTK II PHPA</td>
<td>29</td>
</tr>
<tr>
<td>5</td>
<td>Natural resource conservation planning</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>Administration and management of National Park:</td>
<td>41</td>
</tr>
<tr>
<td>Course</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Advanced management training (Sepala), Middle management training</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>(Sepadya), For treasurers (type A/B), Personnel management, and the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>like</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Courses for Heads of Regions and Resorts and the Management of</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>National Park</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patriotism, Security, Entrepreneurship, Pre-prosecution, and For</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>civil servants as an investigator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourist guides, Visitor management</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Buffer zone management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Skill enhancement (Typing 2; English 1; Agroforestry techniques 1;</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Wildlife breeding techniques 2; GBHP upgrading 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASEAN Forestry Training 1; Boyscouting SWB 2;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shooting 9; Diving A1+A2 5; Marine biota inventory techniques 6; For</td>
<td></td>
<td></td>
</tr>
<tr>
<td>forest rangers 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flora and fauna management courses (Wildlife 4; Protected areas</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>2; Marine Protected Area 2; Forest surveillance management 2;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxidermy course; Forest control 7; Wildlife security; Mangrove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>forest development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material management</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Forest fire control course</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Number of course units</td>
<td>382</td>
<td></td>
</tr>
<tr>
<td>Ratio of number of course units to number of personnel</td>
<td>4.15</td>
<td></td>
</tr>
</tbody>
</table>

c. Ratio of number of personnel to number of course units attended

Table 1.24 concludes that there were 382 course units attended by 92 personnel. Thus, each personnel of TNBB attended on average 4.15 courses. This ratio is quite high showing that the quality of personnel should be quite high.
1.5.8 Coordination

The coordination between the management of Bali Barat National Park and other parties included the coordination within the Ministry of Forestry, with other agencies, and also with various community organizations.

a. Coordination within the Ministry of Forestry

1. With the Office of Forestry of Bali Province on training of nature-based tourism guides for women from the surroundings of protected areas throughout Bali in 1992/1993. This coordination was based on a Decree of Head of Office of Forestry of Bali Province No. 159/Kpts/Kwl-5/1992 dated August 24, 1992 aiming at enhancing women's perspective on conservation issues in the Park area. The objective is to make tourists understand about natural resource preservation/conservation in the TNBB area and provide maximum satisfaction to them while maintain the natural sustainability in TNBB.

2. This coordination was also conducted with Directorate General of PHPA, a local government-owned company Margarana, Natural Resource Conservation Agency Balai KSDA, Land Rehabilitation and Soil Conservation Agency (Balai RLKT), Offices of Forestry of Buleleng and Jembrana Districts, in planning, development, and implementation of programs.

3. Coordination between the management of TNBB with the Office of Forestry of Bali Province and Ministry of Forestry on the coverage of TNBB area pursuant to a letter of Office of Forestry of Bali Province No. 134/Kwl-5/1995 dated January 20, 1995 where it was stated that the TNBB area covers 19,003.89 ha.

b. Coordination with Office of Fisheries of Bali Province in preventing illegal collecting of flora and fauna within the area of Bali Barat National Park. This coordination was initiated by the management of TNBB through Office of Forestry of Bali Province pursuant to a letter No. 1010/Kwl-5/1992 which was
then agreed by Office of Fisheries of Bali Province pursuant to a letter No. 610/838/Prod/92K dated June 30, 1992. Results of such coordination are to control fisheries business licenses which can only be awarded for operations outside of TNBB waters; as quoted that “Fisheries business licenses are issued only for operations outside of Bali Barat National Park pursuant to a coordination letter between TNBB and Office of Fisheries of Bali Province No. 610/838/Prod/92K dated June 30, 1992”. The objective is to prevent the illegal collecting of black-winged starling and the construction of floating dock.

c. Coordination with the Office of Tourism of Jembrana District and the Bali Tourism Development Corporation (BTDC) on planning of the development of the Gilimanuk tourism area and the TNBB area (based on an interview with the Head of TNBB on February 4, 1997). It is an actual coordination in TNBB management.

d. Coordination between the management of TNBB and Buleleng District Government in managing Labuhan Lalang area as a ferry port to Menjangan Island and the surrounding waters for tourism development pursuant to a Decree of Head of Buleleng District No. 340 of 1992 on the Establishment of Management Agency of Labuhan Lalang Tourism Area, Grokgak Subdistrict, Buleleng District. The similar coordination was also made in the detailed planning of Jayaprana cemetery area as a tourism object within the TNBB area. This detailed plan has been endorsed by the Buleleng District Government.

e. Coordination in the coverage of the TNBB area with Bali Governor initiated by the Office of Forestry of Bali Province pursuant to his letter No. 1029/Kwl-5/1993 dated July 20, 1993. This coordination was as a result of Bali Governor’s a letter No. 522.51/9265/BKLH on the proposed coverage of the TNBB area responding an application of Office of Forestry of Bali Province in his letter No. 719/Kwl-5/1993 dated May 19, 1993 as a follow-up of a proposal of the Head of TNBB in his letter No. 69/VI-TNBB/93 dated February 5, 1993.

f. Coordination with village authorities and non-government organizations. This coordination emphasized on public campaigns to villagers in the buffer zone such as with PKK members in enhancing their nature-based tourism perspective, e.g.
training of guides to women in the surroundings of TNBB in 1992. This effort needs to be continued in the future. A similar coordination effort was also undertaken by the management of TNBB with Pejarakan village in the form of community empowerment by providing 3,750 mango seedlings and 2,200 *Leucaena glauca* seedlings. Such program should have been implemented better when involved relevant government agencies such as Office of Food Crops Agriculture of the related districts.

1.5.9 Construction of infrastructure facilities

The success in managing Bali Barat National Park was inseparable from the available infrastructure facilities. As normally in developing and managing an area, TNBB also needs infrastructure facilities. Until presently, in general, the management of TNBB has developed infrastructure facilities in line with the development goal and objective of Bali Barat National Park.

However, it is realized that TNBB in the next 25 years should be furnished with additional infrastructure facilities as required to develop TNBB. In addition to keep the functional sustainability of existing infrastructure facilities, they need to be well maintained.

After deciding the Bali Barat forest area as a National Park in 1982 by Minister of Agriculture in a Decree No. 736/Mentan/X/1982 dated October 14, 1982 on Potential National Parks in Indonesia, the management of TNBB has equipped TNBB with various infrastructure facilities as shown in Appendix.

The infrastructure facilities to be equipped until presently are those for natural resource protection and conservation, particularly for flora and fauna preservation/conservation.

However, management measures should be focused on the maintenance of existing infrastructure facilities and the provision of additional ones as needed.

1.5.10 Encouragement of community participation

In any utilization of natural resources, problems may arise when it is not well planned. Problems arise due to conflicts of interest. The conflicts of interest are usually
caused by different utilization of existing natural resources.

In relation to the TNBB development, there seem conflicts between the preservation/conservation and fulfilling needs of communities in surroundings of the TNBB area from existing natural resources within the area.

In order to reduce or even abolish these conflicts of interest, it is a necessary to encourage the surrounding communities to understand and fully appreciate the philosophy about the importance of a national park in order to have a sense of belonging.

This objective can be achieved by planning of the natural resource preservation and conservation in the TNBB area through a bottom-up process so that the resulted plan will belong to communities residing near the area. Because of being involved in such planning, they will feel belonging to and moreover feel being responsible to implement the plan as they prepared. This effort is a means to encourage the participation of communities in the surrounding of the TNBB area.

They were born near the area of Bali Barat National Park which was formerly called as the Wildlife Sanctuary. They were raised near the protected area where its natural conditions were different than those in a production forest, for example, their ancestors had a lot of knowledge about the surrounding area and about preservation and conservation. The ancestors’ myths and beliefs will be easily bequeathed to their descendants. For example, in Balinese belief, cutting bamboos is not allowed in Sundays and in ‘kajeng’ days.

It is a means in order not too often to cut bamboos in a week. A ‘kajeng’ day comes one in every three days. Being added with Sunday, totally people are not allowed to cut bamboos three times in a week. A lot of beliefs and traditions relate to such preservation/conservation effort. ‘Pulai’ trees (Alstonia scholaris) are known as sacred by Hindus in addition to other trees. Of course, such beliefs and traditions can be explored from people. The results can become extension material to make the youth aware of natural resource conservation efforts in the TNBB area.

However, as described previously in this report (Sub-sections 1.5.3, 1.5.6, and 1.5.7), disturbances to this conservation effort were caused by socio-economic conditions of residents in the surroundings of the TNBB area. Therefore, this effort is developed to empower communities by providing various aids enabling them to
improve their economy and enrich species and number of trees in the surroundings of the TNBB area and, in the same time, this effort can improve the quality of vegetation in the surrounding area.

The use of employees originating from the surroundings of the TNBB area will be able to help creating job opportunities to the communities. It is another form of the community participation through the community empowerment. Although it is realized that due to low quality human resources, they can only be hired as blue-collar workers such as gardeners, forest rangers, etc. Thus, the community participation and the improvement of communities’ economy in the surroundings of the TNBB area …. [The sentence is incomplete.]

1.5.11 Monitoring and evaluation

In order to ensure that a plan is implemented as expected, its monitoring is required. This effort aims at anticipating possible changes to assumptions adopted in planning. On the other hand, an evaluation is an effort of appraising the conformity and the success of a plan prepared. The monitoring and evaluation of the TNBB’s 20-Year Work Plan (RKD) are intended to know the achieved results of the TNBB’s management plan so that constraints and mistakes can be minimized and abolished in the future.

Monitoring and evaluation activities conducted by TNBB can be used as a basis for similar activities in the future. The activities are shown in Table 1.25 below.

Table 1.25. Monitoring and evaluation activities conducted by TNBB, 1996/1997

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of activity</th>
<th>Frequency (times)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Planned</td>
</tr>
<tr>
<td>1</td>
<td>Monitoring</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Evaluation</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Annual Work Plan of TNBB, 1996/1997, TNBB, Cekik

1.5.12 Funding

A key to success of any development program is the availability of fund. The quality of human resources is another dominant factor affecting the success of the
TNBB area development.

According to interviews with the TNBB’s staff and research on TNBB’s reports, a big portion of funding for TNBB development originates from the State Budget (APBN). Only a small portion originates from revenues of TNBB operations such as visitor retribution. An increase of revenues from retribution likely needs to be planned in the next 25 years. Funding sources for natural resource preservation and conservation activities in TNBB are shown in Table 1.27.

Table 1.27. Funding sources for TNBB development, 1996/1997

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of activity</th>
<th>Cost (Rp million)</th>
<th>Source:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Planned</td>
<td>Actual</td>
</tr>
<tr>
<td>1</td>
<td>Planning</td>
<td>531.500</td>
<td>214.784</td>
</tr>
<tr>
<td>2</td>
<td>Area surveillance</td>
<td>3,200.000</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Enhancement of biological resources</td>
<td>611.000</td>
<td>24.520</td>
</tr>
<tr>
<td>4</td>
<td>Research and development</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Area utilization</td>
<td>246.000</td>
<td>33.700</td>
</tr>
<tr>
<td>6</td>
<td>Protection and security</td>
<td>333.900</td>
<td>179.550</td>
</tr>
<tr>
<td>7</td>
<td>Maintenance of infrastructure facilities</td>
<td>857.975</td>
<td>93.489</td>
</tr>
<tr>
<td>8</td>
<td>Construction/procurement of infrastructure facilities</td>
<td>437.315</td>
<td>437.315</td>
</tr>
<tr>
<td>9</td>
<td>Encouragement of community participation</td>
<td>312.500</td>
<td>81.160</td>
</tr>
<tr>
<td>10</td>
<td>Monitoring &amp; evaluation</td>
<td>22.500</td>
<td>6.000</td>
</tr>
<tr>
<td></td>
<td>Total (Rp million)</td>
<td>6,552.690</td>
<td>1,298.221</td>
</tr>
</tbody>
</table>


1.6 Problems

Based on results of observations and research, three main problems are found in managing Bali Barat National Park (TNBB), namely protection, preservation/conservation, and utilization. In protecting the existing natural resources in the TNBB area, the following problems are found:
a. TNBB boundary consolidation. Boundaries of TNBB as a conservation and protection area have not been measured and consolidated yet to be a basis for area management. Nevertheless, the TNBB area has been legally decided covering 19,000.89 ha pursuant to a Decree of Minister of Forestry No. 493/Kpts-II/1995 dated September 15, 1995 and as a follow-up of the Decree, Director of PHPA issued a Decree No. 38/Kpts/DJ-VI/1996 dated April 15, 1996 on Zoning. These two decrees can be used as a basis of measuring the coverage and boundaries of the area.

b. Problems relating to inventory of ecosystem diversity, especially of estuary and vegetation ecosystems. Through this inventory, planning for the TNBB area management can be better prepared.

c. Problems relating to disturbance to the area. These problems relate to illegal logging, wildlife poaching, collecting of branches, destructive fishing such as blasting, and forest fire. In details, these problems are shown in Table 1.18 below.

