A PROPOSED PLANNING PROGRAM FOR TOURISM DEVELOPMENT IN HENGCHUN PENINSULA OF TAIWAN

by

YUNG-NAN CHENG

B.S.E. of Architecture,
Taiwan Cheng Kung University, 1967

A MASTER'S NON-THESIS PROJECT

submitted in partial fulfillment of the requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

Department of Regional and Community Planning

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1973

Approved by:

[Signature]

Major Professor
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INTRODUCTION TO THE STUDY

This study is going to prepare an intensive and comprehensive planning program for formulating the tourism development plan in Hengchun Peninsula of Taiwan. This report is not a development plan but rather an outline of how to prepare the work involved in the project. The purpose of this study would be: (1) to acquaint the people who are not fully familiar with all that of tourism development planning with regard to the optimum planning approach, philosophy and methodology which would be adopted for such kind of project; (2) to provide a broad framework for the persons who work on this kind of project to successfully carry out the job within the designated time period yielding the best possible results.

The formulation of planning program includes planning proposal establishment and planning network formulation. The establishment of planning proposal is a basic step for a project in the total planning process. The planning proposal is established based on the realization of needs and demands expected in the designated future period and on the feasibility of planning study available at the present time. The formulation of planning network is to describe and delineate the works to be performed, the work labor required, the time scheduling, the personnel arrangement and the fiscal condition analysis. Planning program is used to guide the completion of development plan for any kind of development project. In other words, it is deciding in advance that WHAT, WHEN, WHERE and HOW actions
will be taken and WHO will take them. As the formulation of planning program provides a general guide for successful approaching the completion of development project, it is generally carried out as the first phase in the practical planning process of any project.

The diagram of total study scope is shown in FIGURE-1. This report is comprised basically of five chapters. The first two chapters are the general description on tourism demand and supply potential in Taiwan and feasibility of Hengchun Peninsula tourism development. The third and fourth chapters are the preparation, analysis and organization of proposed planning program for tourism development in Hengchun Peninsula. The fifth chapter gives the formulation of network diagram and recommended management for the proposed planning program. As a conclusion, some remarks are also included in this chapter. The materials to be used as references for this report are listed in the appendices and bibliography.

The proposed study is concerned the international, national and local factors for tourism development planning in Hengchun Peninsula of Taiwan. It is suggested that the qualified persons to carry out this study should be the persons with the general knowledge and professional experiences in Taiwan as well as those countries of the great tourism market potential for Taiwan.
INTRODUCTION

SIGNIFICANCE OF INTERNATIONAL TOURISM DEVELOPMENT

DEVELOPMENT AND FUTURE BENEFITS

TOURISM POTENTIAL REGIONS IN TAIWAN

GENERAL CONCLUSION

CHAPTER I

INTERNATIONAL TOURISM AND TOURISM DEMAND POTENTIAL IN TAIWAN

INTERNATIONAL TOURISM IN TAIWAN

DOMESTIC TOURISM IN TAIWAN

TOURISM DEVELOPMENT POLICIES

CHAPTER II

EXISTING TOURISM SUPPLY STUDIES

SIGNIFICANCE OF HENGCHUN PENINSULA TO PROMOTE TOURISM DEVELOPMENT IN TAIWAN

CHAPTER III

PREPARATION OF PROPOSED PROGRAM FOR HENGCHUN PENINSULA DEVELOPMENT

COMPONENTS OF OVERALL DEVELOPMENT PLAN

CHAPTER IV

PLANNER PROCESS FOR FORMULATION OF OVERALL DEVELOPMENT PLAN

CHAPTER V

NETWORK DIAGRAM FORMULATION & RECOMMENDED MANAGEMENT

CONCLUDING REMARKS

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CHAPTER I
INTERNATIONAL TOURISM AND TOURISM
DEMAND POTENTIAL IN TAIWAN

A. SIGNIFICANCE OF INTERNATIONAL TOURISM

During last two decades or so, the growth of international tourism has been witnessed as one of the major industries in the world. Since early 1950s, international tourism has grown rapidly, particularly after the liberalization of foreign exchange and travel restrictions which characterized the years following World War II. In early 1960s, international tourism spread more widely and developing countries began to benefit increasingly from its growth. This development is a reflection of the changing life styles of industrial countries which have resulted in a steadily increasing income level, a growing amount of leisure time, a rise in education level, the improving of transportation facilities and the growing of international exchange and relationship. The continuously decreasing working period made possible by the mechanized productions, growing per capita income and improved travel facilities indicate that tourism would develop as a booming industry in the future years which would require minimum investment but would bring in maximum returns.

Tourism industry provides the following economic benefits for every country:

1. Effect on national income — The money spent by tourist
circulates through the economy of the country where it is spent. It changes hands a number times, and is spent and respent. The more times it changes hands and the more times it is spent, the greater the economic impact effects the economy. Tourist expenditures effect the national income of every country.

2. Effect on tax revenues --- It makes sense to measure the economic importance of tourism by the business that is generated by the money that tourist spent, it also makes sense to measure tax revenues from tourism in the same way: that is, by determining how much in tax revenues accrues to governments from business that is created by tourist expenditures.

3. Effect on jobs and wages --- Based on the study of Bureau of Foreign Commerce in U. S. Department of Commerce, 54% of tourist expenditures was paid out in salaries and wages. (It must be stressed that this can be regarded as a minimum figure in the course of five transactions during a one-year period.)*1

4. Effect on balance of payments --- Spentiture of international tourists are bound to have a positive effect on the balance-of-payments position of any economy. In 1958, for example, Hong Kong had a heavy trade deficit, which was considerably mitigated by tourist expenditures. This is also true to a lesser extent in Thailand.*2 The fact remains that, without expenditures of international tourists, the majority of developing countries in the
world would have had a weaker position in balance of payments and may probably have been forced to cut back on imports.*3

Apart from economic benefits, international tourism facilitates the promotion of international friendship, cooperation and understanding as well as cultural infusion. These factors grossly contribute to peace and diminish the chances of armed conflicts in the currently war-termed world. With this perspective and understanding in mind, the various national and local governments are presently involved in promoting intensive tourism planning and development within their area.

B. TOURISM DEMAND POTENTIAL IN TAIWAN

1. International Tourism

Historically, Europe has dominated the tourism industry as an international destination. However, in recent years, travel in the Pacific and Far East is one of the fastest growing markets in the world and enjoys an increase in international tourist arrival more than three times greater than the world increase rate.*4 Many travellers having seen Europe, are now desiring new experiences and looking for friendly and exotic vacation spots. There is a great potential for international tourists to visit the Pacific Areas with more money and more time in future.
Taiwan is one of the tourist destination areas in the Pacific and Far East. It possesses three major tourism assets:

a. A prime geographic location — Taiwan is astride the main air route between Japan and Hong Kong in the Pacific area. Taiwan can be easily visited with no extra expense while the tourists are in the Pacific area. FIGURE-2 shows the geographic location of Taiwan among Japan, Korea, Hong Kong, the Philippines, Vietnam, Thailand, Singapore, Malaysia and Borneo. It also indicates the major air routes and their mileage in this area. Taiwan possesses a very high advantage in tourism development potential considering the geographic location in the Pacific area.

b. The Chinese atmosphere — It includes customs, traditions, food and way of life, which, because of their sharp contrast to Western life, are of great interest to tourists. Taiwan is the only place in the free world where the cultural heritage of ancient China can be freely observed and experienced. It embodies all the best of ancient and modern China — the real authentic China.*5

c. Benefits of beautiful scenery and a tropical climate — Taiwan is an island of unspoiled natural beauty. It has been recognized in the Western world as "Formosa" which means "The Beautiful Island".

