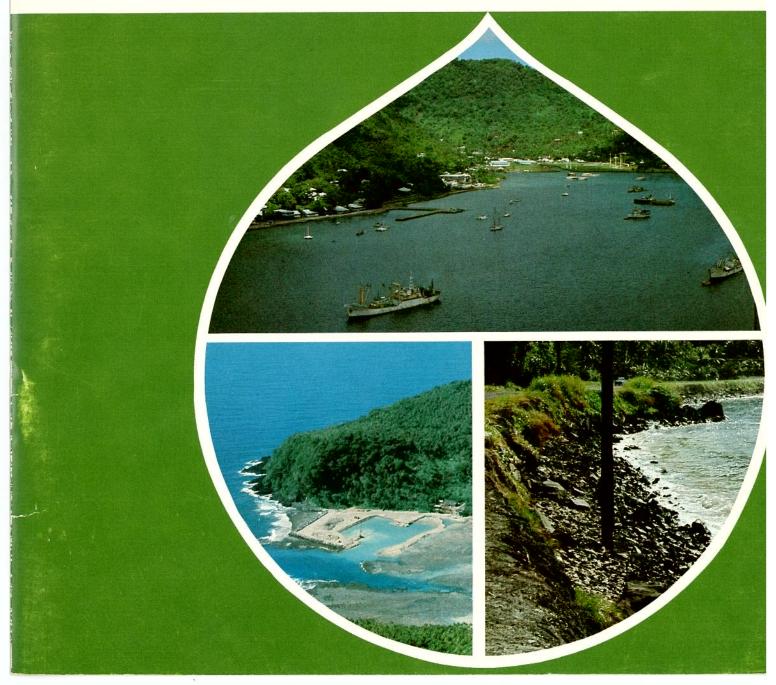
AMERICAN SAMOA Water Resources Development

U.S. ARMY CORPS OF ENGINEERS / PACIFIC OCEAN DIVISION / JANUARY 1975



AMERICAN SAMOA Water Resources Development

January 1975

Information on Water Resources Development Projects by the U.S. Army Corps of Engineers in American Samoa may be obtained from:

DIVISION ENGINEER

U.S. Army Engineer Division, Pacific Ocean Corps of Engineers Building 230, Fort Shafter APO 96558



TO OUR READERS:

During June, 1975, both the United States Army and the Army Corps of Engineers commemorate their two hundredth anniversaries. And for the past century and a half, the Corps, at the direction of Congress, has planned for the wise use and proper development of America's water resources.

The Corps was born in a moment of stress and at a time of great need. The hastily formed continentals desperately needed defensive ramparts for the Battle of Bunker Hill. Our first engineers met the challenge and, since that strife-ridden genesis, the Corps has picked up the gauntlet many times and served well in each national crisis. Corps representatives, civilian and military, dedicate themselves to preserving the Nation and enhancing both our way of life and the environment which supports it.

The Army Emgineers have played a vital role throughout our history whether at peace or war. In the early decades of our Nation's development, we handled construction of the country's first interstate roads and canals, the first bridges and railroads. Numbered among our many accomplishments, the Corps built the Panama Canal and finished the Washington Monument. Since 1824 the Engineers have been charged with improving rivers and harbors, with the responsibility for both the coastal work and the intricate system of inland waterways.

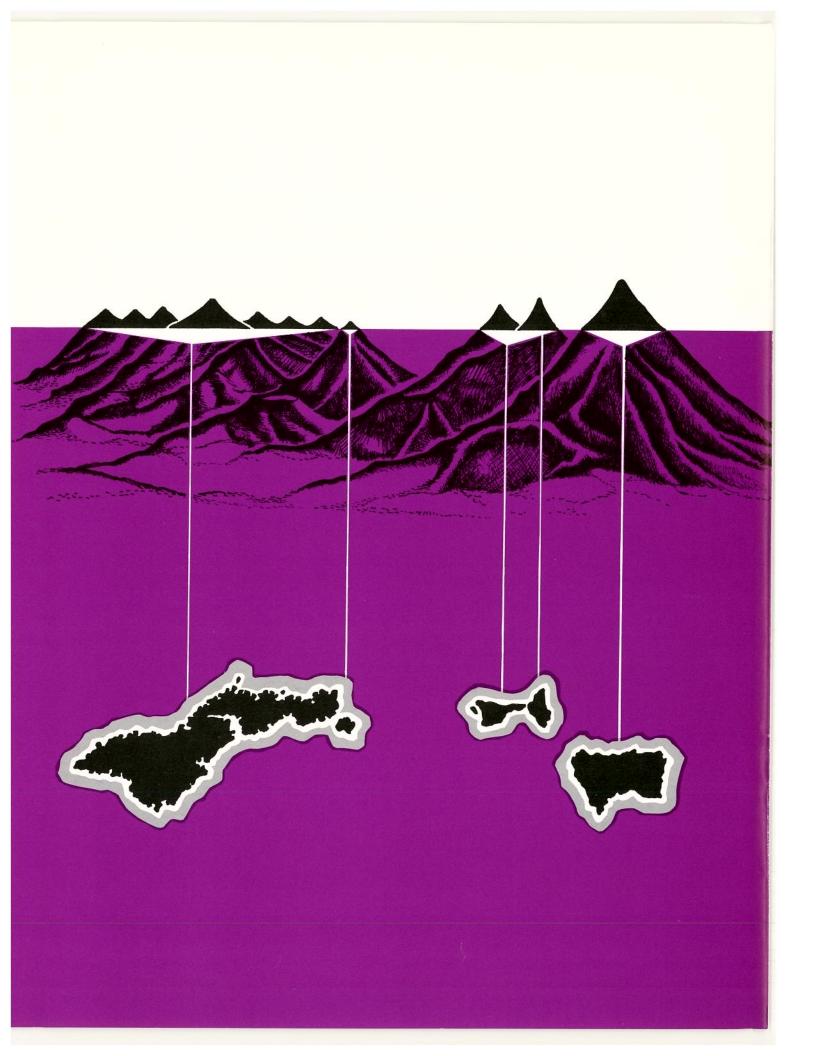
We are dedicated to serving the people of the United States and responding to their needs. In this tradition, we remain sensitive to the Nation's emphasis on environmental and developmental needs of the Nation.

During this, our bicentennial year, as in years past, we urgently seek to foster public awareness of and involvement in our water resources planning efforts. To respond to your wishes, we must communicate. Therefore, I ask you to study this booklet. Learn what has been accomplished and consider what is being planned for your State. Then, provide us with your opinions and offer your counsel. We exist to serve you and all the people of the United States.

W.C. GRIBBLE, JR. Lieutenant General, USA Chief of Engineers

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INTRODUCTION UPU-TOMUA

Water is probably the most important natural resource for our survival and comfort. It is not only essential to life, but the abundance and availability of water also determines the quality of our environment. The availability or lack of water, among other things, creates a wide range of natural surroundings for us to live in and to enjoy-from lush rain forests and verdant valleys to arid deserts. When properly developed and managed, water enhances the quality of life by not only providing for our daily needs, but by making available a wide range of recreational opportunities. On the other hand, mismanaged or uncontrolled, water can cause havoc-from soil erosion to floods and pollution which cause human misery and destroy property.

As an island territory, water has always played an important role in the Samoan culture. The ocean influences the islands' tropical climate, and links the islands with each other and with other areas of the world. It is an important source of food for the Samoans and a primary source of recreation for both residents and visitors. The heavy rainfall over the islands helps to keep them lushly vegetated, and the surface runoff has been an important source of water for the Samoans. Groundwater sources are also being developed to supplement the surface water sources and to meet the growing needs of the territory.

E le se mea e taumateina le sili atu ona taua ole suavai ilo tatou soifua maloloina ma le olaga filemū. E lē na'o le taua mo le soifua, ae fuafua fo'i iai o tatou nofoaga ile lava ma totoe ae maise fo'i le iai po'o le mauagofie ole suavai. O le iai ma le lê iai, ile tele o isi mea, ole a maua iai le fuafuaga lautele o tatou tafatafa ina ia tatou ola ai ma le fiafia ile tetele o timuga mai le voamatua ma vanu lanu-meamata i toafa matutū. A lelei ma aiaia ma puipuia, ona ole vai ole isi lea mea tulaga maualuga ile soifuaga e le gata i lona aogā i aso ta'itasi, ae e mafai ai fo'i ona maua le avanoa lautele mo mea tau i fa'afiafiaga. Ole isi fo'i itu, a le lelei ona fa'aaoga ma puipuia, e maua mai fo'i ile vai ni isi fa'afitauli e iai le āi ole laueleele i lolo ma fa'aleagaina ai ma e maua ai e tagata le olaga fitā ma le faigata fa'apea fo'i ma le fa'aleagaina o a latou mea totino.

Ona o Samoa ose teritori, ole mea lea e matuā taua tele ai le vai i ana tu ma aganu'u. E taua le vasa ile tau o atu-motu, ma e feso'ota'i ai motu ta'itasi ma isi oganu'u ile lalolagi. E taua fo'i auā o le isi lea ala o mea taumafa mo tagata Samoa ma ose isi fo'i lea o itu fa'apitoa i mea tau i fa'afiafiaga i tagata nu'u ma e asiasi mai. Ole mamafa o timuga i luga o atu-motu e fesoasoani tele ile fa'aolaolaina o la'au tōtō, ma o vai i luga ole fogāeleele e taua tele mo tagata Samoa. Ua fa'avaeina fo'i vaieli e fesoasoani i vai i luga ole fogā-eleele ina ai tala feagai ai ma le mana'o ole teritori. The traditional Samoan lifestyle and subsistence economy have been gradually changing as a result of Western influence, particularly the impact of a cash economy. The "urbanization" of American Samoa and the accompanying desires for modern conveniences have placed heavy demands on the territory's fragile infrastructure, including its vital water resource.

This booklet describes the U.S. Army Corps of Engineers' role in water resources development and how the Pacific Ocean Division and Honolulu Engineer District have been assisting the Government of American Samoa in the management and development of the territory's water resources. Ole olaga sa masani ai Samoa ma Iona fa'alagolago i mea nate maua ua amata nei ona fesuia'i malie talu ai le ulufale mai o tu fa'a-Eulope, ae maise lava le mea tau tupe. Ole "suigafou" fa'atasi ma le mana'o o tagata Samoa ile fesuiaiga fou ua avea ma mafuaaga ole mana'omia tele ele teritori mea mautū fa'aona ponei, e iai fa'atasi ma le itu tāua tele ole suavai.

O lenei tamaitusi ua fa'amatala mai ai gaoloiga a Inisinia a le Vaega ole Ami a le Unaite Setete i itu tau i vai ma lo latou gululue fa'atasi ma le Vaega o Vasa ile Pasefika ma le Itumalo Inisinia i Honolulu mo le fa'aleleia ma le pulea ina o alagā vai ile teritori.

THE CORPS' ROLE IN THE DEVELOPMENT OF THE NATION'S WATER RESOURCES

OLE VAEGA FA'APITOA A INISINIA OLE AMI OLE FA'AMAUTUINA O MEA TAU VAI ILE MALO ATOA

The U.S. Army Corps of Engineers has been the Federal Government's principal water resources development agency since 1824 when the Congress directed the Corps to remove snags and sandbars from the Ohio River. Since then, the Corps has been responsible for improving the rivers and coastal waters of the United States to provide for efficient and safe transportation of the nation's waterborne commerce. The Corps of Engineers' role in the development of the nation's water resources gradually expanded to include the planning and construction of flood control, beach erosion control, hydroelectric power, water supply, and waterrelated recreation, all of which are accomplished in cooperation with local governments and citizens, and in response to their request and desires. The extent to which the Corps can assist the Government of American Samoa under the various authorities provided by Congress are described below.

NAVIGATION

The navigability of harbors and inland waterways is one of the most important aspects of the nation's transportation system. The Federal interest in navigation improvements stems from the commerce clause of the Constitution and from subsequent decisions of the U.S. Supreme Court which have determined that the Federal obligation to regulate navigation and commerce also includes the right to make necessary improvements. The primary objective of these improvements is to assist in the development, conduct, and safety of waterborne commerce. This objective is accomplished by deepening and widening waterways so that ships and other water craft can be accommodated safely and expeditiously, and to provide an economical means of transporting various types of cargo. Other navigation objectives include the provision of facilities for promoting the production of seafood and for recreational boating.