Table 1.28. Frequency of disturbance to the TNBB area, 1995/1996

<table>
<thead>
<tr>
<th>No.</th>
<th>Type of disturbance</th>
<th>Frequency/number</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Illegal logging</td>
<td>35</td>
<td>logs</td>
</tr>
<tr>
<td>2</td>
<td>Forest fire</td>
<td>66.93 ha</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Wildlife poaching:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Black-winged starling</td>
<td>3</td>
<td>heads</td>
</tr>
<tr>
<td></td>
<td>b. Barking deer</td>
<td>1</td>
<td>heads</td>
</tr>
<tr>
<td></td>
<td>c. Oriental magpie robin</td>
<td>3</td>
<td>heads</td>
</tr>
<tr>
<td>4</td>
<td>Placing nets/snares</td>
<td>25</td>
<td>times</td>
</tr>
<tr>
<td>5</td>
<td>Traffic accidents</td>
<td>2</td>
<td>deers</td>
</tr>
<tr>
<td>6</td>
<td>Fishing by blasting</td>
<td>2</td>
<td>times</td>
</tr>
<tr>
<td>7</td>
<td>Illegal collecting of black-winged starling</td>
<td>3</td>
<td>times</td>
</tr>
</tbody>
</table>

Source: Annual Work Plan of TNBB, 1996/1997, TNBB, Cekik
Such disturbance was rooted from the following factors:

- Lack of communities’ awareness and appreciation to the importance of Bali Barat National Park;
- Low economic status of the surrounding communities; Small land ownership and low land productivity making low crop production and then low income of the communities. The community empowerment seems to be crucial in preserving/conserving the TNBB area.

d. Lack of quality and quantity of personnel, especially those in charge of security of the TNBB area. This condition causes personnel’s inability in anticipating disturbance to the TNBB area and its potential natural resources.

e. Lack of quantity and quality of existing infrastructure facilities in the TNBB area. It is caused by the limited available fund, either for constructing new infrastructure facilities or maintaining the already constructed infrastructure facilities.

f. Discontinued breeding of black-winged starling. Due to limited number of experts and fund, the breeding initiated by Birdlife discontinued. The similar support from other organization is needed in order to continue this breeding program.

g. The reduction of germplasm occurred in the TNBB area where 50 ha area have no germplasm. This patch of land is deforested. Actions are required to prevent the expansion of the deforested land.

h. The heterogeneity of the surrounding residents in aspects of ethnicity, religion, and culture as well as low educational level and economic status are considered as separate problems in developing and utilizing of TNBB. Potential problems on insulting such sensitive differences (SARA) may arise among community members when misunderstanding happens. Social gaps, fanaticism, and narrow minded to ethnicity and religion can be as stimulating factors of conflicts among the residents. These problems can be overcome by encouraging tolerant attitudes and respect other community members having different ethnic or religion.
The strategy of land rehabilitation and soil conservation is directed to build the communities’ capacity in rehabilitating, preserving, and increasing their land productivity through extension services, technical assistance, and welfare improvement through the land rehabilitation and soil conservation (RLKT) activities.

Main activities in RLKT are reforestation, planting in barren lands, private forest, social forest, soil conservation, and extension services.

The reforestation aims at increasing capacity of deforested lands, particularly those having a soil productive capacity (‘bonita’) of less than 2.50.

Planting in barren lands were conducted by:

a. Continuing Inpres projects on planting in barren lands through various programs, establishment of village-based seedling farms, social engineering, construction of check dams, small reservoirs (‘embung’), dikes to contain water (‘empang’), and retaining dams.

b. Rehabilitating the damaged mangrove forests, targeted to coastal areas, including those within the TNBB area, enabling to be planted and rehabilitated.

c. Enhancing the planting and keeping up palmyra palm, and especially marketing of its products.

d. Planting scarce crops in order to ensure their sustainability and crops to be as industrial raw material such as palmyra palm, cinnamon trees, etc.

The private forests needs to be more developed in order to achieve and maintain a 30% forest portion of lands in Bali Island.

Social forests in the buffer zone needs to be more developed in order to enhance the community empowerment which end in welfare improvements of residents in the TNBB area.

Soil conservation activities are intended to more socialize the land rehabilitation and soil conservation schemes through training and talk show, expanding the reach of provision of production inputs, and boosting conservation activities in buffer zones.

Extension services are intended to build the capacity of extension workers and enhancing the public appreciation to TNBB in particular and to forest functions in general so that they can stimulate communities’ active roles in the forest development.
4. Forest protection and natural preservation/conservation program.

The forest protection and natural preservation/conservation program covers the area stewardship, area utilization, and enhancement of flora and fauna population as follow:

a. Replanning of the protected area, including management plan, master plan of the area, feasibility study of particular areas, and zoning.

b. Maintenance and consolidation of protected area boundaries for the area consolidation.
CHAPTER 2

2.2. National and Regional Policies on Forest Protection and Natural Conservation

2.2.1 National Policy on Forest Protection and Natural Conservation

Indonesia is a developing country which so far relies on natural resources as development assets in improving its people’s welfare. In the Long-term Development - Phase II (PJPT II), the focus is on the economic development which is in balance with the environmental development. In achieving the main goals of improving human quality and people’s welfare, natural resources as development assets have to be utilized wisely and in balance between for the interest of present and next generations (WCED, 1987). The conservation of biological natural resources and their ecosystems is an inseparable part of economic development and as a guarantee of sustainable national development.

The development of forest protection and natural conservation is an inseparable part of forestry development in particular and of the national development in general. Therefore, the development of forest protection and natural conservation is basically the forest natural resource quality development in order to be useful for people’s welfare improvements. After the arising various prejudices such as global warming, depleted ozone layer, increased pollution, and degraded environmental quality, then the development of forest protection and natural conservation becomes more strategic and is prioritized in the national development.

Being as a rich country in natural resources, including its uniqueness and diversity, Indonesia has a unique appeal. The strategic environment affecting the course of conserving biological natural resources and their ecosystems in Indonesia is as follows:

1. Indonesia is one of mega biodiversity countries in the world with the third largest tropical forest area.
2. It is an archipelago having a terrestrial area of approx. two million km² or 2/3 of its territory.
3. The conservation issue of biological resources and their ecosystems being as a
Determinant of environmental balance in Indonesia is still at the stage of political will.

4. The national development still relies on natural resources as development assets.

5. A large population.

6. After arising *global environmental issues*, Indonesia has attracted international concern, especially toward ‘Agenda 21’.

In line with the national development in forestry sector and referring to the affecting strategic environment trend, then the long-term policies and strategy of conservation of biological natural resources and their ecosystems are defined as follow:

1. The conservation of biological natural resources and their ecosystems aims at achieving their sustainability in order to give more support in improving people’s welfare and quality of human life.

2. The conservation of biological natural resources and their ecosystems has the following missions: (1) protection of life supporting system, (2) preservation of flora and fauna diversity and their ecosystems, and (3) sustainable utilization of biological natural resources and their ecosystems.

3. The development of protected areas is an inseparable part of the national development which its implementation needs to be in an integrated manner in order to support other sectors or to be supported by other sectors.

4. The development of biological natural resources has to be sustainable by a rational use and a holistic policy and by putting next generations in mind.

5. The conservation of biological natural resources and their ecosystems shall reflect its role to support the environment and to create preconditions enabling the effective, efficient implementation of other development activities.

6. Biological natural resources and their ecosystems shall reflect their role to support the environment in their function to support human life; the conservation of the area needs to be concrete, both in terrestrial and marine areas as well as in protected areas, as their function is to maintain ecological processes.

7. Indonesia being as one of seven mega biodiversity countries shall be able to show and maintain its biodiversity quality by allocating protected areas based on the
uniqueness of flora and fauna and their ecosystems. The distribution of protected areas shall represent various ecosystem types.

8. In implementing the conservation of biological natural resources and their ecosystems, the surrounding communities shall be engaged. For that purpose, the positive, active community participation needs to be encouraged and the public awareness on environment and natural resources and their ecosystems needs to be continually enhanced. Therefore, there will be a reciprocal relationship of mutual benefits between the community and their environment.

Referring to the development policy on natural resources and their ecosystems, the development of forest protection and natural conservation covers the following activities:

1. Program of inventory and evaluation of terrestrial and marine areas
   This program is intended to prepare data and information as well as maps to show potentials of each protected area. Such data and information will be used as a basis for preparing a management plan of the area. Therefore, the protected area management is expected to be steadier in order the area to function optimally.
   Goals to be achieved in this program are: (1) available data, information, and maps on distribution, structure, and composition of vegetation in each protected area; (2) available data, information, and maps on species composition and distribution of fauna in each protected area, (3) available data, information, and maps on ecosystem types in each protected area, and (4) consolidated management of protected areas in order to function optimally. Those goals can be achieved through some activities, e.g. inventories of, respectively, ecosystem resources, vegetation, and fauna, the boundary consolidation and the area affirmation, preparation of detailed maps of the area, the use of Geographical Information System (GIS) on forest protection and natural conservation.

2. Securing forests, soil, and water
   In conserving the given functions of protected areas, extension services and preventive measures against disturbance which may degrade their functions have
to be continually intensified. In addition, this program is also intended to make more represented the existing ecosystem types of less or even not at all represented in the protected areas and to intensify the species conservation, in situ and ex situ. Protected forests, complying with the importance or important functions of water management as well as of the erosion and flood hazard prevention, have not yet been managed optimally. Therefore, this program is also intended to improve the protected forest management. Goals to be achieved in this program are: (1) more represented ecosystem types in protected areas, (2) the improved, strengthened management of protected areas and protected forests, (3) optimized functions of protected areas and protected forests, (4) conserved species, especially those of known as domestic and foreign commodities, and (5) improved community welfare in the surroundings of protected areas and protected forests. These goals can be achieved through activities of among others: (1) improvement and development of national parks, (2) improvement and development of nature sanctuaries and nature conservation areas, (3) development of integrated natural conservation, (4) improvement and development of protected forests, (5) improvement and development of buffer zones, (6) provision of extension services to villages in the surroundings of protected areas, (7) development of species breeding, and (8) improvement and development of the Elephant Training Center.

3. Control program of environmental damage and pollutions
There are increasing development activities in utilizing forest areas, in the forestry and other sectors. The forest area utilization, when it is not carefully and thoroughly planned and implemented, may degrade the environmental quality. The degraded environmental quality may occur due to forest damage and/or pollutions to the environment. The forest damage may degrade forest functions. It will end in environmental damage. The forest damage may also caused by the uncontrolled and/or illegal utilization of forest products. Based on the above conditions, this program is expected to improve the environment-wise development planning.
As an integral part of mandatory planning, EIA documents shall be prepared. The
monitoring of implementation at site also needs intensification in order negative impacts of development activities to be mitigated immediately and appropriately. Through this program, it is expected to result in improved effectiveness and preventive measures of forest security. Consequently, the human disturbance to forest security such as illegal collecting and utilizing of forest products can be minimized and even prevented. Goals to be achieved in implementing this program are: (1) improved implementation of EIA in forestry, (2) built capacity of the EIA management agency in forestry, (3) built capacity in environmental impact identification and control, (4) built capacity in forest operations and security, and (5) built capacity in forest damage control.

These goals can be achieved through activities, e.g. capacity building of EIA in forestry, environmental impact control, forest and natural resource security, forest fire control, wildlife disturbance control, and facilitation and development of endangered flora and fauna stations.

4. Domestic tourism development program

According to its functions, a nature conservation area is an area functioning as a nature-based tourism object. In utilizing the functions, this domestic tourism development program is expected to encourage nature-based tourism development activities in nature conservation areas. As the nature-based tourism activities progressing, they are expected to increase the state’s income, create jobs and business opportunities, particularly for the surrounding communities so that they can improve their welfare. This program is expected to encourage the participation of private businesses in operating the nature-based tourism in nature conservation areas. In order to prevent and mitigate the arising negative impacts of activities managed by the private businesses, it is necessary to intensify guidance, facilitation, and monitoring from planning up to site implementation stages.

Goals to be achieved in implementing the domestic tourism development program are as follow:

a. Established nature conservation area management.

b. Optimized nature-based tourism activities in nature conservation areas.
c. Increased active participation of private businesses and local communities in nature-based tourism activities within nature conservation areas. These goals can be achieved through activities, among others: (1) intensification of promotion and information on nature-based tourism, (2) facilitation and development of infrastructure facilities for nature-based tourism, and (3) facilitation and development of nature-based tourism operations.