With these international tourism assets, Taiwan is one of the most rapidly growing tourism destination areas in the Pacific
FIGURE-2 GEOGRAPHIC LOCATION OF TAIWAN IN FAR EAST
area. TABLE-1 shows Taiwan enjoyed the second fastest growth rate of tourist visitation in this area from the year of 1965 to 1969 and its growth rate is nearly 1.5 times more than that of total Pacific area. These tourism assets are also largely responsible for the fact that the tourist growth rate in Taiwan during the years of 1961 to 1971 has averaged approximately 30 percent annually which was indicated in TABLE-2.

In addition, regional tourism can also be expected to expand in the Pacific area. The greatest growth region is likely from Japan to nearby destinations such as Korea, Taiwan and Hong Kong. Taiwan will benefit from the fast growth of the Japanese market.*6

The statistical trend indicates the increasing international tourist arrivals in Taiwan in future. Some studies made by Belt, Collins & Associates, Ltd. in their preparation of TAIWAN VISITOR INDUSTRY PROGRAM remarked:

"Our projections are based on trend analysis of contributing market regions. Consideration was given to industrial growth in Taiwan, which has been dramatic, but has not maintain the pace of visitor industry. The importance of business visitors as industry expands is reflected in the forecasts source of visitors, but not as important as the pleasure visitor market. The resultant figures were related to the capability of each region to provide international visitor as determined by the developing economic patterns of the countries within the regions. They were also related to travel projections of the other Far Eastern countries."*7

One of their projections on international tourist arrivals in Taiwan was shown in FIGURE-3. All of these reveal
TABLE-1 Tourist Growth in the Pacific Area

<table>
<thead>
<tr>
<th>Country or Area</th>
<th>*Total Tourists</th>
<th>Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1969</td>
<td>1965</td>
</tr>
<tr>
<td>Total</td>
<td>4,741,181</td>
<td>2,226,227</td>
</tr>
<tr>
<td>Taiwan</td>
<td>414,448</td>
<td>133,666</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1,369,058</td>
<td>606,010</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>765,213</td>
<td>446,743</td>
</tr>
<tr>
<td>Japan</td>
<td>608,744</td>
<td>336,649</td>
</tr>
<tr>
<td>Thailand</td>
<td>409,784</td>
<td>223,025</td>
</tr>
<tr>
<td>Singapore</td>
<td>408,709</td>
<td>98,481</td>
</tr>
<tr>
<td>Australia</td>
<td>361,277</td>
<td>173,400</td>
</tr>
<tr>
<td>New Zealand</td>
<td>220,685</td>
<td>122,288</td>
</tr>
<tr>
<td>Philippines</td>
<td>123,208</td>
<td>84,013</td>
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Source: International Union of Official Travel Organization (IUOTO), International Travel Statistics, 1970

TABLE-2 Number of Tourist in Taiwan (1961-1971)

<table>
<thead>
<tr>
<th>Year</th>
<th>*Number of Tourist</th>
<th>Growth Rate (%)</th>
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<tbody>
<tr>
<td>1961</td>
<td>42,205</td>
<td>-</td>
</tr>
<tr>
<td>1962</td>
<td>52,304</td>
<td>23.93</td>
</tr>
<tr>
<td>1963</td>
<td>72,024</td>
<td>37.70</td>
</tr>
<tr>
<td>1964</td>
<td>95,481</td>
<td>32.57</td>
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<td>1965</td>
<td>133,666</td>
<td>39.99</td>
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<tr>
<td>1966</td>
<td>162,948</td>
<td>36.87</td>
</tr>
<tr>
<td>1967</td>
<td>253,284</td>
<td>38.42</td>
</tr>
<tr>
<td>1968</td>
<td>301,770</td>
<td>19.20</td>
</tr>
<tr>
<td>1969</td>
<td>371,473</td>
<td>23.10</td>
</tr>
<tr>
<td>1970</td>
<td>472,452</td>
<td>27.18</td>
</tr>
<tr>
<td>1971</td>
<td>539,775</td>
<td>14.30</td>
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Average 29.33

Source: Tourism Council, Ministry of Communications, Republic of China. 1971
FIGURE-3 Projection on Number of Tourist in Taiwan

Tourists

With Competitive Development

Without Competitive Development
that the international tourism demand in Taiwan has a great potential and a very bright future.

2. Domestic Tourism

Traditionally, the economy of Taiwan has been primarily based on agriculture. However, in the past fifteen years under the pressure of population growth, the government of Taiwan has made the great effort to balance the economy through industrialization and thus enhanced the quality of urban life. Having the advantage of labor force and convenience of transportation networks, industrialization in Taiwan has grown very rapidly. This growth enhances the expansion of international and national exchange and promotes the living standard of people in Taiwan. All of these have produced a great dramatic change which is visible on every hand.

With increasing prosperity and leisure time, higher living standards and education level, more public transportation facilities, and wider ownership of vehicles (particularly, motorcycles), recreation activities and vacation travels in Taiwan are getting more and more popular. Recreation activities, weekend day-outing and vacation travel have become one of the major portions in the life of people in the urbanized areas of Taiwan. As the nation moves into an economy of related affluence, the population will search for new experiences. It is evident that more and more people in Taiwan are traveling in increasing times, both internationally and nationally.
TABLE-3 shows the statistical data of domestic visitors in nine recreation areas which are located in different regions of Taiwan (FIGURE-4). In comparison with the total population in Taiwan, the growth rate of domestic visitors in these areas increased in the recent years. This indicates the great prospective potential in domestic tourism in Taiwan. In the foreseeable future, the domestic tourism in Taiwan will be mainly confined to the nation's boundaries.

3. Government policies

The Republic of China is a member of the International Union of Official Travel Organization (IUOTO), the Pacific Area Travel Association (PATA), and the East Asia Travel Association (EATA). The Ministry of Communications is in charge of the development of the tourism industry through its Tourism Bureau, which was established in June, 1971. Prior to the setting of the Bureau, the Tourism Council of Ministry had been responsible for coordination, planning and promotion on an international scale. The Bureau works closely with the Taiwan Visitor Association, private travel organizations and other setups at the provincial and local levels.

During the last decade, the government of Taiwan has made progress in developing international and domestic tourism as means for economic development and for bolstering its national economy and improving its balance of payments. As direct results of the improvement of tourism facilities, the simplification
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<td>Yangming Park</td>
<td></td>
<td>925,000</td>
<td>1,018,000</td>
<td>1,248,000</td>
<td>1,300,000</td>
<td>1,585,000</td>
<td>1,694,000</td>
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<td>Chengching Lake</td>
<td></td>
<td>748,247</td>
<td>817,289</td>
<td>884,483</td>
<td>903,576</td>
<td>924,998</td>
<td>1,025,726</td>
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<td>Chinshan Beach</td>
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<td>67,953</td>
<td>81,572</td>
<td>90,413</td>
<td>98,733</td>
<td>103,041</td>
<td>160,007</td>
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<td>Wulai</td>
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<td>178,803</td>
<td>228,323</td>
<td>516,176</td>
<td>667,405</td>
<td>626,706</td>
<td>606,158</td>
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<td>Yehliu</td>
<td></td>
<td>406,726</td>
<td>480,866</td>
<td>476,741</td>
<td>480,437</td>
<td>495,374</td>
<td>542,796</td>
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<td>Shihmen Dam</td>
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<td>495,356</td>
<td>603,150</td>
<td>605,519</td>
<td>639,101</td>
<td>602,031</td>
<td>698,006</td>
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<td>Sun Moon Lake</td>
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<td>220,893</td>
<td>253,373</td>
<td>294,051</td>
<td>326,932</td>
<td>391,230</td>
<td>393,038</td>
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<td>Fulung Beach</td>
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<td>24,940</td>
<td>26,733</td>
<td>30,891</td>
<td>37,053</td>
<td>50,030</td>
<td>54,908</td>
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<tr>
<td>Kenting Park</td>
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<td>188,983</td>
<td>214,154</td>
<td>247,371</td>
<td>277,456</td>
<td>296,131</td>
<td>358,908</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>3,256,901</td>
<td>3,723,960</td>
<td>4,393,645</td>
<td>4,720,693</td>
<td>5,074,541</td>
<td>5,533,447</td>
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<tr>
<th>Population of Taiwan (1,000)</th>
<th>12,628</th>
<th>12,992</th>
<th>13,296</th>
<th>13,650</th>
<th>14,037</th>
<th>14,602</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25.8%</td>
<td>28.9%</td>
<td>33.0%</td>
<td>34.6%</td>
<td>36.2%</td>
<td>37.9%</td>
</tr>
</tbody>
</table>

Source: Belt, Collins & Associates, Ltd. TAIWAN VISITOR INDUSTRY PROGRAM PP. 94
FIGURE-4 SCENIC AREAS IN TAIWAN

- Urban area
- Scenic Point (with statistical data)
- Scenic Point
- Scenic Area
of entry procedures and intensive widespread promotion on transportation networks and facilities (FIGURE-5), the government policies in tourism development indicate the great advantage for tourism promotion in Taiwan.