Ole U.S. Ami Koa o Inisinia ua fa'apitoa iai le vaiga o vai a le Malo tele o Amerika talu mai le tausaga 1824 ina ua fa'atonuina ele Fono Faitulafono ile aveeseina o tagutu la'au ma fa'aputuga oneone mai le vaitafe o Ohio. I lea lava taimi, sa avea ai ma galuega tumau a le Koa le fa'aleleiga o vaitafe ma le gataifale ole Unaite Setete ile vaavaiga ole saogalemu ile feoaiga o va'a ma le fela'uaiga o oloa. O le matafaioi a le Vaega o Inisinia ile fa'aleleia o mea e maua ai vai a le Malo atoa na auau malie lona fa'alauteleina ma aofia iai le fuafuaina ma le fauina o mea e taofia ai le lolo, aia o matafaga, masini eletise maua ile vai, alagā vai, ma vai e aogā mo mea fa'afiafia, o nei mea uma e maua ile galulue fa'atasi ma faiga malo fa'a-le-nu'u ma sitiseni, ma e tusa ai ma a latou talosaga ma manua'o. Ole fa'atulagaga e mafai ai ona maua le fesoasoani mai lea vaega ile setete ma Samoa Amerika i lalo o pulega mai le Faipule o lo'o fa'amatalaina i lalo.

FA'ATAUTAIINA O VA'A

Ole lelei o taulaga mo va'a ma ala-va'a i luga o vaitafe o se tasi o itu taua tele i mea tau femalagaaina ile malo. Ole taua ole fa'aleleia ole fa'afoeina o va'a ile malo na fa'avae mai ise fuaitau i totonu ole Tulafono Fa'avae a Amerika e uiga i mea tau pisinisi ma le fa'aiuga soso'o ai a le Fa'amasinoga Sili a le Unaite Setete ua fa'avasega ai e faapea ole aiā tatau ole Malo tele ole Unaite Setete e fa'atonutonu ai feoaiga ma felauaiga o oloa e fa'apea ua aofia iai le aiā e faia ai fa'aleleiga peā tusa ai ma tatau. Ole tumutumu lava o nei fa'aleleiga ole fesoasoani lea ile fa'avaeina, ta'ita'ina, ma le saogalemu o mea fela'uaina i va'a. O lenei fa'avae e fa'ataunu'uina lea ile fa'alolotoina ma le fa'alauteleina o ala va'a ina ia fa'afaigofie ai i va'a ma isi va'a laiti ona femalaga a'i ma le saogalemu ma le le motusia, ma ia maua ai le lē maimau oni mea felauaina o ituaiga uta eseese. O isi fa'atumutumuga The methods used to improve navigation vary. Harbor entrances are protected by jetties or enlarged by dredging. Harbors are created by inclosing an area of open water within breakwaters or other structures or by dredging of estuaries and inland areas. Rivers are improved by clearing and snagging, dredging, and the construction of locks and dams. The Corps of Engineers is responsible for the maintenance as well as the construction of Federal navigation projects. The cost of constructing harbors for commercial navigation is largely Federal. For projects primarily intended for recreational boating, non-Federal interests (which is usually the local government requesting the project) are required to bear one-half of the project cost.

In addition to improving rivers and harbors for navigation, the Corps of Engineers is responsible for administering the Federal laws for the protection and preservation of the navigable waters of the United States. Under this authority, the Corps grants permits for work or structures to be constructed in or affecting these waters, regulates the discharge of dredged or fill material into navigable waters, the transportation of dredged material for dumping into ocean waters, and the construction of artificial islands and fixed structures on the outer continental shelf. The Corps also establishes and enforces regulations for the use of navigable waters, including fishing areas and harbor lines.

FLOOD CONTROL

The Federal interest in flood control began in the alluvial valley of the Mississippi River early in the 19th Century after experience with the disastrous effects of floods on navigation. Through the Flood Control Act of 1936, Congress extended the Federal interest in flood control to include not only navigable waters but all waterways in the nation due to the impact of disastrous floods on communities as well as transportation systems. ole fa'atautaina o va'a e aofia iai le iai o mea e tatau mo le fa'aalualuina i luma o mea e maua ai mea 'ai mai le sami ma le fiafia e folafolau i va'a.

E eseese lava ala e fa'aleleia ai folauga. Ole ulu atu ile taulaga ua puipuia lea i uafu po'o le fa'alolotoina fo'i ele palolo. Ua faavaeina taulaga ile puipuia lea ose ogasami mafola i mea taligalu po'o isi fo'i puipuiga ile ma le eliina o feso'otaiga o alaga vai ma vaitafe i totonu o laueleele. Ua fa'aleleia auvai ile fa'amamāina ma taalao eseina mea ta'atitia vale, fa'alolotoina, ma fauina pa pupuni ma pa puipui. Ole vaega O Inisinia e iai le pulega mo le tausiga ae maise fo'i le fa'avaeina o mea tau i femalaga aina ale Malo atoa. Ole tupe fa'aalu mo le fa'aleleia o taulaga mo le fela'uaiga o oloa e tele ai lava le Malō tele. Mo polokalama faapitoa fa'a-tatau tonu mo le folaulau, e le iai se fa'atatauga a le Malo tele (ae masani ai faigā malō fa'ale nu'u ona faufautua ina o lea polokalama) ae i lona fa'atulagaina ua tatau ona latou totogia le afa o lea polokalama.

Ile fa'aopoopoina ole fa'aleleiga o vaitafe ma taulaga mo femalagaiga, ole Vaega lava o Inisinia e iai le pulega mo le vaavaaiga ole tulafono ale Malō atoa mo le puipuiga ma le fa'atumauina le lelei o taulaga ile Unaite Setete. I lalo ifo o lenei pulega, ua fa'atagaina ai e lea Vaega pemita mo galuega po'o gaoioiga o mea e tatau ona fai ile afaina o vai, fa'atonutonu le fa'aaogāina o mea eli e le palolo po'o le fa'atumuina o oga sami e aogā ile feoaiga o va'a, ole la'uina o mea eliina e le palolo mo le fa'atumuina o nisi oga sami, ma le fauina o motu ma faatutuina fa'avae i tuāau ole konetineta. O lenei fo'i Vaega latou te fa'avaeina ma fa'amalosia tulafono mo le fa'aaogaina ole sami mo feoaiga, e aofia iai ogasami mo fagotaga ma le fa'aaogaina o taulaga.

PUIPUIGA O LOLO

Sa amataina le taua tele ole puipuiga o lolo ile Malō aoao ile vanu lafulemū ole vaitafe o Misisipi ile amataga ole Senituri 19 ina ua mautinoa le mauta'utia o lolo mo feoaiga. Ile Tulafono Puipui mo Lolo ile 1936 na fa'aauau atu ai e le Faipule ile Malō tele le aiā ile puipuiga o lolo ia aofia iai ele gata i ala vai mo folauga ae faapea fo'i ma ala vai uma ile malō atoa e mafua mai ile mata'utia o lolo i alalafaga ae faapea fo'i ma ala mo femalaga aiga. The purpose of flood control works is to regulate flood flows and thus prevent flood damage. This objective is accomplished through the construction of dams and reservoirs (lakes), local protection works or combinations of these measures. Flood control lakes provide a place for the temporary retention of storm flows. After the storm, the stored water is released as rapidly as the downstream channel can accommodate it without causing damage, in order to provide storage space for the next storm. Local protection works include channel enlargement, realignment, removing obstructions, constructing levees and walls, providing channel paving, and stabilizing banks with stone and concrete, or combinations of these methods.

Lakes constructed for flood control often include additional storage capacity for multipurpose uses, such as for the conservation of water for municipal and industrial use, navigation, irrigation, development of hydroelectric power, conservation of fish and wildlife, and recreation.

Local protection works are turned over to non-Federal authorities for maintenance, as are small lakes of localized effect. Other lakes are operated and maintained by the Corps of Engineers. The Federal government assumes most of the cost of flood control improvements. However, non-Federal interests are responsible for providing lands, easements, and rights-of-way required for the project. Where other uses such as hydroelectric power, water supply and recreation would be served by a flood control project, the costs of providing these improvements are shared between Federal and non-Federal interests according to regulations dictated by Congress.

Until recently, floods have been controlled primarily through the construction of dams and reservoirs, channels, levees and the like. However, attention is now being focused on the prevention of floods by restricting man's use and occupation of areas vulnerable to floods. The Corps of Engineers is taking an active role in helping local governments define the flood-prone areas so that they can effectively regulate use of these areas. This work is being accomplished through the Corps' Flood Plain Management Program.

Ole aogā o galuega tau ile puipuiga o lolo e fa'atonutonu ai le tafe atu o le lolo ma puipuia ai le fa'aleagaina o mea ele vai. O lenei fa'avae e fa'ataunu'uina lea ile fauina o vai simā ma fa'atanoa simā (vaituloto), puipuiga fa'a le nu'u po'o le tu'u fa'atasia o nei mea uma. O vaituloto mo le puipuiga o lolo ua maua ai se nofoaga le mautu e taofia ai le fetafea'i i taimi o afā. A mae'a le afā, ona tatalaina lea o lenei suavai ma fa'avave tafe atu lea i lalo i ala ua uma ona saunia ma le leai oni mea e fa'aleagaina, ile e toe aogā fo'i nei vaituloto e taofia ai le suavai mo se isi afa. O puipuiga fa'a-le-nu'u e aofia iai le fa'alauteteleina o alavai, toe fa'atulaga, aveeseina o mea taofia ai, fauina o alavai ma pa puipuni, fa'ataina alavai, ma fa'amaumau autafa o vai i ma'a ma simā, po'o le tu'u fa'atasiga o ia mea. O vaituloto sa eli ina mo le puipuiga o lolo e aofia fo'i iai isi vaega fa'aleoleo mo le tele o isi mea, e iai le fa'aleoleoina ole suavai mo le fa'aogaina lautele ma fale gaosi mea, femalaga aiga, fa'asūsūina ole laueleele, fa'aolaina o masini uila alu ile vai, fa'asaoina o i'a ma manu tata'a ma fa'afiafiaga.

O galuega i puipuiga fa'alenu'u ua tu'uina atu lea i tagata nu'u mo le tausia lelei, ona o nei vaituloto laiti e taua mo le lautele. O isi vaituloto e fa'afoeina ma tausia ele Vaega fa'apitoa o Inisinia. O le Malō tele e palasi iai le tele ole tupe e fa'aaogaina mo ia puipuiga ma le fa'aleleiga. Peita'i ane o i latou elē pulea ele Malō tele ua iai le fa'amoemoe mo tu'u atu o laueleele, fa'aaogaina tatau, ma le fa'atagaina o gaoioiga mo le galuega. O isi fa'aaogaina e iai masini uila e maua ile vai, vai mo le lautele ma mea fa'afiafia o lea maua mai lea ile pulega o mea tau i lolo, o tau ole fa'aleleiga o nei mea e maua mai lea ile Malō aoao ma i latou i fafo e tusa ai ma le tulafono na fa'atonuina mai e le Faipule fai Tulafono.

Latalata mai nei, o lolo sa mua'i puipuia lava ile fauina o pa simā, fa'ata'anoa simā, magāvai, alavai ma isi mea fa'apenā. Ae peita'i ane, ua taula'i nei le puipuiga o lolo fa'a-tutonu lava ile fa'asaina o tagata ile fa'aaogaina o laueleele e afaina gofie ile lolo. Ole Vaega o Inisinia ua avea ma ta'imua ilo latou fesoasoani i faiga malō fa'alenu'u e fa'amatalaina ai fanua e afaina gofie ina ia latou iloa ai ona puipuia o ia oga laueleele ma le faaeteete. O lenei galuega ua fa'ataunu'uina e ala ile Polokalama Fa'avae a le Vaega Pulea Lolo.

BEACH EROSION

The Corps of Engineers' involvement in beach erosion control began in 1930 when it was directed to respond to the State of New Jersey's request for Federal assistance in solving erosion problems along its coast. This initial work led to the establishment of the Beach Erosion Board within the Corps of Engineers. Established by Congress in 1935, the Board is known today as the Coastal Engineering Research Center, and continues to lead in the investigation of physical phenomena related to coastal waters and in the development of techniques and procedures for protecting, restoring, and developing shoreline property and beaches.

The objectives of the Corps' beach erosion control program are to protect the coastal shores and the properties behind them from damages due to wave action, and to restore areas which have been severely eroded or damaged as a result of this natural force. In addition to protecting life and property, beach erosion projects are designed to preserve and enhance the nation's beaches for recreational use. Beach erosion control is achieved through remedial works such as beach replenishment and the construction of dunes, groins, and seawalls designed to prevent damages from storm tides and wave action.

The Federal contribution toward the construction of protective works for non-Federal public shores is limited to a maximum of one-half of the total project cost, except for State, county, or other publicly owned shore parks and conservation areas where the Federal share is increased to seventy percent. The Federal Government can assist in protecting private shores if there is a public benefit. Maintenance of completed beach erosion control projects is a non-Federal responsibility; however, the Federal Government can assist in periodic beach replenishment if this work is determined to be the most suitable and economical remedial measure.

