PACIFIC BASIN DEVELOPMENT COUNCIL
BRIEFING PAPERS
AUGUST 1987

1987 ANNUAL MEETING
Board of Directors
August 23-25, 1987
Saipan
Commonwealth of the Northern Marianas

PRELIMINARY DRAFT AGENDA

SATURDAY, August 22, 1987

10:00 a.m.	TECHNICAL ADVISORY COMMITTEE
Noon:	Lunch
1:30 p.m.	TECHNICAL ADVISORY COMMITTEE
Evening:	Free

SUNDAY, August 23, 1987

Day Free For Unofficial Activities

Evening: Social Event. (To Be Announced)

MONDAY, August 24, 1987 & TUESDAY, August 25, 1987

The following represents recommended subjects to be covered during the 1987 Annual Meeting of the Board of Directors of PBDC. The meeting will adjourn by noon on Tuesday, August 25. Information on social events will be as well as any additions to the program will be forth coming.

7:30 a.m.	GOVERNORS BREAKFAST
9:00 a.m.	CALL TO ORDER *Governor Pedro P. Tenorio, President
	INTRODUCTION OF GUESTS *Govenror Pedro P. Tenorio
	WELCOMING REMARKS *Governor Pedro P. Tenorio
	OPENING REMARKS *Governor Joesph F. Ada *Govenror A. P. Lutali *Govenor John Waihee
	APPROVAL OF PRELIMINARY AGENDA

WASHINGTON D.C. UPDATE
*Mark Hayward, Acting Deputy Assistant Secretary
DISCUSSION

UNITED STATES ARMY - AN OPPORTUNITY FOR TECHNICAL ASSISTANCE
*TBA
DISCUSSION

FUTURE TRENDS IN FISHERIES

~~WWW: A NEED TO DEMONSTRATE?~~
*Representative, Western Pacific Regional Fisheries Management Council
DISCUSSION

THE EXCLUSIVE ECONOMIC ZONE -
- o Report on July 8-10 Conference
  - *Bob Rudolph, Acting Coastal Zone Manager, CNMI
  - *Jerry B. Norris
- o Options For the Future
  - *Jerry B. Norris

DISCUSSION

PACIFIC ENERGY CONFERENCE - REPORT ON
*Elizabeth S. Udui, Energy Officer, CNMI
DISCUSSION

AFPI ENERGY MISSIONS REPORTS
*Jerry B. Norris

BROWN TREE SNAKE - AN UPDATE
*TBA
DISCUSSION

INTEGRATED RENEWABLE RESOURCE MANAGEMENT FOR THE U.S. INSULAR AREAS
- o Up Date
  - *Carolyn Imamura
  - *Alison L. Hess, Project Director, OTA
- o Committee Hearings - September 15 & 17
- o Technical Papers
- o PBDC Staff Designation

DISCUSSION

PACIFIC BASIN HEALTH PROMOTION AND DEVELOPMENT CENTER
*Governor John Waihee
DISCUSSION

REGIONAL CENTER FOR TROPICAL AND SUBTROPICAL AQUACULT
*Dr. Chauncey Ching, Chairman
*TBA
DISCUSSION

AGRICULTURE - ITS FUTURE IN THE PACIFIC
*Jerry B. Norris

- o USDA - A Pacific Role
  - *Jerry Barron, Director, Intergovernmental Relations, USDA
- o Soil and Conservation Service, USDA
  - *Ms. Joan B. Perry, Resource Conservationist, SCS, Guam
- o American Pacific Island Land-Grant Directionr
  - *Dr. N.P. Kefford, Dean, College of Tropical Agriculture and Human Resources, UoH
  - *Dr. Chauncey Ching, CTAHR, UoH
  - *Tony Santos, CNMI
- o OTIA - Its Role
  - *Mark Hayward, OTIA

DISCUSSION

SSED Up-Date
*Governor A. P. Lutali

COMMERCE-MICRONESIA CONFERENCE - September 12-22
*Jerry B. Norris
DISCUSSION

TRANSPORTATION ISSUES IN THE AFPI
- o Air Service
  - *The Honorable Matthew V. Scocozza, Assistant Secretary for Policy and International Progr DOT
- o Port Study - Final Draft
- o Port User Fee - An Up-Date
  - *Carolyn Imamura

DISCUSSION

PACIFIC POSTSECONDARY EDUCATION COUNCIL - A REPORT
*Agnus McPhetres, President
*Dr. Antonio Yamashita, Executive Director
DISCUSSION

PRIVATIZATION - AN UP-DATE
*Jerry B. Norris
*Mark Hayward, OTIA
DSICUSSION

THE PACIFIC BASIN POLICY INIATIVE
*Mark Hayward, OTIA
*Jerry B. Norris
DISCUSISON

THE BANK OF HAWAII - PACIFIC POLICY
*TBA

PACIFIC ISLANDS DEVELOPMENT PROGRAM (PIDP)
*TBA

BUSINESS SESSION
- o Financial Report

- o Annual Review of Policy Positions
- o Election of Officers
- o Time & Place of 1988 Winter Meeting
- o Time & Place of 1988 Annual Meeting

OTHER BUSINESS

ADJOURNMENT

FISHERIES INDUSTRY ON GUAM

In 1981, the Guam Fisheries Development and Management Plan was prepared which divides Guam's fisheries into four categories: 1) Reef Fisheries; 2) Small-Boat Fisheries; 3) Large-Scale Harvesting; and 4) Transshipment and Processing. The needs that were identified in the development and management plan, are being addressed through on-going and proposed projects by Guam and the Pacific Basin Development Council (PBDC).

Three current issues regarding the fisheries industry are: 1) lack of access to Guam's waters due to a shortage of boat launching ramps; 2) restricted development of the tuna transshipment industry due to the exemption of CNMI from the Jones Act; and 3) limited expansion of domestic commercial fisheries without an increase in fish stocks, new resources or fishing grounds, or new or improved fishing methods.

SUGGESTED ACTIONS:

A. Lobbying efforts to achieve or obtain:

1. Exemption from U.S. Laws requiring the use of U.S. built boats.

2. Transportation subsidies for U.S. built boats.

3. Special consideration for Guam's applicants for National Fisheries Marine Services loans for the purchase of fishing vessels.

B. Feasibility Studies:

1. Development of a local boat-building industry.

2. Increased tourist participation in charterboat fishing on Guam.

C. Information Studies:

1. Purchase prices of U.S. vessels.

2. Transportation costs of U.S. vessels to Guam.

DEPARTMENT OF COMMERCE
BRIEFING SERIES
DATE: 8/14/87

SUBJECT: Fisheries Industry on Guam

SUMMARY/BACKGROUND:

In 1981, the Territory of Guam Fisheries Development and Management Plan was prepared to maintain and protect Guam's fishery resources. Within the development and management plan, fisheries on Guam was divided into four basic categories: 1) Reef Fisheries; 2) Small-Boat Fisheries; 3) Large-Scale Harvesting; and 4) Transshipment and Processing.

The following are proposed, in-progress and ongoing projects addressing the needs identified within the development and management plan, both through Guam's efforts and the Pacific Basin Development Council's efforts:

Guam's Projects/Programs:

1. Four Boat Launching Ramps at various locations (ongoing).
2. Agat Small Boat Harbor (ongoing).
3. Agana Boat Basin Phase II (proposed).
4. Analysis of the Impact of Tuna Purse Seiner Fishing Pressure (proposed).
5. Pharmacological Activities in Marine Algae (ongoing).
6. Development of Sea Cucumber Fisheries in Guam and in the Pacific (proposed).
7. Preliminary Evaluation of Marine Mollusc Resources (proposed).
8. Recolonization of Coral Reefs Following Natural and Man-Induced Damage (proposed).

PBDC's Projects/Programs:

1. Monitoring of Fisheries Funding and Regulation (ongoing).
2. Monitoring and Implementation of the Harville Report (ongoing).
3. Assessment of Economic Costs in Current Mercury Content in Billfish Enforcement (completed).
4. Economic Feasibility Study of Miscellaneous Fish (completed).
5. Sashimi Export Feasibility Study (completed).
6. Fisheries Work Group (ongoing).
7. Fisheries Tripartite Work Group (ongoing).

Current Issues:

- The lack of access to the waters of Guam, caused by a shortage of boat launching ramps, increases the overhead costs of the domestic commercial fisheries.

- Development of the tuna transshipment industry will remain restricted as long as the Commonwealth of the Northern Mariana Islands remains exempt from the Jones Act which limits the use of U.S. hulls to U.S. ports. This results in an unfair competitive situation artificially imposed by federal law.

- The domestic commercial fisheries faces limited further expansion without an increase in fish stocks, the identification of new resources or fishing grounds, the development of new or improved fishing methods, or the enhancement of stocks through habitat improvement or restocking practices.

Current Status:

The Government of Guam has ongoing projects which address the issues of the fisheries industry. Specifically, construction of the boat launching ramps, the Agat Small Boat Harbor, and the Phase II of the Agana Boat Basin provides the small-scale fisheries opportunities in the area of commercial domestic fisheries. The analysis of the impact of tuna purse seiner fishing on domestic small scale fisheries addresses the impact of large-scale fisheries on small-scale fisheries.

The projects and programs implemented by the PBDC provides assistance in carrying out regional policies, goals and objectives within the fisheries industry of the Pacific Basin.

Recommended Action:

Concerted lobbying efforts to achieve the following:

1. To obtain exemption from U.S. laws requiring the use of U.S. built boats in commercial fisheries.
2. To obtain transportation subsidies for U.S. built boats.
3. To obtain special consideration for Guam's applicants for National Fisheries Marine Service's loans for the purchase of fishing vessels.

Implement feasibility studies for the following:

1. Development of a local boat-building industry.
2. Increasing tourist participation in charterboat fishing on Guam.

Initiate information studies for the following:

1. Purchase prices and transportation costs of U.S. vessels to Guam.

Supporting Documents:

1. "The Territory of Guam Fisheries Development and Management Plan", S. Amesbury and P. Callaghan, October 1981.
2. 1987 Draft of the "Overall Economic Development Plan", Division of Economic Development Planning, Department of Commerce, Government of Guam, June 1987.
3. "1986 Program Status Report, October 1, 1985 to September 30, 1986", Pacific Basin Development Council, Honolulu, Hawaii, January 15, 1987.

MONITORING OF 200-MILE EXCLUSIVE ECONOMIC ZONE (EEZ) ISSUES

Accounting for more than 50% of a total area of 3.9 billion acres (U.S. Exclusive Economic Zone), the U.S. Flag Islands need to take the responsibility for monitoring, managing, and utilizing this new resource.

EEZ issues that were addressed at a recent conference held in Hawaii, July 8-10, 1987, include:

1) existing and future roles in the management of coastal and ocean resources;

2) future EEZ projects, including a strategy for financial and program support; and

3) the exchange of ideas and information on EEZ management responsibilities by experts in this field.

SUGGESTED ACTION:

Designation of local Coastal Zone Management (CZM) programs as the lead agencies for EEZ issues.

DEPARTMENT OF COMMERCE
BRIEFING SERIES
DATE: 8/14/87

PROJECT: 200-Mile Exclusive Economic Zone (EEZ) Issues, Monitoring of
(Extracted from PBDC 1986 Program Status Report)

SUMMARY/BACKGROUND:

As a result of a March 10, 1983 Presidential Proclamation, the U.S. Flag Islands have expanded their resource base ten-fold, or about one million square miles. Of the total U.S. Exclusive Economic Zone (EEZ) area of 3.9 billion acres, the non-contiguous states and territories account for more than 50% of this ocean expanse. With this expansion, the Islands must adopt new responsibilities in monitoring, managing, and utilizing this new resource. These new responsibilities have been given little legal or financial support. The U.S. Flag Islands are either surrounded by or share boundaries with independent Island nations that are protected by the United Nations Law of the Sea Treaty (which the U.S. rejected and is not a signatory).

CONCERNS/ISSUES:

In working with the CZM work group members, it was felt that the EEZ issue was of priority importance, especially in the areas of technology transfer. A conference/workshop to focus on the problems, issues, and opportunities in the management and use of the coastal and ocean (living and non-living) resources was proposed for 1987. The major objectives of the conference would be as follows:

1. To address the existing and future roles in the management and use of coastal and ocean resources;
2. To attract appropriate expertise and to facilitate the sharing of ideas and information on these management responsibilities;
3. To publish conference proceedings and workshop recommendations on future Pacific Basin initiatives;
4. To develop a framework for future EEZ projects, including a strategy for financial and program support.

The PBDC Board approved this proposal and the submission of an application for Section 309 (CZM) funding at its June 1986 meeting.

A related matter is the Hawaii Undersea Research Laboratory (HURL) project. Additional funding was required to obtain a deeper ocean submersible (diving craft) for offshore exploration, particularly within the Pacific, than was currently available to the program. The new submersible would allow for on-site research in fisheries, pollution, sea floor processes, and ocean technology.

CURRENT STATUS:

On September 11, 1986, the Office of Coastal Resources Management of the U.S. Department of Commerce awarded PBDC a grant of $33,333 for a workshop on the EEZ issue; the conference which was originally scheduled for March 1987 was held on

July 8-10, 1987. A report on the conference will be presented by Bob Rudolph, Acting Coastal Zone Manager , CNMI, at the 1987 Annual PBDC Board of Directors Meeting scheduled for August 23-25, 1987 at Saipan.

SUPPORTING DOCUMENTS:

1. PBDC 1986 Program Status Report

GUAM'S EXCLUSIVE ECONOMIC ZONE ISSUES

The Pacific Island nations and nations surrounding the Pacific Basin (including Guam and the U.S.) have exclusive jurisdiction over living and non-living resources within the EEZ. In addressing the development of offshore mineral resources, GovGuam became a member of the CCOP/SOPAC which is an independent body designated to develop and promote the investigation of mineral potential in the South Pacific Ocean.

In addition, GovGuam and the USGS Menlo Park Office has developed a proposed USGS technical assistance program that will evaluate marine biology and potential marine hazards, and assist in developing geology educational program and the University of Guam.

SUGGESTED ACTIONS:

1. Continuation and support of Guam's membership in CCOP/SOPAC.

2. Implementation of the USGS Proposed Geological Studies.

DEPARTMENT OF COMMERCE
BRIEFING SERIES
DATE: 8/14/87

PROJECT: Guam's Exclusive Economic Zone Issues

SUMMARY/BACKGROUND:

The Pacific Island nations and nations surrounding the Pacific Basin (including Guam and the U.S.) have declared exclusive economic zones (EEZs) extending to 200 miles from shore and encompassing much of the Pacific Basin. Within the EEZ's, the nations have exclusive jurisdiction over the living and non-living resources. Offshore mineral resources in these zones may include placer deposits (gold, tin, platinum, titanium, chromite), ferromanganese nodules, cobalt-rich ferromanganese crust, polymetallic sulphides, metalliferous muds, and marine phosphorites. Although only placer deposits are presently commercially viable, it is likely that in the decades ahead commercial development will take place for several more of these resources.

CONCERNS/ISSUES:

1. Assessing Resources and Hazards in Guam's Exclusive Economic Zone.
2. Guam's EEZ is restricted in size by the CNMI in the north and by the FSM in the south. This reduces the total size of Guam's fishing grounds.

CURRENT STATUS:

Addressing the needs in the development of Offshore mineral resources, the Government of Guam became a member of the CCOP/SOPAC which is an independent body established to develop and promote the investigation of the mineral potential, including petroleum, shelves, platforms and floor, of the South Pacific Ocean. In addition, the committee provides assistance to promote, coordinate, plan and implement geological and geophysical energy studies and other related natural resource prospecting projects and basic investigation in the onshore, coastal and adjoining offshore areas of the member countries as well as ocean areas of the Pacific region.

In addition, as a result of mutal interest and efforts made by the Government of Guam and the USGS Menlo Park Office, there has been developed a proposed USGS technical assistance program that will evaluate our marine geology, potential marine hazards and assist us in developing an appropriate geology educational program at the University of Guam for the region.

The program covers a seven year period with a total cost of approximately $20 million. This comprehensive program integrates offshore and onshore studies of marine non-living resources and physical geology with educational assistance to the region, including the Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Palau, Marshalls and Guam. This program would benefit Guam in its evaluation, planning and development of the marine resources within Guam's EEZ, which can play an important role in Guam's future economic development. Since this is a regional program, with benefits to the former U.S.

Trust Territory Island countries as well as Guam, the strategic implications and importance of the program along with the potential benefits to the region should be realized by all parties concerned.

The Department of Commerce has been coordinating the development of this program since its initiation approximately a year and a half ago. These studies would be of significant benefit to Guam, both from the planning and development of our marine resources and Guam's role as a regional leader.

The project proposal underwent a technical review which was recently completed by USGS. This review is presented in USGS preliminary proposal document which is available at the Department of Commerce.

RECOMMENDED ACTION:

1. Continuation and support of Guam's membership in CCOP/SOPAC.
2. Implementation of the USGS Proposed Geological Studies in the Island Nations of Western Pacific.

SUPPORTING DOCUMENTS:

1. USGS Proposed Geological Studies in the Island Nations of the Western Pacific (Department of Commerce Briefing Series - 1/29/87).
2. Collection and Interpretation of Marine Geological Data from Guam and the Southern Part of the Northern Marianas Islands. A Preliminary proposal for U.S. Geological Survey Assistance in assessing Resources and Hazards in the Exclusive Economic Zone. (Prepared by Tracy L. Vallier, Branch of Pacific Marine Geology, USGS).

BROWN TREE SNAKE

In March 1987, a Brown Tree Snake Task Force was established. The objective of the Force is to coordinate the research, management and control activities of all agencies concerned with the eradication of the Brown Tree Snake on Guam and the prevention of its spread to other islands.

Predation by the tree snake is the primary cause of the near-eradication of Guam's native birds.

The Governor's first request in June, to the Secretary of Agriculture regarding assistance from the Animal Damage Control Program was denied. It was recommended by the Task Force that he send another letter requesting for reconsideration on the grounds that the snake is an agricultural pest on Guam. Specific arguments for this position are:

1) Brown Tree Snakes are a significant problem for subsistence level producers.

2) There is a significant threat to the export of agricultural products from Guam because of the presence of the snake.

3) The tree snake may also be viewed as being responsible for increasing Guam's susceptibility to the establishment of exotic insect pests through the near eradication of Guam's population of both native and exotic birds.

The need for containment and exclusion of the snakes has created new responsibilities for agencies involved in the transportation of goods and cargo. The containment and exclusion committee is currently working on developing protocol recommendations. The cooperation of Government of Guam agencies and private

sector entities in implementing these containment protocols as they are established can probably be assured through Executive Order, Legislative action, and regulatory mechanisms. Because a great deal of the shipping activity on Guam is conducted by military agencies, the cooperation of the military is essential as well.

SUGGESTED ACTIONS:

The Governor send another letter to the Secretary of Agriculture requesting the matter of research assistance from the Animal Damage Control Program to be reconsidered.

Declaration of the Brown Tree Snake to be an agricultural pest, by Executive Order, Resolution and other appropriate means.

Discuss, pertaining to the military, at whatever command level is determined to be appropriate, to ensure military cooperations, to consider the exclusion and containment problem when doing their planning and budgeting and that they dedicate the necessary time, money, and manpower to the problem of screening and sanitizing cargo.

The Brown Tree Snake - An Update

Brown Tree Snake Task Force

In March, 1987 a Brown Tree Snake Task Force was established as a result of a "white paper" entitled "The Biological and Economic Impact of the Brown Tree Snake on Guam and its Threat to Other Islands", which was prepared by the Division of Aquatic and Wildlife Resources. The objective of the Task Force, which is composed of a number of local and federal agencies as well as the Commonwealth of the Northern Mariana Islands, is to coordinate the research, management and control activities of all agencies concerned with the eradication of the brown tree snake on Guam and the prevention of its spread to other islands.

To that end, the Task Force has met regularly on a monthly basis. Two working committees have been formed. The Public Information and Education Committee has the task of developing educational and training material for the general public as well as to meet specialized needs including the training cargo handlers at both military and civilian port facilities. The Containment and Exclusion Committee is tasked with the responsibility of developing protocols and procedures to prevent the accidental introduction of this snake to other islands.

Research

The Department of Agriculture, Division of Aquatic and Wildlife Resources, has been conducting research for several years on the impact of the brown tree snake on native wildlife populations on Guam, and has determined the predation by the brown tree snake is the primary cause of the near-eradication of Guam's native birds, and that it is likely having a significant negative impact on Guam's remnant fruit bat population. The research emphasis of the Division's snake program is now changing from investigating the causes of the wildlife population decline to developing protective solutions and control measures. The Division's research effort will be closely coordinated with that of other agencies in order that maximum efficiency and progress is achieved. The Division has recently experienced a change in personnel assigned to the snake research effort and is now in the process of recruiting a new Biologist III with a specialty in herpetology to have prime responsibility for the Division's snake research.

Dr. Tom Fritts, a research herpetologist with the U.S. Fish and Wildlife Services National Ecology Center who is based in Albequerque, New Mexico, has been working in close cooperation with the Division of Aquatic and Wildlife Resources since 1984, largely on an ad hoc basis and with limited U.S. Fish and Wildlife Service funding support. Dr. Fritts' efforts have been limited by lack of adequate funding until recently.

In May, 1987, Dr. Fritts began the first fieldwork in a planned one year study of the impact of brown tree snakes on the electrical power system on Guam and the development of recommendations and techniques for protecting the power system. This $80,000 study is a cooperative effort between the Guam Power Authority, the U.S. Department of the Interior, and the U.S. Fish and Wildlife Service, with financial and logistical support contributed by all three parties. The Department of Interior has also tasked Dr. Fritts with scoping the entire snake problem and with developing a general strategy for long-term research and informational technology needs for the overall problem as a part of this study.

In recognition of the ecological and economic threat that brown tree snakes pose to other island groups should they be accidentally introduced, and the possible role of the military as vectors for such accidental introductions, the U.S. Air Force, through Headquarters, Strategic Air Command, and the U.S. Navy through the Naval Facilities Engineering Command, have each transferred $50,000 for Fiscal Year 1987 to the U.S. Fish and Wildlife Service's National Ecology Center to fund Dr. Fritts research efforts into the development of control and containment measures for the brown tree snake. This research will directly address the problem of controlling snakes on Guam, in cargo, and on other islands should snakes accidentally be introduced. This Air Force and Navy funding will be continued for at least three years and the funding lev'l may need to be increased as the research progresses. Dr. Fritts is actively beginning to implement this study at this time.