*4 Organization for Economic Cooperation and Development (OECD), TOURISM: IN OECD MEMBER COUNTRY.

*5 Wei, James, CHINA YEARBOOK 1971-1972, Tourism Industry Section.

*6 World Bank, TOURISM -- SECTOR WORKING PAPER, Chapter I.

FIGURE-5  TRANSPORTATION NETWORKS IN TAIWAN

- Existing Air Route
- Planned Air Route
- Existing Highway
- Planned Highway
- Expressway (under construction)
- Existing Railroad
- Planned Railroad
- Existing Sea Route
CHAPTER II
TOURISM SUPPLY POTENTIAL AND
HENGCHUN PENINSULA OF TAIWAN

A. TOURISM SUPPLY POTENTIAL AREAS IN TAIWAN

In order to meet the needs and demands of both international and domestic tourism development in Taiwan, it is necessary to develop the tourism potential areas. This kind of development would enhance and contribute to the tourist growth rate on both international and domestic tourism. Several studies have already been made by many national and international professionals on scenic points, areas and regions in Taiwan concerning tourism development and recreation resource development. These studies include the report prepared by Taiwan Tourism Bureau with cooperation of seven consultants from Japan in 1969, the report prepared by Belt, Collins & Associates, Ltd. of Hawaii in 1970, the report prepared by Chinese Tourism Corporation in 1972, and a series of studies prepared by different governmental and private agencies in Taiwan.

On the basis of these studies, the major tourism development potential areas in Taiwan may be divided into four regions:
1. Northern tourism region
2. East-central tourism region
3. West-central tourism region
4. Southern tourism region

FIGURE-6 shows these four regions in Taiwan. With dif-
FIGURE 6 MAJOR TOURISM REGIONS AND TOURISM FLOW IN TAIWAN

- Urban Area
- Major Tourism Region
- Tourism Flow
- International Airport
ferent conditions of geographic location, climate, topographic feature, natural and man-made environment, each region is gifted with the variety of attractions and characteristics as the main underlying factors for tourism development. However, with regard to the potential on both international and domestic tourism development for future demands, a general agreement from all of these reports was found. The Northern Tourism region is limited in physical size because of the overcrowded cities and towns in it. The Central Tourism regions are confined their tourism activities only on high–mountainous areas due to the geographic condition. The Central regions have a great potential in domestic tourism development, but they are limited in international tourism development because of the geographic conditions and transportation difficulties. The area which can best provide the greatest potential to meet the future needs and demands in tourism development is in the Southern region. Particularly, the southernmost part of Taiwan, which is called "Hengchun Peninsula", provides the best feasibility in the promotion of tourism development in Taiwan.

B. SIGNIFICANCE OF HENGCHUN PENINSULA TO PROMOTE TOURISM DEVELOPMENT IN TAIWAN

1. Location and Size

Hengchun Peninsula is located at the southernmost part of Taiwan. Geographically, it extends from the line between Fangliao of Pengtung County and Tawu of Taitung County south
to the tip of Taiwan (FIGURE-7). Town of Hengchun, the southernmost town of Taiwan, with population about 40,000 is the biggest town in this area. In the Southern Tourism region of Taiwan, Hengchun Peninsula is within the range of one-day driving distance from the industrial city of Kaohsiung, the biggest seaport of Taiwan and Taiwan's second biggest city with an international airport. The existing access is a highway of 110 kilometers from the international airport of Kaohsiung. This highway is lined by casuarin trees which make driving along the coast quite enjoyable.

The total area of Hengchun Peninsula is about 750 square kilometers (290 square miles) which nearly equals to one fortieth of Taiwan. Hengchun Peninsula can be divided into two parts by topographic condition: the mountainous area which is higher than 1600 feet in the north part of Peninsula and the moundous, plain and water area in the south.

2. Tourism Potential

"Hengchun" in Chinese means "Spring Time Forever". This gives the best indication of the climatic condition in this area. Since this area is within the tropics, the environment of the Peninsula is strongly influenced by the tropical climate. The vegetation is predominantly tropical, and coral reefs are seen along the coast of deep blue seas. The Peninsula abounds in natural and cultural resources --- the historical town of Hengchun, the battlefield of Shihmen, the hot springs of Szechungchi, the lighthouse of Oluanpi, a waterfall and unusual rock
FIGURE-7  HENGCHUN PENINSULA IN SOUTHERN TOURISM REGION OF TAIWAN

- Hengchun Peninsula
- Designated Project Area
- Existing Railroad
- Planned Railroad
- Existing Highway
- Local Highway
- Planned Highway
- Under Construction Expressway
- City & Town
formation of Chialoshui, the coastal highway, the tropical flora along the road and in the Kenting Botanical Garden, the Kenting National Park and the stalactite cave and coral reefs --- providing the great potential in tourism development.*8 The topographic condition of Hengchun Peninsula are shown in FIGURE-8. The man-made factors concerning with the tourism development in this area including land usage, transportation networks and facilities are shown in FIGURE-9.

3. Feasibility of Development

Hengchun Peninsula provides the greatest potential for tourism development because of the excellent beaches, clear, warm water, pleasant climatic conditions, scenic environment and other natural factors in this area. Another advantage of this area for development is a relatively undeveloped land area, most of which is under government ownership. All other possible sites in Taiwan are limited by physical size from accommodating substantial development and/or by man-made establishments that have already destroyed the natural beauty of the site. Hengchun Peninsula has the potential in substantially developing and expanding in future without unnecessary overcrowding the area and diminishing or destroying its scenic qualities. It is for this reason that with a great potential in natural and environmental resources and a least restriction in man-made development, Hengchun Peninsula should be given the first priority in developing tourism industry in Taiwan.

*8 Belt, Collins et, al., TAIWAN VISITOR INDUSTRY PROGRAM, PP. 176-194.
FIGURE 8  TOPOGRAPHIC CONDITION OF PROJECT AREA IN HENGCHUN PENINSULA

- 100 Meters Contour Line
- Creek
- Lake

[Map showing topographic condition with contour lines, creeks, and lakes]
FIGURE-9 MAN-MADE CONDITION OF PROJECT AREA IN HENGCHUN PENINSULA

- Administrative District
- Existing Highway
- Local Highway
- Community
- Scenic Area
- Agricultural Area
- Forest and Undeveloped Area
- Airport
CHAPTER III
PREPARATION OF PROPOSED PLANNING PROGRAM FOR HENGCHUN PENINSULA

A. SCOPE OF PLANNING PROGRAM

In the process of tourism development in Hengchun Peninsula, before undertaking the background studies, it is necessary to prepare the proposed planning program with the following work scopes as the first step in formulation of the development project:

1. To provide the basic preparation of planning program for tourism development project.
2. To outline proposed development goals, objectives and policies as well as various means of achieving planning goals in the project.
3. To create planning philosophy, principle, and theory as the basic criteria guiding the formulation of project plans.
4. To develop methods, standards and techniques required for the planning of land use, traffic and transportation circulation, facilities and utilities, and tourism development based on local, regional, national and international conditions.
5. To obtain the necessary knowledge by insuring inclusion of up-to-date physical and socio-economic data and information as a beginning for the effective planning.
6. To delineate the work scope in planning process for accomplishment of project plans.