AIA LE MATAFAGA

Sa amataina le pulea a le Vaega o Inisinia le vaavaiga ole 'aia o matafaga ile 1930 ile taimi sa fa'atonu ai e faia gaoioiga e tusa ai ma le talosaga a le Setete o New Jersey ile Malō atoa e fesoasoani ile fa'aleleiga o le 'aia ole latou gataifale. O lenei galuega muamua sa ta'ita'i atu ai ile fa'atuina ole fa'alapotopotoga ile Vaega o Inisinia e taua ole Fa'alapotopotoga mo le Puipuiga o Matafaga. Na fa'avaeina ele Faipule ile 1935, o lea Fa'alapotopotoga ua taua i ona po nei o Totonu o Su'esu'ega Inisinia ole Gataifale, ma fa'aauau ile ta'itaina o su'esu'ega o foliga fesuisuia'i e uiga i tuāau ma ile fa'avaeina o auala ma fa'ata'ita'iga mo puipuiga, fa'amalosiga, ma fa'aleleia o mea totino ile gataifale ma matafaga.

O mea fa'apitoa ile Vaega ole polokalama ile puipuiga o matafaga ole puipuia lea ole talafatai ma meatotino i tua atu mai le fa'aleagaina e mafua i galu, ma toe fa'aleleia o fanua ua matuā pūpū solo ma fa'aleagaina ona o nei fa'afitauli. Ile fa'aopoopoina ma le puipuiga o ola ma mea totino, o gaoioiga uma ile puipuiga ole aia o matafaga ua fa'asino tonu ile fa'atumauina ma fa'aleleia o matafaga ile malō mo fa'afiafiaga. O nei fuafuaga ua fa'ataunu'uina lea i galuega tatau e iai le toe fa'aleleia o matafaga ma le fa'amaualugaina ole oneone, fa'a laugatasia, ma taligalu fa'apitoa e puipuia ai le fa'aleagaina mai galu-fulifaō ma le aia i galu.

Ole foa'i a le Malō tele mo le fa'agaoioia o galuega tau le puipuiga mo le gataifale elē aiā iai le Malō tele ua fua pau lava pe tusa ole afa (½) ole tau atoa ole galuega, e ese ai mo Setete, itumalō, po'o isi laueleele fa'avasega ese mo le lautele i gataifale ma isi fanua fa'apitoa e fesoasoani mai ai le Malō tele ile totogiina ole fitu-sefulu-pasene. E fesoasoani le Malō atoa ile puipuia o gataifale fa'apitoa peā faapea e maua ai se lelei mo le lautele. Ole toe fa'aleleia o puipuiga ua mae'a ona fa'avaeina e lē aiā iai le Malō atoa, ae peita'i ane e mafai fo'i e le Malō aoao ona fesoasoani ile fa'aleleiga o matafaga peā fa'apea ole galuega lea ua iai le fuafuaga e sili atu lona taua ma e feagai ai ma lona tau.

WATER SUPPLY

An adequate supply of water for domestic, agricultural, and industrial uses has long been recognized as being vital to the national economy and security. For this reason, water supply is included in the Corps of Engineers' planning and development of the nation's water resources. Section 6 of the Flood Control Act of 1944 authorizes the Secretary of the Army to contract with States, municipalities and private concerns or individuals for domestic and industrial uses of surplus water that may be available at Corps of Engineers projects. The Water Supply Act of 1958 further provides for the inclusion of water supply storage in Federal navigation, flood control, irrigation, or multiple-purpose projects. The Water Supply Act of 1958 reguires non-Federal interests to share in the project cost related to water supply development. The extent of State and local participation and cost sharing in all new projects or modifications is specified in Section 301 of this act. In 1961, this act was amended to increase the Federal interest in water supply and water quality improvements. Additional changes are included in the Water Quality Amendments Act of 1972.

HYDROELECTRIC POWER

The need for hydroelectric power has become more urgent with the continued increase in population and urban development across the nation. A series of laws and resolutions, dating back to the River and Harbor Act of 1909 and sustained by the Supreme Court, has given the Chief of Engineers the authority to include the development of hydroelectric power in multiple-purpose projects when such development can be achieved together with the primary objective of the project.

RECREATION

The Federal Water Project Recreation Act of 1965 requires that all project planning give consideration to the inclusion of facilities for swimming, boating, fishing, camping, and sightseeing wherever appropriate. In developing plans for recreational facilities, the Corps of Engineers works closely with all Federal, State, and County agencies concerned with the development of recreational facilities and programs, and with interested community groups and individuals.

VAI FA'ASOASOA

Ole lava ole suavai mo le soifua lautele, mea tau fa'atoaga, ma fale gaosimea ua leva ona iloa le sili atu o lona tāua ile soifua ma le saogalemū ole malo atoa. Mo lenei pogai, ole fa'asoaina ole suavai ua aofia lea i fuafuaga a le Vaega Inisinia ma fa'aleleia alagā vai mo le malo atoa. Vaega 6 ole Tulafono Puipuia o Lolo ile 1944 ua tu'uina atu ai le pule ile Failautusi a le Ami e feso'ota'i ai ma Setete, faigā malo ma aiā fa'alilolilo po'o tagatata'ito'atasi mo le fa'aaogaina i aiga ma fale gaosimea o vai ua totoe e mafai ona fa'aaogaina e le Vaega Inisinia mo a latou galuega. Ole Tulafono Vai Fa'asoasoa ile 1958 na toe fa'aopoopoina le aofia iai o vai fa'aleoleo mo femalaga aiga a le Malo tele, puipuiga o lolo, fa'asūsūina ole laueleele, ma le tele o isi gaoioiga fa'amoemoeina. Ole Tulafono Vai Fa'asoasoa ile 1958 na fa'atonuina ai le le maua e le Malo tele o se tupe fa'aopoopo ile felagolagoma'i ile tau ole galuega e uiga i gaoioiga o vai fa'asoasoa. Ile iai i Setete ma le au fa'atasi ai o alalafaga ma le fesoasoani ile tau o galuega fou mo le fa'aleleiga ua ta'uina mai lea ile vaega 301 o lenei tulafono ile fa'ateleina ole aiā ole Malo tele ile fa'asoaina o vai ma lona fa'aleleia atili. O nei fesuiaiga ua aofia lea ile Tualfono Ituaiga Vai ile 1972.

MALOSIAGA FA'AELETISE I VAI

Ole mana'o mo nei masini ua avea lea ma fa'atumutumuga talu ai le fa'ateleina o tagata ma le fa'ateleina o aai ile malō atoa. O se fa'asologa o tulafono ma mau, ile tu'u atu i tua ile Tulafono mo Vaitafe ma ma Taulaga ile 1909 ma sa sapasapaia e le Fa'amasinoga Sili, ua tu'uina atu ai ile Ta'ita'i o Inisinia le pule e aofia iai le galueaina o masini uila alu i le vai ile fa'ateleina le aogā pea faapea o ia fuafuaga e mafai ai ona fa'ataunu'u ai fa'atasi ma le fa'amaualugaina ole fa'amoemoe mo ia fuafuaga.

FA'AFIAFIAGA

Ole Tulafono Vai mo Fa'afiafiaga ile 1965 ua fa'atonu ai e faapea o fuafuaga uma lava mo lea fa'amoemoe ia iai ma se fa'atatauga ile aofia iai o mea aogā mo auauga, folauga, fagotaga, mau i fale ie, ma matamataga i so'o se mea e tala feagai ai. Ile fa'avaeina o fuafuaga mo mea aogā mo fa'afiafiaga, ole Vaega o Inisinia e galulue fa'atasi

FISH AND WILDLIFE COORDINATION

The Fish and Wildlife Coordination Act of 1958 (Public Law 85-624), as amended, states that fish and wildlife conservation shall receive equal consideration with other water development project purposes and shall be coordinated with other features of water resources development projects and programs. The act authorizes the enhancement of these resources whenever possible, and specifies the action to be taken to offset the adverse effects of water resources development projects on fish and wildlife.

EMERGENCY ACTIVITIES

The Corps of Engineers is authorized to assist local governments during emergency situations. The Corps' role during flood emergencies is an advisory one until the District Engineer is notified that local agencies are unable to cope with the situation. The Corps then assumes an active role in directing the flood fight. In other emergencies such as earthquakes, tidal waves, or enemy action, the District Engineer is authorized to use all resources at his command to aid civil authorities in preventing human suffering and mitigating destruction or damage.

Several authorities have been provided by Congress which permit the Secretary of the Army and the Chief of Engineers to implement projects of limited scope for the purpose of alleviating potentially dangerous conditions resulting from emergency situations. Upon receipt of a formal request from a local government agency fully empowered under State law to provide the required local cooperation, the Corps investigates the reported problem. If the investigation clearly shows that remedial measures are required and that they are engineeringly and economically feasible, the project is adopted for construction. The various authorities for Corps participation in emergency work are described below.

Public Law 99, 84th Congress— Emergency Flood Activities

Public Law 99 provides for an emergency fund to be used at the Chief of Engineers' discretion for: (1) Flood emergency preparations, floodfighting i mea uma a le Malō tele, Setete, ma fa'alapotopoto i Itumalō e aiaia ile ma le fa'afoeina o mea aogā i fa'afiafiaga ma polokalama, ma le iai fa'atasi ole fa'amoemoe o fa'alapotopotoga ma tagata ta'ito'atasi i nu'u ma alalafaga.

VA'AVAIGA O I'A MA MANU OLE VAO

Ole Tulafono tau ile Va'avaiga o l'a ma Manu ile 1958 (Tulafono mo le lautele 85-624), pei ona pasai, ta'u mai ai e fa'apea ole puipuiga o i'a ma manu ua tautau ona maua le aiā tutusa fa'atasi ma isi gaoioiga ile latou aogā ma e tatau ona va'avaia e tusa ai ma isi galuega ma polokalama o alagā vai. Ua tu'uina le pule e le tulafono ile fa'aleleia o nei alagā vai i so'o se auala e mafai ai, ma fa'amanino mea e tatau ona fai e o gatasi ai ma le lē afaina ole fauina o alagā vai mo i'a ua manu ole vao.

GALUEGA FA'AFUASE'I

Ole Vaega o Inisinia ua tu'uina atu iai le pule e fesoasoani ai i faigā malō fa'alenu'u i taimi fa'afuase'i e mana'omia ai i latou. Ole matā-faioi a lenei Vaega i tamai o lologa fa'afuase'i ole fautuaina lea ma fa'atali e ta'u atu i Inisinia ole Itumalō le lē mafai e le vaega fa'alenu'u le fa'afitauli ua iai. O lea Vaega ole a pa'ū iai le mamafa ile fa'atautaiga o lea galuega. I nisi o mea tutupu fa'afuase'i e iai mafui'e, galu lolo, po'o ni gaoioiga a le fili, ole Vaega Inisinia Itumalō ua tu'uina iai le pule i so'o se ituaiga auala i lalo ifo o latou puleaga e fesoasoani ai ile puipuiga o le soifua malōlōina o tagata ma le fa'aitiitia ole fa'atamaia po'o le fa'aleagaina.

Tele pulega ua tu'uina e le Faipule ua fa'atagaina ai le Failautusi ole Ami ma le Pule o Inisinia e fa'aleleia ai galuega e lē o amanaia mo le aogā ole fa'amāmāina o uiga mata'utia e maua mai i mea tutupu fa'afuase'i. Mai luga ole lisiti o se fautuaga aloa'ia mai le ofisa o se pulega fa'alenu'u ua tu'u iai le malosiaga ile tulafono fa'a-setete ile faia o mea e tatau ona tatou felagolagoma'i ai, ole Vaega o Inisinia latou te su'esu'eina mea e lipotia. A fa'apea e fa'ailoa mae ile su'esu'ega le tatau ona faia o mea e tatau ona fa'aleleia ma ua fetaui lelei ma fuafuaga inisinia ma le fetaui lelei ma lona tau, ona fa'atoā pasai loa lea le galueaina. Ole tele o pulega mo le auai ole Vaega fa'apitoa i ia galuega fa'afuase'i o lo'o fa'amatalaina i lalo. and rescue operations, and the repair or restoration of any flood control work threatened or destroyed by floods; (2) emergency strengthening of Federally authorized hurricane or shore protection works being threatened, when such protection is necessary to prevent imminent and substantial loss of life and property; and (3) repair and restoration of Federally authorized hurricane and shore protection structures damaged or destroyed by wind, wave, or water action of other than ordinary nature, when such repair and restoration are necessary for adequate functioning of the structures.

Public Law 875, 81st Congress— Disaster Relief

Public Law 875 authorizes the expenditure of funds by the Office of Emergency Preparedness (OEP) for relief and recovery during and after national disasters. The Corps of Engineers furnishes engineering and construction support when requested by OEP.

Section 14, Flood Control Act of 1946— Emergency Bank Protection

Under this authority, the Corps of Engineers may spend up to \$250,000 in one locality during any one fiscal year for the construction of emergency bank protection works to prevent flood damage to highways, bridge approaches, and other public works endangered by bank erosion.