Private Efforts

With a donation received from a local business, the Marianas Chapter of the Audubon Society has produced a poster illustrating the great ecological and economic impact that the brown tree snake has had on Guam and the significant threat that it poses for other island groups should it be accidentally introduced. They are distributing the poster on Guam as well as to other island group throughout the Pacific Basin.

Issues

Request for assistance from the U.S. Department of Agriculture's Animal Damage Control research program.

The Governor's request dated June 15, 1987 to the Secretary of Agriculture regarding research assistance from the Animal Damage Control (ADC) program of the U.S. Department of Agriculture was denied in a letter dated July 31, 1987 from Ms. Karen K. Darling, Deputy Assistant Secretary for Marketing and Inspection Services. Her letter maintained that "...Because the brown tree snake is not considered primarily as an agricultural pest, we do not believe that it is an appropriate subject for ADC research..." This position is particularly unfortunate as the USDA ADC research program is uniquely qualified to perform certain types of needed research, particularly that necessary to test, develop, and register toxicants for the control of the snake. This program, which until last year was a part of the U.S. Fish and Wildlife Service, has long experience in the development of chemical controls for many pests including vampire bats, coyotes, various birds and various rodents, and their expertise and facilities could be invaluable in developing toxicants for brown tree snakes.

The denial of this request was a topic of discussion at the August 12 meeting of the Brown Tree Snake Task Force. It was recommended that the Governor send another letter to the Secretary of Agriculture requesting that the matter be reconsidered on the grounds that the brown tree snake is an agricultural pest on Guam and it poses a significant threat to the agricultural economies of other islands in the Pacific Basin. Specific arguments for this position are:

1. Although Guam does not have a large commercial poultry industry, there is some commercial egg production and a great deal of subsistence-type poultry and other livestock production. Brown tree snakes are a significant problem particularly for the subsistence-level producers, as they eat eggs and chicks, kill chickens, ducks, rabbits, baby goats, piglets, and even puppies. Some persons have even had to abandon raising pigeons because of snake depredation. Subsistence-level poultry and livestock production is a major part of the

economies of many areas in the Pacific Basin, and the introduction of the brown tree snake into these areas could have disastrous consequences.

2. There is a significant threat to the export of agricultural products from Guam because of the presence of the brown tree snake here. Because of the great risk of this snake being accidentally introduced to other insular areas, it is conceivable that other island groups could embargo or quarantine shipments of agricultural commodities and other goods from Guam unless expensive measures are taken on Guam to ensure that such shipments are snake-free. Hawaii State Senate Resolution No. 82, S.D.-1, a copy of which is enclosed, is an example of the great concern expressed by other island groups regarding the threat of accidental introduction of the brown tree snake. If effective control measures are not forthcoming, it is very possible that the next step could be to impose special quarantine measures if not an outright embargo on Guam products. Should the snake become established on other islands, similar export constraints could threaten their agricultural economies as well.

3. The brown tree snake may also be viewed as being responsible for increasing Guam's susceptibility to the establishment of exotic insect pests through the near eradication of Guam's populations of both native and exotic birds. Because of the elimination of insect eating birds, it may be much easier for exotic insect pests that are accidentally introduced to become established. Guam already suffers greatly from a number of insect pests of agriculture that perhaps may not have become established on Guam had we a normal population of insectivorous birds.

A letter for the Governor's signature has been drafted and is attached for consideration.

It is recommended that the Governor raise this issue with the Pacific Basin Development Council. The governors of the other island groups represented in PBDC may desire to forward their own individual requests to the Secretary of Agriculture supporting the need for USDA ADC research participation in the brown tree snake problem. PBDC itself may desire to petition the Secretary of Agriculture for such assistance by resolution.

Other suggestions that were made at the Task Force meeting that warrant consideration include the declaration of the brown tree snake to be an agricultural pest by Executive Order of the Governor, by Resolution of the 19th Guam Legislature, or by other appropriate means.

Containment and Exclusion Policies and Protocols

A problem that was discussed at the August 12 meeting of the Brown Tree Snake Task Force was the fact that the need for containment and exclusion of brown tree snakes has created some new responsibilities for agencies involved in the transportation of goods and cargo. For example, Customs and Quarantine, which is accustomed to screening incoming cargo in an attempt to exclude pests, may find itself tasked also with the responsibility of screening outgoing cargo to ensure that snakes are kept on Guam and not accidentally exported. Operators of port facilities and private sector establishments involved in shipping may find themselves in a similar situation, with added responsibilities to sanitize their cargo storage and handling areas to reduce the probability of snake contamination and to inspect outgoing shipments to ensure that no snakes are exported. The problem is how to get the

various agencies and private sector entities involved to accept these new responsibilities and to provide for them in their planning and budgeting.

The importance of the development and implementation of snake exclusion and containment protocols cannot be over emphasized, Because of the risk that accidental introduction of the brown tree snake poses to other islands, there exists the very real possibility that Guam's shipping and export industry could be adversely affected through the imposition of embargos or quarantine requirements for shipments originating on or transiting through Guam.

The containment and exclusion committee is currently working on developing containment and exclusion protocol recommendations. The cooperation of Government of Guam agencies and private sector entities in implementing these containment protocols as they are established can probably be assured through Executive Order, Legislative action, and regulatory mechanisms. Because a great deal of the shipping activity on Guam is conducted by military agencies, the cooperation of the military is essential as well.

The question of how to ensure military cooperation in sanitizing cargo storage and handling areas and in screening outgoing cargo was discussed. Whether direct requests to local commanders would suffice or whether cooperation should be requested through higher level authority was discussed and the consensus, supported by the Navy's representative, was that higher level Navy commands be contacted for support, at least at the CINCPACFLT level, and possibly through Offices of the Secretaries of the Air Force, the Navy, and Department of Defense.

It was suggested that this would be a fitting topic for discussion at PBDC, particularly with regard to a request by PBDC, the Governor of Guam, and the other Governors within PBDC to the military at whatever command level is determined to be appropriate, to consider the exclusion and containment problem with brown tree snakes when doing their planning and budgeting, and that they dedicate the necessary time, money, and manpower to the problem of screening and sanitizing cargo to ensure that snakes not be accidentally transported form Guam. Close cooperation between the military, the Government of Guam, and the Governments of the various cargo destination locations will be absolutely vital if exclusion/containment efforts are to be effective.

THE ECOLOGICAL AND ECONOMIC IMPACT OF THE BROWN TREE SNAKE ON GUAM AND ITS THREAT TO OTHER ISLANDS

Prepared by
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Arrival of the Brown Tree Snake on Guam

The first sighting of the brown tree snake *Boiga irregularis* on Guam was recorded in the village of Santa Rita near Apra Harbor in the early 1950's. It is unclear how the snake first arrived on Guam. It may have arrived accidentally on military cargo or been intentionally introduced to control rodents. By 1970, this snake was well established in the southern areas of the island and continued to expand its range northward. At the present time, it is found throughout the island.

Biology of the Brown Tree Snake

The brown tree snake is native to parts of Australia, New Guinea, and the Solomon Islands. It is rear-fanged and kills its prey by both injecting venom and constriction. Although most brown tree snakes are less than 8 feet in length, one was recorded at 11 feet on Guam. The majority of snakes are in the 3-4 foot range. Brown tree snakes are excellent climbers and can support most of their body weight with their tail, enabling them to stretch both vertically and horizontally. Although they are primarily found in shrubs and trees, they are also observed foraging on the ground. The snake is very adaptable, and on Guam, it occurs not only in forest and scrub habitat but also in urban areas. Snakes have been found in homes, vehicles, and almost every imaginable hiding place, including the emergency room of Guam Memorial Hospital.

Brown tree snakes are generalist feeders and consume a variety of animals. In both its native range and on Guam, the snake subsists primarily on small mammals (rats, shrews, and mice), lizards and their eggs, and birds and bird eggs. However, the snake is adaptable and has even been seen eating dog food. One snake examined at the Guam Division of Aquatic and Wildlife Resources contained 3 spareribs.

Data from the Guam Division of Aquatic and Wildlife Resources and from herpetologists who have visited Guam indicate very high densities of brown tree snakes on the island. This may be due in part to the lack of diseases and predators of the snake on Guam. Other than humans, snakes are occasionally killed by feral pigs, monitor lizards, cats, and dogs.

Much remains to be learned about reproduction in the snake. Preliminary studies at the Guam Division of Aquatic and Wildlife Resources indicate brown tree snakes may reproduce year-round, though there may be a breeding peak in the rainy season. Few clutches have been found in the wild, but it appears that snakes may lay up to 12 eggs. Cool, dark locations such as crevices, tree cavities, and the crowns of coconut trees are used for nest locations.

The Impact of the Snake on Guam

Native Birds

Research conducted by the Guam Division of Aquatic and Wildlife Resources has found the brown tree snake responsible for the declines and extinction of Guam's forest birds. Historical records and interviews with local residents have documented a close correlation between the range expansion of the brown tree snake on Guam and the range contraction of Guam's forest birds. Birds and bird eggs comprise almost a third of the snake's diet on Guam.

As the snake population increased in the southern part of the island, the bird population of that part of the island declined drastically. Until the late 1970's and early 1980's, the northern limestone forest was the only area that supported native birds. However, with the expansion of the snake's range into the northern areas of the island, the bird population also declined. Seven of the ten native birds were placed on the U.S. Endangered Species List in 1984. The Guam Broadbill (Chuguangguang), found nowhere else in the world, has not been observed since 1984.

Because the number of native birds in the wild is so low, two of them, the Guam Rail (Koko) and the Micronesian Kingfisher (Sihek) are being captive bred in mainland zoos. The Koko is also being successfully bred on Guam by the Division staff. However, before the rails and kingfishers can be reintroduced to Guam, the brown tree snakes will need to be controlled.

Bats

There is evidence that the snake may be impacting the fruit bat colony on Guam. A young fruit bat which appeared to have been killed by a snake was found by a staff biologist. An unconfirmed report of a local resident finding three young fruit bats in the stomach of a snake had previously been brought to the attention of staff biologists. Research has also revealed a dramatic decrease in the proportion of young fruit bats in the main colony on Guam, suggesting that snakes may be preying on the young bats at roosts.

Small Mammals

Trapping data indicate that small mammals (rats, mice, shrews) also show a pattern of decline similar to Guam's birds and are now rare in forest and scrub habitats.

Lizards and Geckos

Snakes may be impacting certain lizard populations. At least one species of gecko, once commonly found in limestone habitat, appears to be less common and difficult to find.

Native Forest

There may be more subtle secondary effects from the loss of Guam's native animals. For instance, plants that have evolved to depend on Guam's forest birds and fruit bats for pollination or seed dispersal may eventually become rare, thereby changing the composition of the island's forests. Birds have also been shown to help keep certain insect populations in check, and some potentially harmful insect species could possibly increase now that most of Guam's birds are extinct.

Domestic Animals

Brown tree snakes are also a problem for domestic animals. Many people on Guam have given up raising pigeons because of snake problems. The Guam Division of Aquatic and Wildlife Resources has received numerous complaints of snakes consuming valuable pet birds, young chickens, and chicken eggs, and there are reports of snakes also killing puppies, rabbits, and even a young goat.

Human Beings

Human encounters with snakes frequently occur because snakes are often found in urban areas where foods such as rats and chicken eggs are readily available. Although the venom is not known to be dangerous to humans, there are several instances of snakes biting young children and adults while they are sleeping. The Division has received reports of at least four infants (one only 2 months old) being bitten on the face, fingers, or legs while in their cribs. One woman was awakened by her baby's cries and found a snake with three of the baby's fingers in its mouth. Recently a snake was found wrapped around the body of a sleeping child. Adults have also awakened to find snakes in their beds, and there are several reports of snakes attempting to bite the eyelids of sleeping people.

In Australia, the brown tree snake is commonly called the "night tiger" and as this name suggests, it can be very aggressive when defending itself. It will repeatedly strike and will try to bite when cornered, and many residents of Guam have had uncomfortable or frightening encounters. One woman was driving her vehicle with her young daughter when a snake crawled out of the air conditioner vent. An encounter such as this could easily result in an accident.

Economy

Besides affecting wildlife, domestic animals and humans, the brown tree snake has also had a major economic impact on Guam. The most obvious impact has been on the island's electrical system. Snakes

climb on electrical transmission lines and short circuit wires that result in power outages. Guam Power Authority recognizes the snake-caused power outages as one of their major problems. Costs are estimated in the millions and include: 1) damage to the electrical distribution equipment; 2) increased maintenance and costs for emergency repair crews during the night; 3) loss of revenues during outages; 4) damage to equipment of electrical consumers due to voltage drops, surges, and repeated outages; 5) increased need for backup generators and transformers to protect against surges and for other duplicate supply routes; and 6) loss of goods and business by consumers during outages. Recently, a snake caused an island-wide power outage resulting in loss of power for over 12 hours as well as loss of water in some areas for up to a week.

Lastly, although not as obvious as the power outages, snakes adversely affect Guam's tourist industry. Tourists expect to see birds when visiting a beautiful tropical island and many express disappointment at the paucity of birds on Guam. Encounters with this aggressive snake and any loss of comfort due to snake-caused power outages, undoubtedly impact a negative aspect to the tourist experience.

Threat to Other Islands

Because Guam is an important military base, has a major port, and is a hub for air and ocean traffic in the western Pacific, there is a very real danger of transporting snakes in military and commercial air and sea cargo to other locations in the Pacific. A half-dozen brown tree snakes were recently found in the cargo hold of a ship loaded with scrap automobiles destined for Korea. There are several instances of brown tree snakes being found on Navy aircraft at Naval Air Station, Guam. At least two brown tree snakes have already been found in airports on Oahu, Hawaii. There is a high probability of snakes being transported to other islands in the Marianas by the military. Tinian is especially at risk because of its use by the military for training exercises and the repeated importation of equipment and other materials from various locations, including Guam and Okinawa. A venomous snake, the habu, is frequently found on military bases in Okinawa and could also be introduced to Tinian or Guam.

There are several other factors besides the large volume of air and sea traffic originating in Guam that contribute to the high probability of snakes being transported off of the island. First, snakes have reached exceptionally high densities on Guam. Secondly, snakes have invaded urban and commercial areas in search of food. As they move into these areas, they are forced to seek day retreats in warehouses or among equipment, construction materials, crates and vehicles that could be sent to other islands. Third, this snake is very slender and can squeeze into small cracks and hiding places. Fourth, snakes can survive for long periods without eating, making it possible for them to live in cargo for several weeks or longer. Finally, this snake is secretive and nocturnal making detection particularly difficult.

The introduction of brown tree snakes to other islands would be devastating. Bird populations would undoubtedly be severely impacted. Endemic birds are found on most islands in Micronesia. Hawaii's native birds are already endangered and the introduction of the snake might result in the complete demise of the birds. Additionally, because of the lack of electrical backup systems on most Micronesian islands, the impact of the snake on their power supplies would be far worse than on Guam.

Potential Control Measures

Various methods have been employed to control snake populations on a small scale in other parts of the world, and some of these methods may be applicable to Guam. Herpetologists from the U.S. Fish and Wildlife Service have initiated studies, but adequate funding has been difficult to obtain. Possible mechanisms to control snake populations include trapping by hand or through use of attractants, repellents, and chemical or biological control using a specific disease or parasite. There is no quick and easy solution. All potential control techniques will require considerable testing, both in the lab and field.

A primary aim should be to develop methods to prevent brown tree snakes from invading other islands in the Pacific. Inspection and control methods specific for high risk cargos and cargo holding areas need to be developed. There must be stringent inspection by customs and quarantine officers on other islands of all cargo, aircraft and ships originating in Guam or transiting through Guam. The U.S. Navy, U.S. Air Force, Guam Port Authority, Guam Airport Authority, and Guam Division of Customs and Quarantine should develop effective measures to screen all outbound cargo, aircraft and ships on Guam to prevent the accidental exportation of snakes. Containerized cargo could possibly be fumigated on Guam prior to shipment. To monitor for snake entry, regular searches of trees and underbrush adjacent to cargo areas on other islands should be conducted at night for snakes and during the day for shed snake skins by wildlife officials, customs and quarantine officers and/or port security officers.

Actions to be Taken

Because the brown tree snake is a regional problem, government agencies at both the local and federal level and regional organizations must firmly commit themselves to its control. The U.S. Fish and Wildlife Service must continue research on methods for either eradicating snakes on Guam or reducing their population to a level where it will be of minimal impact to the community and develop strategies to prevent or minimize the introduction of the snake to other islands in the Pacific. The Guam Power Authority should support research on techniques applicable to a general reduction in snake populations as well as specific measures for protecting their electrical equipment. Both the military (U.S. Navy and Air Force) and the agriculture quarantine inspection agencies on Guam and on other Pacific islands should develop measures to prevent the spread of the brown tree snake. Regional organizations such as the South Pacific Commission, Pacific Basin Development Council, and Association of Pacific Island Legislatures should be made aware of the snake problem on Guam and the threats to other islands. These organizations should support efforts to control the snake on Guam and prevent its spread. A task force should be appointed by the Governor of Guam to ensure that snake control is a priority issue. Members of the task force should include the following: 1) Government of Guam: Department of Agriculture (Division of Aquatic and Wildlife Resources), Guam Power Authority, Department of Commerce (Customs and Quarantine), Guam Port Authority, Guam Airport Authority, Bureau of Planning, and University of Guam (College of Agriculture & Life Sciences, Cooperative Extension Service); 2) U.S. Federal Government: U.S. Fish and Wildlife Service, U.S.D.A. Plant Protection & Quarantine, U.S. Navy, U.S. Air Force; and 3) Commonwealth of the Northern Mariana Islands: Department of Natural Resources (Division of Fish and Wildlife).

It is probably unrealistic to hope for total eradication of the snake on Guam. With adequate funding it should be possible to develop a means of protecting the islands's power supply, and it may be possible to reduce the snake population enough to allow reintroduction of some of the native birds and to at least minimize the impact of the snake on domestic animals and reduce human encounters. With a reduction of snakes on Guam and proper screening procedures, the chances of introducing this menace to other islands will be minimized. Once control methods are developed, close cooperation will be needed between the Government of Guam, the military, and the governments of the various islands in the Pacific.

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BROWN TREE SNAKE

FACT SHEET

The brown tree snake is an introduced species on Guam. It is native to the Solomon Islands, Papua New Guinea, and the northern coast of Australia.

The snakes probably arrived to Guam hidden in ship cargo from the Papua New Guinea area.

The brown tree snake was first documented in the Agat area of Guam in the early 1950's, and first became conspicuous in Central Guam in the 1960's.

This snake is an able climber, and most at home in trees and shrubs where it forages at night using its keen sense of smell and sensitive night vision to encounter lizards, birds and mammals. It is equally able to invade homes, commercial buildings and other urban habitats in search of food and hiding sports.

In the absence of natural predators and other population controls, the snakes have reached high population levels on Guam and become a pest species causing ecological and economic problems. Pigs and monitor lizards (halitai) eat snakes, but are ineffective population controls in most areas of the island. Many snakes die crossing roads, on electrical lines, and when discovered by man, but despite this mortality, snake abundance remains high in nearly all forested, urban, and savannah habitats throughout Guam. In some forested areas of Guam, snake density may be several thousand per square mile.

The brown tree snake does not occur in the Philippines or farther west than Sulawesi in Indonesia. Thus it is incorrect to refer to the snakes on Guam as Philippine Rat Snakes.

Guam has only one other snake, a tiny blind snake that lives in the soil and feeds on the eggs and young of termites and ants. The blind snake is dark grey or black in color, harmless to man, and no longer than a pencil.

The brown tree snake reproduces by depositing up to 12 leathery shelled eggs that are abandoned by the female in caves, hollow trees, or other places where they are somewhat protected from drying out and overheating.

The young snakes are about 15 inches in length when they hatch about 90 days later, but may reach lengths of 3 ft. in about 1 year. Snakes are about 4 to 5 ft. long when they first reproduce.

The brown tree snake is a venomous species that kills its prey by chewing to inject the venom. It is not known to be dangerous to man but special precautions should be taken to keep snakes away from infants and small children. Bites should be carefully cleaned, the person bitten should be monitored closely and if any unusual symptoms appear medical attention should be sought.

The brown tree snake is aggressive when threatened. It will often raise the anterior body in a striking position, flatten the head and neck to appear larger, and attempt to bite as it lunges forward.

The snake is relatively strong and holds its prey by wrapping its body around the animal. Snakes can be easily removed by unwrapping them starting at the head or tail. The brown tree snake poses no danger of strangulation or injury from constriction to humans (with the possible exception of small children).

The brown tree snake has virtually wiped out the native forest birds of Guam, and birds persist on Guam only in urban areas and other developed sites where snake density is limited by human activity and inappropriate habitat conditions.

Snakes crawling on electrical lines frequently cause power outages and damage electrical lines maintained by Guam Power Authority and Naval Public Works. Power outages caused by snakes are a significant economic burden to nearly all civilian and military activities on Guam.

Snakes frequently invade poultry houses, homes, and yards to consume domestic poultry, eggs, pet birds, and small mammals associated with residential areas. The snakes feed on a wide variety of animals including lizards, birds, and small mammals.

A host of economic and ecological problems like those currently present on Guam would be likely to develop if the brown tree snake reaches other Pacific Islands.

The Governor of Guam has appointed a special snake task force to help address the snake problems on Guam and to help prevent the spread of the snakes to other islands. The cooperation of federal agencies, other Pacific Island governments and a wide range of GovGuam agencies is needed to address this important problem.

STRATEGIES FOR REDUCING SNAKE INTRODUCTIONS TO OTHER PACIFIC ISLANDS FROM GUAM

Prepared by: T. H. Fritts, U.S. Fish and Wildlife Service

The Brown Tree Snake poses a threat to the ecology, economy, and general quality of island life on Guam and is likely to cause similar problems on a variety of other islands in the Pacific Region if the snake becomes established through intentional introductions or passive dispersal. The most likely mode of future dispersal will be snakes arriving to new islands as stowaways in cargo. Numerous examples of this snake being carried to islands in military and civilian cargo exist and illustrate the importance of a program to reduce these incidents. The task of preventing snakes from being carried from Guam to other Pacific Islands is a complex one involving several elements and a diversity of governmental agencies and private companies. The success of any effort to minimize the chance of dispersal will involve active programs on Guam as well as on the islands judged most likely to receive the snake.