B. PROPOSED PLANNING GOALS

The following goals are suggested for the development of Hengchun Peninsula in tourism development program:

1. Develop the Hengchun Peninsula as an international and domestic tourism center in the Southern Tourism region of Taiwan to enhance the local, regional and national economy.

2. Develop this area with concern of the natural beauty and aesthetic environment and protect them from the damaging by any kind of man-made treatment.

3. Provide for a future domestic tourist industry, which would function primarily as a product of the international tourism.

4. Derive maximum social benefits and promote cultural interactions by integrating international tourism with domestic tourism.

5. Provide the potential expansion of facilities and amenities for future population growth and the socio-economic impacts of tourism development in this area.

C. PHILOSOPHY AND PRINCIPLE IN TOURISM DEVELOPMENT

The basic principle of planning approach for the tourism
development in Hengchun Peninsula is suggested to adopt the concept of "Utilizing existing natural environment with optimum man-made intrusion". Such an approach would result in enhancement of the rich natural beauty of the Peninsula for tourism development purpose with the least expense. In the developing of policies, the following "Balance Planning Philosophy" would be suggested:

1. Balance development on both international and domestic tourism;
2. Balance development on both mountain and water areas;
3. Balance development based on both Eastern and Western philosophies on the way of leisure life: the Eastern way of life, people seek their pleasure in the mountain while the Western, in and around the water;
4. Balance development on both passive and active activities on tourism facility planning;
5. Balance development on both tourism and rural community in this area;
6. Balance development on both natural and man-made environment.

The "Balance Planning Philosophy" is an application of "YIN and YANG Principle" in Chinese philosophy. (APPENDIX-B). Such a concept would promote simultaneously the development of international and domestic tourism in this area. The proposed planning concept would bring a balance development of all parts of Hengchun Peninsula. The people in this area would derive the maximum social, economic and cultural benefits from
Successful planning must be a continuing process. It is impossible to obtain a single final ideal solution for planning in a community or area development just as it is impossible for a businessman to develop one single and perfect technique for expanding his business. Time brings changes, and the comprehensive plan must be changed to accommodate the changes. Planning being as a process, as a method of approaching to the needs and demands, the comprehensive and coordinated basis in the planning process is as significant as the plans produced by the process. The total planning process for a long range development is ever cyclical, while within the total planning process the short range project becomes a linear approach to its own objectives. FIGURE-10 indicates the total planning process for long range development and the process for formulation the plan in short range project.

The planning process in formulating the tourism development plan for Hengchun Peninsula is a short range process within the long range process of tourism development in this area. The process for preparation of development plan for this project includes five phases:

PHASE-1 Formulation of planning program
PHASE-2 Undertaking background studies
PHASE-3 Creation of development concept
FIGURE 10 Planning Process for Development Project and for Formulation of Development Plans

A. Cyclical Process for Development Project

1. Goals, Objectives & Policies Formulation
2. Feasibility of Planning
3. Establishment of Planning Program
4. Understanding of New needs & Problems
5. New Situation, New Facts
6. Planning Implementation
7. Preparation of Planning Implementation

B. Linear Process for Formulation of Development Plans

1. Goals, Objectives
2. Feasibility of Planning
3. Legal Formulation of Planning
4. Planning Program
5. Background Studies
6. Creation of Concept
7. Preparing Plans
8. Preparation of Implementation
9. New needs
10. New Problems
11. New Situation
12. New Facts
PHASE-4 Development of overall plan

PHASE-5 Preparation for planning implementation

In phase one, formulation of a planning program would involve the establishment of work scope, work program and the organization of total work schedule, personnel and fiscal program in the planning process. In phase two, background studies would include the collection, survey, analysis and projection of natural and man-made data and information in project area and its related areas concerning the tourism development. In phase three, creation of development concept would consist of forming several alternative concepts for tourism development in project area and selecting the optimum development concept through cost-benefit analysis of alternative concepts. The concept would primarily prescribe the future land use patterns, transportation systems and tourism attraction development. The optimum concept would be developed into a overall development plan in phase four. The overall development plan would serve as a guide in tourism development for Hengchun Peninsula. In phase five, the preparation for planning implementation would include: (1) establishment of tools for implementation such as formulation of capital program and planning control tools — planning laws, ordinances, regulations; and (2) preparation of actions for planning implementation such as executive projects and planning legislation.
CHAPTER IV
WORK ANALYSIS AND ORGANIZATION OF PLANNING PROGRAM IN HENGCUN TOURISM DEVELOPMENT

In the tourism development of Hengchun Peninsula, from the beginning of the project, all land owners, businessmen and governments should be involved. The project requires a special kind of professionalism. During whatever time period in the planning process of this project, a coordinated team of specialists is required to converge upon the process so that reasonably worthwhile results can be anticipated. The project breadth needs the input of others besides the planner and designer. The planner or designer does not place himself in the position of deciding for others. Because the economy and the market areas of tourism region are important, an economist can make an important contribution. Because businessmen, non-benefit organizations and governments are involved, someone knowledgeable in these fields is also essential. Because the goals of the entire project are directed towards people, a marketing specialist and a human behavior specialist are important too. Emphatically, this project must be placed on a team approach, because no one has the exclusive capacity to perform the total task needed.

As team approach is suggested in this project, it is necessary to develop a planning work program in carrying out every detailed work within the planning process. This program would be used for the planning team to complete the project
effectively, essentially, economically and successfully. This program is formulated basically by work analysis in every phase of planning process and planning organization on time scheduling, personnel arrangement and fiscal condition management. These will be discussed in detail as follows.

A. WORK ANALYSIS IN PLANNING PROCESS

This is the basic preparation for developing work procedures, time scheduling, personnel arrangement and fiscal analysis in forming the comprehensive planning work program. In this section, all the necessary works in each phase of planning process would be described and analyzed.

Phase-1 Formulation of planning program

The major work in the first phase of planning process includes formulation of planning proposal, work program and planning organization. The works required within this phase are listed as follows:

a. Planning Proposal
   (1) Scope of planning program
   (2) Planning goals
   (3) Philosophy and principle in tourism development
   (4) Planning process
b. Planning work program
   (1) Work analysis in process
(2) Work procedure formulation

c. Planning organization
   (1) Time scheduling
   (2) Personnel arrangement
   (3) Fiscal analysis

Phase-2 Undertaking background studies

Within this phase, survey, data collection, analysis and projection are the major works. The information is obtained by means of survey and collection from existing data sources. After that, analysis and projection of the background information are needed. The works involved in the background studies will be discussed separately in the following paragraphs:

a. Survey

   (1) Users and markets survey --- This is a survey of users and markets to the project area as a tourism destination. The purpose is to search out clues to the number and interest of people who might make use of the developed environment if it were made available to them. The factors affecting the growth and demand of tourism/recreation are shown in APPENDIX-C. In general, this survey should be:

      (a) of representative market areas;
      (b) current, not based on outdated studies;
      (c) of representative present users of the region;
(d) indicative of trends in competitive areas. These will provide the information on both quantitative and qualitative characteristics of potential users and markets. The human behavior specialist, marketing specialist, demographer as well as the planner should be involved in this survey.

(2) Land ownership and developers survey --- This is to obtain clues to policies and practices which might facilitate or restrain development. This survey consists of following items:

(a) Existing owners;
(b) Controller at the present time;
(c) History of their land development policies;
(d) Existing land development decisions;
(e) Some estimates of outside potential owners.