Section 2, River and Harbor Act of 1945— Snagging and Clearing for Navigation

This act authorizes the Corps of Engineers to undertake emergency work to clear or remove unreasonable obstructions from rivers, harbors, and other waterways in the interest of navigation.

Section 208, Flood Control Act of 1954— Snagging and Clearing for Flood Control

Under this act, the Corps of Engineers is authorized to spend up to \$250,000 on any single tributary during any one fiscal year for removal of snags and other accumulated debris, and for clearing and straightening stream channels, when, in the opinion of the Chief of Engineers, such work is required in the interest of flood control.

TULAFONO LAUTELE 99, 84TH NOFOAIGA FAI-PULE—GALUEGA LE'I FUAFUAINA MO LOLO

Tulafono Lautele 99, taua ai le iai o se tupe fa'apitoa mo mea tutupu fa'afuase'i e fa'aaogaina e le Pule o Inisinia mo:

 Sauniuniga mo lolo fa'afuase'i, gaoioiga ma le fa'asaoina i taimi o lolo, ma le toe fausia po'o le fa'aleleia atili o so'o se galuega mo le puipuiga o se lolo ua tau afaina po'o le fa'aleagaina fo'i i lolo.
Ole toe fa'amalosia o mea e i lalo ole puleaga a le Malō tele e iai afā ma le gataifale peā tau afaina galuega mo le puipuiga, a fa'apea o se puipuiga e tatau ona fai e puipuia ai ma fa'asaoina ai ni ola e ma'imau ma mea totino; (3) toe fausia ma toe fa'aleleia o mea i lalo ole puleaga a le Malō tele na fausia mo afā ma le gataifale pe'a fa'aleagaina ma lepetia e le matagi, galu, po'o le aia i vai e ese mai ai i galuega a le natura, peā faapea o nei fa'afouga ma le toe faaleleia ua tatau ai mo le toe fa'aolaolaina lelei o nei mātatā.

TULAFONO LAUTELE 875, 81ST NOFOAIGA FAI-PULE—FA'ATUATUAGA MO MALA

Tulafono Lautele 875 ua fa'atagaina ai le fa'aaogaina o tupe e le Ofisa o Sauniuniga Fa'afuase'i (OEP) mo le fesoasoani ma toe fa'aleleia i lea taimi ma le uma fo'i o ia faigatā ile malō atoa. Ole Vaega o Inisinia latou te galulue i mea tau inisinia ma sapasapaia galuega peā mana'omia lea fesoasoani e le OEP.

VAEGA 14, TULAFONO PUIPUI MEATAUMAFA ILE 1946—PUIPUIGA FA'AFUASE'I ITUVAI

I lalo o lenei pulega, ole Vaega o Inisinia e mafai ona latou fa'ama'imaua le \$250,000 le maualuga i se oganu'u e tasi i so'o se tausaga e tasi fa'ale-malō mo le fa'avaeina o galuega o puipuiga fa'afuase'i o ituvai e puipui ai le fa'aleagaina o alatele e lolo, pito o ala laupapa, ma isi galuega lautele e afaina ai ile aia o ituvai.

VAEGA 2, TULAFONO VAITAFE MA TAULAGA ILE 1945—TA'ALAO MA FA'ALAOLAO MO FOLAUGA

O lenei tulafono ua tu'uina atu ai le pule ile Vaega o Inisinia e gaoioia ai galuega tatau ile ta'alaoina po'o le aveeseina o mea o lo'o fai ma fa'alavelave i vaitafe, taulaga, ma isi alavai ile lelei o feoaiga.

OTHER SPECIAL AND CONTINUING AUTHORITIES

Most of the work described earlier is accomplished in response to specific direction from Congress. However, Congress has also provided the Secretary of the Army and the Chief of Engineers general authorities to implement water resources projects of limited scope in response to requests from local government agencies. These projects are subject to the same principles of engineering and economic feasibility as are projects specifically authorized by Congress. They must be complete within themselves and should not commit the United States to any additional improvement to insure successful operation. The general authorities are often referred to as the "small projects or special continuing authorities" and are described below.

Section 205, Flood Control Act of 1962— Small Flood Control Projects

This legislation provides for construction of small flood control projects not specifically authorized by Congress when, in the opinion of the Chief of Engineers, such work is advisable. The Federal share in such projects may not exceed \$1,000,000 (\$2,000,000 if the area had been declared a major disaster area within the previous five years).

Section 107, River and Harbor Act of 1960, as amended—Small Navigation Projects

This legislation authorizes the Corps of Engineers to construct small river and harbor improvement projects not specifically authorized by Congress when they will result in substantial benefits to navigation. The Federal share in such projects may not exceed \$1,000,000.

Section 103 a, River and Harbor Act of 1962, as amended—Small Beach Erosion Control Projects

This legislation as amended provides for construction of small shore and beach restoration and protection projects not specifically authorized by Congress, when, in the opinion of the Chief of Engineers, such work is advisable. The Federal share in such projects may not exceed \$1,000,000.

VAEGA 208, TULAFONO PUIPUI O LOLO ILE 1954—TA'ALAO MA FA'ALAOLAO MO LOLOGA

I lalo o lenei tulafono, ole Vaega o Inisinia ua tu'u iai le pule ile fa'ama'imau ole \$100,000 le maualuga i so'o se galuega tau ile fa'amamaina ma le ta'alao o fa'aputuga otaota i magāvai, ma ta'alaoina ma fa'asa'osa'oina o alagā vai, peā fa'apea, ile mafaufauga ole Pule o Inisinia, o lea galuega ua tatau ile lelei mo le puipuiga o Iolo.

O ISI FAAPITOA MA PULE FA'AAUAU

Ole tele o galuega ua uma ona fa'amatalaina muamua ua fa'ataunu'uina lea e tusa ai ma fuafuaga fa'apitoa mai le Faipule. Ona o lea, ole Faipule ua maua mai ai e le Failautusi ole Ami ma le Pule o Inisinia pulega lautele e fa'agaoioia ai galuega fa'apitoa mo alaga vai ile fa'amutaina ina ia tala feagai ai ma mana'o molia mai vaega i faigamalo fa'alenu'u. O nei matata ua iai lea i fa'avae tutusa o mea tau inisinia ma fa'atutusa ai so'o se matagaluega fa'apitoa ua fa'atagaina e le Faipule. Ua tatau lava ona fa'amae'aina e i latou lava ma e le tatau ona a'afia ai le Unaite Setete i nisi taumafaiga ile fa'aleleiga atili e fa'amaonia ai le alualu i luma o ia galuega. O pulega lautele e masani ona fa'atatau tonu i ni "matātā laiti po'o le fa'aauauina o pulega fa'apitoa" ma o lo'o fa'amatalaina i lalo.

VAEGA 205, TULAFONO PULEA O LOLO ILE 1962—GALUEGA LAITI ILE PULEA O LOLO

O lenei tulafono ua ta'u mai ai le fa'avaeina o ni nai puipuiga laiti mo lolo e le o fa'avasega fa'apitoa mai le Faipule po'o afea, ile mafaufauga o le Pule o Inisinia, i sea galuega fautua-tuaina. Ose vaega mai le Malō tele i ia matātā ua le tatau ona sili atu ile \$1,000,000 (\$2,000,000 peā fa'apea ose ogalaueleele ua fa'amaonia lona matuā fa'aleagaina i le lima tausaga talu ai).

VAEGA 107, TULAFONO VAITAFE MA TAULAGA ILE 1960, E PEI ONA FA'AMAONIA—GALUEGA LAITI MO FOLAUGA

O lenei tulafono ua tu'uina ai le pule ile Vaega o Inisinia ile faia o galuega ile fa'aleleia o vaitafe laiti ma taulaga e le o taua fa'apitoa ile pulega fa'a-Faipule pea fa'apea e fa'amaonia lona i'uga ile lelei ai o folauga. Ole fesoasoani mai le Malo tele ua le silia lea ile \$1,000,000.

Section 111 of the River and Harbor Act of 1968— Prevention and Mitigation of Shore Damages Caused by Existing Federal Navigation Works

This legislation authorizes the Corps of Engineers to investigate, study, and construct projects to prevent and mitigate shore damages attributable to Federal navigation works. The Federal Government will assume the cost of constructing, operating, and maintaining these projects, provided that the first cost is less than \$1,000,000. Specific authorization by Congress is required for projects costing more than \$1,000,000.

Public Law 189, 55th Congress— Removal of Wrecks and Obstructions

Under this law, the Corps of Engineers is authorized to investigate wrecked vessels and other obstructions to navigation, and to remove them at the owner's expense or, under certain conditions, at the expense of the Federal Government.

VAEGA 103A, TULAFONO VAITAFE MA TAULAGA ILE 1962, E PEI ONA FA'AMAONIA—GALUEGA PUIPUIA OLE AIA MATAFAGA LAITI.

O lenei tulafono e pei ona fa'amaonia ua taua ai le fa'avaeina ma le toe fa'aleleiina o gataifale laiti ma matafaga i galuega puipuia e le ta'uina mai fa'apitoa le aia ole Faipule, peā fa'apea, i mafaufauga ole Pule o Inisinia, i sea galuega e faufautuaina. Ole fesoasoani a le Malo tele i ia galuega ua le silia lea ile \$1,000,000.

VAEGA 111 TULAFONO E UIGA, I VAITAFE MA TAULAGA ILE 1968—PUIPUIA MA LE FA'AITIITIA OLE FA'ALEAGAINA OLE GATAIFALE POGAI ILE FAIFAIPEA O GALUEGA MO FOLAUGA A LE MALŌ TELE.

O lenei tulafono ua tu'uina atu ai le pule ile Vaega Inisinia ile su'esu'eina, aiaia, ma fa'avaeina galuega e puipuia ai ma fa'aitiitia ai le fa'aleagaina ole gataifale e fa'asino i galuega ole talafatai a le Malō tele. Ole a iai ile Malō aoao le totogiina o tupe ole fauina, fa'agaoioiga, ma le va'avaia o nei galuega, ile tu'utu'uga fa'apea o lona tau muamua lava e i lalo ole \$1,000,000. Pulega fa'apitoa mai le Faipule ua taua ai le sili atu ile \$1,000,000 le tau o galuega.

TULAFONO LAUTELE 189, 55TH NOFOAIGA FAIPULE AVEESEINA O FAUPUEGA OTAOTA MA MEA FA'ALAVELAVE.

I lalo o lenei tulafono, ole Vaega o Inisinia ua iai le pule e su'esu'e ai va'a pa'ulia ma isi fa'afitauli i folauga, ma aveesea i latou e lē e ona le va'a i ana lava tupe pe, ise isi fuafuaga, ile totogiina e le Malō aoao.

HOW CORPS OF ENGINEERS' PROJECTS ARE STARTED, DEVELOPED AND BUILT

PEFA'APEFEA ONA AMATA, FA'ATINO MA FA'A-MAUTŪ MATĀFAIOI A LE VAEGA O INISINIA.

The Corps of Engineers' role in the development of the nation's water resources is primarily one of public service. The Corps serves as an engineering consultant to Congress and assists it in responding to the people's need for water resources improvements. Based on this role, the Corps of Engineers does not initiate any project. It responds to specific direction from Congress with respect to major water resources development projects or to requests from local government agencies for small projects under the special continuing authorities provided by Congress. Because the Corps is committed to serving the public, there are many tests and checks and balances involved in the planning and development of water resources projects. During the study, checks and balances are used to ensure that emphasis is not placed on one facet of the total problem at the expense of other considerations. The checks and balances are concerned not only with the engineering effectiveness and economic feasibility of the solutions considered, but also with the effects of these solutions on the natural environment and on the socio-economic well-being of the people for whom they are being developed and who will have to live with the final solution-good and bad.

In its effort to develop balanced solutions to water resources problems, the Corps of Engineers employs planners, engineers, economists, sociologists, and environmentalists. However, it is constantly aware that as a single agency, it cannot possibly understand and appreciate all of the many factors and considerations involved in developing an effective and balanced solution. For this reason, the Corps relies heavily on public participation in the planning process, and considers it to be one of the major tests in determining whether the solution considered is in the best interest of the general public.