A 100% effective effort to prevent snakes from leaving Guam and arriving onto other islands may not be feasible, but any success in reducing the number of incidents could be important in preventing the establishment of additional populations. The chances of new populations being established depends upon the existence of a sufficiently large number of snakes to constitute a propagule (reproductive population). The minimal number of snakes that could constitute a propagule would be a single female carrying fertilized eggs or carrying sufficient sperm to fertilize a yet to be produced clutch of eggs. Such a propagule could eventually result in a small number of juvenile snakes all closely related and incapable of reproducing until they became sexually mature. The chances of sufficient numbers of the young living to adulthood, finding other individuals of the corresponding sex to allow reproduction, and tolerating the genetic inbreeding of mating with individuals with the same mother and father (siblings) are relatively low. A more likely scenario for a successful propagule would be the arrival of several individuals including both adults and juveniles over a period of time with some individuals dispersing away from the others and others dying due to chance events, but the successful founders in habitats close to the point of arrival experiencing high survival. Every individual snake does not constitute a potential propagule, but each individual contributes to the overall probability of the successful establishment of an introduced population. Thus patterns of repeated occurrence in specific types of cargo and multiple incidents of snake arriving to the same port or cargo destination are extremely important to preventing the spread of the Brown Tree Snake problem. The discovery and capture of a single is an important preliminary step in the

process, but more importantly should heighten awareness and continued vigilance for others arriving in the same or similar ways. Search for patterns in arrivals will be the key to identifying the highest risk vectors for the snakes arriving onto a new island. Early detection of newly established populations is critical to any attempt to eradicate or control this snake. Recently arrived snakes will be in the immediate vicinity whereas dispersal into more isolated habitats will occur as time passes.

Activities on Guam could reduce the numbers and likelihood of snakes leaving Guam in cargo or baggage destined for high risk islands. Activities on other islands will require vigilance to detect, capture and eradicate any snakes that might arrive and therefore reduce the probability of a self-propagating population becoming established.

The possibility of snakes dispersing from Guam to other islands is greater than the danger of the snakes dispersing from the islands on which it is native because high populations exist in Guam. Apparently the absence of effective population controls on Guam have allowed the snakes to survive even in urban areas where snakes have greater access to air and ship cargo. Snakes have invaded and are likely to continue to move into urban, suburban, commercial, and military facilities in search of prey, especially the introduced birds, rodents, and lizards that thrive in disturbed and developed habitats. Once in developed areas, the snakes are forced to seek daytime retreats in equipment, materials, warehouses, and vehicles. A wide range of food sources and hiding places could exist in maritime ports and airports, and a resident population of snakes constitutes a source of snakes to be dispersed off island as passive stowaways.

Informing the widest possible community of people on Guam of the potential problems will be the first step toward reducing this threat. Increased awareness of the advantages to preventing the spread of the brown tree snake will contribute to the effort to detect, capture, and exclude snakes from export cargo and from the cargo dispatch areas. By pooling the experience of the diverse community of people and organization involved in transportation and cargo movements from Guam, the effort to exclude snakes can be focused on those transportation elements that pose the greatest risk of involving snakes. The organization of training for military and civilian personnel, preparation of technical information summaries, and the establishment of protocols for detecting and reporting potential problems are needed. At present no procedures exist for responding to the discovery of snakes in cargo destined for other Pacific Islands, and any detection would be a fortuitous event equally likely to generate an inadequate or overzealous response, while other incidents occur without notice.

Activities on other islands will be no less important to preventing colonization of those islands. The first priority will be informing appropriate governmental agencies and the development of cooperation and communication between the diverse organizations involved in transportation, inspection, and distribution of cargo from off island. Because most island residents will be unfamiliar with snakes, training of personnel in detecting snakes and responding to sightings will be needed. The degree of threat to any island will depend upon the type of cargo and traffic from Guam, the frequency of such shipments, and the specific conditions at the point of disembarcation. Initially contacts should be made with at least five islands or island groups. These are: Commonwealth of the Northern Mariana Islands (Saipan, Tinian, and Rota), Belau, State of Hawaii, Nauru, and the Federated States of Micronesia (Yap, Pohnpei, and Truk). These islands are judged to be at higher risk than other islands in the Pacific based on a preliminary assessment of the amount of traffic to them from Guam and their likelihood of having habitats capable of supporting brown tree snakes. Sightings of brown tree snakes exist for several islands with varying amounts of military traffic from Guam: Kwajalein, Wake, Oahu, and Diego Garcia. Tinian may be at special risk because of past and future military use of the North Field area under lease to the Navy. Traffic from Guam to Okinawa, other Japanese islands, and the Philippines is judged to involve considerably less risk because these areas support native snake faunas reducing the chances of successful colonizations by the Brown Tree Snake and increasing the probability that native birds would have anti-predator behaviors lacking in the native birds of Guam and other small oceanic islands.

The risk posed by military traffic will require especially close coordination of the diverse military units involved in the transportation of equipment, supplies, and personnel from or through Guam. For security reasons and because the number, magnitude, and complexity of military transportation routes worldwide are so great, the detection and eradication of snakes in military traffic should be done by the military potentially under the control of the Military Customs. The already conspicuous pattern of brown tree snakes being carried to new islands as a result of military traffic justifies a conscientious and through approach to this problem by all military commands.

Procedural Steps For Preventing the Dispersal of Snakes to Other Islands.

1. Review of risks and determination of most probable sources of dispersing snakes.
    a. Passive dispersal in maritime and air traffic.
    b. Deliberate introductions by man for profit, pets, vandalism.

2. Develop information materials to inform the following groups of people:

a. Residents of Guam

b. All military personnel assigned to bases on Guam and all personnel temporarily assigned on Guam.

c. Personnel of all agencies involved in inspection of cargo and luggage shipped from Guam and the carriers (cargo and passenger).

d. Personnel of all agencies involved in inspection of cargo and luggage arriving from Guam to high risk islands (examples include customs, agricultural, health, and security agencies).

e. Stevedores and airport workers most likely to discover stowaways during loading and unloading.

f. Wildlife and natural resources personnel most likely to receive reports of snakes discovered on high risk islands.

g. Employees of companies involved in packing, storing, and moving civilian and military household effects.

h. Military personnel involved in packing, storing, inspecting and shipping equipment, supplies, and vehicles.

i. Military customs.

j. Military personnel assigned to missions that require frequent travel to other Pacific islands.

3. Reduce density of snakes in and around cargo dispatch areas and other transportation facilities on Guam.

4. Develop methods of detection and capture in cargo areas.

5. Develop procedure for reporting sightings, identifying snakes, responding to reports, and analyzing patterns of occurrences.

6. Use data from 5 to focus control efforts and maximize effectiveness of program.

7. Identify islands most likely to receive snakes from Guam, criteria to include:

a. Number of persons traveling to island from Guam.

b. Amount of cargo shipped to island from Guam.

c. Likelihood of snake being successful on island.

d. Extent of damage that might occur is snakes do become established.

e. Number of household moves to island from or through Guam.

f. Number of maritime and air arrivals from Guam, amount of time spent there, and opportunities for snakes to actively or passively disembark.

8. Inherent in 7 is a need for analyzing major traffic patterns from Guam and attempting to identify high risk islands on which most activities will be focused.

Examples of questions that might need to be addressed include the following:

How close must a snake be to a cargo or transportation center to be of concern?
To whom should occurrences be reported?
Who is responsible for making decisions about actions needed to reduce or control snakes at each transportation or cargo facility?
When a snake is discovered in cargo destined for off island, should a search be made for others. If so for how long, and who makes the decision to ship, delay, or reprocess the shipment?
What office has central responsibility for receiving information on the occurrence of snakes in cargo and vessels? What records are kept of preventative measures taken?
What can be done about vegetation, exposure of cargo to boonie situations, and rat or mouse infestations that might attract snakes?
How do operational personnel resolve the potential conflict between the need to process shipments on schedule and the risk that snakes will be shipped with it?
On what schedule should a facility be evaluated for snake risks, who should be involved in this process, and how are the other employees and operational personnel informed and offered input into the preventative program?

THE SENATE
FOURTEENTH LEGISLATURE, 1987
STATE OF HAWAII

S.R. NO. 82 S.D. 1

SENATE RESOLUTION

URGING THE STATE DEPARTMENT OF AGRICULTURE TO AGGRESSIVELY PREVENT THE INTRODUCTION OF THE BROWN TREE SNAKE INTO HAWAII THROUGH A COOPERATIVE PROGRAM WITH OTHER STATE, FEDERAL AND TERRITORIAL AGENCIES

WHEREAS, the Brown Tree Snake (Boiga irregularis) is an aggressive, venomous snake native to Papua, New Guinea and northern Melanesia, which was accidentally introduced to Guam in the late 1940's; and

WHEREAS, Brown Tree Snakes are capable of causing personal trauma by biting people and invading houses; and

WHEREAS, these snakes are able to climb utility poles, causing electrical short circuits and have been responsible for millions of dollars of power outages in Guam; and

WHEREAS, the Brown Tree Snake has reached high population levels, and become a harmful introduced pest species in Guam and has virtually eliminated the native and introduced bird fauna; and

WHEREAS, these snakes are nocturnal, arboreal and specially adapted to seek out and feed on birds by climbing trees and moving into or through very small spaces; and

WHEREAS, Brown Tree Snakes are particularly successful in island environments where they have no natural enemies and where birds have evolved without having to avoid predatory snakes; and

WHEREAS, Hawaii has 46 species and subspecies of land birds found nowhere else in the world, of which 30 are already considered in danger of becoming extinct; and

WHEREAS, these snakes are also capable of destroying animals other than native birds (for example, poultry, puppies and piglets); and

WHEREAS, the Brown Tree Snake is a good colonizer because it is nocturnal, hiding during the day in cool, dark places, where it can be easily carried onto ships and aircraft in cargo, and it is capable of surviving long periods without food and thrives in disturbed and urban habitats, and it is possible that a single female with eggs could start a population in Hawaii; and

WHEREAS, it has been accidentally moved, most likely in ships or on aircraft, to the islands of Wake, Saipan, Diego Garcia, and at least twice to Oahu (1981 and 1986); and

WHEREAS, there is a high probability that Brown Tree Snakes will disperse from Guam to other islands with the unintentional help of man, and cause extreme damage to bird faunas and the human environment; and

WHEREAS, there are almost daily flights as well as frequent boats bringing cargo to Oahu from Guam; now, therefore,

BE IT RESOLVED by the Senate of the Fourteenth Legislature of the State of Hawaii, Regular Session of 1987, that the State Department of Agriculture; the U.S. Department of Commerce, U.S. Customs Service; the U.S. Department of Agriculture, Animal Plant and Health Inspection Service; the U.S. Armed Forces in Hawaii and the Pacific; the U.S. Fish and Wildlife Service and all commercial flight or maritime cargo transporters are requested to cooperate to develop a more stringent program of cargo inspection, both in Guam and in Hawaii. The plan should make both commercial and military transportation personnel, cargo handlers and the general public aware of the threats by snakes and to develop better methods of detection and capturing snakes in areas where they already occur to prevent their entrance into cargo and transportation facilities from which they could establish additional populations; and

BE IT FURTHER RESOLVED that these agencies cooperate with Federal, State and Territorial wildlife agencies technically and financially to develop effective and comprehensive control programs to:

1) prevent the immigration of the snake from Guam to other islands in the Pacific region and California;

2) completely eradicate the Brown Tree Snake immediately on any island where, despite all preventive efforts it is introduced and found alive; and

3) eradicate or at least control the snake in Guam where it is currently found outside its natural range; and

BE IT FURTHER RESOLVED that that State Department of Agriculture shall be the lead agency in initiating the development of such programs and prepare a progress report to be submitted to the Legislature of the State of Hawaii 20 days before the 1988 session; and

BE IT FURTHER RESOLVED that duly certified copies of this Resolution be transmitted to the Congressional Delegation of Hawaii and Guam; Chairperson, State Department of Agriculture; Chairperson, State Department of Land and Natural Resources (DLNR); the Secretary, U.S. Department of Agriculture; the Secretary, U.S. Department of the Interior; the Secretary, U.S. Department of Commerce; Commander-In-Chief, CINCPACFLT; Commander, 15th Air Wing Base, HAFB; Commander, U.S. Army Support Command, Ft. Shafter; Entomologist, HAFB; Director of Planning and Programs, Pacific Basic Development Council; District Director, U.S. Customs Honolulu; Area Director, USDA-APHIS-PP&Q; Chief, Division of Aquatic and Wildlife, Territory of Guam; Forestry and Wildlife Administrator, DLNR; Director, Department of Agriculture, Government of Guam; Director, Department of Commerce, Government of Guam; Deputy Port Operations Officer, HAFB; Project Leader, Office of Environmental Services, U.S. Fish and Wildlife Services; Director, Honolulu Zoo; Supervisor-in-Charge, Frank E. Basil, Inc.; Operations Manager, Naval Supply Center; Cargo Manager, South Pacific Island Airline; Cargo Supervisor, Continental Airlines; Container Yard Manager, Matson Navigation Company; Operations Manager, T.H. Davies Marine Agencies, Inc.; Operations Manager, U.S. Lines; Manager, Fred L. Waldron, Ltd.; Manager, Sause Bros. Ocean Towing; Operations Manager, Hawaii Stevedores; Operations Manager, McCabe, Hamilton & Renny Company, Ltd.; and Wildlife Biologist, PACDIVNAVFACENGCOM.

I hereby certify that the foregoing is a true and correct copy of Senate Resolution No. 82, SD1 which was duly adopted by the Senate of the State of Hawaii on April 23, 1987

Dated: May 8, 1987

Clerk of the Senate

4330E

SYNOPSIS

"INTEGRATED RENEWABLE RESOURCE MANAGEMENT FOR THE U.S. INSULAR AREAS"

This OTA study, prepared for the U.S. Congress, outline the problems associated with natural resource management and development in the U.S. insular areas, and presents options for federal action designed to increase island self-sufficiency in the resource utilization area.

Shortcomings of the study include; dealing with all insular areas (Pacific and Caribbean) as a single problem, rather than addressing the uniqueness of each island situation; lack of island participation in the policy making process; and lack of understanding of military impacts on the resources. This Study, however, presents an opportunity for the islands in resolving long-standing problems vested by past policy.

"INTEGRATED RENEWABLE RESOURCE MANAGEMENT FOR THE U.S. INSULAR AREAS"

Suggested Actions:

1. Island leaders should present Testimony on the OTA Study to the House Subcommittee on Insular and International Affairs, on September 15 and 17.

2. Each Island should review the options listed in the study to determine specific policies or actions to be taken by the federal government.

3. A PBDC working group should determine actions to be taken for the Pacific insular areas as a whole.

4. A Pacific working group should meet with a counterpart Caribbean working group, to determine actions which could be taken for insular areas as a whole.

BRIEFING PAPER

ON

OTA STUDY

"INTEGRATED RENEWABLE RESOURCE MANAGEMENT FOR THE U.S. INSULAR AREAS"

At the request of the U.S. Senate in 1984, the Office of Technology Assessment undertook a study on the management and development of renewable, natural resources in the U.S. Island Territories and Commonwealths. To accomplish this task, OTA commissioned white papers on a wide range of topics, conducted regional workshops with island representatives, and requested local review of the papers submitted. The OTA then compressed all the information gathered into a single study, which was published in June 1987.

This study has been submitted to the U.S. Congress, which will hold hearings in September 15 and 17, to take input on the subject.

This study presents a series of options for the Congress, in the areas of; Congressional Oversight; Coordination of Federal Agency Actions; Extension of Technical Assistance to the Islands; Research; Extension and Training; and; Incentives. Specifically, it deals with subjects like agriculture, forestry, aquaculture, educational linkages and development of new assistance programs.

This study is extremely useful as a basis for further investigation, but does have some shortcomings. The greatest shortcoming is that it tends to approach the insular areas as a single entity in order to achieve a unified approach in policy making. In some areas this approach may work, but overall it would result in confusion and inequity. Many of the problems the islands are experiencing are due to past policies which were directed at particular islands, or island areas. Those problems can only be resolved by realizing each islands' uniqueness.

Other shortcomings include; a shortage of options or suggestions; an unrealistic appraisal of military impacts on the resources; and lack of island participation at every level of policy making.

It should be reiterated that, despite the flaws and shortcomings, this study is a positive step in resolving long-standing problems in the federal/island relationship. In order to correct the shortcomings, the islands must be vocal, and must be prepared to commit themselves to changing the status-quo. Island representatives to Washington, D.C. must be kept apprised of island desires (via-a-vis: OTA options), and island of representative presence in Washington must be increased.

This study begins an important process, and presents an important opportunity. But that opportunity will be lost, or at least the advantage to the islands will be lost, if follow-up is not pursued.

OTA REPORT BRIEF

June 1987

Integrated Renewable Resource Management for U.S. Insular Areas

For many of the nearly 2,300 U.S.-affiliated Caribbean and Pacific islands, sustainable development of agriculture, aquaculture, fisheries and tourism are the likely keys to economic growth. Many past attempts to develop these resources, however, have not provided long-term support for the islands' growing populations, but rather have resulted in reduced resource productivity and reduction of future development options.

U.S.-Affiliated Caribbean and Pacific Islands

U.S.-affiliated Caribbean islands:	*Relationship to United States*
Puerto Rico	Commonwealth
U.S. Virgin Islands (USVI)	Unincorporated Territory
U.S.-affiliated Pacific islands:	*Relationship to United States*
American Samoa	Unincorporated Territory
Guam	Unincorporated Territory
Commonwealth of the Northern Mariana Islands (CNMI)	Commonwealth
Republic of the Marshall Islands (RMI)	Free Association
Federated States of Micronesia (FSM)	Free Association
Republic of Palau	Trust Territory*

*Approval of Free Association expected shortly.

These Pacific and Caribbean islands are the only tropical members of the approximately 29,000 U.S.-affiliated islands. The islands have histories of colonization by other nations, resource degradation, and periods of strategic importance to the United States. Most remain of such strategic interest that today they are viewed as the United States' third and fourth borders.

High levels of financial aid from the United States during the last two decades, largely directed toward social support programs, have not fostered modern, self-reliant island economies as was intended. Despite U.S. commitment to support economic development in these islands, most instead have developed increasing dependence on Federal funding to provide jobs, support public welfare, and to import food and other goods and services.

A self-reliant economy meets as many domestic needs as possible, and generates export revenue to pay for imports required for a desired or acceptable standard of living. The economic constraints posed by the small size and isolation of many of these islands dictate that much of the productive sector be based on natural resources—agriculture, aquaculture, fisheries, and tourism.

The Island Ecosystem

A number of ecosystems, ranging from continuously cloud-covered dwarf forests to rich and colorful coral reefs, exist on tropical islands. The number and types of ecosystems present varies from island to island depending on such characteristics as size, topography, geology, and hydrology. Although these individual ecosystems seem distinct, they are so interrelated as to form a single island ecosystem. In composite, island ecosystems buffer the erosive energies of heavy tropical rainfall and freshwater runoff from the highlands, and of wave action on shorelines. Maintaining island ecosystem integrity will play a key role in future development options.

The role of renewable resources in island economic development can be expanded to enhance self-reliance and contribute to reducing the heavy dependence on imports and U.S. aid. Many islands are capable of sustaining high agricultural and aquatic productivity. Mangrove, seagrass, and coral reef ecosystems are particularly productive and interactively support populations of economically valuable marine organisms. Insular natural resources also can contribute to economic development through tourism.

Sustainable resource development precludes certain approaches; resource overexploitation ultimately is counterproductive. Selection of development approaches that act in concert with natural processes can reduce adverse environmental impacts and may reduce production costs. Similarly, policies, programs and projects that mesh with local cultures and traditions are more likely to succeed.

(over)

The Office of Technology Assessment (OTA) is an analytical arm of the U.S. Congress. OTA's basic function is to help legislators anticipate and plan for the positive and negative impacts of technological changes.
Address: OTA, U.S. Congress, Washington, DC 20510-8025. Phone: 202 224-9241. John H. Gibbons, *Director*.

Integrated renewable resource management for improving or maintaining sustained yields requires a blend of resource development, conservation, recovery, and replenishment. Approaches to agriculture or fisheries development can be tailored to nonmarket, semicommercial or fully commercial production as required, and technologies can range from simple, low-cost systems to highly mechanized operations. Resource development planning technologies can help to identify technologies that are most suitable to individual circumstances.

Integrated development of food industry components also is necessary: increasing production achieves little if substantial amounts of the product are lost to pests or spoilage, if the product doesn't satisfy the needs or desires of consumers, or if it is unable to reach the consumer. Thus, improved use of food preservation and processing technologies, marketing and transportation services are important considerations in formulating resource development policies and programs.

Integrating resource management and development with other forms of economic development also provides a means of reaping "double-duty" from investments. For example, infrastructure such as roads or airport runways also can serve as passive water catchments; wastewater treatment systems can provide nutrients for agriculture or aquaculture applications; and some forms of energy generation can also provide the basis for aquaculture. Little advantage has been taken of these opportunities.

Economic growth of the U.S.-affiliated islands is likely to be largely dependent on the sustainable development and management of renewable resources, and on a tourist industry that is compatible with development and management goals. Although the priorities and efforts of insular governments are of primary importance to pursuing opportunities, especially in the Freely Associated States, Congress can foster pursuit and achievement of objectives in a variety of ways:

- by tuning appropriate Federal agencies and assistance programs to the islands' special situations and needs;
- by coordinating the work of agencies responsible for various aspects of resource management on the islands;
- by making opportunities for Federal assistance directed at developing sustainability of resource uses readily apparent and more easily available to islands; and
- by providing additional assistance in the areas of data collection and management, planning, education, extension, training and research.

Copies of the OTA report, "Integrated Renewable Resource Management for U.S. Insular Areas," are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325 (202) 783-3238. The GPO stock number is 052-003-01055-1; the price is $18.00. Copies of the report for congressional use are available by calling 4-8996. Summaries of reports are available at no charge from the Office of Technology Assessment.