5. Swampy area and water resource development program
Ecosystems of wetlands, of swamp in particular, still lack of adequate attention. On the other hand, the swamp ecosystem plays a critical role as a germplasm source and as water reservoirs. This program is expected to improve the swampy area management in order to ensure the sustainability of its function and to optimize the representation of the swamp ecosystem type in the protected area. Goals to be achieved in this program are the optimized functions of swampy areas and the established swampy area and water resource management. The goals can be achieved through activities, among others, the facilitation and the development of wetland conservation activities and the facilitation of wetland fauna habitats.

6. Coastal area and marine waters development program
This program is intended to enhance the facilitation and the development of conservation activities in coastal area and marine waters. Goals to be achieved in this program are: (1) represented ecosystem types of coastal area and marine waters, (2) improved, established coastal area and marine waters conservation management, and (3) optimized functions and role of coastal area and marine waters protected areas. The goals can be achieved through activities, e.g. the facilitation and the development of marine protected areas and the development of mangrove protected areas.

7. Youth development program
Basically, natural resource conservation efforts are the obligation and the responsibility of all community members. However, many people in fact still lack
of and even do not pay attention and not participate actively in natural resource conservation efforts. Therefore, people’s welfare improvement efforts are needed so that the people can participate actively in any conservation activity. The campaign is targeted to the youth as they should continue development activities in the future. Goals to be achieved in this program are: (1) increased public awareness in natural resource conservation, (2) enhanced communities’ active role in forest protection and natural conservation activities, and (3) improved communities’ skills and knowledge in conserving natural resources and their ecosystems. The goals as mentioned above can be achieved through activities, among others: (1) facilitation and development of conservation cadres, (2) strengthening the nature loving clubs, (3) facilitation and development of nature-based tourism guides, and (4) the Conservation Week and the Flora and Fauna Day.

8. Women’s role enhancement program
This program is intended to enhance the women’s active role in natural resource conservation efforts which are inadequate at present. The enhanced women’s active role in natural resource conservation is expected to support and encourage the dissemination of ‘environmental awareness’ within families. Goals to be achieved in this program are: (1) improved women’s skills and knowledge in natural resource conservation, (2) created women’s opportunities to be equal with men in natural resource conservation activities, and (3) increased families’ incomes. These goals can be achieved through activities, among others, the facilitation and development of conservation female cadres and the development of nature-based tourism guides.

9. Physical infrastructure facility upgrading program
Adequate physical infrastructure facilities can encourage working smoothly. Consequently, this physical infrastructure facility upgrading program is expected to encourage enthusiasm in undertaking tasks besides to enhance functions of the protected areas. A goal to achieve in this program is the fulfilled needs in physical infrastructure facilities to implement main tasks.
The goal can be achieved by software update, provision of occupational facilities, upgrading of nature-based tourism infrastructure facilities, and upgrading of security infrastructure facilities. The success in achieving the given targets of activities in various programs and projects will be highly dependent on personnel of the Forest Protection and Natural Conservation (PHPA) whom having high quality and loyalty on conservation of biological natural resources and their ecosystems. In addition to the funding support for conservation activities and intersectoral coordination, it is also important to equip infrastructure facilities as planned.

2.2.2 Regional Policies on Forest Protection and Natural Conservation

As directed by the Basic Outline of State Direction (GBHN) of 1993/1998 and the Basic Outline of Local Development of Bali Province, the forest protection and natural conservation is decided as an important part of Bali Provincial ecosystems because of being as the life support for the entire residents in Bali Province. The direction of development in this aspect is to materialize sustainable environmental functions in dynamic balance and harmony with demographic changes in order to achieve the sustainable national development.

Objectives of the forest protection and natural conservation in Bali is to improve the quality of natural resources, utilize natural resources in a sustainable manner, and improve the environmental quality.

Terrestrial and marine natural resources are managed and utilized by maintaining environmental function sustainability in order to develop the adequate environmental carrying capacity to benefit to the best of people’s prosperity, both the present and future generations. The public awareness on the importance of environmental role in human life needs to be continuously developed through the information dissemination as well as the formal and non-formal education, incentive provision, and the law enforcement along with encouraging the community’s active role in safeguarding the environmental sustainability in any economic and social activity.

The conservation of national park areas, including their flora and fauna and land uniqueness, needs to be continuously improved to protect their germplasm, species, and ecosystem diversities. The research and development of potential forest benefits
for the sake of nation’s welfare, especially of agricultural, industrial, and health development, need to be continuously intensified. Inventory, monitoring, and valuation of natural resources and environment need to be continuously intensified to maintain their sustainable utilization.

Forests, which are damaged or degraded, require rehabilitation to recover their function as the life support and to give benefits to people’s welfare. The law extension and enforcement to minimize forest violations need to be intensified. Infrastructure facilities for forest security should be upgraded to support the quality of human resources involved.

Forest spatial plan needs to be synchronized with land use, water, and other natural resource plans in a harmonic, dynamic integrated environment and the demographic management needs to be continuously consolidated to get an ideal spatial plan for Bali Province. The spatial plan should be prepared in an integrated regional approach by paying attention to natural environment and social characteristics.

Forest development policies, especially of forest protection and natural conservation, in Repelita VI for Bali Province are focused on natural conservation, rehabilitation of natural resources and environment, institutional strengthening, encouragement of community participation, and human resource capacity building.

2.3 Regional Development Policies

The regional development depends on the given Regional Spatial Plan to play its role in regulating and directing the regional developments. The spatial plan is implemented pursuant to: (1) programs and projects in the five-year plan (Repelita), (2) annual programs and projects, (3) site permits already issued to construct and use buildings.

The strategy and policy making in implementing the General Spatial Plan (RUTR) is inseparable of the law and regulation framework, both for the District/City General Spatial Plan (RUTRD) and the District/City Detailed Spatial Plan (RDTRD). The Spatial Plan of Bali Province is decided pursuant to the applicable laws and regulations, among others:

1. Law on Basic Agrarian Affairs (UU No. 5/1960).
2. Law on Right Revocation of Lands and Buildings on the Lands (UU No.
1. Law on Basic Forestry (UU No. 5/1967).
2. Law on Basic Mining (UU No. 11/67).
3. Law on Local Governance (UU No. 5/1974).
4. Law on Basic Irrigation (UU No. 11/1974).
8. Inpres No. 1/1976 on Synchronization of Implementation of Tasks in Agrarian Affairs with Forestry, Mining, and Public Works.
9. Various implementing regulations in deciding the RUTRD of Jembrana and Buleleng districts which are basically as the elaboration of RUTRD of Bali Province.

Directives on regional spatial planning of Bali Province are as follow:

1. Establishing protective functions in relation to the ecosystem balance of the region due to demographic changes and all related activities.
2. Optimizing natural resource utilization for sustainable development.
3. Enhancing the economic progress and growth among districts/cities within Bali Province.
4. Consolidating the accessibility/transportation system in the region and maintaining its functions.
5. Consolidating functions and role of cities in Bali Province according to the regional development hierarchy.

The strategy and policy and classification in decision of nature-based culture and non-culture UTILIZATIONS based on RUTR of Bali Province are as follow:

1. The non-culture zone includes terrestrial and marine protected areas classified as a zone having its main functions to protect and conserve nature. It consists of absolute and limited protected areas.
2. An absolute protected area is an area of which human interventions are not
allowed except activities to maintain its sustainability, e.g. protected forests and nature reserves. A limited protected area is an area having protection functions but is allowed to be utilized in a limited extent for other functions. For example, recreation forests, coastal tourism areas, and production forests.

2. The nature-based culture zone is an area to be utilized for human life and livelihood activities. It consists of buffer zone, built-up area not for residence/activities, special area, and open area for business activities. Criteria (physical factors) of nature-based culture zone and non-culture zone pursuant to RUTR of Bali Province are: (1) in balance with changes of demography/activities, (2) in balance with hydrological resources, (3) in balance with flora and fauna and their ecosystems, (4) protection of the culture reserve, and (5) protection against environmental impacts.

### 2.3.1 Strategy and policy in decision of Spatial Plan of Jembrana district

Until Repelita VI, principles of regional spatial planning are still applied in deciding development regions and their centers of growth.

In the effective, efficient handling of protruding problems such as pollutions, imbalanced environmental carrying capacity, accessibility, problem in rules of order for residential environment, and other problems relating to sustainable development principles, it is deemed necessary to broaden perspectives for implementing steady spatial planning principles.

The main objective of regional development will be easily achieved when the balanced environmental carrying capacity and the established business conditions in a general term are taken into consideration in planning of the development control.

Therefore, in entering Repelita VI, the regional development perspective by using a spatial planning principle of the development zoning will be holistic in order to be able to reach overall scope of this regional development.

In general, there are six basic principles contained in the regional development, namely:

1. Local economic growth.
2. Harmony in local economic growth.
3. Regional system unity (in order to apply an archipelagic perspective principle).
4. Accelerated growth of underdeveloped regions.
5. Sustainable development.
6. Sustainable environment and safe, orderly, smooth, and healthy environment.

The strategy and policy of spatial planning of Jembrana district refer to RUTR of Bali Province as follow:

1. As an effort to consolidate protective functions
   This effort is associated with the objective to materialize the sustainable development scheme. The criterion of this effort is to consolidate protective functions requiring the lowest-level technological inputs. Through this effort, the nature-based culture zones and protected areas can be defined in terms of coverage, locations, and distribution in the district, along with indications of protective connection.

2. As an effort to optimize resource utilizations
   This effort is associated with the objective to achieve optimum resource utilization and its effect on the regional development.

3. As an effort to balance regions
   This effort is associated with the objective to achieve equality optimally. The main criterion is the minimum balance enabling to create attractions and opportunities for underdeveloped regions to grow. The first supporting criterion is the direct, sustainable interrelations among regions. The second supporting criterion is the sustainable relations among built-up settlements through minimum interventions.

4. As an effort to consolidate the accessibility and maintain its functions
   This effort is associated with the objective to achieve growth and equality. The main criterion is the development of transportation system, especially of regional roads associating with the hierarchy and functions of development centers to ensure easy interactions between regions and the development centers. The first supporting criterion is the development of regional functions and the optimization of resource utilization.
   The second supporting criterion is the security of regional road functions against
excessive interventions.

5. As an effort to consolidate functions of cities and settlements
   This effort is associated with the objective to balance spatial developments between cities and their hinterlands. The first criterion is the spatial hierarchy to ensure effective, efficient implementation of main functions of cities. The supporting criterion is the minimum connection between the implementation of main functions and supporting functions. The supporting criterion is the spatial hierarchy to ensure efficient implementation of supporting functions.

6. As an effort to optimize the use of spatial elements
   This effort is associated with the objective to implement functions of cities in a sustainable manner.

7. As an effort to increase the production efficiency
   This effort is associated with the objective to achieve a balance in regional developments. The main criterion is the minimum relations between the residential space and the main space where the supporting criterion is the minimum services to support production and human basic needs. It is associated with levels of production and sufficiency of basic needs among rural community.
   In this regard, rural production schemes are reviewed, among others, food crops, estate crops, forest crops, mining, and coastal fisheries.

8. As an effort to utilize production components
   This effort is associated with the objective to optimize the resource utilization in order to ensure sustainable production functions. The first criterion is the selection of minimum lands to support people’s livelihood developments. The second criterion is the maximum number of settlements in utilizing resources in a sustainable manner. The third criterion is the extent of maximum settlement unit relating to the potential coastal culture and the capacity of coastal ecosystem.

2.4 Tourism Development Policies

2.4.1 National tourism policies
   Indonesia’s tourism in Repelita VI ranks an honorable position in the world's tourism business. In 1990, Indonesia was only in the 38th rank in attracting the world’s
tourists. By the end of Repelita VI, it is projected to position the top 20 in the world or at the same level as some European countries such as the Netherlands which was visited by 5.7 million foreign tourists in 1990.

Indonesia’s *tourism image in the international forum* is expected to uplift in the Year of Visit Indonesia (1992) until 2000, which is not just based on the number of foreign tourists visiting Indonesia and the foreign exchange earnings from the tourists’ visits, but also the world’s award for *tourism developments such as the Trophy for Tourism awarded by L’Institut International de Promotion et de Prestige, France, which is awarded once every 25 years*. By such improving tourism image, the Government still needs to organize a national campaign *Sadar Wisata (Tourism Awareness) through a program Sapta Pesona (Seven Charms)* and preparing seven guidelines on running the successful national tourism to materialize safe, orderly, clean, cool, beautiful, friendly, and memorable conditions.