Ole matafaioi a le Vaega o Inisinia ile fa'aleleia o alagā vai ile malo atoa e tumua lava gaoioiga mo le lautele. Ua avea lava le Vaega o Inisinia ma feso'otaiga ile Faipule ma fesoasoani iai ile mana'o o tagata mo le fa'aleleia o alagā vai. Fa'atatau tonu lava i lenei mataupu, ole Vaega o Inisinia latou te le amataina se tasi o nei matāfaioi. Latou te faimea fa'alogo i fa'atonuga fa'apitoa mai le Faipule fa'atasi ma le aloaia o mea muamua e tatau ona faia mo le fa'aleleia o alagā vai po'o fautuaga mai vaega o faiga malo fa'alenu'u mo nai galuega iti i lalo o pulega fa'apitoa fa'aauau e tusa ai ma le tulafono a le Faipule. Talu ai o lea Vaega ua a'afia e galulue mo le lautele, e tele ni su'esu'ega ma ni siaki ina ma le tau fa'apaleni ina o mea e iai i fuafuaga ma le fa'aleleia o gaoioiga tau i alagā vai. Ile taimi o su'esu'ega, siaki ina ma fa'apaleni ina ua avea lea ma fa'amaoniga fa'apea e fa'apitoa na'o se itu e tasi ole fita atoa ile fuafuaga lautele. Ole siaki ina ma le fa'apaleni ina ua aofia iai e le na'o galuega tau inisinia ia lelei ma mea tau ile tau ia fetaui i auala ua iloiloina, ae fa'apea fo'i ma le taua o nei fuafuaga ilo tatou talafatai ma le manuia lautele ile lelei o tagata uma ua ala ai ona faia o nei mea uma ma e o leā a'afia ai i lenei fa'aiuga mulimuli—lelei ma le leaga.

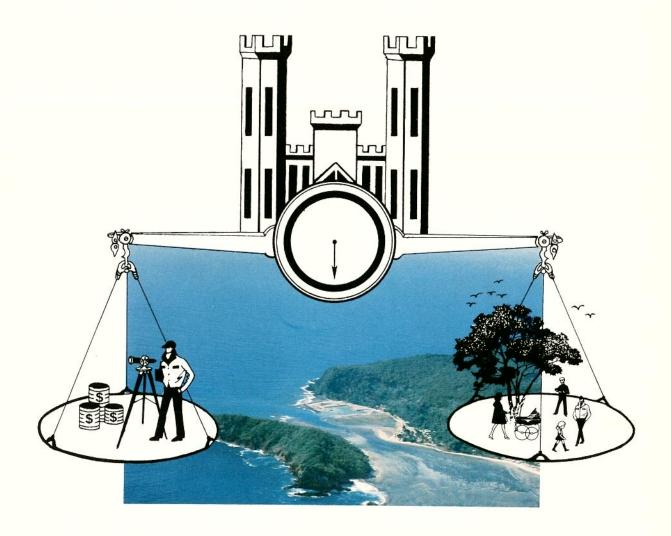
Ilo latou malosi ile galueaina o ala e paleni ai fa'afitauli i alagā vai, ole Vaega o Inisinia ua latou fa'afaigaluegaina i latou e faia fuafuaga, inisinia, fuafuaina le agai i luma, va fealoa'i, ma le talafatai. Ui i lea, ua latou iloa lelei lava lo latou tu to'atasi, le lē matuā malamalama ma viia le tele o mea tatau ma fuafuaga e a'afia ai le fa'aleleia ma auala tutusa. Mo lenei mafuaaga, o lenei Vaega ua matua fa'alagolago ile au ai ole lautele i mea tau le fuafuaina, ma iloiloina o lea itu e avea ai ma su'esu'ega tupito ile feliuliuaiga pe tumutumu iai mafaufauga o tagata lautele. As part of the public participation process, and because it recognizes its limitations, the Corps seeks the assistance of other agencies such as:

- State and County Planning and Public Works agencies—to provide details of the problem for which Corps assistance was requested; to furnish available engineering and technical data related to the problem; to identify related problems and needs in the problem area and their plans for this area; and to provide overall guidance and direction in the development of a solution which would not only alleviate the specific water resource problem, but which would also be compatible with and possibly enhance the overall quality of life in the community.
- The U.S. Fish and Wildlife Service, National Marine Fisheries Service, and State and County fish and wildlife agencies—to define the fish and wildlife resources in the problem area, the value and importance of these resources to the area, existing plans for developing these resources, and the impact of the solutions considered by the Corps on these resources.
- The National Parks Service and the State Historic Preservation Officer—to identify sites and artifacts of historical and/or archaeological significance which would be affected by the solutions being considered by the Corps; to determine the desired disposition of the sites and artifacts; and to advise the Corps on the actions required to achieve the desired effect.
- State and County recreation agencies—to identify the existing recreational resources, the community's recreational needs and desires, the agencies' plans for the area; and ways in which the Corps could assist in enhancing the community's recreational opportunities.
- Other Federal, State and County agencies as the need arises.

Ona ose vaega e a'afia ai le aia o tagata lautele, ma talu ai ua latou iloaina fo'i lo latou tuāoi, ole Vaega Inisinia ua latou su'eina le fesoasoani o isi vaega e iai:

- Setete ma e faia Fuafuaga Itumalō ma vaega mo Galuega Lautele—mo le aumaia o mea ta'itasi le fa'afitauli o lo'o mana'omia ai le fesoasoani a le Vaega o Inisinia: lle tu'uina atu lea ole fesoasoani i galuega tau inisinia ma isi matātā e uiga ile fa'afitauli, ile fa'apupulaina o fa'afitauli tutusa ma mea e mana'omia i lea faigatā ma fuafuaga mo lenei fa'afitauli, ma maua ai le ta'itaiga aoao ma fa'atonuga ile fa'avaeina o se auala e lē fa'apea na ona fa'amāmā ai le fa'afitauli e fa'asino tonu i alagā vai, ae ole a o tutusa ai fo'i ma e lē taumate o le a fa'aleleia atili ai le olaga fesuisuia'i i alalafaga.
- Ole Galuega tau i l'a ma Manu ole vao ile Unaite Setete, Galuega tau i Fagotaga ile Malō aoao, ma vaega i Setete ma Itumalō i mea tau i i'a ma manu o le vao—ile fa'atulagaga ole tamaoaiga mai i'a ma manu ole vao ile fa'afitauli i isi oganu'u, ole aogā ma le taua o nei alagā manuia i alalafaga, ole iai o fuafuaga mo le fa'aleleia atili o nei alagā manuia, ma le tu'u fa'afeagai o nei fuafuaga sa fuafuaina e le Vaega o Inisinia mo nei alagā manuia.
- O Galuega tau Laueleele Fa'apitoa mo tagata uma ma le Ofisa e iai le Puipuiga o Talaaga ole Setete—fa'avasegaina o itu ma mea tau i talaaga ma/po'o le manaia o su'esu'ega fa'apitoa i mea ua leva ona tanumia ole a aofia iai i ala ua mae'a ona iloiloina e lea Vaega; ile filifilia ole fa'atulagaga mo'omia o itu ma mea tuai; ma faufautua ile Vaega o Inisinia mo gaoioiga tatau e fa'ataunu'uina ai le lelei mo'omia.
- Vaega o fiafiaga Setete ma Itumalō—ile fa'avasegaina le iai o ala o fa'afiafiaga, o fa'afiafiaga mana'omia ma le mo'omia i alalafaga, o fuafuaga a vaega mo lea oganu'u; ma ala e iloa ai e lea Vaega e mafai ona fesoasoani ile fa'aleleiga o alalafaga i avanoa tau mea fiafia.
- O isi ole Malo tele, Setete ma vaega i Itumalo ile fa'ateleina o manaoga.

WATER RESOURCES DEVELOPMENT ...



A Delicate Balance

Most importantly, the Corps relies heavily on community organizations, civic groups, and the people living in the problem area to help it understand the magnitude of the problem, how it affects their lives, and what they'd like to see done to solve the problem.

Based on the definition of the problem, planning constraints, and other information obtained from public participation during the initial phase of the study, the Corps develops alternative solutions to the problem. Public participation is again relied on in determining which solution would most effectively solve the problem and be most compatible with the community's needs and desires. Public participation mechanisms include, but are not limited to, public meetings, informal meetings with citizen groups and government officials, workshops, and citizen advisory councils. The objective of each of these mechanisms is to evaluate the alternative solutions against the following basic considerations:

- Which of the alternatives is the most effective from the engineering standpoint?
- Which alternative is the most feasible from the economic standpoint, that is, which alternative would provide the greatest benefit for the smallest outlay of our tax dollars?
- Which alternative would be most beneficial to the natural environment? Which alternative would cause the least disturbance to existing natural resources in the area? Which one would improve and enhance these resources?
- Which alternative would be most beneficial to the socio-economic well-being of the people living and working in the problem area?

Very rarely is a single alternative the best with respect to each of the four considerations. Usually the alternatives satisfy the four conditions to varying degrees. Consequently, the selection of a final solution usually involves tradeoffs, that is, the acceptance of a desired condition at the expense of some sacrifice in other conditions. For example, one solution to the flood problem on a stream where homes have been constructed along both banks would be to increase the stream capacity by widening it. This action would require acquisition E sili atu le tāua, ile Vaega o Inisinia le fa'alagolago mamafa i fa'alapotopotoga i alalafaga, vaega o tagata lautele, ma i latou o lo'o nonofo i oganu'u e iai lea fa'afitauli ile fesoasoani mo i latou ina ia latou malamalama ile loloto o lea fa'afitauli, le itu e afaina ai lo latou soifua, ma lo latou iloa i la latou vaai e tatau ona faia e muta ai lea fa'afitauli.

Autu ile fa'apupulaina o le fa'afitauli, fuafuaga mo le fa'amalosia, ma isi fa'amatalaga e maua mai ile iai o tagata lautele ile taimi ole vaega muamua o su'esu'ega, o le Vaega o Inisinia ua latou fa'avaeina ala fesuisuia'i mo le fa'afitauli. O le au ai o tagata lautele ua toe palasi iai le filifilia po'o le fea ala e talafeagai ile fa'asa'oina o lea fitā ma e fetaui lelei lava ma mauaogā ma mo'omo'oga o le alalafaga. O le faifai mea fa'atasi o tagata lautele e aofia iai, ae le fa'amutaina, filifiliga lautele, fa'atasiga le aloaia ma vaega sitiseni ma alii o le malō, fa'atasiga fa'alemafaufau, ma fa'alapotopotoga faufautua a sitiseni. O le autu moni o nisi o nei fa'ata'ita'iga o le iloiloina lea o fesuia'iga o ala tusa ai ma nei fa'avae o nei iloiloga:

- O le fea o fesuia'iga e sili lona taua mai le iloiloga a inisinia?
- O lē fea o fesuia'iga e sili lona faigofie ona fa'ataunu'u mai le iloiloga o le manuia lautele, e fa'apea la, o lē fea o fesuia'iga e maua ai le manuia silisili mo se fa'apupulaga itiiti o la tatou lafoga?
- O lē fea o fesuia'iga e sili lona tāua ma le aogā mo lo tatou talafatai? O lē fea o fesuia'iga o le a mafua ai sina fa'ate'ite'iga fa'atauva'a i mea ua tatou maua mai ile eleele o lo'o tatou o iai? O lē fea la o le a maua ai le fa'aleleia ma fa'aolaola ai nei punā oa?
- O le fea o nei fesuia'iga e sili atu lona aoga mo le manuia lautele o i latou o lo'o nonofo ma galulue i nei oganu'u faigata?