CONGRESSIONAL OVERSIGHT

Option: New Congressional Subcommittee(s)

Congress could establish new subcommittees in the House and Senate committees listed above that would focus on improving self-sufficiency in the U.S.-affiliated islands through an integrated renewable resource approach.

Option: Joint Territorial Policy Study Group

Congress could establish a Joint Territorial Policy Study group to produce analyses of island matters to require congressional action related to the U.S. insular areas and could provide initial territorial impact analyses of current legislation affecting the islands.

Option: Review Effectiveness of Federal Island Programs

Congress could direct USDA, NOAA, and USDOI each to evaluate the effectiveness of its own agency's programs related to integrated renewable resource management and planning designed for the islands and implemented therein. Congress could have the three executive agencies appear at oversight hearings related to island resource management and planning issues.

Alternate Option: Federal Island Program Reviews by the General Accounting Office (GAO)

Congress could direct GAO to conduct the above reviews that could be used later in congressional oversight hearings related to island issues.

COORDINATION OF FEDERAL AGENCY ACTIVITIES

Option: Designate an Interagency Coordinating Group on Resource and Economic Development in U.S.-Affiliated Islands

Congress could authorize the creation of an interagency coordinating group on U.S.-affiliated islands, designating the Department of the Interior as the lead agency, that would provide policy guidance to Federal departments and agencies on extension and modification of programs to assist in island resource management and development.

Alternate Option: Designate U.S. Man and the Biosphere Program (U.S. MAB) as Lead Coordinating Agency for Federal Resource-Related Activities on Islands

Congress could identify the U.S. MAB in the Department of State as a lead coordinating agency for Federal resource-related activities in the U.S.-affiliated islands, appropriate funds specifically for the U.S. MAB program and encourage increased coordination between U.S. MAB Islands Directorate, the Department of the Interior's Office of Territorial and International Affairs, and other appropriate Federal agencies.

EXTENSION OF TECHNICAL ASSISTANCE TO THE ISLANDS

Option: Strengthen OTIA Technical Assistance

Congress could direct the OTIA Technical Assistance Program to prepare reports on development of local institutional capability to foster private sector development in renewable resource enterprises (production, processing, and marketing) in each island area, and to establish priorities for its technical assistance program that reflect insular needs. In addition, Congress could appropriate additional funds as needed to allow expanded technical assistance to insular resource management institutions and entrepreneurs.

FEDERAL/INSULAR INFORMATION SHARING

Option: Interagency Task Force on Federal Information

Congress could direct the Department of the Interior to lead an interagency task force charged with assessing the data/information and programs that exist in each relevant Federal agency related to integrated renewable resource management and planning that is likely to be of benefit to island governments.

Option: Establish Regional Information Clearinghouse(s)

Congress could establish or support one or more existing regional island centers to act as a clearinghouse for relevant island information produced at national and international levels.

INSULAR DATA COLLECTION, INFORMATION MANAGEMENT, AND PLANNING

Option: Analyze the Adequacy of Island Information Management Systems

Congress could direct the Department of the Interior to take the lead role in an interagency task force including island representation to determine the adequacies and inadequacies in natural resource, economic, and social databases for the various U.S.-affiliated islands as well as the means to handle the data.

Option: Training Programs for Data Managers and Users

Congress could direct the Department of the Interior in cooperation with the Department of Agriculture to arrange for periodic training programs on manual and computerized data management techniques and analysis for the islands.

Option: Reactivate USDA Minor Economic Crops Computer Database

Congress could direct USDA to reactivate, update, and maintain their computer file on minor economic crops.

Option: Have USDA Develop Small-Scale Island Farmer Profiles

Congress could direct USDA Extension to gather the necessary data to prepare "small-scale island farmer profiles" for U.S.-affiliated islands in the Caribbean and the Pacific to be used in the process of identifying agricultural technologies that will be economically beneficial to the farmer and will sustain the productivity of the natural resource base.

Option: Fisheries Statistics Collection

Congress could provide funding to the Pacific Fisheries Development Foundation for Freely Associated States island fisheries statistics collection programs.

Option: Develop Sea Resource Atlases

Congress could direct the U.S. Army Corps of Engineers and the Sea Grant Marine Advisory Service to develop sea resource atlases for each of the U.S.-affiliated islands.

Option: Artisanal Fisheries Profiles

Congress could direct the Sea Grant Marine Advisory Service to develop Artisanal Fisheries Profiles.

Option: Marine Resource and Aquaculture Database

Congress could direct USDA's National Agriculture Library to provide assistance to the Micronesian Area Tropical Agriculture Data Center (MATADC) at the University of Guam to include appropriate tropical aquaculture information developed locally and culled from USDA's Aquaculture Information System. Similar information on warmwater aquaculture could be provided to the University of Puerto Rico.

EDUCATION

Option: USDOI Historic Preservation Evaluation

Congress could direct the USDOI to reexamine its historic preservation activities on the U.S.-affiliated islands, especially regarding the preservation, oral or otherwise, of islanders' knowledge of resource systems and of skills related to sustainable uses of renewable resources.

Option: Preserve and Support Traditional Skill Education Programs

Congress could support National Endowment for the Arts (NEA) educational programs designed to transfer traditional knowledge of and practices using island renewable resources to island youth.

Option: Develop Environmental Education Programs

Congress could direct the U.S. Department of Education's Office of Education Research and Improvement, in cooperation with local government Departments of Education, Coastal Resource Management programs, and other programs already interested and involved in environmental education, to assess ecology curricula materials for island environmental education programs.

Option: Assess Island Manpower Needs and Skill Requirements for Resource Development

Congress could direct USDOI to assist island governments in analysis of manpower needs and subsequent education requirements to fulfill insular development plans.

RESEARCH

Option: Screen U.S. Development Assistance Research for Its Application to U.S.-Affiliated Islands

Congress could direct USDA's Office of International Cooperation and Development and Forestry Support Service, which work closely with AID, to screen U.S.-funded research results on agriculture, forestry, and other renewable resources in tropical developing countries for its applicability to U.S.-affiliated islands, and to provide the information for island use in an appropriate published form.

Option: Link Tropical and Nontropical Land-Grant Institutions

Congress could direct AID to develop a mechanism whereby nontropical U.S. land-grant institutions could link their research activities funded under Title XII of the Foreign Assistance Act of 1966 with the research activities of tropical land-grant institutions on U.S.-affiliated islands.

Option: Extend Section 406 Programs and Funding to All Tropical Land-Grant Institutions

Congress could extend Section 406 of the Food for Peace Act of 1966 to cover all tropical land-grant institutions and provide the necessary funding to pursue the goals of the section.

Option: USDA Island Screening Committee for Agriculture Research

Congress could direct USDA to establish a small screening committee within USDA charged with reviewing USDA-funded proposals and research results for their applicability or possible applicability to agriculture on U.S.-affiliated islands.

Option: Expand Tropical Agriculture and Forestry Research Stations

Congress could direct USDA to evaluate research priorities and increase support for applied research in agriculture and forestry development on U.S.-affiliated islands conducted by the Tropical Agriculture Research Stations and Institute of Tropical Forestry in Puerto Rico, and the Institute of Pacific Islands Forestry in Hawaii.

Option: Establish an Institute of Tropical Aquaculture Research

Congress could direct NOAA to establish one or more Institute of Tropical Aquaculture Research, based in the U.S.-affiliated islands, which could serve as a center of excellence for tropical aquaculture technology development.

Option: Increase East-West Center Activities in U.S.-Affiliated Pacific Islands

Congress could direct the East-West Center to increase resource-related research and analysis for the U.S.-affiliated Pacific islands and provide increased funding for such activities.

Option: Support Development of the Eastern Caribbean Center

Congress could extend continued support and appropriate funds through the Department of the Interior and/or the Department of State to accelerate development of the Eastern Caribbean Center.

Option: Establish Cooperative Relationships with Regional and International Research Organizations

Congress could direct the U.S. Department of State to assist the insular government research organizations in establishing cooperative relationships with regional and international research institutions or major universities that can help with broad strategic and basic research.

EXTENSION AND TRAINING

Option: Joint Extension Programs

Congress could direct USDA, NOAA, and USDOI to have the major Federal resource-related agency extension programs—Cooperative Extension Service, Marine Advisory Service, State and Private Forestry, and Fish and Wildlife Service—in cooperation with local department extension services to hold jointly conducted training workshops for field extensionists in the islands.

Option: Increase Support for Island Extension Services

Congress could direct USDA to increase support of insular agricultural extension programs to allow expansion of programs to reach remote populations.

Option: Expand Sea Grant Marine Advisory Service Activities in Islands

Congress could appropriate funds and direct NOAA to increase Sea Grant assistance in training and extension for aquaculture, fisheries, and marine resource management for islands having Sea Grant representatives and to make such services available to the other U.S.-affiliated islands.

Option: Resident Fish and Wildlife Service Scientists

Congress could direct the U.S. Fish and Wildlife Service (perhaps jointly with NOAA's Office of Sea Grant) to provide a resident scientist to the regions.

INCENTIVES

Option: Agricultural Marketing Service Assistance

Congress could direct USDA's Agricultural Marketing Service to assist insular governments through three major programs: 1) the Federal-State Marketing Improvement Program, 2) provision of market news, and 3) agricultural product grading.

Option: Sea Grant Evaluation of Aquacultural Marketing and Economics

Congress could direct the Department of Commerce to have NOAA's Office of Sea Grant programs conduct an assessment of aquacultural marketing and economics issues for island aquaculture development.

Option: Establish Insular Resource Management Cost-Sharing Programs

Congress could authorize and appropriate for a new USDA program to provide cost-sharing and technical assistance to insular individuals undertaking approved agriculture, soil and water conservation, forestry activities (such as those offered by the current Agricultural Stabilization and Conservation Service's Agricultural Conservation Program and Forestry Incentives Program), and fisheries and aquaculture activities.

Option: Analyze Income and Other Support Programs

Congress could direct USDA and HHS to perform a joint analysis of eligibility formulae, nutritional and other impacts of U.S. income and other support programs.

Option: USDA Analysis of Island Contributions to the School Lunch Program

Congress could direct USDA to prepare a report assessing the current and potential role of locally grown island food in island School Lunch Programs.

SYNOPSIS

PACIFIC BASIN HEALTH PROMOTION AND DEVELOPMENT CENTER

The paper identifies two priority problem areas; manpower development and the development of a functioning health information system. Manpower development can be further subdivided into specific areas of need, i.e., preventive maintenance of laboratory and medical equipment. Few, if any agencies, have a preventive maintenance program or are familiar with how to organize and manage such a program. Further, vendor sources for equipment maintenance are both scarce and expensive. Secondly, another area of need is environmental health. At present, there are two employee classifications utilized - the Environment health specialists and Public Health Inspectors. Neither the University of Guam nor the Guam Community College offer any kind of training program for environmental health personnel, and On-the-Job training does not provide the skills and knowledge required.

The second priority problem area is the development of a consistent health information system, where employees have adequate training in computer use or program application with technical assistance that follow an identified and agreed upon course of action.

SUGGESTED ACTIONS:

A. Acquire technical assistance for the development and implementation of a health information system.

B. Identify an institution that provides a standardized program of training in preventive maintenance of medical and laboratory equipment and arrange for training of existing personnel.

C. Provide a standardized program of training for environmental health personnel that leads to registration or certification with the National Environmental Health Association or other nationally recognized organization.

BRIEFING PAPER ON THE PACIFIC BASIN HEALTH PROMOTION AND DEVELOPMENT CENTER

PROBLEMS

Two general priority problem areas have been identified; namely, manpower development and the development of a functioning health information system. Health manpower training can be further subdivided into specific areas of need i.e. preventive maintenance and environmental health.

I. Health Information System

Various health care agencies collect data; however, there is no common-core database for all agencies nor even a common database within individual agencies. Furthermore, there is no consistency in applied software, optimization of existing software, or policy for procurement of hardware and software.

Many end-users are employees who have other job responsibilities and have not received adequate training in computer use or program application.

Technical assistance has been sporadic and has never been provided in such a way as to follow an identified and agreed upon course of action. Consequently, funds, both local and federal, have not been effectively used. In these times of limited resources, we can no longer proceed in a "trial-and-error" fashion.

II. Manpower Development

A. Preventive Maintenance

Health care agencies incur exorbitant costs and time delays in the procurement of maintenance services for medical and laboratory equipment. Few, if any agencies, have a preventive maintenance program or are

familiar with how to organize and manage such a program. As a result, equipment does not last as long as it should, and breakdowns in equipment interrupt and jeopardize the delivery of effective and quality patient care.

Private vendor sources for equipment maintenance are both scarce and expensive and are usually only available on an emergency basis.

B. Environmental Health

Guam's expanding tourist and import business has placed increased demands on environmental health personnel to be more effective in developing and enforcing rules and regulations to protect consumers and prevent food and water-borne diseases.

At present, there are two employee classifications utilized--the Environmental Health Specialists and Public Health Inspectors. The Specialists require a bachelor's degree in physical or biological sciences plus registration with the National Environmental Health Association. The only requirement for inspectors is a high school diploma.

Neither the University of Guam nor the Guam Community College offer any kind of a training program for environmental health personnel.

On-the-job training, though well intended, does not provide the knowledge and skills that are required.

RECOMMENDATIONS

A. Acquire technical assistance for the development and implementation of a health information system. The assistance must be from persons who are familiar with patient care systems, both public and private, and who can transcend any communication barriers occurring between health care provider and computer specialist.

B. Identify an institution that provides a standardized program of training in the preventive maintenance of medical and laboratory equipment and arrange for training of existing personnel. Secondly, review existing job specifications and make revisions as necessary to ensure that preventive maintenance functions, training requirements, and skills are included.

C. Provide a standardized program of training for environmental health personnel that leads to registration or certification with the National Environmental Health Association or other nationally recognized organization. Secondly, revise the current job specifications of Public Health Inspectors to reflect needed function, skills, and training requirements.

AQUACULTURE DEVELOPMENT IN GUAM AND MEMBERSHIP ON BOARD OF AQUACULTURE REGIONAL CENTER IN HAWAII

As per U.S. Public Law 99-591, Hawaii has been designated as one of the four Aquaculture Regional Centers in the U.S. To assure that Guam receives an equitable allocation of federal funds that will become available to these centers, Governor Joseph F. Ada has requested that a Board member from Guam be included in this Regional Center. As of yet, no word has been received.

Through representation on the Board of Directors, Guam can contribute to the successful design and implementation of programs from this center.

SUGGESTED ACTIONS:

1. Follow-up on the request for membership on the Board of Directors of the Aquaculture Regional Center.

2. Appointment of a representative to the Aquaculture Regional Center Committee which will be determining the programs for the region.

3. Washington should be made aware of Guam's interest in aquaculture, the existing aquaculture research center, and the availability of technical expertise necessary to carry out the functions of aquaculture.

DEPARTMENT OF COMMERCE
BRIEFING SERIES 1987
DATE 04/14/87

PROJECT:

Aquaculture Development in Guam and membership on Board of Aquaculture Regional Center in Hawaii.

SUMMARY/BACKGROUND:

Recent federal legislation (P.L. 99-591) designated four Aquaculture Regional Centers in the U.S. Hawaii was designated as one of the centers, which will encompass Guam and the Pacific U.S. affiliated islands.

It is critical that Guam assert itself as the leader in the Micronesian area in the field of aquaculture development. This is necessary to assure that Guam will not be passed over for its fair share of federal funds that will become available for these new Aquaculture Regional Centers. The Hawaii Center's program has been appropriated $750,000 per year. Programs that have been based in Hawaii (e.g., Sea Grant Program), which includes Guam, has resulted in inequitable allocation of program funds and projects to Guam in the past.

CURRENT STATUS:

In a letter to Governor Waihee, Governor of Hawaii, dated March 19, 1987, Governor Joseph Ada requested that a Board member from Guam be included in the regional center. This same request was also sent to Mr. Bill Hougart, Aquaculture Coordinator, USDA, and to Mr. Richard Montoya, Assistant Secretary, Territorial and International Affairs, U.S. Department of Interior. No word has been received yet on our Government's request.

Through representation on the Board of Directors and the Technical Committees, we can contribute to the successful design and implementation of programs from this Center. With our past history of cooperation in aquaculture, Guam and Hawaii can work closely together on maximizing the commercial development of aquaculture in the region.

It was recommended by participants at the Micronesian Mariculture Conference in Palau (March 24-27, 1987) that the Directors of the Land Grant Institution become the Board members from the region. This would give the island four representatives.

RECOMMENDED ACTION:

To follow up on the letters sent to the above individuals regarding our request for membership on the Board of Directors of the Regional Aquaculture Center scheduled in Hawaii, and to follow up on the following matters:

1) A Guam representative should be appointed to the Aquaculture Regional Center Committee which is in the process of being formed. This will assure Guam a direct voice in the committee which will be determining the programs

for the region. In addition, representatives from the other islands should be appointed.

2) Guam's interest in the Aquaculture Regional Center's programs should be strongly voiced in Washington, D.C. It should be made known that Guam does have an aquaculture research center and the expertise in the field of aquaculture. Furthermore, Guam has been providing technical expertise and training in aquaculture to the islands of Micronesia and has an ongoing program of assistance and cooperative exchange. Therefore, we want to be assured that Guam will receive an appropriate share of the funds and research programs.

SUPPORTING DOCUMENTS:

1. Letter dated March 19, 1987 from the Governor of Guam to the Governor of Hawaii.
2. Letter dated March 19, 1987 from the Governor to USDA's Aquaculture Coordinator.
3. Letter dated March 19, 1987 from the Governor to Richard Montoya, Department of Interior.
4. Briefing Paper dated January 30, 1987 submitted to the Governor on the same project title.
5. U.S. Public Law 99-591.

REMARKS:

Aquaculture offers the potential of developing into a significant component of Guam's economy. Expansion of aquaculture beyond the domestic market will depend upon utilizing and further developing cost efficient production systems that allow Guam to compete in the world market. In addition, the success of the industry will largely hinge on adequate and timely support from the government. The realization of an on-island hatchery has been a long-term goal that is now becoming realized. It is critical that Guam makes its needs known and play a major role in the newly established Aquaculture Regional Center as an active and equal partcipant.

GUAM AQUACULTURE DEVELOPMENT AND TRAINING CENTER (FADIAN HATCHERY)

Although it is a relatively new industry to Guam, aquaculture has the potential of developing as a major sector within Guams economy.

Out of the 11 aquaculture farms on Guam, only 3 are in operation. The main reason for this is the difficulty and expense in obtaining fry and postlarvae of species cultured from off-island sources. The lack of an on-island hatchery facility to supply commercial farms with necessary fry and postlarvae is one of the major constraints to the aquaculture industry on Guam. When Fadian Hatchery becomes fully operational, it is expected that the hatchery will provide the needs of local aquaculture farms.

SUGGESTED ACTIONS:

1. Support of the operation of Guam Aquaculture Development Training Center by endorsing the proposal to the U.S. Department of Interior in order to obtain necessary funding.

2. Implement recommended aquaculture policies submitted February 23, 1987.

3. Designate Department of Commerce as lead agency for aquaculture development.

DEPARTMENT OF COMMERCE
BRIEFING SERIES 1987
DATE: 8/14/87

PROJECT:

Guam Aquaculture Development and Training Center (aka, the Fadian Hatchery)

SUMMARY/BACKGROUND:

Aquaculture represents a part of the economy that still has great untapped potential as a major sector within Guam's economy. The aquaculture industry is relatively new to Guam. The first experimental and demonstration farm was established in 1973, followed by the first commercial operation in 1975. Since that time the industry has grown significantly despite numerous obstacles. Today there are approximately 100 acres of ponds constructed. The species currently under cultivation include tilapia, milkfish, freshwater giant prawn, marine shrimp, Chinese carp, and catfish.

However, the main limiting factor to the development of the aquaculture industry on Guam has been the lack of an on-island hatchery facility. The Guam Aquaculture Development and Training Center or Fadian Hatchery fills that void and will provide the needed postlarvae and fry to the commercial aquaculture farmers on a reliable and more economical basis. It will also provide training and research services to help further development of the industry. Furthermore, by replacing imported stocking material with production from the GADTC, this would minimize the risk of introduction of diseases and parasites.

In a November 14, 1985 Memorandum of Understanding, the Governor authorized and instructed the transfer of control of the Fadian Hatchery Facility from the Department of Revenue and Taxation to the Department of Commerce. The hatchery was obtained by the government for back taxes. Since that time, the Department of Commerce, in an effort to minimize costs and maximize the utilitzation of resources within GovGuam, has brought together a joint operating arrangement of the hatchery which includes the College of Agriculture and Life Sciences and the Guam Community College, along with the Department of Commerce. In addition, an advisory committee, consisting of the Marine Laboratory, Guam Sea Grant Extension Program, Department of Agriculture and the Guam Aquaculture Association will be formed.

CURRENT STATUS:

There are 11 aquaculture farms on Guam. However, all of these farms are not currently in operation. The main reason for this has been the difficulty and expense in obtaining fry and postlarvae of species cultured from off-island sources. The lack of an on-island hatchery facility to supply the commercial farms with the fry and postlarvae presents one of the major constraints to the industry. This constraint will be relieved when the government's newly acquired hatchery facility becomes fully operational. This facility is a state of the art hatchery/research center.

Currently, the facility is being repaired and reconditioned after two years of neglect during the transition from private ownership to the government. The facility should be in trial operation within approximately two months. An operational budget ($72,000) has been submitted by the Department of Commerce to the Legislature. This proposed budget is awaiting legislative action. In addition, as an alternative, a proposal has been prepared and will be submitted to the U.S. Department of Interior seeking the funding ($154,100) for the renovation, equipment and initial operation of the hatchery; thereafter, the facility would operate on self-generated revenue from sales.

CONCERNS/ISSUES:

Guam has the technical expertise in the areas of experimental research and developmental aquaculture as a result of over 15 years in aquaculture, however, there is insufficient funds to support the research and development to have the industry develop to its full potential.

RECOMMENDED ACTIONS:

1. The current administration should actively support the operation of the Guam Aquaculture Development and Training Center by supporting and endorsing the proposal to the U.S. Dept. of Interior so that the hatchery may obtain the necessary funding for its initial operation.
2. Implement the policies recommended toward aquaculture as well as the policies recommended on the "Guam Aquaculture Development and Training Center", Fadian Hatchery, which were submitted to the Governor in a memorandum dated February 23, 1987.
3. The Department of Commerce to continue as the lead coordinating agency for aquaculture development on an interim basis until the government wide reorganization is completed. It should be noted that the Department of Commerce has been unofficially serving in this role for the past seven years.