(3) Land use survey --- This is a survey of the existing land use patterns of the area and its potential subdivisions. A survey on a parcel-by-parcel basis of all properties within the area will be undertaken. This work would be carried out with the following information:

(a) Existing land use patterns
(b) Community information
(c) Transportation systems
(d) Existing recreation and tourism development
(e) Historic, archeologic and ethnic land

(4) Visual survey --- This is a survey for visual analysis in the whole development area. The following information would be obtained in this survey:
(a) Zone-attraction potential areas;
(b) Aesthetic conditions;
(c) Size and shape of project area;
(d) Image of area.

A visual survey on natural forms, plant materials and existing development patterns will be made in order to locate the areas that are stimulating, intimate, dynamic, proliferated, consolidated or interesting for development. This survey will provide the area with certain landscape characteristics that are worth documenting because of their potential for tourism development.

b. Data collection from existing sources

The planning in tourism development for Hengchun Peninsula is suggested to be separated into two levels: An area project which can provide the broad overall planning possibilities and several zone-attraction complex projects which can identify the detail needs for local action (FIGURE-11). The effort proposed here identifies zones which are appropriate for attractions. Thus, data collection should be carried on two levels:

(1) Area environmental data — For an area, both data of external and internal factors contribute to the potential for tourism development.

(a) External factors (FIGURE-12)

i. Proximity — location and regional relationship
FIGURE 11 TOURISM AREA, ZONE-ATTRACTION AND POTENTIAL MARKET AREA RELATIONSHIP

SCENIC AREA

ZONE-ATTRACTION

Circulation Corridor

Community Services Facilities

Entrance

ACCESS

POTENTIAL MARKET AREA
FIGURE-12 CONCEPTS OF PROXIMITY AND ACCESSIBILITY OF TOURISM/RECREATION AREA

A. PROXIMITY

B. ACCESSIBILITY
ii. Accessibility -- transportation, circulation and facilities

(b) Internal factors

i. Climatic condition

ii. Land relief

iii. Wildlife

iv. Water and waterlife

v. Vegetation

vi. Shoreline

vii. Community

ix. Internal transportation

ix. Historic, archeologic and ethnic factors

x. Existing land use and tourism development

xi. Existing service facilities

xii. Major attractions

(2) Zone-attraction detailed data --- For all zones which have the potential attractions, the detailed data would be collected with the same factors listed above but in more detail.

c. Data analysis and projection

After data collection, the data and information would be studied, categorized and analyzed to realize the existing and future development potential and limitation. Due to the team approach in this project, all data and information obtained from existing sources or by means of survey should be carefully integrated, unified and manipulated.
Phase-3 Creation of development concept

a. Synthesis and conclusions — With the data analyzed and mapped, basic features of the area become identified and can be studied for relative importance. Places with similar factors begin to appear and can then be identified. In this stage, it is important to deduce the general overall character of the area. Data about users and markets now can be integrated with resource information to seek out voids and opportunities. Another integration is to accommodate the land-resource assets with the ownership patterns. Ownership policies need to be applied to the qualitative evaluation of land resources to obtain clues to the growth potential of tourism development. These works would include the following means:

(1) Graphic and word documentation;
(2) Graphic summary analysis;
(3) Statements of conclusions.

b. Environment program and concept development — With the development background studied, idea about the environment program and concept can be developed. The facts of research and conclusion drawn should sparkle with stimulation for the planner or designer. Two major thrusts of this effort should be identified, although in practice they are not always held apart. That is the matter of program emphasizes most the substance of development, whereas the conceptual emphasizes location and
manner in which the design might take place. The coordination of program and concept is one of the secrets of successful planning for development.

(1) Area program and development concept -- This can be described with words, photographs, sketches, graphics and particular abstract diagrams of functional relationships. All the art of creative environmental planning—land, structures, space—should be mixed with the science and the art of leisure behavior of people. Most desirable are documents with sketches on that of the entire area.

(2) Zone-attraction development concept -- It is to make a more detailed investigation and concept planning. The criteria for the selection of these zones within the overall area might be as follows:

(a) The greatest number and the strongest quality of resource characteristics;

(b) The most readily accessible over present circulation systems;

(c) The greatest undeveloped land;

(d) The most easily promotable with equal investment;

(e) With existing high-quality service centers;

(f) With organized development leadership and coordination.

(g) With the fewest and least formidable barriers and inhibitors.
In each zone, it is necessary to be identified in greater detail as:

(a) The assets and liabilities of the resource base;
(b) Potential activities and their optimum location;
(c) Travel-purpose categories and trends of users;
(d) Attraction complex locations;
(e) Circulation corridors and business-success factors;
(f) Major service locations.

c. Cost-benefit analysis of alternative concepts —— This is an analysis to select the optimum concept for development. The optimum development concept will be used to formulate the development concept plan. The concept plan is a long range sketch of policy plan showing the schematic regional relationship, land use patterns, traffic networks, public facilities, tourism development patterns and future growth trends. It provides a base to guide the formulating of the overall development plan.

Phase-4 Development of overall plan

a. Comprehensive plan —— As an integration of all plans, the comprehensive plan would show the proposed land use patterns, transportation networks, service systems and
tourism development as a general guide for future development in this area. It includes the following plans:

(1) Land use plan — The land use plan relates the growth prospects to land usage, and indicates methods for serving the land development problems of this area. This would be accomplished by corelating and adjusting existing and future land uses with emphasis on the need and suitability for land use categories. The plan should be prepared in map form with each land use category illustrated.

(2) Transportation plan — A plan for safe, convenient and effective circulation within the project area and for connection with market areas is needed. It would be prepared in coordination with city, county and regional planning officials, the highway department and related communities.

(3) Public facility plan — This plan would show the recommended sites and capacities to meet future needs in the project area and the communities in this area.

(4) Scenic landscape plan — This is a landscape layout for the entire area such as scenic drive-way landscape, community environment landscape.

b. Designated zone-attraction development project plans — All zones with major attraction to tourists would be designated as the potential sites for tourism development. These designated projects will be the action program in
the implementation of tourism development in Hengchun Peninsula. They can be divided into three categories:

(1) Attraction development project;
(2) Attraction redevelopment project;
(3) Community attraction project.

Phase-5 Preparation for planning implementation

The preparation for planning implementation is the final phase in formulating planning program. The long-range concept plan and the short-range comprehensive plan would be used as a specific implementation measure. These plans identify the steps and procedures to be followed in carrying out planning goals and objectives. The following works should be prepared to be accomplished with those plans in planning implementation:

a. Establishment of capital program --- A financing program would set forth priorities and assign responsibilities for the proposed project requiring the expenditure of capital funds to the end period of plan. The plan would base upon anticipated local costs, projected community revenues, borrowing capacity and available state and national grants.

b. Planning implementation authority formulation --- An official planning authority should be established in charge of the implementation of project. Usually, it is established legally by a government body according to the planning laws.
c. Zoning, subdivision and construction controls —- The major tools for controlling land development and building construction in planning implementation are zoning ordinances, subdivision regulations and a set of codes concerning regulations, inspections and enforcements of building, plumbing, electrical and fire protection. A zoning map and proposed zoning ordinance should be prepared to guide the proper land usage in the project area.  

d. Designated development projects --- These are the action projects to be executed in the planning implementation for the tourism development in this project area.