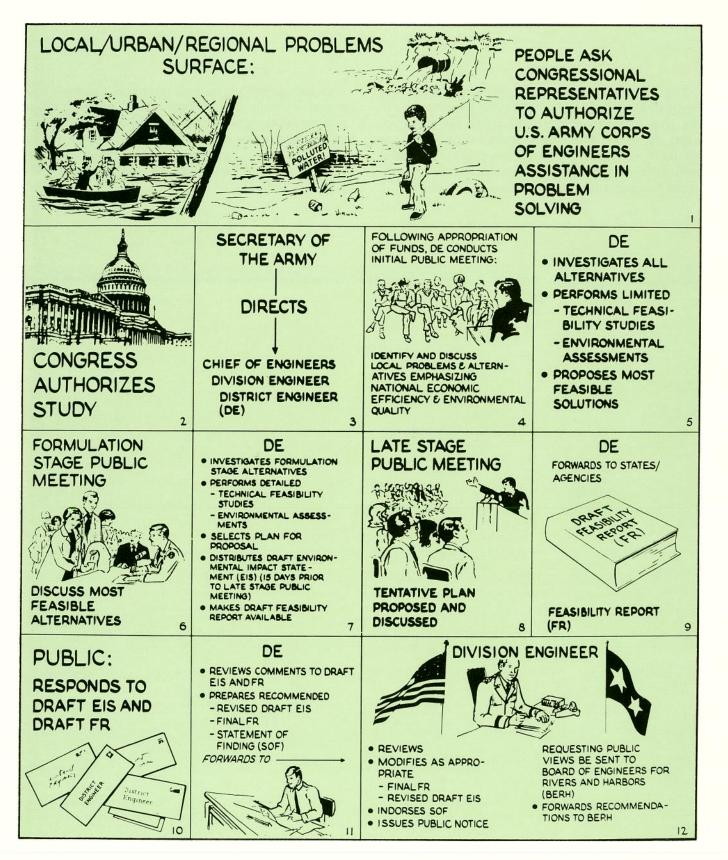
E matuā seāseā lava i se fesuia'iga e tasi ona sili ile iloiloina ta'itasi o nei iloiloga e fa. Masani lava ile fa'amalilieina o nei fetu'una'iga o ona uiga e fa e eseese lava i tikeri. Mulimuli ane, o le filifiliga o se auala tatau e masani lava ona iai fesuia'iga, e fa'apea, o le taliaina lea o se itu e mo'omia ile fuafuaina oni isi ala le mautinoa ile fa'atasi ai ma isi tu'utu'uga. Mo se fa'ata'ita'iga, o se isi auala i fa'alavelave tau lolo i se alia o lo'o taooto ai ni atu falega i ona itu vai o le fa'alauteleina lea o le alia.

of residential property along the stream and relocation of a few families. Another solution would be to increase the stream capacity by constructing high concrete walls along the banks. Although concrete walls may not be aesthetically pleasing, they would provide the desired flood protection without having to acquire residential property and relocate families. The tradeoffs involved between the two solutions involve aesthetics and community cohesion (ugly high concrete walls vs. relocating families). Clearly, the final selection should not and is not made by the Corps, but by local government agencies and the people who would be directly affected by the decision. The Corps primarily functions as the moderator in the final selection. However, it is responsible for implementing a solution which would provide the greatest benefit to the greatest number of people. This responsibility is not an easy one to carry out. Many times, it is extremely difficult to objectively determine what action would be in the greatest public interest. Public meetings and other public participation mechanisms provide much of the input used in the decision-making process. Also heavy reliance is placed on the views and position of the local government requesting or sponsoring the study, since they will have to share in the cost of the project as well as make certain commitments to the Federal Government. Also, the local agency is considered to be sensitive to the needs of the community affected by the water resource problem and the relationship of the problem to the overall needs of the County and State.

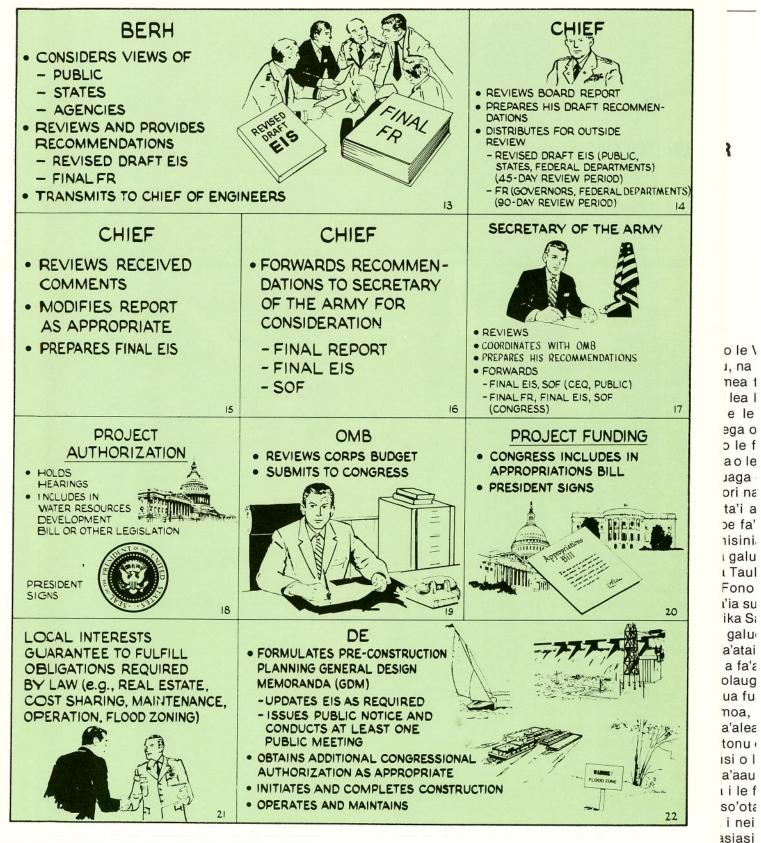
Based on consideration of all engineering and technical data pertinent to the problem, and all comments received from government agencies and the public, the District Engineer must recommend a solution which, he feels, represents the best balancing of all factors considered, pro and con, and would serve the public interest best. The wisdom of his decision is demonstrated by the final product, that is, the extent to which the completed project satisfies or fails to satisfy the community's water resource needs.

O lenei faiga ua tatau ona maua mai le fa'amaoniga mai ia i latou o lo'o nonofo latalata ile vai ma le toe fa'atulagaina ia aiga to'aitiiti. O se tasi auala ile fa'alauteleina o le vai o le fauina lea oni pa simā i itu vai. E ui lava ina le tala feagai pa simā ile tagataga'i, ae o le a maua ai le puipuiga o lolo e tusa ai ma lo latou mana'o e aunoa ma se toe aiaiga mo e nonofo latalata iai mo le toe tau fa'atulagaga. O fesuiaiga e aofia iai ile va o auala e lua e aofia iai le fa'amatagofie ina ma le galulue fa'atasi o alalafaga (pa simā maualuluga matagā fetaui ma le toe fa'atulagaina o aiga). Malamalama lelei, o le filifiliga fa'ai'u e le tatau ma e le faia fo'i e le Vaega o Inisinia, ae o vaega lava o faigā malo fa'alenu'u ma i latou o le a afaina ai i lenei fa'ai'uga. O le itu taua i lenei Vaega o le ta'ita'ina lea mo se fa'ai'uga lelei. Ui i lea, o i latou lava e iai le fa'atuatuaga ile fa'aleleia o se auala o lea maua ai le lelei maualuga mo le to'atele o tagata. O lenei fa'atuatuaga e le faigofie ona tauave. Ile tele o taimi, e matuā faigata lava ona ta'utino mai po'o le fea auala o le a mafai ona fa'amalilieina ai le to'atele o tagata. Fono lautele ma isi mea e au fa'atasi ai le lautele e maua ai le tele o manatu e aogā ile faia o fa'ai'uga. E fa'apea fo'i ona fa'atuatuaina o manatu ma tulaga o faiga malo fa'alenu'u e tusa ai ma lo latou mana'o po'o le ta'ita'ina o su'esu'ega, talu ai o i latou fo'i e iai le isi vaega o le tau o le galuega e tusa ai fo'i ma le faia oni isi o fa'ai'uga ile Malo tele. Ma le isi, o vaega fa'alenu'u ua iai ile iloiloga e fa'apea o i latou lava ua tatau ona latou iloaina mea e mana'omia e alalafaga e afaina ai mea tau vai ma lona aiā i fa'afitauli e aofia uma iai Itumalo ma Setete.

Autu i iloiloga a inisinia uma ma fa'amaumauga e feagai tonu ma lea fa'afitauli, ma faufautuaga uma mai vaega o le malō ma tagata lautele, o le Inisinia o Itumalō ua tatau ona ta'uina mai se auala, ua ana iloa, e maua ai le o gatasi uma o mea moni ua uma ona aiaia, talia ma le tete'e, ma o le a avea lea ma mea e fa'amalilieina ai le lelei lautele. O le atamai o lana fa'ai'uga o le a fa'ailoaina mai lea ile i'uga, e fa'apea, o le umi ona lelei ile maliliega po'o le maua fo'i o se maliliega i alagā vai i alalafaga. The foregoing discussion attempted to provide insight into the principles and concepts involved in the Corps' planning of water resources development projects. The major steps involved in the initiation, planning, and construction of a water resources project specifically authorized by Congress are illustrated in the following diagram. O iloiloga pei ona taua ua taumafai lava e fa'ailoa mai ai le totonuga o manatu fa'avae ma autu moni e aofia i fuafuaga a le Vaega i galuega tau i alagā vai. O tulaga maualuluga e aofia ile fa'atinoina, fuafuaina, ma le galueaina o se alagā vai ua fa'atonuina mai e le Faipule ua fa'apupula mai i tusitusiga soso'o ai.



HOW CORPS OF ENGINEERS PROJECTS



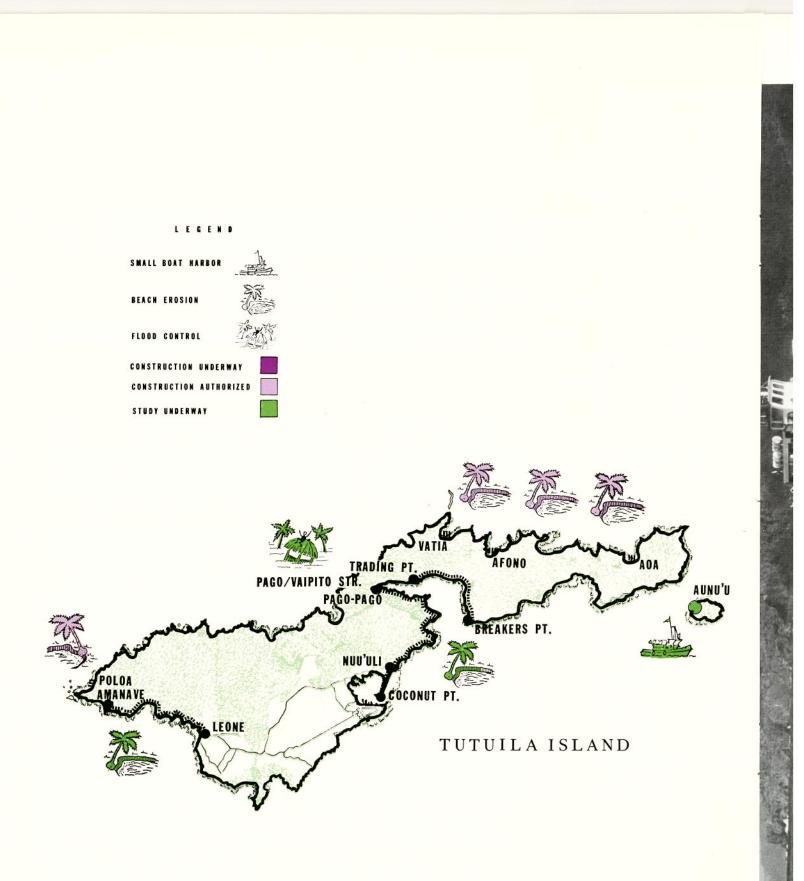
ARE STARTED, DEVELOPED AND BUILT

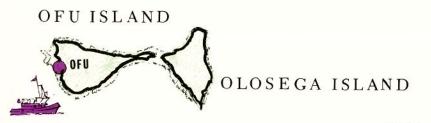
THE CORPS' ROLE IN THE DEVELOPMENT OF WATER RESOURCES IN AMERICAN SAMOA

O LE MATÀFAIOI A LE VAEGA O INISINIA MO LE FA'ALELEIA O ALAGÀVAI I AMERIKA SAMOA

The Corps of Engineers, through its Pacific Ocean Division and Honolulu Engineer District, first became involved in the development of American Samoa's water resources in 1969. In October of that year, the Government of American Samoa requested the Corps' assistance in the development of badly needed harbors to improve transportation between the five main islands of the territory. Reconnaissance reports indicating the feasibility of constructing harbors at several locations in the territory were completed in early 1970. However, the initiation of detailed studies was delayed until the applicability of the Corps of Engineers' civil works authority to American Samoa was clarified. Through Section 106 of the River and Harbor Act of 1970, Congress authorized the Corps to conduct a survey study of the harbors and rivers in American Samoa. This legislation extended the Corps' civil works authority to American Samoa and paved the way for the Honolulu Engineer District to proceed with detailed studies of the territory's navigation problems under the small projects authority. At the request of the Government of American Samoa, the Corps is also studying shoreline erosion and flood problems within the territory. The remainder of this booklet describes the Corps' accomplishments and how it is continuing to work with the Government of American Samoa in improving and protecting the territory's valuable water and related resources for the use and enjoyment of present and future generations of residents and visitors.