*Sapta Pesona, besides as a Sapta Wisata program, also has a strategic goal to enhance the national discipline and strengthen the nation’s identity.*

General policies of tourism development in Repelita VI cover:

1. The tourism development is directed to uplift the tourism to become the mainstay sector which boosts economic activities, including other related sectors, so that job opportunities, people’s incomes, local government’s incomes, state’s incomes, and foreign exchange earnings can increase by developing and making efficient of the potential national tourism.

2. In the tourism development, the nation’s identity and sustainable environmental functions and quality need to be safeguarded. The tourism should be consolidated in a holistic, integrated manner by involving other related sectors in a full tourism business of mutual benefits which support each other in small, medium, and large scales.

3. The domestic tourism development is implemented in line with efforts to encourage the spirit of patriotism and implant the nation’s good values to strengthen the national unity and entity, especially in boosting tourism of teenagers and youth by providing more access to tourism services. Indonesia’s appeal as a destination country of foreign tourists needs to be enhanced through maintenance of historical sites and artifacts reflecting the culture gloriousness and
grandeur supported with attractive promotion.

4. Developing tourism objects and attractions along with their promotion and marketing activities, both domestic and abroad, needs to be continuously enhanced, namely well planned, focused, integrated, and effectively, by among others, using optimally the regional tourism cooperation in order to strengthen international relationship.

5. The tourism education and training should be intensified along with the provision of improved infrastructure facilities to build capacity in ensuring quality and smoothness of tourism services and operations.

6. Public awareness and active participation in tourism activities should be enhanced through extension services and facilitation of culture-loving groups, handicrafts, and any other effort to improve Indonesian cultural quality and tourism appeal by safeguarding religious values, the nation’s identity, dignity, and honor. In developing the tourism business, any possible damage to people’s life and the nation’s cultural sustainability should be prevented.

The nature-based tourism operations in the utilization zone of National Parks, Jungle Parks, and Nature-based Tourism Parks are pursuant to the Government Regulation No. 18 of 1994 mentioning that, among others: assets of biological resources and their ecosystems consisting of flora and fauna natural resources and their ecosystems and/or nature uniqueness phenomena and/or other nature beauty owned by Indonesian nation are a gift from God Almighty.

Potential biological natural resources and their ecosystems need to be utilized and developed to the best of people’s welfare through conservation efforts in order to achieve a balance between protection, preservation, and sustainable utilization.

One of conservation efforts in biological natural resources and their ecosystems is implemented by establishing forest areas and/or marine areas to be national parks, jungle parks, and nature-based tourism parks where one of their functions is as tourism objects and nature-based tourism attractions to become as tourism centers and nature-based tourism visits.
The national development in various sectors has been successfully increasing the people’s incomes and increasing people’s activities in various fields so that making changes in people’s life with increasingly varied needs. Those two aspects along with the increasing interest, especially of urban community, to be back to nature cause people’s increasing needs in nature-based tourism.

In line with the progress of nature-based tourism needs, national parks with all of their nature uniqueness phenomena and nature beauty have opportunities to be developed as nature-based tourism objects and attractions in addition to as places for research, education, and scientific advancement. In order the nature-based tourism objects and attractions to be maximally utilized, fund and technology are required.

For that purpose, the appropriate fund and technology should be invested in the nature-based tourism operations. Operations of national parks as nature-based tourism objects and attractions give positive impacts in creating jobs and business opportunities, improving people's welfare, and increasing the local government’s incomes and the country’s foreign exchange earnings. In addition, they also strengthen the spirit of patriotism and the nation’s cultures, the equality of regional development, and the national security.

The nature-based tourism operations are implemented by paying attention to:

1. Conservation of biological natural resources and their ecosystems.
2. Capacity to encourage and enhance economic and socio-cultural life developments.
3. Religious values, traditions, views, and values living among people.
4. Sustainability of culture and environmental quality.
5. Public security and order.

2.4.2 The tourism policies in Bali Province

Developing of tourism objects in Bali Province is not just building hotels and recreational parks, but also materializing creations and developing a wide network of economic activities relating to tourism, either partly or entirely.
The tourism program in Bali Province covers the following activities:

1. Utilization of local tourism sources and potentials to become economic activities which are reliable to increase the local government’s income and the country’s foreign exchange earnings.
2. Improvement of services to teenagers and youth, especially to encourage the spirit of patriotism and growing the nation’s spirit and good values.
3. The tourism development includes promotions in domestic and abroad and upgrading of tourism service facilities in balance.
4. Encouragement of public awareness and active participation in developing the tourism industry.
5. The tourism industrial development and the tourism environmental management are implemented in an integrated manner to encourage creating jobs and business opportunities.

Policies in tourism sector in Bali Province being as elaboration of objectives of the national tourism development and local development shall pay attention to the followings:

1. Developing of tourism in Bali Province is intended to introduce the nature and cultural resources in growing the spirit of patriotism.
2. The environmental sustainability and safeguarding of the nation’s culture and identity shall be still prioritized in developing tourism in Bali Province.
3. The development of tourism industry and operations of tourism areas shall be implemented in an integrated manner in order to expand creating of jobs and business opportunities, increase local government’s and people’s incomes supported by the provision of integrated facilities to attract more tourists.

The tourism to be developed is the cultural tourism of Hinduism-based local culture. The tourism development is targeted to uplift tourism to be as the mainstay sector enabling to boost economic activities and other sectors in order to create job and business opportunities, people’s incomes, local and national governments’ incomes, and the country’s foreign exchange earnings. In order to achieve those as
mentioned above, there is a need of optimum development and utilization of various existing tourism resources by safeguarding their sustainability, preservation, and beauty of culture and environmental functions, being as basic assets of tourism development in Bali.

In the last five years, foreign tourists’ direct visits increased by 19.90% per year on average, namely from 463,363 tourists in 1989 to 738,533 tourists in 1992; 885,516 foreign tourists are expected to make direct visits in 1993. It is assumed that the total foreign tourists visiting Bali are twice of those in direct visits, and after being added with domestic tourists, the total tourists’ visits are projected 1,490,000 by the end of Repelita V.

Further, the growth of hotels up to 1992 exceeded the targeted supply of rooms by the end of Repelita V of 21,569 rooms where there were 25,644 rooms in 1,165 hotels (star, non-star, and cottages) in 1992 and they are expected to increase to 26,563 rooms in 1993.

Average daily expenses per tourist fluctuated, ranging between US$ 50 to US$ 93.85; the lowest was in 1992 and the highest was in 1991; they are expected to increase to US$ 70.29 in 1993.

The occupancy rates of star hotels during the last three years showed a decreasing trend, namely 73.60% in 1989, 71.30% in 1990, and a further decreased to 57.38% in 1992.

The average length of tourists’ stay, especially of foreign tourists, also fluctuated, namely 9.4 days in 1989, increased to 10.8 days in 1992, and is estimated to decrease a bit to 10.3 in 1993.

Other tourism services such as the numbers of travel agencies, guides, tourism transportation facilities, hotels, and restaurants also increased significantly in anticipating the increasing number of tourists’ visits to Bali.

2.4.2.1 Development challenges, constraints, and opportunities

The tourism development in Bali in the Long-term Plan - Phase I in general, and in the last five years in particular, showed a good progress, both in tourism sector and other sectors, directly and indirectly, and contributed significantly to Bali such as handicrafts, agriculture, etc. which created jobs and business opportunities to local
people.

a. Challenges

Developments in tourism destinations outside Bali, in terms of infrastructure facilities, show a significant increase so that the arising challenges are how to build capacity in managing the tourism sector and improving the quality of natural resources being as assets for tourism and human resource development of which will be as a prioritized sector of local development in the future.

Encouragement of tourism awareness among public referring to the active participation to create the tourism awareness environment and to present Bali appeal can be still enhanced. In order to compete with other tourism destinations, Bali needs to be able to maintain its environment as a unique appeal so that natural resources can be sustainable and be able to give optimum benefit continuously to people. Therefore, it is mandatory to improve various activities supporting the tourism development by intensifying coordination of activities. The more competition in domestic and abroad requires Bali to be competitive besides to diversify its tourism attractions offered. It is possible to materialize them because Bali has its infrastructure facilities. The challenge is how to introduce them and convince the local or national government or potential tourists that Bali is able to and is capable to materialize them. Developing tourism infrastructure facilities is highly needed, e.g. land transportation (relating to inter-regional transportation system), telecommunication (relating to more widespread telephone installation), transportation of equipment (unavailable special port for tourists), and air transportation (it is deemed to be inadequate).

Bali’s limited natural resources cause limited development, in particular in tourism sector, and thus it is impossible to keep developing tourism by only increasing tourists’ visits to Bali. However, it is impossible to make a rigid limitation because Bali intends to attract domestic tourists, especially among teenagers and youth. Therefore, a challenge to respond is how to make a balance between developing the limited tourism, meaning the quality tourism, and the mass tourism, particularly of domestic tourist development.

b. Occupancy rates of star hotels showed a decreasing trend and inequality due to the imbalance between a growth rate of hotel room supply and a growth rate of tourists’
visits to Bali.

The uneven distribution of tourism activities and facilities caused different impacts received by different regions. *Sapta Pesona* and *Sadar Wisata* cannot be materialized optimally, such as in terms of sanitation. The community’s role is lacking. Services and the participation of tourism businesses are inadequate. Qualities of natural resources and human resources, existing tourism objects, attractions, and appeal have not provided adequate services yet such as in terms of certainties.

Developing of tourism areas, in fact, still causes negative impacts in some aspects, meaning their development process does not run smoothly. Promotions are limited and in conventional ways, both made by the government and private businesses.

**c. Opportunities**

The continuously increasing developments and growth of national and global economy give hope to tourism activities to grow and develop, especially when learning from the past experience that the tourism sector was insignificantly affected by economic recession.

As Bali is well known in domestic and abroad, it is a big advantage, especially when it is supported with adequate infrastructure facilities and easy access, and gives hope to develop the tourism sector better.

Socio-economic conditions, especially adequate security, hospitality, serenity, comfort, and discipline, are requirements as expected by all tourists, and thus give a significant opportunity to be maintained and enhanced. The scientific and technological advancements contribute significant benefits to accelerate the information dissemination on various aspects on tourism, both to domestic and foreign audiences. Longer holidays in target market countries (of foreign tourists) as well as more sophisticated transportation and communication systems make encourage and intensify human movements, in this regard tourists to travel.

The geographical location of Bali is quite strategic and the world’s tourists tend to target the Asia-Pacific region. The diversified tourism products, attractions, and objects give more options for tourists or international tourism market.
2.4.2.2 Development directives, targets, and policies

a. Directives

The tourism development having basic assets of Hinduism-based culture is necessary to be enhanced and is expected to increase the country’s foreign exchange earnings, increase incomes of the local government and people, and preservation of existing culture and nature beauty.

The tourism development is expected to increase people’s activities and economy in order to be able to contribute significantly to their livelihood improvement in order to achieve the just, prosperous people.

Promotions of Bali’s nature, environment, and Hinduism-based culture should be intensified professionally by really preserving them in order to be able to give the best benefits to the targeted goal of the just, prosperous people. The promotions of Bali’s culture, nature, and environment, particularly to Indonesians, are focused to intensify the familiarity of regions across Indonesia in order to strengthen the nation’s perspective and the country’s unity and, eventually, to strengthen the national security. Optimizing the natural resource capacity, especially relating to the quality development of tourism objects, appeal, and attractions, needs to be continuously undertaken in such a way that it is well planned, focused, integrated, and well coordinated in order to be able to give optimum benefits to people and in intensified cooperation with all parties.

The future tourism developments shall be absolutely supported with the availability of reliable, professional human resources in order to be able to provide optimum services. In view of the more complex development activities in the future, the community participation shall be absolutely enhanced, especially in terms of tourism, so that the community-based tourism development will be mandatory and as a mutual responsibility.

The tourism development shall safeguard and maintain religious values, the nation’s morale and identity, and prevent adverse possibilities to the nation and the country.

The community participation needs to be continuously encouraged so that the tourism development is able to improve local community’s life and livelihood.
b. Targets

- **Targets in the Long-term Plan - Phase II.** The target in the Long-term Plan - Phase II is to make the tourism as the mainstay sector which can create many jobs and business opportunities and give multiple benefits to people’s livelihood, both directly and indirectly. By the end of the Long-term Plan - Phase II, 6 million tourists are expected to visit Bali.