SUPPORTING DOCUMENTS:

1. Aquaculture Development Plan for the Territory of Guam.
2. Status of Guam's Aquaculture Industry.
3. Paper on "Guam Aquaculture Development and Training Center, Fadian Point, Guam".
4. Aquaculture Bibliography on Guam.
5. Memorandum to the Governor dated February 23, 1987.
6. Operating Plan for Guam Aquaculture Development and Training Center.

REMARKS:

Aquaculture activities within the Government of Guam are divided among various agencies according to their expertise and resources available. The Department of Commerce has been functioning in the role of development and planning, economic analysis and coordinating agency for the development of the aquaculture industry. A number of publications have been produced by the Department regarding this industry. In addition, technical and general information is provided to potential foreign and local investors interested in aquaculture.

GCC is developing training services in aquaculture. CALS provides extension service as well as training service to aquaculture farmers. The Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR) is conducting experiments on artificial reproduction of the Southeast Asian catfish, Pangasius sutchi. DAWR's role in providing technical and field assistance to local aquaculture farmers has been assumed by CALS. The aquaculture research program at the University of Guam Marine Laboratory focuses primarily on siganids (rabbitfish), mullets and on marine alga (Gracillaria). Additional research on other species is dependent on the receipt of research grants.

In conclusion, aquaculture offers the potential of developing into a significant component of Guam's economy. Expansion of aquaculture beyond the domestic market will depend upon utilizing and further developing cost efficient production systems that allow Guam to compete in the world market. In addition, the success of the industry will largely hinge on adequate and timely support from the government. The realization of an on-island hatchery has been a long-term goal that is now becoming realized. Its proper operation is imperative as a support base to this industry.

AGRICULTURE - ITS FUTURE IN THE PACIFIC

Guam does not anticipate exporting agricultural products in the future due to the fact that Guam is surrounded by countries with low labor costs, the strict quarantine laws in export markets, costs associated with long distances involved, and high costs for farm supplies and equipment necessary for production. Agriculture activities are further constrained by land-use competition for housing developments and the need for protection of groundwater source from pesticides and agriculture wastes. Therefore, agriculture on Guam would be limited to local consumption only and Guam will continue to import to supplement local production.

SUGGESTED ACTIONS:

1. Encourage and provide technical assistance to farmers for hydroponic or hyponic operations as an alternate method for crop production.

2. USDA provide assistance for establishing a small scale processing and canning facility to reduce dependency on imported canned agriculture products and to minimize wasted produce resulting from market glut.

AGRICULTURE - ITS FUTURE IN THE PACIFIC

The future of Agriculture on Guam would be limited to the production of agricultural products for local use and consumption only and would continue to import beyond the new century.

At the moment, we must rule out the idea of exporting because the island is surrounded by countries with low labor costs, export markets with strict quarantine laws, long distances, and costly farm supplies and materials that are imported. However, we might never be self sustaining if the traditional type of farming (field growing) should continue to be Guam's trend in farming. The production of fruits, vegetables, and livestocks would hinge upon the availability of land and water. Additionally, meeting the demands of the market would also be determined on how our farmers are educated and informed.

Guam can grow many of its fruits and vegetables but experiences a continued increase in population. This means more people must be fed; in the mean time, agricultural land and water deminishes.

A water lense exists below the surfaces of northern Guam that must be protected from contamination. Continued housing developments are also found there as well as farming of vegetable crops.

With the rapid development occurring on the island, we must cope with the delima of water and land scarcity as well as protecting the water lense. The alternative to crop production would be to intensify farming by means of hydroponic or hyponica operation. This would be the route to crop farming on Guam since water usage is much less than the traditional method and chemical contamination of the water len would be minimal.

Livestocks production would continue on a small scale. The success of these operation would be determined.

USDA - PROFILE IN THE PACIFIC

There are a number of Federal programs that are designed to assist farmers diversify and improve production and marketing thereby achieving national agriculture goals and objectives. Guam has benefited from some of the services provided under these programs in the past, but needs more technical and financial assistance from the Federal Government in order to realize the full benefits. Some of the programs includes: the U.S. Forest Services and Federal State Marketing Service under the USDA Cost Shared Program; the Food Stamp Programs under USDA Grant; Soil Conservation Service provided by USDA Technical Assistance Program; and the Rural Electrification Administration and the Farmers Home Administration loan programs under the Rural and Small Community Development.

SUGGESTED ACTIONS:

1. USDA station a marketing expert on Guam to assist farmers improve their marketing skills and to prevent market gluts.

2. USDA provide assistance to establish a central inspection station on Guam with a small fumigation chamber to serve the area.

3. USDA provide technical assistance and support to FSM, Republic of the Marshall Islands and the Republic of Belau in order to extend the border of protection for the agriculture of Hawaii, Guam and the Commonwealth of the Northern Mariana Islands.

4. Guam continue to seek assistance from the Agriculture Stabilization and Conservation Service to send its field representative to Guam to entertain cost shared project proposals from island farmers, poultry, produces and ranchers.

5. Improve communications between the FmHA and the Department of Agriculture in order to provide loan assistance to farmers on Guam.

USDA

PROFILE IN THE PACIFIC

The United States has become a world power not because it can heavily arm itself but mostly because it is capable of feeding itself and be a primary exporter of meat and grains to the other countries of the world. Agriculture has evolved to be the number one industry of America. It has come to the point where friend and foe alike turn to the United States for grain purchases to feed their people and livestock.

American agriculture did not achieve prominence just by concentrating on specialized crops or mainly on staple grains such as wheat or the like. America had attained a prime spot in the world agriculture scene due to its highly diversified nature. Heavy production outputs ranges from rootcrops, grains, fruits, vegetables, milk, meat, professional services and lumber.

U.S.D.A. Cost Shared Programs

1) Guam has availed of cost shared U.S.D.A. programs and is applying for more as its qualifications and its capability to run these various programs increase.

   The U.S. Forest Service under the Cooperative Act of 1978 had cost shared the programs under the Guam Forestry and Soil Resources Division. These programs encompasses the fire protection, forest management and pest monitoring and reporting activities of the Forestry Division. These programs encompasses the fire protection, forest management and pest monitoring and reporting activities of the Forestry Division. These cost shared programs are not limited to resource management and protection but includes manpower training and development as well as technical services and equipment assistance through the Defense Property Disposal Office and the Federal Emergency Management Administration.

2) The Agricultural Development Services Division has operated its State Marketing Services through a cost share agreement with Federal State Marketing Service. This entails crop forecasting, marketing and market feasibility studies.

3) Control on the Importation of Agricultural Products - Guam and the other states and nations in the Pacific should increase their vigilance on the importation of animals and plants and plant products. The increase in surface and air traffic have made these states and nations more vulnerable to the introduction of animal and plant pests and diseases with the consequent economic damage and the risk of propagation to neighboring islands and countries.

   We would need assistance to help the farmer's improve their way of marketing so consistency in the demand for fresh produce can be realized as well as prevent market gluts. The farmers on Guam has never been able to meet the market demands even with the assistance of both the University of Guam and the Department of Agriculture. This situation is so chaotic that there exist six (6) farmer's cooperatives and the number continues to increase. I strongly recommend that perhaps we need to have USDA station a marketing expert on the island to help us resolve this problem once and for all.

Eradication of Melon Fly in the Marianas - The Melon Fly is the most damaging pest now in existence in the Marianas islands and its total eradication would increase quantity and quality of crop and fruit production, not only for local consumption but also for exportation to northern areas. Eradication is needed if local production is to be realized. The Melon Fly is a serious pests of cucumbers, watermelons, melons, pumpkins, in addition to other crops. However, hosts of this pest are the major crops produced on the island. Thousands of dollars are either lost income, or spent to control this pest. The Commonwealth of the Northern Marianas (CNMI) government is actively pursuing to eradicate the Melon Fly on Rota, but the pest would soon return if not eradicated on Guam.

Fumigation Facilities - In order to increase the variety of tropical fruit trees, we need to import new germ plasm from foreign countries but without the accompanying pests and diseases. A central inspection station with a small fumigation chamber will serve areas close to Southeast Asia without the delay and expense of shipping the material to distant destinations for treatment and release.

In order to extent the border of protection for the agriculture of Hawaii, Guam and the Marianas, the United States Department of Agriculture could provide technical help and support to the new nations in the Pacific, especially those nations comprising the ex-Trust Territory of the Pacific Islands. These states are still free from many animal and plant pests and diseases. A strict regulatory control would prevent them of importing them, unwillingly exporting them to neighboring islands and expending huge amounts of money in trying to control or eradicate these pests and diseases.

4) The recently established Soil and Water Conservation Districts of Guam are actively pursuing cost share federal programs to be established in Guam. The Agricultural Stabilization and Conservation Service through the Agricultural Conservation Program had been requested to send its field representative to Guam to entertain cost shared project proposals from island farmers, poultry producers and ranchers alike.

Grants from the U.S.D.A.

1) The U.S.D.A. Food Stamp Program has been utilized by the economically disadvantage segment of Guam's population. It has played a great part in the improvement of the public's state of health which has in turn saved the local government in health care cost for the indigent. It has provided a good segment of Guam's population with balanced meals and better nutrition.

Millions of dollars in the food stamp program is apportioned to the Territory of Guam for every fiscal year.

2) Supplies of milk and milk products from the Department of Agriculture are also distributed under the Women, Infants and Children (WIC) program. Cheese, butter, nonfat milk, also find their way into the island school lunch programs to improve the health of the island's school children.

Federal Technical Agencies under U.S.D.A.

1) Guam has been blessed with the opening of the first Soil Conservation Service field office in the Micronesia area. This office has spread and branched out to as far as American Samoa and other territories in the Pacific.

   Conservation of our basic resources is essential in any developmental endeavor especially in small island territories and nations.

   The preservation of soil fertility, water qualilty and general environmental attribute is very much imperative in a tourist oriented economy like that of Guam.

   Through the Soil Conservation Service, other infrastructural development connected with agriculture could be achieved. This could be both under cost shared or outright grant programs. A river basin study is being undertaken for the entire island of Guam through the intercession of SCS.

2) Entry of plant and animal pests and diseases are prevented through the implementation of USDA mandated laws as augmented by local rules and regulations. The presence of the Animal and Plant Health Inspection Service is a boost to Guam's quarantine efforts against the entry of pests and diseases that lower our crop production and the quality of products that we bring to market.

Rural and Small Community Development

1) Under the Rural Electrification Administration upgrading of the Guam Telephone System was accomplished in 1977. Funds were made available for purchase of new modernized equipment and rehabilitation of worn out ones.

2) Loans have been made available by the Farmers Home Administration for purchase of agricultural lands, equipment and housing units for farmers at nominal interest rates.

   It is requested that the Farmers Home Administration should improve their delivery of assistance to the farmers on Guam in terms of lending farm operation loans. Getting farm operating and disaster loans from a lending institution (besides commercial banks) has a significant importance to the farmers of Guam. The Guam Economic Development Authority, Department of Agriculture and the Farmers Home Administration provides operating loans to the Guam farmers; however, because these Government of Guam sponsored lending agencies are insolvent, the farmers of Guam has relied on the Farmers Home Administration for low interest loans. It is felt however, that perhaps coordination and communication between the local Department of Agriculture and the Farmers Home Administration had been lacking, or to a greater extent, absent. In order for our farmers to fully benefit from the assistance offered by the Farmers Home Administration, these two agencies should be working together to provide assistance that is badly needed by the farmers on Guam.

   The existence of these USDA branch agencies in the Territory of Guam and the availability of service and opportunities under each agency have played a major impact in the economy of the territory. It should be noted though that present staffing of these agencies are limited to skeletal levels only. It is requested that staffing should be increased to attain full potential in quantity of services rendered and the turn around time until services are completed.

SOIL AND WATER CONSERVATION BACKGROUND

Because of the U.S.D.A. Soil and Water Conservation Service, the establishment of the Northern and Southern soil and water conservation Districts came to being.

Some of the long range goals of both Districts concerning soil and water conservation includes:

In the North

1) Identify water resources in the North
2) Develop an erosion control program
3) Identify, maintain and improve the northern water shed.
4) Encourage farmers to become self-sufficient, applying the right conservation practices.

In the South

1) Construction of the Ugam River Dam
2) Construction of works for flood control
3) Design and implement erosion control systems

SUGGESTED ACTION:

Continue local support of U.S.D.A. soil and water conservation service efforts.

JOAQUIN N. NAPUTI
ACTING DIRECTOR

Agricultural Development Services 734-3947
Aquatic & Wildlife Resources 734-3944
Forestry & Soil Resources 734-3948
Animal & Plant Industry 734-3940/49

Sales & Permit Info 734-3945
Administrative Ser. 734-3941/2

AGANA, GUAM 96910

August 19, 1987

Memorandum

To: Director, Bureau of Planning

From: Director, Department of Agriculture

Subject: **Soil and Water Conservation Background**

The Department of Agriculture's Forestry and Soil Resources Division has gained ground in its afforestation efforts aimed at soil stabilization, protection from erosion and development of watershed. The bulk of Forestry's operations to convert the savanna vegetation in the Cotal Conservation Reserve at Cross Island Road into a viable Forest for the territory, has been met with success. Two tree species Acacia auriculiformis and Acacia mangium have been found to grow at a phenomenal rate in the highly acidic soil of the area.

During the Fiscal Year 1987, 35.69 acres of the Reserve were prepared and planted with 26,000 seedlings, bringing the total acreage reafforested to 140.92.

The devastating effects of wildland fires on soil cannot be overlooked, especially during the drought stricken year of 1987, the island was plagued with 1,350 wildfires leaving behind exposed soil, prone to loss during heavy rains. The estimated soil loss, in southern Guam, amounted to 33,855.2 tons. (Figure derived from the Universal Soil Loss Equation and in some instances it has been argued that the figures are too conservative, taking into account slope and soil erodibility of the south).

Forestry has also made strides with its Tree planting programs that emphasize its importance to soil stabilization and water conservation. Arbor Day is celebrated every year by the Department complete with ceremonial Tree planting in Guam's school system.

The establishment of the Northern and Southern Soil and Water Conservation Districts of Guam, by Public Law 17-51 signed into law May 31, 1984, serves to recognize the importance of resource management issues concerning the soils and waters of Guam and search for means to resolve the problems identified.

Its establishment also paves the way for funds from Federal Programs. The Districts are governed by duly approved By-Laws and District Board Policies.

Some of the Long Range Goals of both Districts concerning soil and water conservation includes:

In the North

1) Identify water resources in the North
2) Develop an erosion control program
3) Identify, maintain and improve the northern watershed
4) Encourage farmers to become self-sufficient, applying the right conservation practices

In the South

1) Construction of the Ugum River Dam
2) Construction of works for flood control
3) Design and implement erosion control systems

The Department of Agriculture continually strives to maintain and promote soil and water conservation measures that benefit the Territory and its precious natural resources.

JOAQUIN N. NAPUTI
Acting

PACIFIC ISLAND LAND - GRANT INSTITUTION

The Pacific Island Land - Grant institution is faced with a number of obstacles in developing a competitive agricultural base in the region. These obstacles include: large geographical areas with relatively sparse and culturally diverse populations; pest problems; long distance between population center and major markets; mainland research - based technologies, which are not directly applicable to tropical region; and lack of expertise to address the broad scope of agriculture problem.

Because many of the problems are common to the institutions, these problems should be addressed as a regionally coordinated basis. Infusion of Technology, Manpower and Research resources are needed to develop the institution so that traditional funding could be used effectively to achieve institutions objectives. The program development cost is approximately $1.5 million over a five to seven year period.

SUGGESTED ACTIONS

1. Develop communications and computer system enhance delivery of information to users (Institution Responsible, American Samoa)

2. Develop comprehensive plan to accelerate and complement existing agriculture research and extension programs (Institution Responsible, Hawaii)

3. Facilitate faculty - staff development and exchange among institution to strengthen development. (Institution Responsible, CNMI)

4. Initiate a crop protection program focusing on coordinated programs of pesticide efficacy and registration and development of integrated pest management protocols (Institution Responsible, FAS Micronesia)

5. Initiate development of a comprehensive and accessible information base on the physical and human resources market potential of the region (Institution Responsible, Guam)

TUESDAY, August 25, 1987

9:00 a.m. to 10:15 a.m. AGRICULTURE - ITS FUTURE IN THE PACIFIC
*Jerry B. Norris

o AMERICAN PACIFIC ISLAND LAND-GRANT DIRECTORS
*N. P. Kefford, Dean, College of Tropical Agriculture and Human Resources, UHM
*Pemerika Tauili'ili, AS
*Ishmael Lebehn, Freely Associated States
*Wilfred "Fred" Leon Guerrero, Guam
*Tony Santos, CNMI

o Soil and Conservation Service, USDA
*Joan B. Perry, Resource Conservationist, SCS, Guam

AGRICULTURE - ITS FUTURE IN THE PACIFIC (cont.)

o Regional Center for Tropical and Subtropical Aquaculture

--More--

*Chauncey Ching, CTAHR, UHM, Chairman
*Ishmael Lebehn, Freely Associated States
*Wilfred "Fred" Leon Guerrero, Guam

o DOI/OTIA - Its Role
*Mark Hayward, DOI/OTIA

DISCUSSION

DRAFT

AGRICULTURAL DEVELOPMENT IN THE AMERICAN PACIFIC

A Summary Prepared by
Land-Grant Directors in the American Pacific
Representing American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Hawaii, and the Freely Associated States of Micronesia

for
The Pacific Basin Development Council

August 25, 1987

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THE PROBLEM

The Pacific Island Land-Grant institutions have the goal of developing a competitive agriculture base to provide a foundation for sound economic growth and political stability in the region. Some of the major obstacles to achieving this goal include:

. large geographical areas with relatively sparse and culturally diverse populations

. pocket markets and long distances between population centers

. community structures being challenged by rapid growth and

More--

change

. most of the research-based agricultural technologies developed in the U.S. mainland have been for temperate-zone agriculture, and are not directly transferable to the tropical conditions of the region

. the region's research and extension programs are relatively new and lack the experience and personnel to address the broad scope of problems confronting them.

A SOLUTION

Because many of the problems are common to the institutes in the gion, it is efficient to address them on a regionally coordinated basis.

More--

major infusion of resources is needed to develop the institutions in e

gion so that traditional funding can be effective in nurturing ricultural and human resource development in the American Pacific.

SUMMARY OF OBJECTIVES

This initiative for an orderly development of Pacific island riculture has four components:

. Develop communications and computer systems to enhance delivery of information to clientele (Institution Responsible, American Samoa).

. Develop a comprehensive plan to accelerate and complement existing agricultural research and extension programs in the

More--

American Pacific (Institution Responsible, Hawaii).

. Facilitate and foster faculty-staff development and exchange among institutions in the region to strengthen the region's

development (Institution Responsible, CNMI).

- Initiate a crop protection program focusing on coordinated programs of pesticide efficacy and registration and development of integrated pest management protocols (Institution Responsible, FAS Micronesia).
- Initiate development of a comprehensive and accessible information base on the physical and human resources market potential of the region (Institution Responsible, Guam).

-more--

COST AND TIME FRAME

It is proposed that this agricultural development program be undertaken over a five to seven year period at a cost of about $1.5 million per year. The plans developed in the first year of the project will delineate activities and budget requirements for subsequent years.

DRAFT - C. Ching
August 13, 1987

CENTER FOR TROPICAL AND SUBTROPICAL AQUACULTURE

LEGISLATIVE AUTHORITY

-more--

The Congress of the United States included in the Agriculture and Food Act of 1980 and the Food Security Act of 1985 the authority to establish four aquaculture research, development, and demonstration centers. These centers would be in association with colleges and universities, state departments of agriculture, federal facilities, and nonprofit private research institutions. In 1986, Congress designated four regional centers located throughout the country. Of these, the Center for Tropical and Subtropical Aquaculture to be jointly administered by the University of Hawaii and the Oceanic Institute was designated.

ESSENTIAL AIR SERVICES

Guam is apprehensive of the termination of the Essential Air Service Program to Guam by October 24, 1988. Being in the middle of the Pacific Ocean, and 3,600 miles from the nearest U.S. Airport in Honolulu, Guam has no other means of viable transportation to other mainland destinations. If bills now before the U.S. Congress fails to extend Essential Air Service Program, Guams would certainly experience serious economic setback.

SUGGESTED ACTIONS:

1. Convince U.S. Congress of the special circumstances affecting the far-flung U.S. island Territories and Commonwealths and the need to extend the Essential Air Services to them.

"OPEN SKIES" POLICY FOR GUAM

The Pacific Basin, because of its geographic location, must look to the Far East when developing its economy. Certain constraints in U.S. policy regarding air transportation to Guam by foreign air carriers now prohibits visits to Guam by these airlines. If Guam could be exempted from the constraints of U.S. Code, Title 49, Section 1-508, the so-called "cabotage" regulation, that prohibits foreign carriers from serving two U.S. points without an intermediate foreign stop, Guam might be able to promote service from Pacific Rim nations. Suggested actions, in themselves, do not create a full deregulation or "Open Skies" policy, but go a long way in establishing Guam's major concerns under a full policy of "Open Skies".

United States carriers would continue to have Guam visitation rights, for both passengers and freight, to and from any other points they are already authorized to serve.

Foreign carriers could serve Guam, with revenue stops and count Guam as an intermediate stop enroute to a U.S. stop, not one counted as a bona fide U.S. stop.

SUGGESTED ACTIONS:

1. Congress exclude Guam from the operation of federal laws which regulate, and for Guam, hinder the development of air routes, services and faires to, from and through Guam.

2. Congress exclude Guam from the definition of the "United States" in relation to air transportation, and thus permit foreign carriers to serve Guam-U.S. Mainland (or Hawaii) routes.