O le Vaega o Inisinia, mai i Vaega o le Vasa Pasefika ma le Itumalo Inisinia i Honolulu, na muamua lava ona a'afia i le fa'alauteleina o mea tau vai i Amerika Samoa i le tausaga e 1969. I lea lava tausaga ia Oketopa, sa talosagaina ai e le Malo o Amerika Samoa le fesoasoani a le Vaega o Inisinia mo le mana'omia tele o ni taulaga mo le fa'aleleia o ala o femalagaina i le va o motu e lima o le teritori. O le ulua'i ripoti o lo'o ta'ua ai le fuafuaga o le fauina o Taulaga i nisi nofoaga o le teritori na mae'a i le amataga o le tausaga e 1970. Peita'i ane, o le amataga o ia su'esu'ega auili'ili sa toe fa'atuatuai se'ia o'o ina tu'uina atu e le Vaega o Inisinia le pule i Amerika Samoa e fa'avasegaina ai ia galuega. I le Vaega o le Tulafono 106 o Vaitafe ma Taulaga o le tausaga e 1970, na tu'uina atu ai e le Fono Faitulafono le pule i le Vaega o Inisinia e ta'ita'ia su'esu'ega o le faiga o taulaga ma Vaitafe i Amerika Samoa. O le fa'alauteleina e le fono le pulea o galuega a le Vaega o Inisinia i Amerika Samoa ma fa'ataina auala mo le Itumalo Inisinia i Honolulu o le a fa'aauauina ia su'esu'ega auili'ili i le fa'afitauli o folauga i le teritori o lo'o i lalo o se galuega laitiiti ua fuafuaina. i le talosaga a le Malo o Amerika Samoa, na su'esu'e ai fo'i e le Vaega o Inisinia le fa'aleagaina o gataifale ma le fa'afitauli o lologa i totonu o le teritori. O le vaega o lo'o totoe o lenei tusi o lo'o fa'amatala ai le fa'ataunu'uga ma le fa'aauauina o galuega mo le Malo o Amerika Samoa i le fa'aleleia ma le puipuia o le taua o vai ma le feso'ota'iga mo le fa'aaogaina ma le fiafia i tupulaga i nei aso ma le lumana'i o tagatanu'u ma tagata asiasi mai.





TA'U ISLAND

TA'U

AMERICAN SAMOA

OFU HARBOR

The islands of Ofu and Olosega are often called sister islands because they are separated by less than 300 yards of shallow reef. These islands and the island of Ta'u are collectively referred to as the Manu'a Islands, and are 63 miles east of the main island of Tutuila.

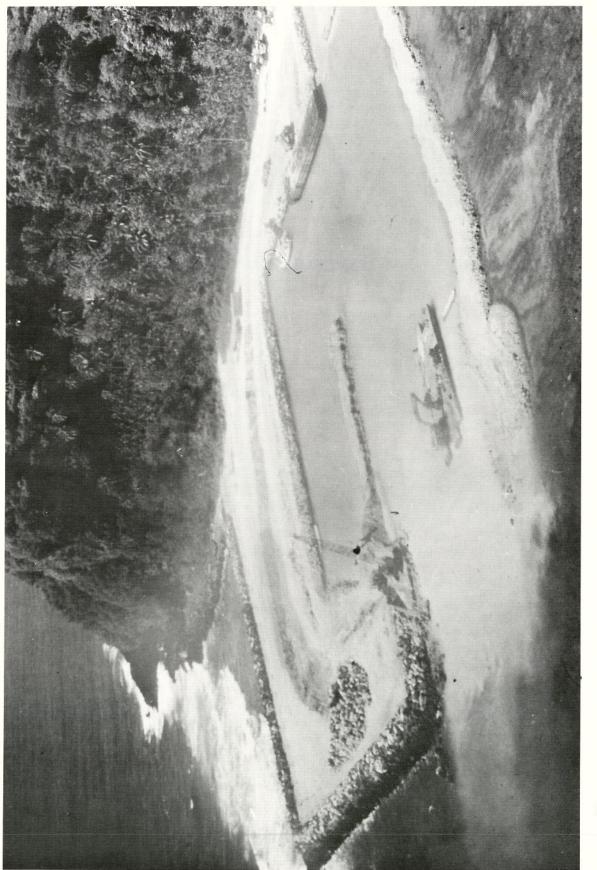
Transportation between Ofu and Olosega and the other islands of the territory is accomplished primarily over water. Interisland transportation is provided by tugs and barges, small commercial vessels, and by native longboats. An average of one trip a week is made between Tutuila and the Manu'a islands to transport both passengers and cargo. However, because of the fringing reef around the islands and the lack of harbors, motorized vessels cannot moor along the shoreline but must remain outside the reef. People and cargo are transported to and from shore by longboats which are about 30 feet long and four feet wide. The longboats are manned by an average crew of 10 oarsmen, and require a total of about one and a half hours to reach the vessel, transfer cargo and passengers, and return to shore. This operation is extremely hazardous, particularly for the very young, the elderly, and the infirm. Over the years, the longboats have overturned many times, spilling their passengers and cargo and occasionally resulting in death by drowning. In addition, Government of American Samoa officials estimate that about 25 percent of all cargo is damaged or destroyed by salt water spray or immersion, jarring, and loss overboard. The Department of Education has stated that the poor transportation system to the outer islands has on many occasions resulted in failure to get needed facilities and supplies. particularly food for the school lunch program. to the remote outer island schools.

The improvement and, in most cases, the initial development of both intraisland and interisland transportation systems were recognized by the Government of American Samoa as important

TAULAGA O OFU

O motu o Ofu ma Olosega ua ta'ua o le uso tama'ita'i taluai o lo la'ua va e laitiiti i lo'o le 300 iata le papa'u o le aau. O nei motu ma le motu o Ta \bar{u} e fa'asino i Motu (Itumalo) o Manu'a, ma e 53 maila i sasa'e o le motu o Tutuila.

O ala o femalagaina i le va o Ofu ma Olosega ma isi motu o le teritori ua uma ona fuafuaina i luga o le sami. A'o femalagaina i totonu o motu o lo'o faia e va'a kalasini, lagisi, va'a a lalo ma fautasi. E fa'atasi i le vaiaso ona faia le malaga i le va o Tutuila ma Manu'a e feavea'i ai pasese ma uta. Talu ai ona o le Aau Fa'alava o lo'o fa'ata'amilo i motu ma le le lava o taulaga, ua le mafai ai e va'a kalasini ona tau i le laina tua'oi ae ua tau pea i tuaau. O tagata ma uta e feavea'i e fautasi e tusa o le 30 futu le umi ae fa futu le lautele. O fautasi e fa'aauva'aina e le auva'a e tusa o le to'asefulu e aloina le vaa. Ma e mana'omia le aofaiga e tusa o le tasi ma le afa itula e o ai i le vaa a lalo, la'u uta ma pasese, ma toe fo'i i le laina tuaoi. O lea gaoioiga e matuā mata'utia, ae maise lava tamaiti ma tagata matutua ma le au vaivai. Ua silia ma le tausaga, o fautasi na o le sasa'e so'o, ma pauū ai i lalo lana pasese fa'apea ma uta ma o nisi aso e i'u ina malelemo ma feoti ai. Ma o le fa'atatau fa'a-le-malo a le Malo o Amerika Samoa e tusa o le 25 pasene o uta ua fa'aleagaina ma fa'atamaia i le pisi o le sami, salalau solo ma leiloa ai. O le Vaega o Aoga ua taofi o le leaga o le faiga o ala o femalagaina i motu i fafo o le fa'alavelave lea ua mafua ai ona le taunu'u ona aumai mea ma oloa o lo'o mana'omia, ae maise lava o mea'ai mo le Porokalama o Mea'ai a aoga, ona o le mamao tele o aoga i ia motu. O le a feoloolo ma e tusa lava, o le taualumaga amata o le faiga o ala o Femalagaina i motu i totonu ma motu i fafo na taualoa ai e le Malo o Amerika Samoa le taua o elemeni i le si'isi'i i luga le tuputupu a'e o le tamaoaiga e fa'apea fo'i ma le fa'ateleina o tagata o Amerika Samoa. E



When completed, Ofu Harbor would greatly improve transportation between the sister islands of Ofu and Olosega and the other islands of the territory.

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elements in promoting balanced growth as well as in enhancing the socioeconomic well-being of the American Samoan people. As part of their effort to improve the transportation system, the Government of American Samoa requested the Corps' assistance in the development of harbors throughout the territory. Based on the overall need, they requested that the development of a harbor on Ofu be given first priority. The Government of American Samoa is planning to build a causeway to connect the islands of Ofu and Olosega, therefore a harbor on Ofu would serve both islands and would significantly improve transportation between the two islands and the government and commercial center at Pago Pago on the island of Tutuila. In addition to enabling its people to travel safely between the islands of the territory, the Government of American Samoa hopes that an efficient transportation system will help to reverse the tendency of the younger people to move from their native villages to Tutuila. This trend has been contributing to urban congestion on Tutuila, particularly in the Pago Pago area, and to related environmental problems.

In response to the Government of American Samoa's request and following clarification of the applicability of the civil works authority to American Samoa, the Honolulu Engineer District investigated the feasibility of Federal participation in the construction of a harbor on Ofu. Based on the recommendations of the detailed project report completed in January 1973 under the authority of Section 107 of the River and Harbor Act of 1960. as amended, a harbor is being constructed on the west coast of the island. The completed facility will consist of a 130-foot-wide, 190-foot-long, 12to 18-foot-deep entrance channel: a 250-foot-wide. 300-foot-long, 16-foot-deep turning basin; and a 3-acre backup area protected by 1,660 feet of revetment.

fa'apei o se vaega e taumafai e fa'aleleia le faiga o ala o femalagaina, na talosagaina ai le fesoasoani o le Vaega o Inisinia e le Malo o Amerika Samoa mo le fa'alauleleia o taulaga i le teritori. Mo le fa'avaeina o mea uma e fia maua na talosagaina le fa'aleleia o le taulaga i Ofu o le avanoa muamua lea. Ua fuafuaina e le Malo o Amerika Samoa e fauina se auala tanu e feso'ota'i ai le motu o Ofu ma Olosega, o le mea lea o le Taulaga i Ofu o le ā tautua mo motu ia e lua ma fa'aleleia atili ai ala o femalagaina i le va o motu e lua ma le malo ma le totonugalemū o fetauaiga i Pago Pago i le motu o Tutuila. Ma i le faia e ona tagata le feoa'i saogagalemū i le va o motu o le teritori, o le fa'amoemoe o le Malo o Amerika Samoa o le fa'amae'aina o le faiga o ala o femalagaina o le a fesoasoani e liliu le mana'o o tagata laiti mo le feoa'i mai, mai i o latou nu'u ma o atu i Tutuila. O ia femalagaina ua mafua ai ona fa'ato'ateleina tagata i Tutuila, ae maise lava le laufanua i Pago Pago, fa'apea fo'i ma fa'afitauli i le talafatai.

Mo le tali atu i le talosaga a le Malo o Amerika Samoa ma le fa'amalamalamaga mulimuli o le fa'atatauina o le malosi o galuega fa'a-le-malo i Amerika Samoa, o le Vaega o Inisinia i le itumalo o Honolulu na su'esu'eina pe mafai ona auai o le Malo Tele o le Unaite Setete mo le fausia o se taulaga i Ofu. Ona o se fautuaga o le ripoti auili'ili na fa'auma ia lanuari 1973 i lalo o le pulega a le Vaega 107 o le Tulafono o Vaitafe ma Taulaga i le 1960. ua toe suia, o le taulaga ua uma ona fausia i le itu i sisifo o le motu. O mea ua mae'a ona fuafuaina o le a i ai e 130 futu le lautele, ae 190 futu le umi, 12 i le 18 futu le loloto o le mea e ui atu ai; 250 futu le lautele,300 futu le umi, 16 futu le loloto o le mea e liliu ai; ma e 3 eka le itu i tua e puipuia i le 1,660 futu i le pa ma'a.

TA'U HARBOR

Transportation to and from Ta'u, the third island of the Manu'a group, is presently accomplished primarily over water. Although construction of a grass-surface landing strip by private interests in July 1973 has enabled initiation of air service between Ta'u and Tutuila, the landing strip can only accommodate light aircraft. Consequently, air service primarily consists of the transport of passengers between the two islands. Cargo is generally limited to items carried aboard by the passengers. The residents of Ta'u therefore still rely heavily on the existing interisland water transportation system for transport of bulk cargo and for traveling to the other islands of the territory.

TAULAGA O TAŪ

O femalagaina i le alu ma le sau mai Taū, o le motu lona tolu o le Itumalo o Manu'a, ua mae'a ona fuafuaina muamua i luga o le sami. E ui lava ina ua fausia se male va'alele i luga o se laufanua ona o le fiafia o tagata ta'ito'atasi ia lulai 1973 na mafai ona faia o femalagaina i le ea i le va o Taū ma Tutuila, ma o lea malae va'alele, e fa'aaogaina ai na'o vaalele laiti. E tusa ai, o malaga i luga o le va'alele ua fuafuaina e na o le fela'uaina o tagata i le va o motu e lua. O uta e matuã fuaina fa'atatau i mea e aveina e le pasese i luga o le vaalele. O le mea lea o tagata Taū e matuã fa'alagolago tele i le fa'aauauina o le faiga o ala o femalagaina i luga o le sami mo le fela'uaina o uta tetele ma le feoaiga i isi motu o le teritori.



Aerial view of the Ta'u Harbor site (arrow) which is about 5,000 feet south of Ta'u Village.