- **Targets in Repelita VI.** An average growth rate of tourists’ visits to Bali is expected to be approx. 10% per year in Repelita VI of which foreign tourists’ visits will increase by 12.75% on average so that 3 million tourists are expected to visit Bali by the end of Repelita VI. Although not so many tourists visiting Bali, they are expected to stay longer to enjoy Bali, ranging 5-7 days for domestic tourists and 10-11 days for foreign tourists. In addition, more tourists’ expenses are expected compared with those in the previous period so that by the end of Repelita VI, it is assumed that each domestic tourist expends his/her money ranging Rp 35,000 to Rp 40,000 per day while each foreign tourist expends US$100 to US$125 per day on average. Such a small number of tourists visiting Bali is particularly caused by the small coverage of Bali Province. Therefore, in order to keep the development sustainability in Bali, tourists visiting Bali are expected of among those intending to enjoy Balinese culture. Consequently, Bali shall be maintained as it is to have a unique appeal to tourists forever so that the tourism to be developed is what-so-called ‘the quality, sustainable tourism’. The occupancy rate of hotels is expected to be approx. 70% so that it can encourage accommodation service providers in supporting the tourism development. By the end of Repelita VI, it is estimated to require 41,000 hotel rooms with a balanced proportion between star and non-star hotels.

c. Policies

- Continue the environment-wise, Hinduism-based culture tourism policy so that the culture and the environment can be preserved, sustainable, and developed suiting Balinese cultural regime. Improve the equality and balance the tourism development across Bali Province in order to encourage the local development, create jobs, and increase people’s incomes. Improve and develop
the tourism appeal, the quality and the quantity of attractions, products, and objects in anticipating the increasing tourists’ visits to Bali. Increase the participation of community and tourism businesses in tourism development.

2.4.2.3 Development programs

In order to materialize the above directives, targets, and policies, the tourism marketing program and the tourism product development program needs to be implemented with emphasis on the following activities, among others:

1. Conduct integrated promotional/marketing activities among governments, among tourism components, and between the Government and private businesses targeting potential areas which have not been touched by any promotional activity or have not been exploited optimally, either directly or indirectly.

2. Improve the human resource quality through education and training.

3. Increase the community participation in materializing Saptu Pesona and Sadar Wisata through facilitation and extension services.

4. Improve the tourism business quality through facilitation, development, enforcement, and oversight.

5. Improve the quality of tourism areas, objects, appeal, attractions, and products through facilitation and development, by the Government, tourism businesses, and tourism associations together with the Government and/or community groups.

6. Safeguard the natural resource quality in order to be sustainable and continuously give optimum benefits to people from time to time.

7. Conduct facilitation, monitoring, and enforcement to any tourism business violating laws and regulations in order all tourism components to comply with objectives of the cultural tourism development and to respect applicable laws and regulations.

8. In addition, other supporting activities are also necessary to support the tourism development operated by other sectors such as the strengthening of local culture and tradition preservation and the upgrading of infrastructure facilities, e.g. roads,
electricity, telephone lines, clean water, etc.

2.5 Bali Barat National Park Management Policies

National Park, pursuant to UU No. 51/1990, is a nature conservation area having native ecosystems, managed in a zoning system, and utilized for research, education, scientific advancement, support to silviculture, tourism, and recreation.

The management of Bali Barat National Park refers to UU No. 5/1990 on Conservation of Biological Natural Resource and Their Ecosystems along with the implementing regulations, and Article 5 Clause (1), Article 20 Clause (1), and Article 33 of UUD 1945, UU No. 5/1967, UU No. 4/1982, UU No. 20/1982, and UU No. 9/1985.

Development policies on Bali Barat National Park are inseparable of those of Jembrana and Buleleng districts in particular and Bali Province in general where the concerns of the government, private businesses, and community institutions on the importance of the National Park and characteristics of the community’s land requirement and land use. Such conditions require the management of Bali Barat National Park to pay attention to other factors outside of the National Park area boundaries.

Key activities in improving Bali Barat National Park management are: (1) area consolidation, (2) area carrying capacity building, (3) area utilization, (4) research and development of resources in the area, and (5) protection of resource in the area, (6) institutional strengthening, (7) coordination with relevant government agencies, and (8) construction of infrastructure facilities. The development activities in Bali Barat National Park are implemented referring to eight principles of integrated management of national park, namely: (1) national commitment, (2) irreversible, (3) optimum benefit, (4) cross subsidies, (5) recognition, appreciation, and participation, (6) phasing out, (7) pressure shifting, and (8) self-reliance.

In view of diversities in species and shapes of nature beauty in Bali Barat National Park, its management is divided into: (1) management of conservation values, (2) management of educational values, (3) management of beauty values, (4) management of historical and cultural values, (5) management of recreational values, (6) management of scientific values of flora and fauna, and (7) construction of facilities.
for the management and visitors.

2.6 Objectives of Bali Barat National Park Management

The management of Bali Barat National Park is based on principles of preserving the capacity and the utilization of biological natural resources and their ecosystems in a harmonious, balanced manner.

The Bali Barat National Park management aims at conserving life, preserving the diversity of flora and fauna and their ecosystems, and optimum utilizing of sustainable biological natural resources and their ecosystems for research, sciences, education, support to silviculture, tourism, and recreation.

Protecting this life supporting system is particularly intended to protect and maintain the originality, formation, and diversity of optimum succession processes, particularly of endangered flora and fauna species in Bali Barat National Park. The ecosystems are savannah, coral reefs, mangrove forests, coastal forests, lowland seasonal forests, and highland seasonal forests.

Preserving the diversity of flora and fauna species and their ecosystems in Bali Barat National Park aims at protecting and safeguarding genetic originality and diversity in the Park against human disturbance.

The sustainable utilization of biological natural resources and their ecosystems in Bali Barat National Park is intended for: (1) research so that the Park can be as a researchers’ laboratory scientific advancement, (2) education so that the Park can be as an educational place to increase sciences and skills of students and teachers/lecturers, and (3) recreation so that the Park can be as a public recreational place and in the same time as educational media.
CHAPTER III
ANALYSES AND PROJECTIONS

3.1 Management and Policy Aspect

3.1.1 Objectives of Bali Barat National Park Management

The management of Bali Barat National Park is based on principles of preservation and utilization of biological natural resources and their ecosystems in a harmonious, balanced manner.

The management aims at conserving biological natural resources and their ecosystems in Bali Barat National Park in order to meet its functions to protect the life supporting system, preserve the diversity of flora and fauna species and their ecosystems, and utilize sustainable biological natural resources and their ecosystems optimally for research, sciences, education, support to silviculture, culture, tourism, and recreation.

The protection of the life supporting system is particularly intended for the originality, integrity, and diversity of natural succession processes in stable ecosystem units which are able to support the optimal life, particularly of endangered flora and fauna species in Bali Barat National Park. Those ecosystems are coral reefs, mangrove forests, coastal forests, and lowland seasonal forest.

The preservation of the diversity of flora and fauna species and their ecosystems in Bali Barat National Park aims at protecting and recovering the genetic originality and diversity in the Park against human disturbance.

The sustainable utilization of biological natural resources and their ecosystems in Bali Barat National Park is intended for:

1. Research so that the Park can be used as a researchers’ laboratory for scientific advancement.
2. Education so that the Park can be used as an educational place to enhance sciences and skills of students and teachers/lecturers.
3. Recreation so that the Park can be used as a public recreational place and in the same time as educational media.
4. Nature-based tourism, in some utilization zones where tourism facilities are allowed to build.
The objective of Bali Barat National Park management, based on its main function as a protected area, is to conserve natural resources and their ecosystems. There are four main functions of Bali Barat National Park, namely:

1. Conservation/protection
2. Research and scientific advancement
3. Education
4. Recreation and nature-based tourism

Managing of the respective functions is as follows:

1. Conservation
   a. Protect and maintain the originality and diversity of existing germplasm in Bali Barat National Park area against any kind of disturbance, both directly and indirectly. The germplasm includes *banteng* (*Bos javanicus*), black-winged starling (*Leucopsar rothschildi*), and other endangered flora and fauna species.
   b. Protect and maintain the originality, integrity, and diversity of ecosystem units with the overall processes occurred inside the Park which are able to protect the optimum life of endangered germplasm in particular. The ecosystems include coral reefs, mangrove forests, coastal forests, savannah, and seasonal forests.
   c. Protect and maintain the originality, uniqueness, and beauty of other resources in Bali Barat National Park such as the geomorphology and its rocks/stones and cultural heritage sites/artifacts. Therefore, the uniqueness, beauty, and land formation processes can be observed and learned by next generations.

2. Research
   a. Make Bali Barat National Park as a researchers’ natural laboratory for scientific advancement, especially in natural sciences, germplasm utilization in biological engineering, medicines, industries, food stuff, and other purposes for the sake of people’s welfare improvements.
   b. Ensure that research activities for scientific advancement are always in line
with conservation objectives.

3. Education
   a. Make Bali Barat National Park as a public educational place to love nature and understand the importance of conservation.
   b. As an educational place for students’ practices in understanding a concept of flora and fauna habitat ecosystems, especially those of endangered species.

4. Recreation and nature-based tourism
   a. Materialize some resources of Bali Barat National Park, particularly the utilization zone, by public (tourists) for recreation such as panorama of nature beauty, animal attractions, flora and fauna uniqueness, cultural heritage sites/artifacts, etc.
   b. Enhance the potential utilization of Bali Barat National Park as public educational media.
   c. Ensure that recreational activities are always in line with conservation objectives.
   d. Ensure that the construction of tourism infrastructure facilities in the utilization zone is in line with regulations, viz. at maximum 10% of area in the utilization zone.

3.1.2 Goals of Bali Barat National Park Management

In order to make Bali Barat National Park functioning well and optimally, conditions of biological natural resources and their ecosystems as well as other physical aspects should also be in good conditions. Therefore, proper functions of research, scientific advancement, education, and tourism can also be achieved. Thus, main goals of Bali Barat National Park management are the conservation and the optimal utilization of biological resources and their ecosystems as well as the consolidation of its zones.

In order to achieve proper functions of research, education, and recreation, they also need to be well managed. Therefore, the next goal is the management, including maintaining and keeping physical conditions and processes as they are.
Dynamics of potentially disturbing physical conditions and processes need to be avoided by social and technological approaches in such a way that possible negative impacts can be mitigated.

Based on the above description, the management goals can be classified into three aspects, namely:

1. Management and policy aspect
2. Aspect of biological natural resources and their ecosystems
3. Communities’ socio-economic and cultural aspect

The respective aspects are broken down into the followings:

1. Management and policy aspect covers:
   a. Institutional strengthening
   b. Education and health
   c. Funding
   d. Monitoring and evaluation of the area

2. Aspect of biological natural resources and their ecosystems covers:
   a. Area consolidation
   b. Area carrying capacity building
   c. Area utilization
   d. Research and development
   e. Protection and surveillance/security of the area
   f. Construction of infrastructure facilities

3. Communities’ socio-economic and cultural aspect covers:
   a. Demography
   b. Education and health
   c. Economic conditions
   d. Encouragement of community participation

3.2 Policies of Bali Barat National Park Management

Based on objectives and goals of Bali Barat National Park management as well
as policies, there is a need to prepare Main Activities and Work Plan to be
implemented in the Park.

The Main Activities and Work Plan of Bali Barat National Park consist of those
in, respectively, 5 years, 10 years, 15 years, 20 years, and 25 years.

The Main Activities and Work Plan cover:
1. Nature-based tourism
   a. Management of tourism objects

   The nature-based tourism is one of utilizations of Bali Barat National Park
   area, especially in the utilization zone and the buffer zone for nature-based
   tourism. The buffer zone covers the nature-based tourism objects, especially
   in Gilimanuk, Belimbingsari, and the eastern part of Banyuwedang (outside
   of Bali Barat National Park area) in Pejarakan village. The utilizations of
   these places for tourism activities are pursuant to RTRW of Bali Province
   and RTRWK of Buleleng and Jembrana districts. Therefore, they will be
   outside of the Bali Barat National Park management and under the planning
   and the management of respective districts.

   The nature-based tourism in Bali Barat National Park area is planned
   in the following zones:
   1. The core zone and the forest zone: for only to observe flora and fauna,
      including the photograph hunting of endangered flora and fauna.
   2. The utilization zone: it is allowed to construct tourism facilities such as
      cottages, souvenir shops, restaurants, parking lots, and information
      center. In its planning, it is expected to be integrated with the
      surrounding environment.

   In the utilization zone of Bali Barat National Park, some activities
   are planned, for instance, in the western part of Banyuwedang where it is
   allowed to construct a tourism area, cottages, restaurants, souvenir shops,
   parking lots, and as the most popular object, a spa (as a health center) by
   using a hot spring in Banyuwedang. Any interested private business will be
   given a concession to do landscaping. The Park only conducts the
   common landscaping to fit its surrounding environment. The eastern part
of Teluk Terima, or the eastern part of the utilization zone, is a potential nature-based tourism area. This area is ideal to be allocated for the nature-based tourism by building cottages, restaurants, souvenir shops, parking lots, and the most popular object is the pearl oyster culture. A private business will be given a concession to build the facilities in coordination with the Management of Bali Barat National Park. One important thing to be paid attention is to treat the domestic waste properly in order not to pollute marine waters where the pearl oyster culture is located.