GUAM AIRPORT AUTHORITY
(ATURIDAT PUETTON BATKON AIREN GUAHAN)

P.O. Box 8770/Tamuning, Guam 96911/Telephone: 646-0300, 646-0301, 646-0302
Telex: 6456 GUMARPT GM

August 13, 1987

MEMORANDUM

TO: Director, Bureau of Planning

FROM: Executive Manager

SUBJECT: PHDC Annual Conference Agenda - GAA Input

Attached please find the Guam Airport Authority's input re: Air Service. We have addressed various federal offices on the two subjects that interest us most, on several occasions over the years, thus we hope this reiterization will not be considered "flogging a dead horse".

Essential Air Service

Though Guam received an EAS determination under the now defunct CAB, we view with apprehension the sunset of the EAS program by October 24, 1988. Though Guam has never had to invoke the EAS since receiving its determination, the existence of the program was insurance we cannot ignore. Historically, air service has fluctuated to this island on many occasions.

This territory, in the middle of the vast Pacific, and 3,600 miles distant from our nearest U.S. airport in Honolulu, has no other means of viable transport. If bills now before the U.S. Congress fail to extend the EAS Program, then Guam feels a special determination should be forthcoming to assure America's far-flung island territories and Commonwealths that consideration for their special circumstances will be legislated. Mainland communities have motor cars, bus, and trains to transport them, in default of air service.

How many members states of PHDC would be here at this conference if they had to find some alternative, surface transportation, to make the trip to Saipan? EAS is, as the title states, "essential". One cannot terminate the essential program and expect the necessity to disappear.

The Territory of Guam, and other entities in the Pacific Basin, must have this assurance of uninterrupted air service. It is our only viable "people mover", for business and personal visits to other parts of our nation, for medical evacuation of the ill, for government officials who must make necessary trips to the U.S. mainland, and for essential mail and perishable cargo.

Thus, we trust the federal authorities will see to it, that some form of EAS is retained for American communities far-removed from the mainland.

"Open Skies" Policy for Guam

The Pacific Basin, being geographically located where it is, must look to the Far East when developing its economy. Certain constraints in U.S. policy regarding air transportation to Guam by foreign air carriers now prohibits visits to Guam by these airlines. If Guam could be exempted from the constraints of U.S. Code, Title 49, Section 1508, the so-called "cabotage" regulation, that prohibits foreign carriers from serving two U.S. points without an intermediate foreign stop, Guam might be able to promote service from Pacific Rim nations.

There are two possible levels of federal deregulation within the purview of Congress that Guam might aim for, as a limited "Open Skies" policy.

1. Congress may exclude Guam from the operation of federal laws which regulate, and for Guam, hinder the development of air routes, services and fares to, from and through Guam.

2. Congress may exclude Guam from the definition of the "United States" in relation to air transportation, and thus permit foreign carriers to serve Guam-U.S. Mainland (or Hawaii) routes.

3. Congress cannot, by itself, exclude Guam from the operation of national treaties governing air service between the United States and certain foreign countries (bi-lateral treaties), but the U.S. State Department may assist Guam in patterning future air service treaties so that Guam is both informed and aided in matters of concern to Guam.

These points, in themselves, do not create a full deregulation or "Open Skies" policy, but go a long way in establishing Guam's major concerns under a full policy of "Open Skies".

United States carriers would not be affected, in that they would continue to have Guam visitation rights, for both passengers and freight, to and from any other points they are already authorized to serve.

Foreign carriers could serve Guam, with revenue stops in lieu of the technical stops they can already obtain. Further, foreign carriers would count Guam as an intermediate stop enroute to a U.S. stop, not one counted

under the U.S. Code 49 restriction as a bona fide U.S. stop.

There is much that would have to be worked out to make feasible this partial deregulation, but it would, if Congress passed legislation within its purview, accelerate further planning along the lines of an "Open Skies" policy for Guam.

JESS Q. TORRES

BARRIERS/CONSTRAINTS TO GUAM'S AIR TRANSPORTATION AND COMMERCE

Barriers/Constraints to Guam's air transportation and commerce include:

1. Bilateral agreements made by the U.S. which restricts the number of carriers having landing rights on Guam and beyond rights when servicing rights.

2. The prohibition of cabotage by the U.S. which prevents foreign carriers from serving Guam enroute to/from a foreign point to U.S. points.

3. The application of U.S. noise regulations concerning aircraft noise requirements to Pacific air transportation services.

4. The lack of consideration for the need of minimum levels of capacity, for air cargo and mail by the Essential Air Service.

5. No prior notice by the F.A.A. to GovGuam when suspending or terminating an air carrier.

6. The expiration of the Essential Air Service (October 1988) which guarantees a minimum level of passenger service.

SUGGESTED ACTIONS:

1. Lobbying efforts to achieve:

   a) The treatment of Guam as a separate entity during all U.S. bilatural negotiations.

   b) the exemption of Guam from U.S. cabotage laws.

   c) The exemption of Guam from inappropriate U.S. noise regulations.

   d) An indefinite extension of the Essential Air Service Program an minimum levels of capacity for air cargo and mail service.

   e) The requirement of adequate notice by the F.A.A. on the suspension or termination of any air carrier service to Guam.

DEPARTMENT OF COMMERCE
BRIEFING SERIES 1987
DATE 8/14/87

SUBJECT: Barriers/Constraints to Guam's Air Transportation and Commerce

SUMMARY/BACKGROUND:

There have been numerous projects undertaken by the Pacific Basin Development Council (PBDC) concerning air transportation issues in the Pacific. The following is a list of those projects which include Guam and their status.

1. Development of an Air Service Consumer Complaints System; began May 1986 and is presently ongoing.

2. Visits to the American Pacific Islands concerning Special Pacific Transportation Needs and Problems, began May 1984 and was completed August 1984.

3. Essential Air Services Work Groups; began December 1981 and is presently ongoing.

4. Essential Air Service in the American Pacific Islands, A Staff Study; began March 1982 and was completed May 1985.

5. Monitoring of Air Transportation Services Issues; began March 1981 and is presently ongoing.

CURRENT ISSUES:

The Following is a list of barriers/constraints to Guam's air transportation and commerce.

- Bilateral agreements made by the U.S. restricts the number of carriers having landing rights on Guam and beyond rights when servicing Guam. The lack of beyond rights discourages air carriers from exercising their right to service Guam.

- The U.S. does not allow cabotage, the practice of a foreign carrier providing service between two U.S. points. This prevents foreign carriers from serving Guam enroute to/from a foreign point to U.S. points. This limits both passenger and air cargo service for Guam.

- The application of U.S. noise regulations concerning aircraft noise requirements has curtailed Pacific air transportation services.

- The current Essential Air Service assessment does not take into consideration the need to establish minimum levels of capacity for air cargo and mail service. This has caused serious problems for Guam in the past.

- At present, the Federal Aviation Administration is not required to provide the Government of Guam with notice when suspending or terminating an air carrier's right to service Guam. As such, the government has no lead time to solicit other carriers to increase or introduce service to Guam to insure a constant level of air service. This disrupts basic passenger, cargo and mail movements in and out of Guam, thereby having negative repercussions on other areas of Guam's economy.

- The Essential Air Service program authorization, which is currently being applied to Guam, has a sunset date ending in October 1988. Beyond this date, Guam will no longer have the means to guarantee a minimum level of passenger service.

Current Status:

PBDC has several ongoing projects which attempt to address concerns specifically impacting on Pacific air transportation services. They include projects 1, 3 and 5 listed above under Summary/Background. Furthermore, PBDC anticipates that additional work will continue on specific problem areas, including noise requirements research, Essential Air Service technical assistance and the consumer complaints efforts.

The executive and legislative branches, as well as Guam's congressional office, have also been pursuing ongoing lobbying efforts to address the aforementioned barriers/constraints to Guam's air transportation and commerce.

RECOMMENDED ACTION:

Concerted lobbying efforts should be continued to achieve the following:

1) Treat Guam as a separate entity during all U.S. bilateral negotiations on air service.

2) Exempt Guam from U.S. cabotage laws.

3) Exempt Guam from those U.S. noise regulations which are inappropriate for island environments.

4) Require an indefinite extension of the Essential Air Service program authorization and include an assessment to establish minimum levels of capacity for air cargo and mail service.

5) Require the FAA to provide adequate notice to the Government of Guam on the suspension or termination of any air carrier's service to Guam in order to maintain a reasonably consistant level of service essential to Guam's economy.

SUPPORTING DOCUMENTS:

1. "Pacific Basin Development Council's 1986 Program Status Report, October 1, 1985 to September 30, 1986", Honolulu, Hawaii, January 15, 1987.

2. 1987 Draft of the "Overall Economic Development Plan", Division of Economic Development Planning, Department of Commerce, Government of Guam, June 1987.

REMARKS:

Supporting documents are available upon request.

FEDERAL BARRIERS/CONSTRAINTS TO GUAM'S OCEAN TRANSPORTATION AND COMMERCE:

SEEKING EXEMPTIONS TO NATIONAL LEGISLATIVE AND REGULATORY POLICIES AFFECTING GUAM'S OCEAN COMMERCE

On May 8-9, 1986, a Federal Ocean Transportation Study Work Team reviewed major institutional issues which include: the exemption of America Samoa and the Northern Marianas from the Jones Act; vessel documentation laws that affect fisheries development; and the Immigration and Nationality Act which affects foreign members of ships.

SUGGESTED ACTIONS:

Recommended actions are listed in the following supporting documents:

1. "Major Institutional Issues Affecting Guam's Ocean Transportation, Fishing and Tuna Transshipment Industries" (prepared by Guam Department of Commerce)

2. Briefing papers on Jones Act and Tuna Transhippment; Vessel Documentation Laws and Coastal Fisheries; and Immigration and Naturalization Act: Crew Shore Leave, and

3. Statement on Federal Barriers to Fisheries and Trade Development before the subcommittee on Trade Productivity and Economic Growth Joint Economic Committee for the Guam Chamber of Commerce by Simon A. Sanchez, Jr.

DEPARTMENT OF COMMERCE
BRIEFING SERIES 1987
DATE 01/30/87

PROJECT: Federal Barriers/Constraints to Guam's Ocean Transportation and Commerce:

Seeking Exemptions to National Legislative and Regulatory Policies Affecting Guam's Ocean Commerce.

SUMMARY/BACKGROUND:

On May 8-9, 1986, a Federal Ocean Transportation Study Work Team, which consisted of staff from the U.S. Department of Transportation (DOT), Pacific Basin Development Council and the U.S. Department of the Interior, visited Guam for the purpose of conducting on-site work on the congressionally mandated study of special ocean transportation problems of the Pacific region. The Department of Commerce prepared comments and a listing of the issues concerning U.S. Maritime Laws and Regulations affecting Guam's ocean transportation, fishing and tuna transshipment industry and charter/cruise industry. These were presented along with a study prepared by the Port Authority of Guam, at a Roundtable Session with the DOT Ocean Study Field Work Team on May 8, 1986.

CURRENT ISSUES:

One of the tasks of the federal team was to review major institutional issues, including national legislative and regulatory policies affecting ocean transportation. Examples of these institutional issues included: the exemption of American Samoa and the Northern Marianas from the Jones Act; vessel documentation laws that affect fisheries development; and the Immigration and Nationality Act which affect foreign members of ships.

The listing prepared by Commerce referenced a number of studies, reports and papers which identified the major impediment to Guam's ocean transportation, fishing and tuna transshipment industries, namely the Merchant Marine Act of 1920 (the Jones Act). The studies also identified other federal barriers to Guam's ocean commerce. These were the U.S. Vessel Documentation Laws and the Immigration and Naturalization Act.

CURRENT STATUS:

Soon after the Roundtable session, PBDC developed a summary of comments given at the Roundtable Session. This summary was sent to Frank Perez at Commercial Port by Carolyn Imamura.

RECOMMENDED ACTION:

The actions recommended on these issues are listed in the paper prepared by the Department of Commerce and the briefing papers on the Jones Act, Vessel Documentation Laws and the Immigration and Naturalization Act. (See "Supporting Documents").

SUPPORTING DOCUMENTS:

1. "Major Institutional Issues Affecting Guam's Ocean Transportation, Fishing and Tuna Transshipment Industries", (Paper prepared by Guam Department of Commerce, May 1986).

2. Briefing papers on Jones Act and Tuna Transshipment; Vessel Documentation Laws and Coastal Fisheries; and Immigration and Naturalization Act: Crew Shore Leave.

3. Statement on Federal Barriers to Fisheries and Trade Development before the subcommittee on Trade Productivity and Economic Growth Joint Economic Committee for the Guam Chamber of Commerce by Simon A. Sanchez, Jr., Director, September, 1985.

NOTE: Supporting documents are available upon request.

REMARKS:

If the Governor wishes to review the status of the Ocean Transportation Study and to determine what actions are being taken to implement the recommendations of the Field Work Team and to resolve the problem Guam is facing with the various U.S. Maritime Laws and Regulations as they affect Guam's Ocean Commerce, he may contact the following individuals in Washington:

	CONTACTS
U.S. DEPARTMENT OF TRANSPORTATION	MR. FRANK D. GARICA (202) 426-4138 Office of the Secretary U.S. Department of Transportation 900 Seventh Stree, SW Washington, D.C. 20590
	DR. PAUL MARK Maritime Administration U.S. Department of Transportation
U.S. DEPARTMENT OF THE INTERIOR	MR. THOMAS PEREZ (671) 472-7319 Office of Territorial and International Affairs U.S. Department of Interior Agana, Guam 96910

OCEAN TRANSPORTATION

Most Pacific Island Territories suffer from a common ocean transportation problem of inadequate off-shore and on-shore infrastructions. It is generally felt that limited understanding and recognition of the unique island statutes in policy decisions, particularly at the Washington level, has frequently served to create or compound these problems and issues.

Generally, local governments are financially responsible for on-shore facilities with Federal appropriations through the Department of Interior. While the U.S. Army Corps of Engineers is responsible for off-shore harbor improvement, the local financial share responsibility ranges from 10% to 50% with additional 10% over 30 years. The demands of off-shore construction improvements will add new financial pressure for future development efforts.

Many of the island harbors were not designed to accomodate the current levels of passenger traffic. Changes in cargo technologies; transport containers, higher cargo volume, larger freight equipment and popularity of Pacific Cruises has placed growing demands and use conflicts on the limited shoreline facilities.

The ocean transportation problem affecting the American Pacific Islands are complex, compounded by the unique island statuses and economic factors. Consistent, adequate transportation is vital to our economic futures, not only to the islands but to the United States as a whole. Addressing these issues requires a full understanding of the economic and social characteristics of the problem as well as a partnership of the diverse, but generally parallel interests.

EXECUTIVE SUMMARY

Imagine the area around Washington, D.C. from Baltimore to Fredricksburg and Shenandoah National Park in the middle of a large lake. No trains, no trucks, no buses, no cars, or small ships are capable of moving over that lake to this D.C. area. The only contact with the rest of the country would be by airplanes or ships. Obviously, these two modes of transport gain a greater value. And more obviously, anything affecting the transportation will have a new meaning for people in this area.

To make appropriate public policy for the American Pacific Islands, there must be a recognition of the unique factors of Islands:

1. There is no realistic alternative for transporting the majority of goods needed for daily Island living;

2. The Island harbors and shipping networks are lifelines; each man, woman, and child is a direct beneficiary of our Pacific port system;

3. The annual per capita tonnage is three times that of continental ports; imports substantially exceed exports, unlike the flow at mainland harbors;

4. Distances between Pacific points are significantly greater than those between urban centers in the continental U.S.;

5. There is generally one commercial port per Island.

6. Basically, there are only two metropolitan harbors spanning distances greater than the U.S. mainland; most Pacific harbors serve Island-bound markets of less than 100,000 people each.

It was generally felt that there is a limited understanding and recognition of these unique Island status factors in public policy decisions, particularly at the Washington, D.C. level. This level of understanding has frequently served to create or compound the special Island transportation problems and issues.

Uniformly at almost all harbors, there were concerns raised about the need for improvements to the off-shore and on-shore (dockside facilities) infrastructure. The U.S. Army Corps of Engineers (Corps) is the primary Federal agency with responsibility for improvements to off-shore infrastructure, i.e. those within navigable waters of the United States. The Corps' responsibilities was greatly modified by the enactment of Public Law 99-662 (Water Resources Development Act of 1986) in November 1986, establishing

local financial cost responsibility ranging from 10% to 50% with additional 10% over 30 years.

The Islands have not historically received the same level of benefits as the rest of the country from the Corps' activities; it is only within recent years that there has been intensive Corps work in the Pacific Territories. The Islands also have a disproportionately higher number of port facilities for its populations and a more limited financial resource base. The new Corps cost sharing formula will require more deliberate planning by Island governments and may slow (or, even in extreme cases, halt) harbor development in America's western- and southern-most ports.

Generally, local governments are financially responsible for dockside facilities; historically, Federal appropriations through the Department of the Interior have substantially underwritten major shoreside developments. The demands of off-shore construction financing will add new fiscal pressures to future development efforts.

Although individual problems were specified at each harbor, a common issue was identifiable: the increasing conflict in docks space utilization. This conflict generally stems from the limited dockside area available, growing demands for the space, and differing use requirements.

Most Pacific harbors have limited shoreside space due to the geographic anomalies of Islands. These ports were generally developed at natural harbor, which sometimes were created by the collapse of one boundary of old volcanic calderas. This frequently means that the available shore land abuts the remaining ridge and. In other cases, the maritime area is being or has been encroached by non-ocean activities.

Ocean commerce in the Pacific is increasing. Many of the Island harbors were constructed for lower cargo volumes than now being experienced. Changes in ocean cargo technologies have also served to increase the space demands: technology has increased the size of transport containers and larger equipment requires more dockside space.

There is a growing demand for ocean passenger services. Pacific cruises are gaining in popularity and volume. Movement of people on the docks has differing requirements, especially in terms of safety. Most Pacific harbors were not designed to accommodate current levels of cargo and passenger movements, as well as the type and size of cargo and freight equipment.

The competing demands and increasing use of limited shoreside facilities could result in a dangerous mix of ocean passengers, large cargo containers, freight vehicles, and heavy equipment.

many cases, it is an accident waiting to happen. And, often, no harbor user feels fairly treated.

A useful model for dealing with facilities issues is the Hawaii 2010 master planning process, particularly at the Neighbor Island commercial ports. The State of Hawaii Harbors Division is nearing completion of long range facilities planning in cooperation with the respective local private sector for each of Hawaii's commercial harbors. A brief case study is included because of the applicability of this facilities use planning model.

There is a lack of resources available and committed by all levels of government to addressing the planning and data needs in ocean transportation. Considering the critical relationship of the Islands and other communities of interest to the subject area, the resources currently available are not reflective of the valued asset.

The transportation problems facing the American Pacific Islands are complex, compounded by the unique Island status and economic factors. Consistent, adequate transportation is vital to our economic futures, not only of these Islands but for the United States as a whole. Addressing these handicaps requires a firm understanding of the economic and social characteristics of the problem as well as a partnership of all diverse, but generally parallel interests. This report is intended to aid the necessary dialogue to promote the problem resolution process.

American Pacific Islanders live with the reality that anything that is not made out of air, coral, lava, water, or semi-tropical plants must be transported to the Islands; we understand this fact well and care deeply what happens to the ocean transport network and system. If you lived here, you would, too.

GOVERNOR'S PRIVATIZATION PROGRAMS

The Governor's Privatization Advisory Council has offered two recommendations to the Governor as initial steps toward implementing privatization as follows:

1. Privatize all general, residential and commercial solid waste collection services;

2. Develop and implement an administrative plan to transfer the Guam Telephone System from government to private operation.

The Council also offered four methods for privatization.

1. Divestment or the sale of all publicly owned assets to a non-government operator. Divestment could occur as an outright sale through private offering or publicly held offering or a controlled sale through an employee stock option plan for a co-op joint private/public ownership.

2. Lease Agreement which places thh government in a tenant-landlord relationship.

3) Franchising which involves issuing a license to do business under the terms and conditions specified by the franchise-owner (or government).

4) Joint Venture where a partnership of equal proportions would exist that would serve both private and public interests in a specified service.

The privatization of both collection of solid waste and Guam's Telephone System will produce economic, social, and political benefits to the Territory of Guam, including more employment outside government and improved business operations.

SUGGESTED ACTIONS

1) The Governor should make a decision on the recommendations offered;

2) The Guam Legislature should initiate steps to implement an overall legislation for privatization in the Territory of Guam;

3) An administrative plan of action to implement the two recommendations should be developed by the executive branch.

INITIAL RECOMMENDATIONS FOR PRIVATIZATION
Governor's Privatization Advisory Council

An Overview

Two recommendations are submitted to the Governor as initial steps towards implementing privatization:

1) Privatize all general,residential and commercial solid waste collection services;

2) Develop and implement an administrative plan to transfer the Guam telephone system from government to private operation.

Four methods of privatization are offered:

1) Divestment or the sale of all publicly owned assets to a non-government operator. Divestment could occur as an outright sale through private offering or publicly held offering or a controlled sale through an employee stock option plan or a co-op joint private/public ownership.

2) Lease Arrangement which places the government in a tenant-landlord relationship.

3) Franchising which involves issuing a license to do business under the terms and conditions specified by the franchise-owner (or government).

4) Joint Venture where a partnership of equal proportions would exist that would serve both private and public interests in a specified service.

Pursuing privatization in phases, i.e., starting with the management of a particular service first then gradually implementing in other areas, can be easily accomplished with any of the above four methods.

The privatization of solid waste collection will produce certain benefits for the Territory of Guam.

Economic - encourage new business development in solid waste collection; expansion of existing firms providing collection services; expand government's revenue base through increased business activity; reduce government cost through transfer of operating expenses to private sources while still maintaining

similar or perhaps improved level of service to consumer. It is roughly estimated that the privatization of solid waste collection would provide about $700,000/year in GRT and corporate income taxes.

Employment - opportunity growth exists outside of government for solid waste collectors. A conservative range of 48-134 workers above the 96 currently employed in solid waste collection is estimated.

Political - inconsistent and inadequate collection services are chronic complaints vocalized by constituents. Addressing these complaints require increased capital investments in equipment and salaries--capital that the government does not have. Privatization will remove the onus of constituent complaints from politicians and place them with private operators.

Business - an efficient refuse collection service is a necessity to general business operations. Also, increasing the number of operators would potentially increase business opportunities in refuse management, i.e., slop concession.

The privatization of Guam's telephone system would produce the following benefits.