**B. ORGANIZATION OF PLANNING PROGRAM**

Organization of the work program includes three components: work scope, time period and work force. Usually, in a development project, work scope and time period are determined as the requirements, then the third component — work force can be easily determined to meet the need of work scope in the designated time period. As these basic components are determined, time scheduling, personnel arrangement and fiscal analysis can be organized in the planning program (FIGURE-13). For the tourism development project in Hengchun Peninsula, the planning work scope, desired time period, personnel arrangement and fiscal analysis in the planning program organization will be discussed separately in this section.
FIGURE-13 TOTAL PLANNING ORGANIZATION FLOW CHART

PLANNING GOALS & OBJECTIVES

PLANNING PROCESS

TOTAL WORK SCOPE

TOTAL WORK PERIOD

PLANNING APPROACH

PLANNING PERIOD

TOTAL WORK FORCE

FISCAL ANALYSIS

PERSONNEL ARRANGE

TIME SCHEDULE

TOTAL PLANNING ORGANIZATION
1. total work scope

On the basis of work analysis in each phase of planning process, the total work scope in the program of Hengchun Peninsula tourism development project can be listed as follows:

a. Formulation of planning program
   (1) Planning proposal
   (2) Planning work program
   (3) Planning organization

b. Background studies
   (1) Survey
      (a) Users and markets survey
      (b) Land ownership and developers survey
      (c) Land use survey
      (d) Visual survey
   (2) Data collection
      (a) Area environment data
      (b) Zone-attraction detail data
   (3) Analysis and projection

c. Creation of development concept
   (1) Synthesis and conclusions
   (2) Environment program and concept development
      (a) Area program and concept
      (b) Zone-attraction development concept
   (3) Cost-benefit analysis of alternative concepts

d. Development of overall plan
   (1) Regional and national relationship concept plan
   (2) Comprehensive plan
(a) Land use plan  
(b) Transportation plan  
(c) Public facility plan  
(d) Scenic landscape plan  

(3) Designated zone-attraction projects  
(a) Development zone-attraction project  
(b) Redevelopment zone-attraction project  
(c) Community development project  

e. Preparation for planning implementation  
(1) Capital program  
(2) Planning authority  
(3) Zoning, subdivision and construction controls  
(4) Executive development projects  

2. Time period designated  

The total work period for the accomplishment of total work scope listed above in this project is suggested to be one year. Work time period needed for each phase of planning process is designated as follows:  

<table>
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<th>Phase</th>
<th>Description</th>
<th>Percentage</th>
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<tr>
<td>Phase-1</td>
<td>Formulation of program</td>
<td>10%</td>
</tr>
<tr>
<td>Phase-2</td>
<td>Undertaking background studies</td>
<td>30%</td>
</tr>
<tr>
<td>Phase-3</td>
<td>Creation of development concept</td>
<td>10%</td>
</tr>
<tr>
<td>Phase-4</td>
<td>Development of overall plan</td>
<td>30%</td>
</tr>
<tr>
<td>Phase-5</td>
<td>Preparation for planning implementation</td>
<td>20%</td>
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3. Personnel arrangement  

Based on work analysis in each phase of planning process,
a planning team consisting of different kinds of professional consultants and specialists is called for the accomplishment of the total work in the tourism development of Hengchun Peninsula. The following table is an arrangement on personnel organization in each phase of planning process:

a. Formulation of planning program

- Planners
- Government officials
- Representatives of related organizations
- Investors
- Land owners

b. Background studies

- Planners
- Urban designers
- Landscape architects
- Human behavior specialists
- Marketing specialists
- Economists
- Sociologists
- Geographers

c. Creation of development concept

- Planners
- Politicians
- Urban designers
- Scientists
- Landscape architects
- Marketing specialists
- Economists
- Investors and promoters

d. Development of overall plan

- Planners
- Sociologists
Urban designers  Scientists
Landscape architects  Economists
Architects  Investors and promoters
e. Preparation for planning implementation
Planners  Lawyers
Urban designers  Economists
Landscape architects  Government officials
Architects  Investors and promoters

4. Fiscal analysis

The expenses for working out the total works involved in the planning program of this project will be listed as follows:

a. Salaries — These are the major portion of the total expenses in carrying out the total works in the program. The rate unit of the salaries would be suggested to be on a "man-week" unit base.

b. Consultant fees — The expenses of the independent jobs carried by consultants would be classified as the consultant fees. These would be suggested to be paid on "job" unit.

c. Maintenance of planning office — This includes the staff members such as assistants, secretaries, typists; the rent, the furniture and the instruments.

d. Transportation and communication costs — This includes all the necessary expenses on transportation and communication with related organizations, governments, individuals.
CHAPTER V
NETWORK DIAGRAM FORMULATION
AND RECOMMENDED MANAGEMENT

Urban and regional planning typically involves a complex work program extending over a lengthy period of time. Some program, in fact, never actually come to an end but are ongoing. They are usually described in term of a number of steps or projects. Each step is normally inter-related to the others and must be performed in sequence, either because of the logic of planning process or because of the requirements of the project. The techniques for the planning, controlling and scheduling of such lengthy and complex tasks have been available for many years. These techniques have been borrowed from industrial engineering applications. The principle concern of these methods is to find what is the best way to schedule all the jobs in a project to meet a designated date at minimum cost, and to demonstrate the jobs which effect the total project time period critically.

It is suggested to formulation a network diagram for the total planning program established previously and to apply the scientific techniques in the management of this planning program. In this chapter, these two suggestions will be discussed.

A. METHODOLOGY OF NETWORK DIAGRAM FORMULATION

The formulation of network diagram includes four steps:
Step-1 Work breakdown structure

The first step in approaching a major program is to divide or break the program into a number of constituent projects, each of which must be completed before the whole program can be considered finished. This type of breakdown may be considered analogous to the work explosion method. Two aspects of breakdowns may be noted at this stage:

a. End objectives must be carefully defined in the beginning.

b. Breakdowns should produce a series of accomplishable jobs, each of which may add the element of satisfaction that is to be derived from a task completed.

Step-2 Master phasing chart

Master phasing charts and a task matrix are ready to be prepared once the constituent projects have been recognized. The phasing charts consist of an outline of the whole program. It will be noted that the total program is phased into projects and that each project is phased as a series of tasks. Milestones and interfaces are shown in the phasing charts and carried down to the lowest level of detail.

Step-3 Network and activity lists

The use of network, event and activity lists is not essential to the network diagram. However, as additional aids, they ensure that nothing important is omitted from the network and they speed up the process. The event list is of great impor-
tance in identifying areas of uncertainty, particularly where an event is of the interface type. Both the event and the activity lists are working lists designed to eliminate continual revisions as the network is developed and to prove out the logic of the sequencing envisaged.

Step-4 Preparing the network diagram

The detailed preparation of a network diagram can be carried out in two ways. The network can be plotted by starting at the beginning and proceeding forward chronologically. Alternatively, the network can be plotted by starting with the deliverable end product and working backwards. Either method produces valid networks. Planning resulting network should read sequentially from left to right.

B. FORMULATION OF PROGRAM NETWORK DIAGRAM FOR HENGCHUN PROJECT

According to the method described above, the program network diagram has been formulated in FIGURE-15. The duration of each detailed work is estimated on a "man-day" scale. By using the computer calculation on CPM, the results are shown in APPENDIX-E.
C. NETWORK DIAGRAM MANAGEMENT

In the management of network diagram, two variants are most commonly used: they are PERT (Periodic Evaluation and Review Technique) and CPM (Critical Path Method).

PERT involves the periodic evaluation and review of the progress being made in each job within a major project. At certain stages, known as milestones, a number of key elements may be started on time. The early identification of problem areas, and the recognition of where and when resources must be reallocated to keep a project on schedule, are of obvious importance to the project management. CPM involves a recognition that during the progress of a project, one specific sequence of events may be critical to keeping the whole project on schedule, both in terms of time and cost. The mathematical formulation on CPM equations is shown in APPENDIX-D.