Labuhan Lalang, where a jetty to diving spots is located, needs landscaping. In this area, cottages for the Park visitors, restaurants, parking lots, etc. have been constructed. The Park should do the spatial planning of Labuhan Lalang area and construct a permanent jetty each in Labuhan Lalang and Menjangan Island.

A highland where a telecommunication tower is located is quite high to view all directions to Bali Barat National Park area and its surroundings. An observation tower needs to be build there and equipped with a small parking lot of a 2-car capacity and binoculars.

Footpaths as jogging tracks between Banyuwedang and Teluk Terima until Labuhan Lalang need to be constructed by following the shoreline.

Landscaping of Teluk Terima, around Jayaprana cemetery, and parking lots is highly needed. There is a need to design and construct the needed facilities for a camping ground such as in Cekik. The camping ground should be equipped with adequate facilities, among others, separated camping ground for different genders, water supply such as public taps, bathrooms and toilets, a museum, audio-visual aid, and a meeting room of 500-person capacity. The camping ground to be prepared in Menjangan Island needs water tanks while the water is supplied from the mainland (Bali Island). Bathrooms and toilets need to be constructed of not be more than 25 units. With regard to a camping ground near Belimbingsari, its facilities are almost the same as those in Cekik. A play ground in Cekik needs more space and additional sorts of
children’s play equipment and sculptures of animal species living in Bali Barat National Park.

b. Visitor management

The visitor management is categorized into three types, namely:

1. The management of visitors intending to observe flora and fauna in Bali Barat National Park.

   Its management is planned as follows:
   a. Visitors intending to enter the forest zone and the forest zone, either marine or terrestrial area, shall report to the nearest checkpoint of forest rangers. After paying service fees as stipulated by a Decree of Director General of PHPA, visitors are allowed to observe flora and fauna or photograph hunting, by following applicable regulations and not allowed to disturb vegetation, catch wildlife, disturb nests, and take wildlife eggs. This activity can be done along the tracks constructed in the core zone and the forest zone.
   b. Visitors intending to observe the breeding of black-winged starlings in Tegal Bunder shall report to the officer and pay service fees according to applicable regulations.

2. The management of visitors intending to use any camping ground and any play ground.

   a. Visitors intending to camp shall report first to the office of Bali Barat National Park by showing recommendation letters from referrals (schools, scouts or youth) and informing the numbers of, respectively, male and female participants. Visitors intending to camp shall pay service fees for clean water, cleaning of site, including of bathrooms and toilets.
   b. Visitors intending to use any play ground shall report to the office of Bali Barat National Park, especially persons-in-charge are present to accompany children in order to prevent any possible accident. A service fee may be charged, for cleaning of bathrooms and toilets.
3. The management of visitors entering directly the tourism area located in the utilization zone of Bali Barat National Park. Visitors will be managed by a private business given a concession of the tourism area.

c. Development of activities, facilities, and concession

With regard to the nature-based tourism in Bali Barat National Park, the development of activities, facilities, and concession is differentiated as follows:

1. Banyuwedang area
   - Activities: spa as the most popular tourism.
   - Facilities: hot water pool, office, parking lot, cottages, footpaths among units, bar/restaurants, souvenir shops.
   - Concession: any interested private business.

2. The eastern coast of Teluk Terima area
   - Activities: nature-based tourism, pearl oyster culture as the most popular tourism object
   - Facilities: office, cottages, footpaths, jogging tracks following the shoreline from Banyuwedang to Teluk Terima, bar/restaurants, souvenir shops.
   - Concession: any interested private business.

3. Observing flora and fauna through the gate of Jayaprana cemetery.
   - Activities: nature-based tourism of flora and fauna, photograph hunting, etc.
   - Facilities: jogging tracks in the core zone and the forest zone, landscaping of Jayaprana cemetery, parking lots in Teluk Terima, souvenir shops.
   - Concession: Bali Barat National Park

4. Labuhan Lalang forest area:
   - Activities: nature-based tourism of diving, observe aquatic flora and fauna around Menjangan Island.
   - Facilities: a jetty each in Labuhan Lalang and Menjangan Island,
cottages, bar/restaurants, office.

- Concession: private business.

5. Breeding area of black-winged starlings in Tegal Bunder
   - Activities: observing of the endangered black-winged starlings
   - Facilities: breeding dome-shaped cage, office, museum, displays/audio-visual aid, etc.
   - Concession: Bali Barat National Park.

6. Camping ground and play ground in Cekik and Belimbingsari
   - Activities: camping and children’s play.
   - Facilities:
     For camping ground: separated camping grounds for different genders, water supply, bathrooms and toilets, a meeting room of 500-person capacity, displays, museum, and audio-visual aid.
     For play ground: play ground, children’s play equipment, animal sculptures, water supply, bathrooms and toilets.

7. Telecommunication tower area
   - Activities: to view all directions to Bali Barat National Park area.
   - Facilities: an observation tower, a small parking lot, binoculars.

8. Tourism areas outside Bali Barat National Park such as Banyuwedang Timur (Buleleng district) and Belimbingsari (Jembrana district) are not under the responsibility of the Park management.

3.3 Communities’ Socio-economic and Cultural Aspect

3.3.1 Socio-economic aspect

a. Demography
   The population is projected to increase until 2022, but the surrounding communities’ life must be developing, either in their behaviors, life styles or paradigms. Anticipating these phenomena, various programs are needed, for example:
   • Public awareness campaign program on functions of Bali Barat National Park.
• Program of relocating occupants inside the Park area.
• Job creating program for the surrounding communities of the Park, e.g.
  tourism transportation, handicrafts, souvenir shops, and tourist guides.

b. Education and health

The special skill education is highly needed in managing open activities
like in the National Park management. In addition, educational and
health conditions of the surrounding communities of the area are needed
to make the National Park area functional. Consequently, the following
programs are needed:
• Internal programs, which are special programs for the Management of
  Bali Barat National Park.
• External programs, which are intended for the surrounding
  communities of the Park covering the followings:
  ➢ Internal educational programs, for example, special skill education,
    environmental audit and evaluation of National Park,
    administration, and management.
  ➢ Cooperation programs with universities/academies and vocational
    high schools.

These programs give students chances to conduct research in the Park area
or as internship to prepare them to be as ready-to-work personnel in Bali
Barat National Park. The consequences are: (a) special personnel are
needed to handle the programs, and (b) facilities suitable to the programs
shall be equipped.

c. Economic conditions

In general, the surrounding communities of Bali Barat National Park
have lower economic conditions. As food crop farmers, most of them
also raise livestock to be their additional livelihood. The livestock are
cows, goats, chickens, and buffaloes which are released to graze in the
surroundings of the Park area every day. This condition should be
prevented in order not to enter into the Park area through these
following programs:

• Provision of a special, separated area.
• Extension services on stabled livestock.
• Job creation such as Inpres projects.

These programs shall be supported with:

• Provision of quite a large land due to more existing livestock from time to time.

• Extension services to the communities that grazing in the Park area is prohibited and there are sanctions for any violator.

3.3.2 Communities’ cultural aspect

The understanding of cultural values, norm system, and customary law on environment among communities residing in the core zone and the buffer zone is highly needed in developing TNBB. Every ethnic group or religion has cultural values and norm system on environment based on appropriateness, harmony, and balance (shortened as 3K) (Parsudi Suparlan, 1987:293). Based on this paradigm, it is assumed that communities residing in the TNBB area have particular cultural values related to environment although they adhere to different religions.

Hindu community, for example, know a Tri Hita Karana concept or three welfare causes, meaning the appropriate, harmonious, balanced relations with God (Parahyangan), human being (Pawongan), and environment (Pelemahan). Cultural values and norm systems based on such appropriateness, harmony, and balance with environment existing in Islam, Buddhism, and Christianity need to be explored and developed. By understanding the cultural values or norm systems relating to environment prevailing in communities, extension services on conservation and utilization of TNBB to the communities would be easier. The cultural values and norm systems reflect all activities of the related communities.

In addition to such cultural values and norm systems prevailing in the communities, positive behaviors such as the breeding of black-winged starlings in Tegal Bunder, Sumber Klampok village are a concrete action in conserving the environment, especially endangered black-winged starlings, and needs to be communicated and
made as a good example to the communities. By concrete actions such as the breeding of black-winged starlings and planting trees in barren lands, communities will understand the importance of environmental conservation, including endangered flora and fauna, and eventually, they will have environmental awareness. In addition to the endangered fauna conservation in the TNBB area, it is also needed to … [incomplete sentence]

As mentioned in previous sections, important archaeological sites and artifacts were found in the core zone and the buffer zone of TNBB. Bakungan Temple in Cekik area is supposed to originate from Majapahit era and it is a unique, important historical inheritance in this area. The existence of Bakungan Temple in Cekik area shows that this current TNBB area seemed to be quite an important area in the 13th century. Reasons of why the temple was built in the area in that century are still in questions. The more complete information on this archaeological site from ancient times needs to be disseminated to public and tourists visiting TNBB in order to make a more unique appeal to tourists.

In Teluk Terima area, in the TNBB core zone, there is Jayaprana cemetery which is considered as Bali’s sacred tourism object. These inheritance need to be preserved as tourism objects in the western Bali area.

An archaeological site and a museum are located in the TNBB buffer zone, in Gilimanuk Bay. These archaeological sites were researched starting 1960 by R.P. Soejono and prehistoric civilization artifacts originated from the past 2000 years ago were found. The archaeological artifacts found in Gilimanuk Bay show a funeral system with funeral gifts in the ancient Gilimanuk. The funeral used containers or without container. The funeral system with containers used sarcophagus or large water jars. The funeral gifts found are earthenware containers, glass and metal beads, metal artifacts such as hoes, anklets/bracelets, and other accessories. The sarcophagus and funeral gifts are from outside, for example, carnelian beads and eye masks with leaf-shaped plate ornaments made of gold in Gilimanuk site, show the past relations between the site and hinterlands and outside of Bali. A archaeological site and a museum in Gilimanuk are very attractive objects showing the past history of civilization in the TNBB area.

Christian residents’ life in Belimbingsari village and Gilimanuk port developments are
very interesting socio-cultural phenomena outside of the TNBB core zone. Local arts
and culture of communities residing in the TNBB area are also cultural sources
adding to the appeal of TNBB. The understanding of cultural values, norm systems,
and local culture in Gilimanuk area needs to be enhanced in order to support the
TNBB development and utilization.
CHAPTER IV
ALTERNATIVE WORK PLAN AND ITS CONSEQUENCES

4.1 Management and Policy Aspect

4.1.1 Institutional strengthening
Personnel shall be continually upgraded to cope with the scientific and technological advancements and the community’s life style changes in the surroundings of Bali Barat National Park. The facilitation and upgrading include quantity, quality, and occupational mobility.

4.1.2 Coordination
The coordination with relevant agencies needs to be immediately intensified in order to achieve optimum effectiveness. Starting 1997, the cooperation with relevant agencies should have been actualized optimally. As a consequence, the programs shall truly refer to functions of the Park and they are also common responsibilities of relevant agencies, including prominent leaders of communities in the surroundings of the Park area.

4.1.3 Funding
Funds will be increasingly required in line with the evolving maintenance needs of Bali Barat National Park from time to time. The budgeting is based on development programs where the programs are prepared pursuant to well prioritized, integrated, and balanced activities.

4.1.4 Monitoring and evaluation
Monitoring should be continually, both directly and periodically (weekly, monthly, quarterly, every semester, and annually). In addition, reports should be scheduled, either in written, orally or in visual.

4.2 Aspect of Biological Natural Resources and Their Ecosystems
4.2.1 Area consolidation
The area consolidation should be firstly implemented in the Main Activities and Work Plan prior to any other work plan. When the area is consolidated, utilizing functions of the area can be managed optimally. This activity covers the following aspects:

a. Area boundary marking

The area boundary marking is an activity of permanent marking of Bali Barat National Park boundaries. This activity aims at ensuring boundaries of the working area which have the enforceable legal validity.

It is implemented in stages, every five years. The marine boundary marking is targeted to be completed in the first five years in order to prevent damage of marine resources around the Park. The targets are 8 primary triangulation points.

In the second 5 years, primary triangulation points need to be constructed in the terrestrial area. In the terrestrial area, 10 primary triangulation points are needed to be constructed in two stages, namely in the second 5 years and in the third 5 years.