Economic - adequate communication service would provide accurate and complete transfer of information which is essential from a personal standpoint, as well as from a business standpoint which could mean the difference between profit or unrecoverable business opportunities. An efficient communication system could mean the difference between business organizations choosing to transact matters with Guam or not.

Social - Island citizens who need to gain access to vital services such as police, fire medical and/or emergency transportation would be able to do so with a functioning telephone system. Schools would be able to easily communicate with their students' parents to resolve learning or behavior difficulties.

Employment - opportunities would be available for expanded employee training career advancement, as well as long-term job stability.

Political - an effective telephone system keeps the political figure in touch with constituents' opinions, needs, and concerns. More importantly, itprovides for improved accuracy in the transfer of information. An improved system would provide the voter and political candidate with a rapid means of gaining knowledge of crucial political issues. In short, the political process of compromise, decision- making, and action are dependent upon rapid and direct communications which in turn provide immediate benefits to constituents and official alike.

Business - an efficient telephone system would stimulate a sluggish market by providing the consumer access to business information/feedback on purchases of a product or service. Improved confidence in the marketplace will increase overall consumer spending. The ease of access to goods and services produces a greater local circulation of generated income before linking off-island.

Before a decision to privatize can be made with confidence, three factors must be considered: employee acceptance, regulatory implementation, and the political environment.

Employee acceptance, although difficult, is not impossible to achieve. The worker must be convinced that employments rights are a priority, retirement is protected, existing skills and abilities are an asset not a liability, expanded career opportunities and training exist, expanded benefits will be retained or improved, and that private sector employment has prestige and can produce economic satisfaction.

Regulatory implications must be carefully considered so that any business venture will comply with appropriate laws of Guam, and most especially the regulation process that applies to protection of the public interest.

Political implications is the third consideration. Any action to convert government-owned service to private enterprise must be done through legislation. Political leaders must be convinced that privatization is the best of alternatives to deliver services needed by the public.

The Council offers steps for implementing the two recommendations.

1) The Governor should make a decision on the recommendations offered;

2) The Guam Legislature should initiate steps to implement an overall legislation for privatization in the Territory of Guam;

3) An administrative plan of action to implement the two recommendations should be developed by the executive branch.

The Council will continue to review other areas of government and their services to identify other potential candidates for privatization.

Submitted by HFA, 8/12/87.

GOVERNOR'S PRIVATIZATION ADVISORY COUNCIL

A Report To The Governor of Guam

on

Initial Recommendation for Privatization

August 1987

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Governor's Privatization Advisory Council
August 1987

INTRODUCTION

The Privatization Advisory Council was created by Executive Order 87-04 and is comprised of representatives from political, business, and social interests of the Guam community. Its charter considers privatization as an effective strategy to accomplish 3 objectives:

- to reduce the size and cost of government;
- to improve government services;
- to enlarge the community's tax base.

The charter also specified certain duties of the Council:

- investigation of privatizing certain Government of Guam entities and/or services.
- coordinating with the chief Financial Officer, Debt Advisory Council, Fiscal Policy Coordinating Committee and the Attorney General in its investigations and evaluations;
- generating a plan for privatizing certain Government of Guam entities and/or services if appropriate, and submitting the plan to the Deficit Elimination Task Force for review and recommendations to the Governor and Legislature as appropriate; and
- drafting and submitting to the Governor an Annual Report describing and evaluating the operations of the Council during the preceding year;

Implementing the privatization concept is not new to the Government of Guam. It has been successfully applied to: motor vehicle inspections, solid waste bulk transfer, animal quarantine, health maintenance planning, airport construction financing, and well drilling operations. There has additionally been a history of contractual services provided by private operators to government agencies: payroll services, plant security, aircraft fueling, contract attorneys, meal transportation, homemaker care, and cemetary maintenance.

Commissioning of the Privatization Council acknowledges this approach is one method of containing government spending, building confidence in Guam's private enterprise system, and transferring functions of the government which might not be a true public service needing support from limited public funds.

ASSUMPTIONS

Certain assumptions are implied by the Council's charter:

- reducing the size and cost of government would allow its scarce financial resources to be better applied to critically-needed public services. The goal of privatization would therefore be making government service provision more efficient rather than simply attempting to reduce a deficity through spending;

- long-term operation of certain services by the government of Guam have produced a certain amount of public proprietary interest which should be taken into account as privatization is considered:
  - the right to gainful employment and related job security for those in government services;
  - the right to cost containment for services provided a direct relationship exists between cost and quality of that service;
  - the right to public regulation as privatized goods and services are delivered.

- privatization requires political risk in that it involves a perceived change in operations, control and way of life for constituents. Decisions to privatize must be supported by an acceptable plan of action.

- privatizations decisions or commitments should be made in the context of obtaining the widest and maximal benefits to citizens of Guam;

- private business is not widely understood or accepted by the general population. The citizenry must become aware of the potential value of free enterprise, its strengths and weaknesses, when privatization commitments are made.

INITIAL RECOMMENDATIONS

The Privatization Council was preceded by the privatization Work Group of the Bordallo Administration. Extensive research had been undertaken on the privatization concept and how it could best apply to the Government of Guam and the island's private sector. Most notable in the PWG's assessments was their development of an evaluation system which reviewed government services on a number (24) of factors considered influential on their potential or non-potential for free enterprise. Conference proceeding,

case studies for projects which were implemented, and a suggested plan of action for the Ada/Blas Administration were used by this council as it considered these recommendations.

The Guam Chamber of Commerce also provided another very useful perspective on privatization; one developed over a 10-year period. This business perspective provided a balance to the PWG's efforts which were primarily generated by government officials and their consultants. The chamber updated its position(s) with a report issued April 1987 making recommendations for privatization of specific government services. The chamber had also taken the PWG's considerations into account in their own deliberations.

The U.S. Department of Interior, Office of Territorial and International Affairs, also contributed to the council's perspective. Extensive research developed from projects throughout the nation was made available to the council. This national perspective was also considered quite useful.

The privatization Council submits two recommendations as its initial steps towards implementing privatization. These recommendations are not to be considered final but are instead intended to obtain further direction on the nature and scope of its efforts.

Recommendation 1. PRIVATIZATION OF SOLID WASTE COLLECTION SERVICES BE EXTENDED FROM THE BULK TRANSFER PROCESS CURRENTLY BEING USED TO NOW INCLUDE ALL GENERAL, RESIDENTIAL, AND COMMERCIAL COLLECTION SERVICES OF THE GOVERNMENT OF GUAM.

Usage of a private operator to provide bulk transfer to refuse from collection stations to the landfill area was found to be successful. The council feels it is appropriate to extend this privatization to general collection services currently provided by the solid waste division of the Department of Public Works.

Recommendation 2. THE GUAM TELEPHONE AUTHORITY BE CONSIDERED A CANDIDATE FOR PRIVATE OPERATION AND THAT STEPS BE TAKEN BY THE GOVERNMENT OF GUAM TO DEVELOP AND IMPLEMENT AN ADMINISTRATIVE PLAN FOR EXECUTIVE AND LEGISLATIVE CONSIDERATION.

This recommendation proposes converting a public utility to private operation. Guam Telephone Authority was to be the public service which consistently met all criteria for consideration under the privatization concept.

The following sections present specific details for each of these recommendations.

SOLID WASTE COLLECTION

Rationale

Extensive national research has been conducted on solid waste collection since this is a service typically provided by government yet is potentially the service best operated by private enterprise. Its basic production unit of 1 worker to 1 truck makes analyses and measurements of performance quite accurate. Studies indicate solid waste collection is not as influenced by economy-of-scale factors as are other services. Solid waste collection also provides immediate, visible service to people when done efficiently. Solid waste collection has also been found to expand business and employment opportunities when done within certain requirements set forth by the government. Research finally demonstrates that private enterprise generally can provide solid waste collection at 30% less than the government can provide for the same levels of service.

Waste collection services are currently provided by the Solid Waste Division of the Department of Public Works. This division responsible for (1) landfill management, (2) refuse collection services, and (3) bulk transfer of solid waste from regional collection stations to the Ordot landfill were contracted to a private operator, Commercial Sanitation Inc., in 1982. This contracting was done to reduce demands on government equipment needed for residential collection services.

Privatization has been found successful in one phase of solid waste collection. It is both appropriate and logical to extend this concept to general collection of refuse and build on a previous acceptance of private business in a government operation.

Benefits

There are certain inherent benefits in solid waste collection services being operated by private enterprise rather than the government. These benefits are: (1) Economic, (2) Social, (3) Employment, (4) Political, and (5) Business.

Economic Benefits. There are currently two types of solid waste collection users: residential and commercial. There is also 1 private collection company on-island; all other collection services are provided by the Government of Guam. While this company mainly provides a commercial

collection service, it also provides bulk transfer services to the government and has a limited number of residential customers. Both private and public collection operators provide at least once weekly pick-up (curbside) to their customers.

The 1987 budget for solid waste collection by the Government of Guam indicates a service rate of 24,000 households or an average of $78.00 per household annual cost. While these households are primarily residential, there are public pick-up services provided to multi-residential apartment buildings which are themselves commercial ventures. Existing pick-up services are not consistently provided by the government due to aging equipment with frequent breakdowns. The government is also unable to provide capital funds regularly needed to purchase and maintain existing equipment. Costs for services are expected to escalate because of increases in general salaries of government workers as well as inflationary increases in costs of equipment, shipping, etc.

Conversion of solid waste collection services from government to private operators would provide these benefits:

- cost containment in a necessary service through transfer of operating expenses to non-government sources while maintaining similar if not improved level of service to consumers;
- encouragement of new business developments in solid waste collection as well as expansion of the existing firm providing these services.
- expansion of the government's revenue base through increased business activity from private solid waste collectors. Current expenditures for collection services provide little return to the government.

Privatization of solid waste collection would also provide these financial benefits to the General Fund:

Total Revenue @ $78/Hsehold X 24,000 Hseholds	1,872,000
Gross Receipts Taxes @ 4%	74,880
Corp. Income Tax @ 34%	636,480
TOTAL REVENUE	711,360/yr.

A very broad approximation of financial benefits indicates an increase of 3/4 of a million dollars annually into the general fund through a privatized solid waste

collection service. This amount does not include employment income taxes, revenues from equipment purchases, nor income derived from indirect sources such as maintenance and support services to collectors.

A final economic incentive would be expansion of solid waste collection incentives into enterprises such as metals recovery, refuse-fired power generation, garbage recycling, etc. The present refuse collection system provides little to no incentives beyond government for expansion as might normally occur under proprietary interests.

Another social benefit which might be realized is the collection of waste other than household garbage; for example, coconut leaves, small appliances, and general junk. The government service will not remove articles larger than a normal garbage container. The consumer must therefore remove these items themselves; most prefer not to. An expanded private business would most certainly offer options to pick-up services needed by their customers.

Employment Benefits. The present solid waste collection system provides no competition or incentives for productivity among persons employed as solid waste collectors.

There are currently 75 persons employed by Government of Guam an approximately 21 in private industry. Development of a competitive environment would produce a need in two areas: (1) private company operators/owners, and (2) individuals with technical knowledge needed to operate collection equipment.

Individuals currently employed in this area would have an opportunity to be service providers themselves and employ others with needed skills in their companies. Competition between companies would be expected to provide both a work and compensation environment designed to keep employees with skills rather than simply seeking the most economic means of employment. Other Guam industries have shown employment multipliers of 1.5 to 2.4. This would indicate an increased need of 48-134 workers is solid waste over the 96 currently employed. This type of employment opportunity growth in the Government of Guam is not presently possible.

Political Benefits. Solid waste collection services currently require a general allocation of $1.87 million annually. Despite this budget, government collection services continue to be inconsistent, the source of many constituent complaints, and require increased capital investments in equipment and salaries.

The government's current financial condition also requires political leaders make relatively difficult

decisions to prioritize public services which receive limited general fund allocations. $1.87 million of public funds could conceivably be better spent in health, education, or safety for the general public instead of funding a continually problem-laden collection service. It would therefore be dependent upon Guam's political leadership to insure that: (a) a basic level of solid waste collection is provided, (b) employment opportunities for incumbent employees are maintained, (c) a climate promoting competition is encouraged as a means of controlling consumer costs.

There has been great deal of attention paid to the franchising concept these past months. Implementation of franchising zones is a political decision which must be made if goals mentioned earlier are to in fact be achieved. For example, a commercial zone could be established for the Tamuning/Tumon area which requires certain heavy industry specifications . This would encourage larger, more financially-capable companies to compete for that franchise. Another franchise zone for the South could restrict large, dominant companies from competing and encourage development of small business, home industry operators. This type of zoning would stimulate economic markets in these areas.

It would seem at best that political leaders must take decisions which mollify their constituents already highly dissatisfied with the levels and quality of government services being provided for them. Privatization of solid waste collection services would be expected to provide solutions to many of the current issues. New complications would undoubtedly appear, however, overall benefits to constituents would be expected to minimize the impact of these new considerations. Political leaders are not expected to place their constituent capital at risk on this particular issue.

Business Benefits. There are currently few options in solid waste collection services which would benefit businesses directly. Should a business choose not to utilize the only private contractor available, it is also deciding to either return to inadequate public services or incur an additional business expense to provide its own internal service. This additional cost of doing business on Guam is passed on to the consumer. An improved, more efficient means of procuring services such as solid waste collection would undoubtedly benefit the business perspective for Guam.

An efficient refuse collection service is a necessity to general business operations provided that business is able to exercise some control over the quality of services for which it pays. Continued support of solid waste

collection through taxes leaves a business with no option but that of demanding appropriate quality for the cost through taxes. Placement of solid waste collection under private operation would appear to rectify this situation by placing the burden where it should rightfully be, the provider of that service, not the government.

Increasing the number of operators would also potentially increase business opportunities in refuse management. For example, a hotel could implement a slop concession to that operator for wholesale distribution to livestock growers. A tremendous potential does exist in this way for greater, more enhanced economic development in industries related to the current services in our economy.

SUMMARY-SOLID WASTE COLLECTION

Government solid waste collection services were appropriate for Guam for its early years as a relatively small, compact community. Significant growth in population, households, and industry require that supporting services such as garbage collection be proportionately increased. This expectation has overtaxed the government's ability to keep an adequate pace and alternatives must subsequently be explored.

Privatization of solid waste collection services is one useful method of providing continued, expanded services needed by this community. This fact has already been demonstrated with the contracting of bulk transfer services from the Department of Public Works to commercial Sanitation, Inc. The current government operation requires $1.87 million annually to provide a service which is rapidly deteriorating in its consistent quality. Placement of this service under private enterprise is expected to produce certain benefits: (1) economically, (2) socially, (3) occupationally, (4) politically, and (5) entreprenuerially. Implicit within these benefits is a need to: (1) encourage competition, (2) protect employment interests, and (3) maintain a direct relationship between cost and quality of services.

Methods of Privatizing solid waste collection are presented in a later section of this report.

Recommendation 2, Privatization of the Guam Telephone Authority, is treated in succeeding sections by describing conditions and anticipated benefits.

Rationale

The Guam Telephone System is in reality a communication service which literally affects every resident, service, and business in the Territory. In this sense, a communication system is a vital component to the quality of life in this community.

Telephony services are influenced by economy-of-scale considerations. Telephone systems are also technology and capital intensive. They require effective short-and-long term business planning, employees with better than average technical abilities, and state-of-the-art equipment.

Guam's telephone system has been operated by government entities since its inception; first by a military government needing tactical, land-based communication in a small, unsophisticated community, to the present Guam Telephone Authority system for the "the Cross-Roads of the Pacific." The past 15 years of telephone system operation has shown slight improvements but still continues to not provide a true communications service despite an infusion of $60 million in capital funding.

Guam's telephone system must be considered one of several major resources which, if used effectively, could stimulate economic development, improve the Territory's quality residential life, and allow Guam to fully join the world community through its communications system.

BASIS FOR SELECTION

The Guam telephone system was selected as a candidate for privatization because of this comprehensive influence over all facets of the Territory. It consistently rated high on earlier evaluations of government service in its potential to produce revenue, reduce long-term obligations of the government, provide for progressively-improving employment, promotion of economic development,investor attractiveness.

It should be noted consideration of a government-provided service for privatization is not solely dependent on whether that service is causing a drain of tax funds. Both the Privatization Work Group and Chamber of Commerce concurred in their separate analysis, that our current telephone system has a greater potential for effective service under private enterprise than government.

Benefits

Specific benefits are expected to accrue through operation of the Guam Telephone System under private

enterprise. these benefits are presented in terms of : 1) economic, 2) Social, 3) occupational, 4) political, and 5) businesses accruals.

Economic Benefits. A communications system allows individuals or organizations to performing basic functions: (1) transfer information and/or (2) complete transactions. An absence of a functional means to communicate through the vehicle of telephony requires users to seek alternative means of completing their tasks.

In the case of both individual and group consumers, use of alternatives incurs additional expenses for a service for which payment has already been made. This additional cost of business becomes a factor in the user's personal or business considerations. For the individual, inaccurate or incomplete transfers of information quickly cause a sluggishness in personal activity. For a business consumer, inadequate communication often at times means lost, unrecoverable business opportunities for profit.

An effective telephone system would promote stronger economic activity from individual and business alike. Confidence in telephonic communication would be expected to produce a healthy economic growth which in turn provides additional revenues which are not presently realized.

Yet another economic benefit obtained through a fuctioning telephone system is increased confidence in the image we present to the world-at-large as a community. We currently are perceived as a Territory with surmountable communications difficulty; this impression limits the frequency with which other individuals or business organizations choose to transact matters with us. A functional telephone system would encourage investments which supplement our attractive geographic and geopolitical position as a Pacific Rim area.

The current asset value of the Guam Telephone System is $13 million with a debt obligation of $60 million. $2.3 million of income is derived annually from telephone subscribers. This financial trend currently provides a negligible return to government coffers. A more efficiently-managed telephone business would also be expected to produce healthy competition which in turn benefits the consumer. For example, long-distance rate changes these past few months between RCA and IT&E, two long-distance service providers, produced an approximate 30% reduction in overseas calls. A third telephone carrier in this market would provide greater competition for subscriber usage with direct, immediate benefits to the Guam consumer in general.

In short, a government operated telephone service by the Government of Guam is an impediment to progressive

economic development and privatization of this service would provide short-and long term benefits which promote the island's economic growth.

Social Benefits. The Health, Education, and welfare of the average Guam citizen is a mandatory requirement for public services provided by the Territorial Government.

The typical citizen currently experiences much difficulty gaining access to vital services they need. For example, a village resident, particularly one who is a senior citizen, disabled or both, must rely on telephone communications to obtain information or emergency assistance. Schools must be able to easily quickly communicate with their students' parents to resolve learning or behavior difficulties. Police, Fire, Medical, and Emergency Transportation services must first be accessible if their immediate responsiveness is to be fully effective.

The Guam citizen has a right to health, education, and welfare services and the government has a direct obligation to provide them. The government historically has demonstrated its inability to fully provide the critical link in obtaining these services, telephone communication; the logical, most appropriate action would be to explore alternative means of reaching the goal of effective communication, service provided by non-government operators.

Employment Benefits. The Guam Telephone Authority employee represents an employee with basic telephonic skills needed by a system. As such, these employees represent a human resource which cannot be ignored by any private industry employee. Failure to use this resource would produce significant business expenses to either import or train new employees.

The Guam Telephone System is presently managed by an organization which has received on-the-job training in telephony services. This narrow experience makes low performance and inability to resolve basic technical problems their operating norm. If organizational management is narrow to begin with, guidance to technical employees further limits the production perspective and ultimately their productivity.

A true telephone system management and its organizational experiences would introduce a new perspective to the Guam Telephone System. This perspective compiled with performance incentives for the organization and individual would provide the initiative needed to correct problems currently being experienced. Employee training for new and updated technologies are another standard event in private industry management. Human resources are a major asset with

payroll generally the largest, single business expense in any private enterprise. This resource would not go unused.

Affiliation, direct or indirect, with other telephone system operators would also provide expanded opportunities for employee training career advancement, and long-term job stability. Greater opportunities for advanced training would occur as would the areas in which key employees would be trained. In short, an employee's technical abilities would definitely be enhanced under private enterprise.

Political Benefits. An effective communications system provides politically-based benefits in several ways. Politics is described as the "art of compromise" and thus relies heavily on expressions from a constituency which guide political leaders' thinking on issues. A political figure who is not in direct touch with constituents is required to act on personal assumptions. While telephone communications is certainly only one of many resources available to gauge opinions, an ineffective means of communication increases the expense of government in the form of public hearings, village meetings, etc. The legislator's resources are quickly overtaxed. A functioning telephone system would provide constituents and political officials with a 2-way access to one another for a more democractic form of government.

Another political benefit derived from a functioning telephone system is that of improved accuracy in transfers of information. Conveyances of information are most desirable when directly expressed. An inability to express oneself directly requires use of other resources to do so; i.e. vehicle expenses, lost time work, etc. In many cases, information passed by word of mouth from one person to another, decreases in accuracy with each person's relay. The message heard by an official might in most instances be a dissimilar version of the opinion/need originally expressed by a constituent.

From a technical standpoint, a communications system should support technological equipment such as computer modems in transferring data between two points. Business usage of state-of-the-art hardware is a necessity to maintain pace with rapidly changing opportunities. A telecommunications system should allow these transfer devices to function to full advantage not pose an obstacle. While computer access is possible today, an inferior carrier signal often produces inaccurate or distorted data as it is transferred from one piece of equipment to another. The present system presents a major hindrance to full and complete use of computer technology, personally and business wise.

Lastly, another benefit produced with a fully-functioning telephone system is that of providing voter and candidate alike with a more rapid means of making decisions on crucial political issues. Electronic polling capabilities, for example, would allow for a more cost-effective, efficient means of voting on issues. Large portions of the Guam Election Commission's limited financial resources are expended on manual preparation and handling of election data prior to its processing. A more effective electronic polling between a voting station and main frame computer would minimize these manual resources while improving accuracy. Access to political leaders though electronic mail or direct computer networking, in addition to the voice access described earlier, provides immediate feedback in what is continually referred to as "... the will of the people...".

In short, political processes of compromise, decision-making, and action are dependent upon rapid and direct communications which in turn provide immediate benefits to constituents and official alike.