These sophisticated techniques for the planning, scheduling and controlling of a complex program have a number of important implications for urban and regional planning:

1. They provide a means of plotting out in advance how a program is to be accomplished with accuracy and realism.
2. They detail the steps involved, the sequence in which each can best be performed, and the inter-dependencies that must be recognized.
3. They allow an evaluation to be made, in advance, of the time and costs involved to complete the program under alternative allocations of resources and completion date.
4. They indicate how a variety of professions, departments and agencies may be coordinated when the efforts of each depend upon and influence those of others.

5. They focus attention on small subset of critical jobs along the "bottleneck" path through the program on time/cost estimates, on other critical jobs, and on completion date.

6. They produce useful information all the way through the project from initial planning to final preparation so that control may be effective, as well as providing a permanent record of how the project was completed.

7. They may be required of consultants when making a submission to insure that a complete job will be done and that fees can be related to specific accomplishment.

Perhaps the most significant implication for the planning is that the use of network diagram provides an added tool by which the planner may illustrate to others who are not fully familiar with all the methods of planning:

a. What adoption of a particular program involves in the way of research and special studies.

b. What relationships exist between a planning program and other studies, such as traffic studies, facility studies, etc.

c. What the consequences will be if certain steps are omitted or if specific studies are deleted.
CONCLUDING REMARKS

Tourism development planning exemplifies the concept of a multi-disciplinary field of study. Involved in this study are commerce and industry; national and international trade; local, regional and national economy; governmental policies and political influeces; urban and rural society; physical and socio-economic factors; cultural and historic factors; as well as man-made and natural environment. In attempting to formulate a tourism development plan, the planning work should accompanied by corresponding research, design, capital improvements, gradual improvements, regular maintenance and rational exploitation.

The planning approach for preparing the overall development plan in Hengchun Peninsula of Taiwan would be based on the principle of evaluation and balance wherein the Peninsula would be conceived as an organic whole with its parts in a balance relationship. A planning work program is necessary for the team approach to successfully carry out the tourism development plan in this area.

The planning program plays an important role in the practical planning project as it functions as:

1. A basic framework of total work in project;
2. A general guide of carrying out the project;
3. An outline of work to show the corresponding jobs;
4. A tool to be easily managed and controlled.

The preparation of a network can be considered as an
excellent opportunity to acquaint the people with the flow of work which is essential and desirable in the preparation of any plan. The program network diagram provides a tool to reduce a project to a set of milestones and tasks arranged in logic sequence, to draw up a schedule in terms of time and man-power inputs, and to manage the total process of the project.

This report can be used as a reference for the planner in preparing the planning program before the project is carried out for any kind of development planning, and in working on the development project related to tourism or recreation.
APPENDIX-A

DEFINITION OF TOURISTS

The following persons are considered as tourists:

a) Persons travelling for pleasure, for family reason, for health, etc.;
b) Persons travelling to meetings, or in a representative capacity of any kind (scientific, administrative, diplomatic, religious, athletic, etc.);
c) Persons travelling for business;
d) Person arriving in course of a cruise, even when they stay less than 24 hours (The letter should be reckoned as a separate group, disregarding if necessary their usual place of residence.)

"YIN and YANG" are, in Chinese philosophy, the two guiding orders of the Almighty; they are the couple representing the soul and breath of all beings. These two, generally, represent the female and male souls of the universe, respectively. Thus, all life of the universe, including people and nature, comes from the composition of YIN and YANG.

To the Chinese, all of nature is alive with influences for good and evil. The course of a stream, the trend of a mountain, the position of a pagoda or pavilion, the curve of a road, the site of a temple or a grave, the location of settlement — all these and many other things are, to the initiated eye, visible indication of nature's future actions. Thus, any element placed by man on the landscape must harmonize perfectly with the physical environment. This is an application of YIN and YANG principle.

This duality of opposites has been clearly expressed in the relationship between the Chinese house and garden, and in extension, the city and park. The theory of building a city or a house was based on confucian idea — formality, symmetry, clarity, straight lines, regular forms, a strict order of human creation — which is YANG, representing man-made elements. The approach of designing a park or a garden was guided by Taoist conceptions — informality, asymmetry, mystery, curved lines, irregular or romantic forms, a deep and persistent feeling for wild nature — which is YIN, representing natural features.
The Chinese character " " which means "concave" belongs to the YIN complex. The corresponding shape as the Chinese character " " which means "convex" and belongs to the YANG complex. The table below is a list of examples of YIN and YANG composition:

<table>
<thead>
<tr>
<th>YIN Component</th>
<th>YANG Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Soul</td>
<td>Body</td>
</tr>
<tr>
<td>Passive</td>
<td>Active</td>
</tr>
<tr>
<td>Negative</td>
<td>Positive</td>
</tr>
<tr>
<td>Concave</td>
<td>Convex</td>
</tr>
<tr>
<td>Curve</td>
<td>Straight</td>
</tr>
<tr>
<td>Informal</td>
<td>Formal</td>
</tr>
<tr>
<td>Water</td>
<td>Mountain</td>
</tr>
<tr>
<td>Moon</td>
<td>Sun</td>
</tr>
<tr>
<td>Country</td>
<td>City</td>
</tr>
<tr>
<td>Garden</td>
<td>House</td>
</tr>
</tbody>
</table>

FIGURE-16a is a general graphic representing YIN and YANG principle in China. FIGURE-16b, 16c, 16d are some examples in graphic as YIN and YANG composition.
FIGURE-16  BALANCE PHILOSOPHY GRAPHIC INDICATION

YIN  YANG

Concave
(YIN)

Convex
(YANG)

FIGURE-16a  FIGURE-16b

Mountain
(YANG)

Water
(YIN)

FIGURE-16c

Passive
(YIN)

Active
(YANG)

Passive
(YIN)

Active
(YANG)

Passive
(YIN)

Active
(YANG)

FIGURE-16d
APPENDIX-C

FACTORs AFFECTING THE GROWTH AND DEMAND OF TOURISM/RECREATION

The factors affecting demand for recreation/tourism facilities can be grouped into two general categories: Socio-economic characteristics of the population, and the physical attributes of the facilities themselves.

A. Physical factors

1. Time-distance required to make the vacation trip or travel to the recreational facilities.
2. The mix of activity-possibilities available at a recreation site or during a given vacation trip.
3. The degree of congestion at the recreation site.