In order to consolidate the boundary marking in the terrestrial area, there will be constructed 20 secondary triangulation points in the fourth 5 years at a 1,500-m interval and 40 tertiary triangulation points in the fifth 5 years at a 750-m interval. During the next 25 years, the Park area will have permanent, enforceable legal validity boundaries.

b. Zoning

The zoning of Bali Barat National Park referred to a Decree of Director General of PHPA No 38/Kpts/DJ-VI/1996 on Decision on Zoning in Bali Barat National Park, covering:

1. Core zone:
   1.1 Terrestrial core zone of 7,633.89 ha
   1.2 Marine core zone of 970.00 ha

2. Forest zone:
   2.1 Terrestrial forest zone of 6,281.00 ha
   2.2 Marine forest zone of 575.89 ha

3. Utilization zone:
   3.1 Terrestrial utilization zone of 1,673.00 ha
3.2 Marine utilization zone of 1,930.00 ha

Assessing potential resources in the area, establishing criteria, and zoning are no longer needed after the issuance of the Decree of Director General of PHPA on Decision of Zoning. Another activity is zone boundary marking, including re-measuring of the respective zones. The zone measurement is emphasized on the core zone and the forest zone depending on their coverage so that it is conducted in stages. The boundary marking is also emphasized on the core zone and the forest zone as boundary points. Activities are shown in Appendix 3 (attached).

4.2.2 Area carrying capacity building

The area carrying capacity is the most crucial aspect in any National Park, including Bali Barat National Park. It covers: (1) flora and fauna and their ecosystems; (2) hydrological resources; and (3) area rehabilitation activities.

The Main Activities and Work Plan in the next 20 years are detailed as follow:
1. The carrying capacity building of flora and fauna and their ecosystems covers:
   a. Inventories of species population and distribution
      Inventories of some estuary flora and habitats as well as terrestrial flora have been already made. For that purpose, it is planned to make inventories of each ecosystem covering marine, coastal, savannah, and seasonal forest ecosystems.
      Special inventories of coral reef ecosystem should be completed in the first 5 years due to existing natural predators, i.e. the crown-of-thorn starfish (*Acanthaster planci*). They are categorized as inventories of aquatic fauna, especially in the core zone.
      Inventories of black-winged starlings and their habitat and also banteng can be made in the first 5 years in view of breeding activities and the planned relocation.
   b. Species relocation
      *Banteng* is an important fauna species in Bali Barat National Park to be relocated. It is one of nature-based tourism attractions so that it should be
observable. It is planned to provide a 50-ha feeding ground around Teluk Terima River for banteng and other fauna species. This planned site is associated with the place of a small reservoir constructed to catch rainwater for banteng to drink, especially in dry seasons, and to irrigate the feeding ground.

A flora species to be relocated is palmyra palm where seedling preparation and planting are planned in savannah of palmyra palm. The activities are shown in Appendix 3.

c. Species recovery

The species to be recovered is particularly black-winged starling by in situ breeding located in Tegal Bunder. The breeding activity is implemented in packages during 25 years. There are 3 packages every 5 years. It includes the construction of a dome-shaped breeding cage of 200 m diameter whereas for a smaller cage, it is 15 m high at maximum so that part of the habitat trees can be kept inside the cage. The ex situ breeding should be undertaken through the community empowerment.

d. The species enrichment shall not be conducted in Bali Barat National Park; alien species are not allowed to enter and join in native species in this Park.

e. Habitat establishment

The habitat establishment is a routine activity in Bali Barat National Park in order to ensure good habitats so that the fauna living there can grow and develop well. Local habitats are established for, among others, black-winged starlings, banteng, black macaques, and coral reefs.

2. Hydrology

Possible activities relating to hydrology in Bali Barat National Park include:

a. Watershed. The planned rehabilitation of the Teluk Terima Watershed includes reforestation and construction of small reservoirs for fauna in Bali Barat National Park to drink. Similar activities will be implemented in two other rivers ending in the North of the Park.

b. Springs/water sources. Making an inventory of water sources and springs,
including their discharges, is the main activity for water supply in the utilization zone (for tourism area, camping ground, office, breeding, playground, etc.). Activities are shown in Appendix 3 (attached).

4.2.3 Area utilization

The utilization zone of TNBB is allowed to be used for:

1. Nature-based tourism
   a. Management of tourism objects
      The nature-based tourism is one of utilizations of Bali Barat National Park area, especially in the utilization zone and the buffer zone for nature-based tourism. The buffer zone covers the nature-based tourism objects, especially Gilimanuk, Belimbingsari, and Banyuwedang (East of Bali Barat National Park area) in Pejarakan village. The utilization of these places for tourism activities is pursuant to RTRW of Bali Province and RTRWK of Buleleng and Jembrana districts. Therefore, they will be outside of the Bali Barat National Park management and under the planning and the management of respective districts.
      The nature-based tourism in Bali Barat National Park area is allocated in the following zones:
      1. The core zone and the forest zone: only to observe flora and fauna, including the photograph hunting of endangered flora and fauna.
      2. The utilization zone: it is allowed to build tourism facilities such as cottages, souvenir shops, restaurants, parking lots, and information center. Its planning is expected to be integrated with the surrounding environment.

In the utilization zone of Bali Barat National Park, some activities are planned such as in the western part of Banyuwedang; in this area, it is allowed to construct a tourism area, cottages, restaurants, souvenir shops, parking lots, and as the most popular object, a spa (as a health center) by using a hot
spring in Banyuwedang. Any interested private business will be given a concession to undertake landscaping. The Park undertakes landscaping only to fit the surrounding environment. The eastern part of Teluk Terima, or the eastern part of the utilization zone, is a potential nature-based tourism area. It is ideal to be allocated for the nature-based tourism by building cottages, restaurants, souvenir shops, parking lots, and the most popular object, the pearl oyster culture. The private business is given a concession to build the facilities in coordination with the Management of Bali Barat National Park. The important thing is to treat the domestic waste properly in order not to pollute marine waters where the pearl oyster culture is located.

Labuhan Lalang, where a jetty to diving spots is located, needs landscaping. In this place, cottages for visitors of Bali Barat National Park, restaurants, parking lots, etc. have been constructed. The Park should do the spatial planning of Labuhan Lalang area and the construction of a permanent jetty each in, respectively, Labuhan Lalang and Menjangan Island.

A highland where a telecommunication tower is located is quite high to view all directions to Bali Barat National Park area and its surroundings. An observation tower needs to be built there and be equipped with a small parking lot of a 2-car capacity and binoculars.

Footpaths as jogging tracks between Banyuwedang and Teluk Terima until Labuhan Lalang need to be constructed by following the shoreline.

The landscaping of Teluk Terima, the surrounding of Jayapranana cemetery, and parking lots is highly needed. There is a need to design and construct the required facilities for a camping ground like in Cekik. The camping ground should be equipped with adequate facilities, among others, separated for different genders, water supply such as public taps, bathrooms and toilets, a museum, audio-visual aid, and a meeting room of 500-person capacity. The camping ground to be prepared in Menjangan Island needs water tanks while the water is supplied from the mainland (Bali Island). Bathrooms and toilets need to be constructed in not more than 25 units. Whereas for a camping ground planned near Belimbingsari, the facilities are almost the same as those in Cekik.
A play ground in Cekik needs more space and additional sorts of children’s play equipment and sculptures of animal species living in Bali Barat National Park.

b. Visitor management

The visitor management is categorized into three types, namely:

1. The management of visitors intending to observe flora and fauna in Bali Barat National Park.

   The management is planned as follows:

   a. Visitors intending to enter the forest zone and the forest zone, either marine or terrestrial area, shall report to the nearest checkpoint of forest rangers. After paying service fees as stipulated by a Decree of Director General of PHPA, visitors are allowed to observe flora and fauna or photograph hunting, by following applicable regulations and not allowed to disturb vegetation, catch wildlife, disturb nests, and take wildlife eggs. This activity can be done along the tracks constructed in the core zone and the forest zone.

   b. Visitors intending to observe the breeding of black-winged starlings in Tegal Bunder shall report to the officer and pay service fees according to applicable regulations.

2. The management of visitors intending to use camping ground and play ground.

   a. Visitors intending to camp shall report first to the office of Bali Barat National Park by showing recommendation letters from referrals (schools, scouts or youth) and informing the numbers of, respectively, male and female participants. Visitors intending to camp shall pay service fees for clean water, cleaning of site, including of bathrooms and toilets.

   b. Visitors intending to use a play ground shall report to the office of Bali Barat National Park, especially persons-in-
charge are present to prevent children from any possible accident. A service fee may be charged, for cleaning of bathrooms and toilets.

3. The management of visitors entering directly the tourism area located in the utilization zone of Bali Barat National Park. The visitors will be managed by a private business given a concession of the tourism area.

c. Development of activities, facilities, and concession

With regard to the nature-based tourism in Bali Barat National Park, the development of activities, facilities, and concession is differentiated as follows:

1. Banyuwedang area
   - Activities: spa as the most popular tourism.
   - Facilities: hot water pool, office, parking lot, cottages, footpaths among units, bar/restaurants, souvenir shops.
   - Concession: any interested private business.

2. The eastern coast of Teluk Terima area
   - Activities: nature-based tourism, pearl oyster culture as the most popular tourism object.
   - Facilities: office, cottages, footpaths, jogging tracks following the shoreline from Banyuwedang to Teluk Terima, bar/restaurants, souvenir shops.
   - Concession: any interested private business.

3. Observe flora and fauna by entering the gate of Jayaprana cemetery.
   - Activities: nature-based tourism of flora and fauna, photograph hunting, etc.
   - Facilities: jogging tracks in the core zone and the forest zone, landscaping of Jayaprana cemetery, parking lots in Teluk Terima, souvenir shops.
   - Concession: Bali Barat National Park.
4. Labuhan Lalang forest area:
   ➢ Activities: nature-based tourism of diving, observe aquatic flora and fauna around Menjangan Island.
   ➢ Facilities: A jetty each in Labuhan Lalang and Menjangan Island, cottages, bar/restaurants, office.
   ➢ Concession: private business.

5. Breeding area of black-winged starlings in Tegal Bunder.
   ➢ Activities: observe the endangered black-winged starlings.
   ➢ Facilities: dome-shaped breeding cage, office, museum, displays/audio-visual aid, etc.
   ➢ Concession: Bali Barat National Park.

6. Camping ground and play ground in Cekik and Belimbingsari
   ➢ Activities: camping and children’s play.
   ➢ Facilities:
     For camping ground: separated camping grounds for different genders, water supply, bathrooms and toilets, a meeting room of 500-person capacity, displays, museum, and audio-visual aid.
     For play ground: play ground, children’s play equipment, animal sculptures, water supply, bathrooms and toilets.

7. Telecommunication tower area
   ➢ Activities: to view all directions to Bali Barat National Park area.
   ➢ Facilities: an observation tower, a limited parking lot, binoculars.

8. Tourism areas outside Bali Barat National Park such as Banyuwedang Timur (Buleleng district) and Belimbingsari (Jembrana district) are not under the responsibility of the Park management. (The overall work plan is shown in Appendix 3.)

4.2.4 Research and development

Research and development are very important functions of Bali Barat National
Park in order to develop scientific advancement on, especially its habitats, ecosystems, flora and fauna. Without research and development, one of objectives in establishing the National Park is neglected. The research and development are detailed as follow:

1. Biological natural resources and their ecosystems
   The research and development of biological resources and their ecosystems are very important for:
   a. Inventory of its conditions
   b. Its development
   c. Planning of its management
   The research is focused on titles relating to conditions of marine, coastal, savannah, and terrestrial and mountainous ecosystems. In the next 25 years, it is estimated that there will be 103 research titles on biological resources (flora and fauna) and their ecosystems.

2. Utilization
   The research utilization is to identify potential biological natural resources and their ecosystems together with existing constraints to be then utilized for planning of Bali Barat National Park development.

3. Management
   As the availability of researchers is a constraint in Bali Barat National Park, the research will be conducted in cooperation with research institutes such as LIPI and universities where the Park is utilized as a research object of LIPI and universities, both of their lecturers and students. Therefore, the Park does not need to provide any research budget.

4. Pearl oyster and palmyra palm cultures
   Research on natural resource culture needs to be conducted. There was a research on pearl oyster culture development plan in Teluk Terima waters. This research was committed by a private business intending to invest in pearl oyster culture.
   The research on development of palmyra palm culture in savannah of palmyra palm needs to be initiated in order to intensify the palmyra palm forest where palm
sap is used by home-industry to produce palm sugar. (The Work Plan is shown in Appendix 3.)