Business Benefits. Economists estimate Guam income, produced through the sale of goods and services, circulates 1.5 times through the island economy before leakage occurs, Leakage is the outflow of e.g. income is generated by sales of goods and services on Guam. This income circulates through local suppliers, vendors, etc. and eventually leaves the island as payment to manufaturers. For example, grocery stores retail food products. This income circulates on Guam 1.5 times through payment of wholesalers, utilities, taxes, until payment takes place to off-island vendors for that same merchandise.

A consumer must have access to business information/feedback on their purchase of a product or service. Limitations on that consumer's ability to express a need ultimately produces a lack of confidence in the marketplace. This loss of confidence in turn produces a sluggish consumer economy where demand becomes an educated guess at best. A sluggish market yields less speculation and investment in potential opportunities and additionally decreases overall consumer spending. Economic leakage occurs more rapidly under these conditions because of a general insecurity and lessening of business initiative.

A functioning telecommunications system provides consumers with direct and immediate access to island businesses. The spending activity which generally occurs through ease in procuring consumer goods and services re-establishes a healthy business climate which increases the flow of dollars through Guam's economy before going off-island. For example, 1985 produced a total retail sales volume of $1.3 billion. This income circulated through

Guam's economy 1.5 times before leaking off-island. If this sales income is in fact influenced by a communicating consumer market, might this income circulation have been increased to 2 or even 2.5 times before going off-island? The benefits to Guam's business environment are quite evident in this regard: An economy stimulated by active consumer interest provides greater, more expensive opportunities to do business that in one which is sluggish. Telecommunications as a means of stimulating consumer interest is an important factor; e.g. making restaurant reservations, calling in business appointments, inquiring about advertised products, ordering merchandise by telephone.

The CNMI realized an increase of approximately 30% in telephone revenues under their privatized telephone system than when it was operated by the CNMI government. Guam-based long distance carriers also gained a 30% increase in their volume because of this easier access to the CNMI. Since Guam offers many goods and services than available in the CNMI, this trend suggests an increased consumer interest by CNMI residents in the Guam market; hence increased advertising of product and sales of goods and services.

An effective telecommunications system can be expected to benefit business by providing consumers with greater , easier access to goods and services. This activity in turn produces a greater local circulation of generated income before leaving our economy.

SUMMARY - GUAM TELEPHONE SERVICES

Guam's telephone services are a vital element in its community infrastructure whether it is the social, governmental, or business sectors. Communication exists when an interchange of ideas, information, occurs between two parties. the two basic functions of communications are: (1) transfer information in some form, and (2) complete a transaction.

Tangible benefits accrue to the community with a functioning telephone system: (1) economically, (2) socially, (3) occupationally, (4) politically, and (5) business-wise. A basic need common to these benefits is ease of performing one or both of the aforementioned functions. Another common factor is the accessibility to officials, business, produces which telecommunication provides its users. A working telephone system is indeed an important element in a community's quality of life.

Methods of Privatizing the Guam Telephone System may be found in a later section. Certain considerations, however,

must occur prior to actual implementation of the privatization concept.

CONSIDERATIONS FOR PRIVATIZATION

There are three key factors which must be considered before a decision to privatize can be made with confidence: (1) Employee acceptance, (2) regulatory implementations, and (3) the political environment.

Employee Acceptance. Privatizing a government-owned and operated service, be it solid waste collection or telecommunications, means a change in an employee's way of life. It is this change which poses a threat to individual security in sustaining a livelihood. The government worker's ability to resist change is one which should not be under-estimated since it was developed over more than 40 years on Guam and 200 years for the U.S. nation. This ability to resist change has been repeatedly demonstrated over the years; i.e. the Public Market Privatization, Save-Our System Campaign.

Issues appear to center around four facts:

- job security in an environment where public service provides prestige, convenience and security while the private sector is largely unknown and subsequently not acceptable.
- the average worker is also a shareholder in government by virtue of the vote. There is more control, and hence security, in the public cooperation of government than would be possible in one which is privately owned.
- the government worker typically represents a second or even third generation of Guamanians. Family precedent and employment history exacerbate what would otherwise be a straight forward issue to resolve.
- there is a certain amount of ethnic pride in ownership of the Government of Guam which cannot be ignored. Attempts to change will undoubtedly be perceived as a cultural affront.

Employee acceptance is expected to be difficult but not to impossible to achieve. Guam is not unlike any other locale in this regard. The average worker must be convinced that:

- employment rights are a priority regardless of service ownership;

- o future security (retirement) is also protected;
- o existing skills and abilities are considered as an asset not a liability;
- o expanded career opportunities and training exist in the future;
- o existing benefits will be retained, expanded, and/or improved;
- o private sector employment also has prestige and can produce economic satisfaction;

It is clearly evident employees must be educated and accepting of privatization of their employees to implementation. This education must occur from within their organization by persons whom the employee holds high regard. Attempts to produce acceptance from external sources will most likely be perceived as coercion and a loss of control. Employees must clearly be involved in this process.

Another factor for consideration are regulatory commitments which accompanies a decision to privatize.

Regulatory Implications. An essential consideration to privatize a government-owned service is the extent to which the private enterprise will be regulated. Any business venture must be responsive to changing condition's which might affect its ability to reach desired goals. Regulation implies a necessary ingredient in doing business by complying with appropriate laws of Guam. Over-regulation requires an inordinate amount of attention to compliance, a loss of responsiveness to opportunities, and a distraction from the organization's business purpose. Stability of these statutes is another important factor; i.e. would an investment be jeapordized by frequent or unappropriate change in existing law(s) ?

Solid Waste Collection is directly regulated by: (1) the Guam Environmental Protection Agency, (2) Public Health and Social Services, (3) the Department of Labor, and (4) the Department of Revenue and Taxation. It could be indirectly regulated by: (1) the Guam Legislature, and (2) the Executive Branch, or both.

Telecommunications Services is directly regulated by: (1) the Public Utilities Commission, (2) the Department of Revenue and Taxation, (3) the Department of Labor, (4) the Federal Communication's Commission, and (5) the Rural Electrification Agency. Indirect regulation could occur through: (1) the Guam Legislature, and (2) Executive Branch, or both.

Careful consideration must be given to regulatory implications of these services under private enterprise, particular as the regulation process applies to protection of the public interest. A clear direction is needed prior to implementation.

A third consideration, and perhaps the most potentially-obstructive one, is the political implication for privatization.

Political Implications. Any action to convert a government-owned service to private enterprise must be done through legislation. This requirement basically must undo enabling statutes which created the service and its administrative agency in the public domain.

Every political leader's existence is based on an ability to garner votes from constituents. Since the concept of privatization is generally perceived as a change in a voter's way of life, this pressure will undoubtedly be brought to hear an each politician. Interests of the people at large are therefore a predominant concern.

These factors must be considered:

- Are employee interests protected;
- Are certain public rights protected;
- Is there a plan to action which demonstrates careful research into the issue;
- Have procedures been developed which assure opinions, competition, and objectivity in the conversion of service process;
- Are community interests and benefits clearly demonstrated;
- Is the concept of privatization one of the commitment to principle or merely a passing fad.
- Will privatization lead to greater, more effective use of community resources;
- Have appropriate safeguards been incorporated into a privatization plan to protect public interests;

It is evident political leaders must be convinced that privatization is the best of alternatives to deliver services needed by the public. It would be an executive responsibility to develop a plan for review by legislators. The need for a joint decision and mutual commitment to privatization is patently obvious.

SUMMARY

Consideration of 3 factors is necessary before implementation of privatized services may occur: (1) employee acceptance, (2) regulatory implications, and (3) political implications.

Employee acceptance must be based on an understanding their immediate and long-term job security is assurred. Strategies to create an awareness of value as a Human Resource are also a necessary part of educating for acceptance. Influential persons from within the organization are expected to be the most effective change agents in this process.

Regulation of a newly-formed private enterprise is a fact of life. Over-regulation can become a major obstacle to reaching business goals. A clear-act determination of regulatory need, the extent to which enforcement will occur, and alternatives to regulation, are a vital part of this factor's influence on the privatized service.

Finally, political implications of any form of privatization typically require a distinction between economic and people interests. It is understood both subjects are important, however, the economy does not cast its vote in polls, people do. Serving, maintaining and protecting the public interest should be major prints in a political acceptance plan. Involvement in the decision-making process is also another important factor in obtaining a sustained commitment.

Once these constituents have been taken into account, it is then possible to select a specific method to privatize which suits conditions at hand.

METHODS FOR PRIVATIZATION

Privatization is generally described as a conversion of service provides from government ownership to private enterprise. Which this is a simplified definition, the reasons for privatization, and most appropriate method selected, must continue to focus on providing the best service possible to the general public. The methods are: (1) Divestments, (2) Lease, (3) Franchise, (4) Joint Venture.

DIVESTMENT - SALE OF ASSETS

Divestment of a government-owned service is a sale of all publicly-owned assets to a private operator. There are two major forms of divestments: (1) Outright Sale, (2) Controlled Sale. Each form consists of specific types of sale which determine rights to ownership.

Outright Sale. An outright sale is the total divestment of government-owned assets to the non-government owner. Two types of outright sale are: (a) private offering, (b) publicly held.

An outright sale by private offering is based on a fair market value of the service being divested. A formal appraisal and valuation must be conducted by professionals in that field of specialty. Once a preferred sale price has been determined, an active search for an operator most willing to purchase at the preferred price takes place. Advantages of this method lie in the government's ability to realistically appraise a service's value and aggressively locate potential buyers of that service. A disadvantage is that negotiations are sensitive and must be done in relative secrecy. The result is the conversion of government assets to direct cash.

The second type of outright sale is one which is publicly held. this process is similar to a public bid for contractual services. Once the asset value of a service has been determined, a public solicitation of interest is made with bids requested from all interested parties. Bid specification must be developed beforehand which are precise and clearly understood. Bids are publicly received and opened with the government selecting the appropriate buyer. This method's advantage is that all transactions are done in public on selected, known facts. The major disadvantage is that a buyer might meet specifications as a bidder while not necessarily being able to fully provide the desired service, unlike the highly selective method of private offering. In short, this method assures the government of a buyer's financial capability but not its technical ability to deliver needed services.

A second form of divestment is the controlled sale method.

Controlled Sale. A controlled sale essentially maintains certain vested interests, typically an employee of general public, in the divestment of assets. There are 2 types of controlled sale: (a) ESOP - Employee Stock Ownership Plan, and (b) CO-OP joint private/public ownership.

An ESOP assures employee participation in governance of the business. Employees are offered opportunities to acquire shares in the company periodically. This ownership and incentive for share growth serves as a useful motivation in service-related industries. It protects the vested interests of employees through participation in management. Its disadvantage is that this vested interest protection and management participation very easily lead to compliancy if not properly managed. It also requires a moderate to large cash outlay for purchase of shares; this situation could potentially contribute to representation of those who can financially afford to participate. A final disadvantage is that employee/management disputes under an ESOP organization are generally long-lasting, difficult ones to settle since all problems immediately flow to upper management.

The CO-OP (cooperative) is another variation of a shareholder plan. Shares are offered to the general public which then participates in company management. This type of controlled divestment has been extremely effective in service industries where consumers also become shareholders and thus have a direct influence on both quality and cost of service. A major disadvantage with this method of divestment lies in divergent interests between the economics of management and what consumers wish to pay for that service. Frequent attempts to gain or overcome a controlling; interest generally occur under this type of divestment.

A second method for privatization is the lease agreement.

Lease Agreement. Another method of privatization places the government in a tenant-landlord relationship. A negotiated, mutually-acceptable lease agreement gives the operator sale responsibility for providing a formerly government-operated service. Neither consumer nor government have direct participation in providing the service. The government realizes an income through fees and/or percentage of the operator's gross business income. It removes an operating responsibility from the government, allows resources to focus on regulatory oversight, and creates a cash flow into government coffers. A major disadvantage is the length of time for which the base agreement is effective; 5 years is typically the maximum time recommended. this time period would give the government ample time to determine consumer satisfaction and quality of service. Lease specifications must also be professionally developed to avoid undue advantage for either party.

A third method from divestment and lease agreements is franchising.

Franchising. A franchise is a license to do business under the terms and conditions specified by the franchise-owner. A franchise operator in turn conducts business on these standards and provides a fixed fee for that business privilege. The difference between a franchise and lease agreement is the former method is determined by the service owner, the latter by the mutual agreement. Major advantages are: (1) the government is able to secure public and employee interests in a business agreement while still realizing a flow of income, (2) a franchise's specifications can actually pre-determine operating conditions and quality of service, and (3) a franchise allows for periodic performance examinations and use of the owner's descretion to solicit other operators should it be dissatisfied with the level of service being provided. A disadvantage is in the length of suitable franchising agreements, generally 15-25 years which both parties are required to observe. A second

disadvantage is the fixed rate of return to the government unless a modified franchise fee is executed.

Franchising agreements have been found quite effective in stimulating new business developement in areas which require leverage to begin business. For example, the CNMI telephone system of solid waste collection is southern Guam where new operators might not be capable of competing with larger, more established commercial firms.

A final method for privatization is the joint venture.

Joint Venture. This method uses a partnership of equal proportions designed to serve both private and public interests in a specific service.

This method generally requires a certain level of negotiated concessions between partners. Each party also contributes to the operating assets of the joint venture. Profit is also mutually shared on previously-agreed terms. The advantage of this method is effective usage of the government's equity in a mutual partnership. Capital outlays of cash are not an immediate pre-requisite in this case. A mutually-satisfying; arrangement between an asset owner and financial operator is generally desirable. One disadvantage is the joint assumption of liabilities and potential loss of public assets should a joint venture fail.

Another important element in implementing privatization is selecting the most appropriate time to convert a government-owned service.

TIMING FOR PRIVATIZATION

Choosing the most appropriate time for privatization is considered as important as determining a rationale, differentiating benefits, and selecting a proper method. Relevant time is based on these factors: (1) ease of transition, (2) valuation appraisal-price, and (3) susceptibility to pressure-community and political.

Ease of Transition. Conditions for privatization are not based solely on whether a government-owned service has become an operating burden. The reverse is in fact true, since self-sustaining services are attractive to investors, while an operation constrantly in a deficit condition is generally of little interest to profit-motivated service providers.

Another factor considered important in a decision to privatize is customer/consumer satisfaction with that service. In cases where a consumer is highly satisfied with

services being provided, there is gnerally a greater resistance to changes in service providers. When customers are highly dissatisfied, increased acceptance of a change which might improve service quality becomes every evident. Lefels of consumer dissatisfaction are routinely reported headlines in local media sources.

Acceptance of the transition of a service is finally dependent upon employee acceptance for the reasons stated in earlier sections of this report. The average employee must be educated for assurrances he/she will continue to have value to the new employer without jeapordizing or loosing any vested interest of their own. Employees who are accepting of this concept are also the most motivated to make it work under the new management.

Another influential factor in privatization is price of the service itself to potential investors/buyers.

Valuation Appraisal-Price. A professional valuation and appraisal of the service to be placed under private operation must first be valued by specialists in that service. Governments typically overestimate the value of their services because of its perceived importance to the public interest. Private enterprises, however, value a service in terms of its physical assets, financial history, and income producing potential; factors which are usually not considered in a government valuation system. The most important point however is that an over-inflated price to purchase or transfer the government-owned service to a private operator could conceivably deter any useful interest. A realistic valuation by experts in that field would provide interested buyers with the credibility needed to make a financial decision. The value of government assets must therefore be used to maximum advantage.

The final factor involved in determining proper timing to implement privatization is susceptibility to pressures from the community and political leaders.

Susceptibility to Pressures-Community and Political. Privatization involves changing an accepted way of life with ramifications described in earlier sections of this report. There is a natural defensiveness expected from social and political leaders who have a proprietary interest in all public services. These same leaders are also highly subject to influence by constituents with voting power. In short, a general reaction against privatization would most likely ensure its demise as a supportable issue.

A highly sensitive period during which these influences are most strongly, directly felt is the campaign period leading to elections of various government officials. A campaigning political hopeful or incumbent would be more

prone to take a non-committal role on this issue. This would not be expected to indicate a lack of concern but does show an order of priority in matters which are important to that individual. Studies indicate a greater amount of open-mindedness towards privatization exists when a political leader's attention is not detracted by a need to be re-elected.

It appears the most opportune time to introduce the concept of privatization is prior to a formal campaign period or immediately after an election of officials. Attempts to introduce privatization during a campaign period will only leave it as a non-priority issue without the needed commitment.

SUGGESTED STEPS FOR PRIVATIZATION

Decisions on the two recommendations presented in this report should be made by the Governor of Guam. This need for decision-making should not be construed to limit the scope of a decision only to the details presented but should instead use this report as the foundation on which any decision evolves.

The Guam Legislature should be encouraged to initiate steps which would implement an overall statute for privatization in the Territory of Guam. This legislation would initially use the details presented in this report, as well as data generated by these first projects, to establish a desired direction in privatization as one of many resources useful to government.

An administrative plan of action designed to implement the two recommendations of this report should be developed by the executive branch. This plan should emphasize elements detailed in the Executive Guidelines for Privatization.

The Privatization Advisory Committee will continue to review other areas of government and their services using the Hay Group Model to identify other potential candidates for privatization.

SUMMARY

Privatization is considered an effective strategy which would effectively to: 1) reduce the size and cost of government, (2) improve government services, enlarge the community's tax base. The Governor's Privatization Advisory Council was created by Executive Order 87-04 to review this concept and its applicability to existing public services of the government.

The Council completed its initial review of government services, privatization methodology, and case study data-local and national, using information from the privious Administration's Privatization Work Group. The Guam Chamber of Commerce, and the Office of Territorial and International Affairs - U.S. Department of Interior. Results and recommendations of these working groups were taken into the Council's deliberations as it persaud its own recommendations.

The Council recommends: (1) privatization of solid waste residential collection services and (2) Implementation of administrative and development steps to privatizing the Guam Telephone System. Methods of these services included: (1) Divestment, (2). Lease, (3) Franchising, and (4) Joint Venture. Factors for consideration were: a) employee acceptance, b) regulatory implications and c) political implication. Timing for implimentation of this concept would be influenced by an ease of transition, Valuation Appraisal - Price, and Suscriptibility to Pressures - Community as well as Political.

Suggested steps for privatization included a decision on these recommendation, initiation of teps to develop master legislation for privatization, an adminstrative plan of action, and a continued review of other services by the Privatization Council.

It is evident Privatization of any Government of Guam service will be met with resistance. Firm discussions and are unquestioned public commitment are needed as the foundation on which any review or collective effort towards privatization can occur.

Privatization is not new to our Government of Guam and has been successfully practical for many years.

PACIFIC BASIN POLICY INITIATIVE

PACIFIC BASIN POLICY INITIATIVE

Incorporated under the State of Hawaii and Headquartered in Honolulu, the Pacific Basin Development Council (PBDC) addresses and anticipates the economic and social development concerns of the Pacific Islands. Its ultimate goals are job creation and maximum positive impact of local island economies.

Current PBDC program area priorities include: tourism developments; fisheries and ocean resources development; and air service.

SUGGESTED ACTIONS:

Maximize benefits available through PBDC's projects and activities by limiting the number of projects being addressed at any one time. This will insure that projects get the attention and effort required to accomplish objectives before new projects are undertaken.

DEPARTMENT OF COMMERCE
BRIEFING SERIES
DATE: 8/14/87

SUBJECT: Pacific Basin Policy Initiative

SUMMARY/BACKGROUND:

The Pacific Basin Development Council (PBDC) was established in 1980 as a non-profit, public corporation by the Governors of American Samoa, Guam, the Commonwealth of the Northern Mariana Islands and the State of Hawaii. PBDC is incorporated under State of Hawaii laws and is headquartered in Honolulu. Through its Board of Directors, made up of the leaders of the aforementioned island's governments, it addresses and anticipates the economic and social development concerns of the Pacific Islands. The ultimate goals are job creation and maximum positive impact of the local island economies.

CURRENT ISSUES:

As outlined in the organization's By-Laws, the purposes of PBDC are:

1. To identify, examine, and assess the economic and social development needs and strategies, and, with particular attention to member entities, articulate the view of the region to the public and private sectors;
2. To provide a research capacity that can address the important issues within the Pacific community;
3. To promote cooperation between the member entities, Federal government, and the private sector in an effort to provide for the comprehensive economic and social development of the Pacific Islands;
4. To collect and disseminate information beneficial to the region;
5. To promote collective action that improves the quality of life for the Pacific Islands and the member entities by addressing their social, economic, and other needs in cooperation with the Federal government and the private sector.

The primary areas of concern were originally arrived at during the first Pacific Basin Development Conference held in Kuilima, Hawaii on February 17-20, 1980. The five top priority issues for discussion with Federal representatives included energy, fisheries and maritime resources, tourism, foreign and intra-island trade and telecommunications. The final conference issue topics were established as fisheries, coastal zone management, telecommunications, ports, transportation, trade, tourism energy and municipal services.

CURRENT STATUS:

On March 2, 1983, the PBDC Board designated the following areas as PBDC program area priorities: tourism development; fisheries and ocean resources development; trade development; and air service. These areas continue to be the main focus of PBDC's efforts.

PBDC has engaged in numerous research and technical assistance projects addressing the topic areas listed under Current Issues. The "1986 Program Status Report" published by PBDC in January 1987 provides an update on the status of each of their projects.

RECOMMENDED ACTION:

PBDC has initiated and completed numerous studies, technical assistance projects, training programs and data gathering projects which represent a wealth of information and effort on their part. However, because of the amount and diversity of projects they have undertaken, the full benefit of each project is often not realized by the beneficiaries.

In order to maximize the benefits available through PBDC's projects and activities, it is recommended that the members limit the number of projects being addressed at any given point in time in order to give those projects the attention and effort required to accomplish pre-determined objectives before new projects are undertaken. This can be initiated by examining the existing list of projects and prioritizing them in the order they should be addressed. Until each of the high priority projects have been carried out to their completion, or if it is an ongoing effort, until the mechanics of the program have been established and implemented to carry on with only intermittent supervision, new projects should not be introduced. However, if new projects must be initiated, adequate funding and staff must be available to address the new project without decreasing efforts on the current projects at hand.

SUPPORTING DOCUMENTS:

1. "1986 Program Status Report, October 1, 1985 to September 30, 1986" Pacific Basin Development Council, Honolulu, Hawaii, January 15, 1987.

REMARKS:

NONE