B. Socio-economic factors

### TABLE-4

**SOCIO-ECONOMIC CHARACTERISTICS RELEVANT TO PARTICIPATION IN RECREATION/TOURISM**

<table>
<thead>
<tr>
<th>Survey Research Center (ORRRC Study Report 20)</th>
<th>National Recreation Survey (ORRRC Study Report 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family Income</strong></td>
<td><strong>Family Income</strong></td>
</tr>
<tr>
<td>Under $3,000</td>
<td>Less than $1,500</td>
</tr>
<tr>
<td>$3,000 - 4,999</td>
<td>$1,500 - 2,999</td>
</tr>
<tr>
<td>$5,000 - 7,499</td>
<td>$3,000 - 4,499</td>
</tr>
<tr>
<td>$7,500 - 9,999</td>
<td>$4,500 - 5,999</td>
</tr>
<tr>
<td>$10,000 - and over</td>
<td>$6,000 - 7,999</td>
</tr>
<tr>
<td></td>
<td>$8,000 - 9,999</td>
</tr>
<tr>
<td></td>
<td>$10,000 - 14,999</td>
</tr>
<tr>
<td></td>
<td>$15,000 and over</td>
</tr>
<tr>
<td><strong>Education of Family Head</strong></td>
<td><strong>Education, age 25 or over</strong></td>
</tr>
<tr>
<td>Grade School, none; Some High School</td>
<td>4 years or less; 5-7 years; 8 years</td>
</tr>
<tr>
<td>Completed High School; some college</td>
<td>High School 1-3 years; High School 4 years</td>
</tr>
<tr>
<td>Has college degree</td>
<td>College 1-3 years; College 4 years or more</td>
</tr>
<tr>
<td><strong>Occupation of Family Head</strong></td>
<td><strong>Occupation of Family Head</strong></td>
</tr>
<tr>
<td>Professional: Managers, Officials</td>
<td>Professional, technical and kindred workers</td>
</tr>
<tr>
<td>Sales Personal, Clerical, Craftsmen</td>
<td>Managers, officials and proprietors, except farm.</td>
</tr>
<tr>
<td>Laborers, Service Workers</td>
<td>Clerical and sales workers (other white collar).</td>
</tr>
<tr>
<td>Farm Operators</td>
<td>Craftsmen, foremen and kindred workers. Operatives</td>
</tr>
<tr>
<td></td>
<td>and kindred workers.</td>
</tr>
<tr>
<td></td>
<td>Farm workers.</td>
</tr>
<tr>
<td><strong>Place of Residence</strong></td>
<td><strong>Place of Residence</strong></td>
</tr>
<tr>
<td>Cities: Suburban areas; adjacent areas:</td>
<td>Urban in SMSA: over 1 million</td>
</tr>
<tr>
<td>Outlying areas</td>
<td>Urban in SMSA: under 1 million</td>
</tr>
<tr>
<td></td>
<td>Urban not in SMSA.</td>
</tr>
<tr>
<td></td>
<td>Rural (SMSA = Standard Metropolitan Statistical</td>
</tr>
<tr>
<td></td>
<td>Area as developed by the Census Bureau.)</td>
</tr>
<tr>
<td><strong>Age of Family Head</strong></td>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>18-24: 25-34: 35-44: 45-54</td>
<td>12-17; 18-24; 25-44; 45-64; 65 and over</td>
</tr>
<tr>
<td>55-64: 65 and over</td>
<td></td>
</tr>
<tr>
<td><strong>Region</strong></td>
<td><strong>Water Region</strong></td>
</tr>
<tr>
<td>West, North Central, Northeast, South</td>
<td>West, North Central, Northeast, South</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td><strong>Sex</strong></td>
</tr>
<tr>
<td>Male, Female</td>
<td>Male, Female</td>
</tr>
<tr>
<td><strong>Life Cycle</strong></td>
<td><strong>Physical Impairments</strong></td>
</tr>
<tr>
<td>Single adult under 45; Married, under 45, no</td>
<td>No impairments. Impairments not limiting.</td>
</tr>
<tr>
<td>children; Married with children over 4-1/2 and</td>
<td>Limiting impairments</td>
</tr>
<tr>
<td>under 18; Married, over 45, no children; Single</td>
<td>State of Health</td>
</tr>
<tr>
<td>adult over 45; Other</td>
<td>Excellent; Good; Fair; Poor</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td><strong>State of Health</strong></td>
</tr>
<tr>
<td>White; Negro</td>
<td></td>
</tr>
<tr>
<td><strong>Paid Vacation of Family Head</strong></td>
<td><strong>Paid Vacation of Family Head</strong></td>
</tr>
<tr>
<td>None; 1 week; 2 weeks; 3 weeks; 4 weeks or</td>
<td>None considered</td>
</tr>
</tbody>
</table>

**Sources:**
- Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults, ORRRC Study Report 20, (left-hand column).
APPENDIX-D Introduction of CPM Management

* The Earliest Possible Occurrence (EPO) of a node (event) is the earliest possible time for starting all arrows (operations) that originate at that node (event).

* The Earliest Finish Time (EFT) of an operation is the sum of the EPO of the node at the start of the operation plus the duration of the operation. If there are more than one operation, choose the maximum.

* The Latest Possible Occurrence (LPO) of a node (event) is the latest possible time that all of the operations that terminate at that event can finish without causing the project duration to exceed the value originally calculated with the EPO's.

* The Latest Start Time (LST) of an operation is the LPO of the node at which it terminates minus its duration.

* The Free Float (FF) of an operation is the difference between its EFT and EPO of the node at which it terminates. Free Float of an operation is the amount of time that the operation can be delay or lengthened without affecting the EPO of any node on the diagram.

* The Total Float (TF) is numerically equal to the LST of an operation minus the EST of the same operation. Total Float is the length of time that an operation can be delayed or expanded without affecting the completion time of the project.
CPM MATHEMATICAL EQUATION FORMULATION

FIGURE-17 Graphic Indications

EST = EPO (beginning node)
EFT = EPO (beginning node) + Duration ————Maximum
LST = LPO (terminal node) — Duration ————Minimum
LFT = LPO (terminal node)
FF = EPO (terminal node) — EFT
TF = LST — EST
APPENDIX-E  Computer Calculation of CPM on Program Network Diagram (FIGURE-15)
55  FLD=TL(K1)
56  FLD0=FLD-D(N2)
57  TF=TL(K1)-TF(K2)-D(N2)
58  IF=TF(K1)-TE(K2)-D(N2)
59  IF(TF>240,250,240
60  240 PRINT 540,NUM(N2),K2,K1,D(N2),ESD,FLD0,FF
61  G1 TO 65
62  250 PRINT 550,NUM(N2),K2,K1,D(N2),ESD,FLD0,FF
63  IF(FLD=TOTAL)65,65,66
64  66 TOTAL=FLD0
65  65 CONTINUE
66  PRINT 570
67  STOP
68  END

ENTRY
### PROPOSED PLANNING PROGRAM FOR FORMULATING TOURISM DEVELOPMENT PLAN IN HENGCHUN PENINSULA, TAIWAN

#### CRITICAL PATH SCHEDULING

<p>| NO. | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| D   | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| ESD | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| LSD | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| FFD | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| FDF | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| IF  | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|
| FF  | 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0| 0.0|</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>CPU</th>
<th>Memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>0.5</td>
<td>100.0</td>
</tr>
<tr>
<td>9:15</td>
<td>1.0</td>
<td>200.0</td>
</tr>
<tr>
<td>9:30</td>
<td>1.5</td>
<td>300.0</td>
</tr>
<tr>
<td>9:45</td>
<td>2.0</td>
<td>400.0</td>
</tr>
<tr>
<td>10:00</td>
<td>2.5</td>
<td>500.0</td>
</tr>
</tbody>
</table>

**Activity List**

- Critical Path
- Non-Critical Path

**Legend**
- CPU utilization
- Memory usage

---

**Notes**
- Project status update
- Next meeting scheduled
- Action items:
  - Review document
  - Prepare presentation

---

**Project Management**

- Task 1: Complete by 10/01
- Task 2: Review by 10/05
- Task 3: Final approval by 10/10

---

**Team Communication**

- Regular updates via email
- Weekly status meetings
- Open forum for feedback

---

**Contact Information**

- Team Lead: John Doe
- Project Manager: Jane Smith
- Technical Support: Mike Johnson

---

**Project Timeline**

- Milestone A: 9/15
- Milestone B: 9/30
- Milestone C: 10/15

---

**Budget Summary**

- Total budget: $150,000
- Current spending: $50,000
- Remaining budget: $100,000
<table>
<thead>
<tr>
<th>TIME ON</th>
<th>05:06:23</th>
<th>RESIDENT TIME</th>
<th>3.23 MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINTED</td>
<td>00:32:51</td>
<td>EXECUTION TIME</td>
<td>1.26 MIN</td>
</tr>
</tbody>
</table>

CPU TIME: 0.021 HRS  $2.92
(CLASS D, RATE = $120/HR)

302 CARDS READ  1,510 UNITS
360 LINES PRINTED  1,000 UNITS
9 PAGES PRINTED  0240 UNITS

TOTAL I/O  3,550 UNITS  $0.36
(I/O RATE = $1/UNIT)

ACCOUNT BALANCE  $219.86  TOTAL COST  $2.88
SELECTED BIBLIOGRAPHY


Clawson, Marion & Jack J. Knetsch, OUTDOOR RECREATION RESEARCH: SOME CONCEPTS AND SUGGESTED AREA STUDY.