4.2.5 **Protection and security of the area resources**

Potential resources in the Bali Barat National Park area do need protection and security. The work plan on protection and security of the area functions is as follows:

1. Prevention and control cover the followings:
   a. Prevention and control of forest fire
      
      The forest fire in the Bali Barat National Park area often happens, either intentionally for particular purposes of local people or unintentionally due to not-extinguished cigarette butts causing forest fire in dry seasons, or local people’s not-extinguished torches after being used in collecting honey in the forest. In order to prevent such fire, preventive measures are required by, for example, preparing firebreaks and equipping with additional preventive facilities.
   b. Pests and diseases
      
      In general, heterogenous forests have a balanced ecosystem so that pests and diseases in forest vegetation are seldom found except in teak trees. Similarly, pests and diseases in fauna are seldom found when natural predators exist according to their hierarchies. The current pests are the crown-of-thorn starfish feeding coral reefs around Menjangan Island. It is recommended to eliminate such predators by a movement to pick them up manually and burn them on beach.
   c. Disturbance to the area
      
      The frequent disturbance to the Bali Barat National Park is poaching, illegal logging or collecting of branches, illegal grazing, and fishing by blasting. It is a need to intensify the safeguarding operations of the Park by providing adequate infrastructure facilities.
   d. Environmental impact
      
      Environmental impacts to the forest area in Bali Barat National Park are insignificant. The environmental impacts only exist in the aquatic
ecosystem. These impacts may originate from outside of Bali such as from East Java which were drifted away by the sea current and deposited in waters around Menjangan Island. However, it may also be resulted from tourism activities around Labuhan Lalang. Then, the oversight is highly needed in order anybody not to discard solid or liquid waste into the sea.

2. Protection and security coordination
Coordination is needed with:

1. Security authorities such as:
   a. Local Police, both at sector level (Polsek) and resort level (Polres), and Marine Police.
   b. Navy
   c. Local Army, especially at military subdistrict level (Koramil) and military district level (Kodim).

2. Village authorities in the surroundings of Bali Barat National Park.

4.2.6 Construction of infrastructure facilities
The construction of infrastructure facilities is a very important activity in the Bali Barat National Park management. The work plan covers construction and maintenance.

1. The construction of new infrastructure facilities in Bali Barat National Park. In addition, the existing infrastructure facilities also need to be supported with other facilities such as a laboratory and its equipment. The construction/procurement plan of infrastructure facilities in the next 5 years is presented in Appendix …

2. Maintenance is a routine activity every year. It covers management and utilization facilities. Many activities are planned to maintain physical infrastructure facilities. The work plan is shown in Appendix …

3. Existing infrastructure facilities in Bali Barat National Park are shown in Appendix …

4.3 Communities’ Socio-economic and Cultural Aspect
a. Demography

The population is projected to increase until 2022, but the surrounding communities’ life must be developing, either in their behaviors, life styles or paradigms. Anticipating these above phenomena, various programs are needed, for example:

- Public awareness campaign program on functions of Bali Barat National Park.
- Program of relocating occupants inside the Bali Barat National Park area.
- Job creating program for the surrounding communities of Bali Barat National Park, e.g. tourism transportation, handicrafts, souvenir shops, and tourist guides.

b. Education and health

Special skill education is highly needed in managing open activities like in the National Park management. In addition, communities' appropriate educational and health conditions in the surrounding area are needed to make the Park area functional. Consequently, the following programs are needed:

- Internal program, which is a special program for the Management of Bali Barat National Park.
- External programs, which are intended for the surrounding communities of Bali Barat National Park. covering the followings:
  - Internal educational programs, such as special skill education, environmental audit and evaluation of the National Park, administration, and management.
  - Cooperation programs with universities/academies and vocational high schools.

These programs would give chances to students to conduct research in the National Park area or by internship in order to make them ready to work in Bali Barat National Park. The consequences are: (a) special personnel are needed to manage the programs, and (b) facilities supporting the programs must be equipped.

c. Economic conditions

In general, the surrounding communities of Bali Barat National Park have lower
economic conditions. Being as food crop farmers, most of them raise livestock as their additional livelihood. The livestock are cows, goats, chickens, and buffaloes which are released or grazing in surroundings of the Park area every day. This condition should be prevented in order not to enter into the Park area by implementing these following programs:

- Program of providing a special, separated area.
- Extension program on stabled livestock.
- Job creating program such as Inpres projects.

These programs shall be supported with:

- Provision of quite a large land due to the increasing number of livestock from time to time.
- Provision of extension services to communities on the prohibition of grazing in the Park area and sanctions for violators.

4.4 Encouragement of Community Participation

In order to mitigate pressures and disturbance to the Bali Barat National Park area, the surrounding communities’ participation needs to be encouraged. The work plan covers:

1. Community welfare improvement program
   a. Agro-forestry development
      The potential agro-forestry to be developed by the surrounding communities of the Park is honey bee culture. Some community members have been developing it; it is reported that four persons are involved in the local honey bee culture. It is recommended that the Park forms farmers’ groups of honey bee culture and give skills and fund for, especially the high-yielding honey bee culture instead of the local one. Inputs, including honey bee colonies, should be provided by the Park and the farmers’ groups should be guided until they are developed.
   b. Integrated agricultural development
      Bali Barat National Park has supported Pejarakan villagers residing in the buffer zone. The provision of seedlings and extension services are important in encouraging of the surrounding community participation.
c. Integrated industrial development

There are two potential integrated industries to be developed in Bali Barat National Park by utilizing its flora assets, namely:
1. Palm sugar, by using sap of palmyra palm.
2. Sweets of kalimoko fruit \((Phyllanthus emblica)\), where many kalimoko trees grow in Bali Barat National Park area and are potential to be used.

The Park will encourage the surrounding communities to form integrated industrial groups and provide them training to improve their welfare. The Management of the Park can give access to pick kalimoko fruits and sap the palmyra palm.

d. Development of access

Access roads to Bali Barat National Park are adequate in number and in a good condition so that there is no need of new road construction.

2. Public awareness building program

a. Integrated extension services

The extension services should be integrated, for example, with the health and family planning extension for public awareness on the importance and functions of the Park. The extension services should be focused particularly on how to avoid activities which may damage forest, cause forest fire, and use blasting for fishing.

b. Strengthening of non-government organizations

Existing customary institutions and non-government organizations in the surroundings of Bali Barat National Park will be continually strengthened and empowered in order to eventually function as guards against disturbance to the Park.

c. Scout strengthening

When camping in the Park, scouts should be given extension on the importance and functions of the Park in flora and fauna conservation through audio-visual aids.

d. Youth strengthening
Youth is a young generation having significant potential to assist with flora and fauna conservation. For that purpose, they need continuous extension services on the importance and functions of flora and fauna conservation in Bali Barat National Park.

4.5 Institutional Strengthening

1. Organization
   a. Structure

   The current organizational structure of Bali Barat National Park refers to a Decree of Minister of Forestry No. 096/Kpts-II/1984 dated May 12, 1984 on Organization and Job Descriptions of Bali Barat National Park as follows:
This structure is considered as not effective or efficient so that needs improvements according to results of position analysis.

b. Roles and responsibilities

1. The Head of National Park is obliged to coordinate the Bali Barat National Park management and is responsible for all external affairs of the Park.

2. Chief of Programming Section is obliged to plan the management and development of Bali Barat National Park; reports to the Head of the Park; and coordinates some personnel according to the need at present.

3. Chief of Utilization Section is obliged to identify the status of all flora and fauna existing in Bali Barat National Park, including their development, protection, and utilization; reports to the Head of the Park; and coordinates some personnel according to the respective tasks according to the need at present.

4. Chief of Administrative Sub-division is obliged to facilitate office, finance, administrative, and equipment affairs; and reports to the Head of the Park; and
coordinates some personnel working in finance, scoping, development, cleaning, etc.

5. The functional group members are obliged to do research and scientific advancement; and report to the Head of the Park.

2. Personnel

Personnel supporting activities of Bali Barat National Park are analyzed from two aspects:

a. Qualifications and the required number

The number of required personnel to manage Bali Barat National Park is 125 but the number of available personnel is only 111 so that there are 14 personnel in short. The numbers of required personnel and available personnel by qualification in 1995/1996 are shown in Appendix 4. The number of required personnel by qualification in the next 25 years cannot be ensured as depending on the prevailing organizational structure and the available budget from the national government.

b. Education and training

Although the number of available personnel by qualification is limited and their employments are dependent upon the prevailing organizational structure, the quality of human resources will be continually improved through education and training. Therefore, the limited number of personnel is expected to be empowered effectively and efficiently.

The education and training plan of personnel in the next 5-year period is presented in Appendix 5.

3. Regulations and rules of order

The organizational structure and job descriptions of the Bali Barat National Park refer to regulations and rules of order as follow:


b. Regulations and rules of order for Civil Servants.

c. Regulations and rules of order as policies and decrees of the Head of Bali Barat National Park.
5.1 Management and Policy Aspect

5.1.1 Institutional Strengthening

In a short term, facilitating and enhancing of occupational mobility as well as upgrading of personnel quality are required. In a long term, meaning the second 5 years and beyond, the number of personnel complying with tasks and functions of Bali Barat National Park needs to be added.

5.1.2 Coordination

The program implementation needs coordination because it is a mutual responsibility among relevant parties to conserve Bali Barat National Park, both formally and informally.

5.1.3 Funding

Budgeting is based on realistic priorities and in an integrated, balanced, and deliberate manner.

5.1.4 Monitoring and evaluation

The monitoring should be continuous, inherent, direct, and integrated which, consequently, requires the involvement of relevant agencies and communities in the surroundings of Bali Barat National Park.

5.2 Aspect of Biological Natural Resources and Their Ecosystems

5.2.1 Area consolidation

a. Each enclave inside the Park Area may be handed over to existing occupants but needs to be substituted by the Government with another land having an equivalent area. The land substitution is expected to be adjacent to the Bali Barat National Park area or to another National Park area or to any Perhutani concession.

b. It is expected that the entire area of PT Margarana’s concession will be returned to the Bali Barat National Park by 2000. There will be no rehabilitation of such ex concessionaire area but only natural succession exists.

c. Buffer zones located in the North (Pejarakan), the South (Klatakan), and the East (Belimbingars etc.) will be still utilized by communities so that the communities can
increase their incomes and the forest quality in the Park area can be improved due to the decreasing disturbance by the communities.

d. Carrying capacity building of flora and fauna and their ecosystems through inventories of species and their distribution.

e. Important fauna species in Bali Barat National Park such as banteng etc. should be relocated.

f. The species recovery of black-winged starlings through breeding needs to be intensified, either initiated by the Park or communities.

g. The habitat establishment is a routine activity in the Park in order to ensure good habitats so that the fauna living in the habitats can grow and develop well. Local habitats are rehabilitated for, among others, black-winged starlings, banteng, and coral reefs.

5.2.3 Area utilization

a. Relocation of infrastructure facilities from the more attractive utilization zone to the less attractive one by:

- Creating appropriate habitat conditions for attractive fauna in order to attract them to stay.
- Providing transportation facilities for visitors in going to/from the Park.
- Guiding and overseeing visitors.

b. Localization of the traditional utilization zone in particular places whereas undisturbed other places should be safeguarded their sustainability as a production zone for traditional utilization.

5.2.4 Research and development


b. Documenting results of research.

5.2.5 Protection and security of the area

a. Restructuring the status of forest rangers and civil servant investigators (PPNS) along with their Code of Ethics.

b. Encouragement of the job creation in the surrounding villages by relevant external agencies/organizations.

c. Identification of creating new recreational places outside the Park area.
5.2.6 Construction of infrastructure facilities

a. Enhancement of personnel’s skills in order to utilize infrastructure facilities optimally.
b. Handing over of the management and the rehabilitation of infrastructure facilities in order to develop the utilization zone for recreation purposes to more professional businesses.

5.3 Communities’ Socio-economic and Cultural Aspect

5.3.1 Demography

a. Public awareness campaign program on functions of Bali Barat National Park.
b. Job creating program for communities in the surroundings of the Park, e.g. tourism transportation, handicrafts, souvenir shops, and tourist guides.

5.3.2 Education and health

a. In terms of short-term education, an internship program covering the National Park management, the auditing and evaluation course, and the office administration course. This program is expected for implementation in 1997 through 2022.
b. In terms of health, the maintenance of Bali Barat National Park conditions in a step-by-step manner in order not to pollute local communities’ living environment in long-term utilizations.

5.3.3 Economic conditions

a. Creating new jobs.
b. Extension services to communities on applicable laws and regulations in Bali Barat National Park in a persuasive, educative manner.

5.3.4 Encouragement of community participation

The people’ welfare program shall start in the first 5 years (1997-2002). In addition, extension services on integrated agriculture and home industries are also needed.