The problems surrounding the existing water transportation system serving the island of Ta'u are identical to those at Ofu and Olosega in that the interisland vessels cannot moor along the shoreline. Therefore, longboats are used to transfer passengers and cargo to and from the vessels anchored offshore.

In response to a request from the Government of American Samoa and under the authority of Section 107 of the River and Harbor Act of 1960, as amended, the Corps investigated the feasibility of constructing a harbor on the island of Ta'u. The detailed project report completed in June 1974 recommended Federal participation in the construction of a harbor at Fusi on the west coast of the island. Plans and specifications for construction of this facility which consists of an entrance channel, turning basin, breakwater, groin, and protective revetment for the backup area and the existing shoreline have been completed. Advertisement of the project for bids has been deferred pending receipt of the Government of American Samoa's share of the project costs.

POLOA SHORE PROTECTION

The village of Poloa lies on a narrow coastal plain on the western tip of Tutuila, about 9 miles west of Pago Pago. The village is composed of wood-frame houses and "fales", the traditional Samoan dwelling. A new school consisting of a modern air-conditioned concrete structure occupies the shoreline about 700 feet south of the village. The school serves the village of Poloa as well as several neighboring villages, and has an enrollment of about 160 students in grades 1 through 8.

Because flat land suitable for development is at a premium in the Poloa area, the school was constructed close to the shoreline. A rubblemound revetment was constructed about 50 feet seaward of the school to protect it from damaging storm waves. The revetment provides adequate protection from minor storms, but is ineffective against major storms and hurricanes. The erosion caused by Hurricane Eleanor in January 1973 has exposed the foundation of the school building to undermining. If another hurricane occurs before the eroded area is restored, the school's concrete slab foundation would be undermined, resulting in serious damage to the building. O le fa'afitauli o lo'o i ai nei i le faiga o galuega o ala o femalagaina i Taū e tutusa ma fa'afitauli i Ofu ma Olosega o le mea lea e le mafai ai e va'a ona tau i le laina tuaoi. O le mea fo'i lea e fa'aaogā ai fautasi e fela'ua'i ai pasese ma uta i le alu ma le sau a le va'a e taula i tuāau.

I le tali atu i le talosaga mai a le Malo o Amerika Samoa i lalo o le pulega o le Vaega 107 o le Tulafono i Vaitafe ma Taulaga o le 1960, ua toe suia, o le Vaega o Inisinia ua toe su'esu'eina pe mafai ona fausia le Taulaga i le motu o Taū. O le lipoti auili'ili o lea fuafuaga na mae'a ia luni 1974 fautuaina ai le Malo o le Unaite Setete ina ia auai i le faiga o le Taulaga i Fusi i le itu i Sisifo o le motu. Fuafuaga ma faiga o le fauina o lea mea e aofia ai le ala e alu ai i totonu, o se mea e liliu ai va'a, taligalu, feso'otaiga ma se pa ma'a e puipuia ai le itu i tua ma le laina tuaoi o lo'o i ai nei ua mae'a.

O le fa'alauiloaina o lea galuega mo tauofoga ua fa'aletonu taluai o le lē lava o le tupe fa'asoasoa a le Malo o Amerika Samoa mo le tau o ia galuega.

PUIPUIGA O LE GATAIFALE I POLOA

O le nu'u o Poloa o lo'o taoto i luga o se laufanua vaapiapi i gataifale o le fa'atausi'usi'uga i le itu i sisifo o Tutuila, e tusa o le 9 maila i sasa'e o Pago Pago. O le nu'u o lo'o i ai fale e fau i laupapa (fale papalagi) ma fale Samoa, o le aganu'u fa'asamoa moni. O se aoga fou o lo'o i ai le masini ea malūlū e fauina i simā ua fa'atuina i tafatafa o le laina tuaoi e tusa o le 700 futu i le itu i saute o le nu'u. O le aoga o lo'o tautuaina le nu'u o Poloa atoa fo'i ma isi nu'u tuaoi, ma o le aofaiga o le aoga e tusa e 160 tamaiti a'oga mai i le vasega muamua (1) e o'o i le vasega valu (8).

Taluai o le laueleele laugatasi e talafeagai mo le faalauteleina o se fanua i le laueleele o Poloa, o le faleaoga na fauina latalata i le laina tuaoi ma le sami. O le pa ma'a'ano'ano na fausia e tusa o le 50 futu i le itu i tai o le falea'oga e puipuia ai le falea'oga mai i le fa'aleagaina i galu. O le pa ma'a ua lava ona sauniunia mo le puipuiga mai i nai matagi laiti, ae le aogā i matagi malolosi ma afā. O āia na mafua ona o le Afā Elenoa ia lanuari 1973 ua fa'aleagaina ai le fa'avae o le falea'oga ma fetineia'i ai. Afai e agi se isi matagi ae le'i toe fa'afouina le vaega o le falea'oga na āia, o le fa'avae o le a fetineia'i, ma i'u ina matuā fa'aleagaina ai ma le falea'oga.



Erosion has washed away the area behind the rock revetment and threatens to undermine the foundation of Poloa School.

Because the Government of American Samoa does not have the resources to provide adequate protection, it requested the Corps' assistance in providing a permanent solution to the shore erosion problem at Poloa School. In response to the Governor of American Samoa's request dated 4 January 1973, the Corps investigated the erosion problem under the authority of Section 103a of the River and Harbor Act of 1962, as amended. The Chief of Engineers has approved the plan recommended in the detailed project report which was completed in April 1974, and plans and specifications for construction of the shore protection project are being prepared. The approved plan provides for construction of about 490 feet of rock revetment. The revetment would extend about 355 feet along the shoreline fronting the school and would tie into the high ground at each end. The top of the revetment would extend above the existing ground. The area behind the revetment would therefore be filled and graded.

Taluai ona o le Malo o Amerika Samoa e le'i maua ni ala e saunia ai ni puipuiga tatau, o le mea lea ua talosagaina ai le fesoasoani a le Vaega o Inisinia mo le saunia o ni faiga maumautūtū mo le fa'afitauli i le aia o le matafaga i le falea'oga o Poloa. I le tali atu i le talosaga a le Kovana Sili o Amerika Samoa i le aso 4 o Iulai 1973, o le Vaega o Inisinia na ta'ita'ia le su'esu'ega o lea fa'afitauli o āia i lalo o le pulega o le Vaega 103a o le Tulafono o Vaitafe ma Taulaga i le tausaga e 1962, ua toe suia. O le pule sili o Inisinia ua fa'amaonia le fautuaga o lea galuega, i se ripoti auili'ili sa fa'amae'aina ia Aperila 1974, fa'apea fo'i fuafuaga mo le fauina o se puipui i le matafaga ua uma ona saunia. O lea fuafuaga ua fa'amaonia mo le fauina o se pa ma'a e tusa o le 490 futu. O lea pa o le a fa'atelēina e tusa o le 355 futu aga'i i le laina o le talafatai i luma o le falea'oga ma o le a tau pito e lua i se laueleele maualuga. O luga o le pa ma'a o le a fa'atelēina i luga a'e o se laufanua o lo'o i ai nei. O le laufanua i tua o le pa ma'a o le a fa'atumu ma fa'alauleleia.

AOA, AFONO, AND VATIA

The villages of Aoa, Afono, and Vatia are on the northeast shore of the island of Tutuila. The steep mountainous terrain characteristic of the north coast separates the villages along this coast from other neighboring villages and from Pago Pago, the urban center of the territory. The villages are relatively isolated. A narrow unpaved road links Aoa with the neighboring villages. Access to Vatia and Afono was by trail until recently when the Government of American Samoa completed construction of access roads to these villages.

The three villages lie on narrow coastal plains and are comprised of wood frame houses and fales. The Government of American Samoa has constructed a school at each of these villages. The modern structures of the school are situated close to the shoreline primarily because of the lack of moderately flat lands suitable for school sites. A revetment has been constructed along the shore fronting each of the schools to protect them from storm waves and erosion. The structures have been effective during minor storms, but were ineffective during the January 1973 hurricane. In addition to damaging the revetments, the storm waves severely eroded the shoreline fronting the schools. As a result, the school buildings are vulnerable to severe damage from future tropical storms and hurricanes.

The Government of American Samoa made emergency repairs following the hurricane, but does not have the resources to provide more permanent and effective protection. It therefore requested the Corps' assistance in protecting the shoreline fronting the schools, thereby preventing damage to the school buildings and interruption of classroom instruction.

Under the authority of Section 103a of the River and Harbor Act of 1962, as amended, the Corps is investigating the shoreline erosion problem fronting the schools at Aoa, Afono, and Vatia. A detailed project report is nearing completion and will be forwarded to the Office of the Chief of Engineers for review and approval in the near future. The report will recommend Federal participation in the construction of revetments to protect the three schools. O nu'u o Aoa, Afono, ma Vatia o lo'o i le itu i matū sasa'e o le motu o Tutuila. O mauga maualuluga fa'afa'asitepu o uiga iloa ia o lo'o tu'u-ese ai nu'u ia i lenei talafatai mai isi nu'u tuāoi, atoa ma Pago Pago, o le nofoaga ogātotonu o le teritori. O nu'u e foliga tutusa lo latou va. O se auala vaiti ma le lē fa'ataina e soso'o ai Aoa ma isi nu'u tuāoi. O le sao atu i Vatia ma Afono sa uia lea i se ala sopo, seia o'o lata mai nei lava, ina ua mae'a ona fausia e le Malō o Samoa Amerika auala e sao atu ai i nei nu'u.

O n'u ia e tolu e ta'atitia i luga o le salafa vaiti latalata i le sami, ma e iai fale papalagi fausia i laupapa atoa ma fale samoa. Ua fa'atuina e le Malō o Samoa Amerika a'oga i nu'u ta'itasi. O fale-fa'aonapo nei ua fausia latalata i le matafaga ona o le tau leai o ni lau'ele'ele laugatasi talafeagai mo nofoaga o a'oga. Ua fausia fo'i ni pa ma'a e puipuia ai a'oga ta'itasi mai galu afā ma le 'aia. E le'i afaina fale i matagi laiti, ae na afaina i le afā ia lanuari i le 1973. E le gata i le fa'aleagaina o pa ma'a, na 'aia leaga lava e galu lumā-fale o a'oga. O le uiga la, o falea'oga ua fa'aagaaga mo fa'atama'iaga mai matagi ma afā o le teropika i aso o muamua.

Sa faia e le Malō o Samoa Amerika ni galuega o le toe fa'afouina fa'anatinati ina ua uma le afā, 'ae le'i iai le alagā'oa e fausia ai ni puipuiga tumau ma le lelei. O le ala lenā na latou talosagaina ai le Vaega o Inisinia mo lo latou fesoasoani i le puipuiga o lumā-fale o a'oga, e puipuia ai le fa'aleagaina o falea'oga atoa ma le fa'alavelave i a'oga.

I lalo o le malosi'aga o le Vaega 103a o le Tulafono o Vaitafe ma Taulaga, o le 1962, e pei ona suia, o lo'o su'esu'eina e le Vaega o Inisinia le fa'afitauli lea o le 'aia o matafaga i lumā-fale o falea'oga i Aoa, Afono ma Vatia. O se molimau au'ili'ili o lea fuafuaga ua latalata nei ona fa'amae'a, ona momoli atu lea i le Ofisa o le Pule Sili o Inisinia mo le iloiloina ma fa'amaonia i se taimi o muamua. O le molimau lea e fa'atauanau ai le fa'atasi mai o le Malō tele o Amerika i le fausia o pa e puipuia ai a'oga e tolu.

PAGO PAGO TO NUUULI SHORE PROTECTION

The topography of the island of Tutuila is characterized by steep mountain slopes and cliffs which alternate with narrow coastal plains along its irregular shores. Because of the rugged terrain, villages are concentrated in available level areas scattered throughout the island, particularly along the narrow coastal plains between the steep slopes which extend to the shoreline. A number of these villages dot the south shore of Tutuila and are connected with each other and with the urban center at Pago Pago by a single two-lane paved road. Between Pago Pago Bay and Oti Point near the village of Nuuuli, the road follows the coastline and is exposed to the open sea and to erosion from storm waves. The Government of American Samoa has constructed a revetment or dumped rock along several sections of the road that have been threatened by erosion. Other unprotected

PUIPUIGA O LE TALAFATAI MAI PAGO PAGO I NU'UULI

O foliga va'aia o le motu o Tutuila, e atagia mai i mauga tu sa'o ma tofe i le fesuisuia'i fa'atasi ma laufanua laugatasi vaiti i gataifale fa'asolo atu i le pi'opi'o o le talafatai. Ona o le gaoa o le laufanua, o nu'u ua lotolotoi i nofoaga laugatasi salalau solo o le motu, 'ae maise lava le fa'asolo atu i fanua laugatasi vaiti ile va o mea maupu'epu'e e o'o atu lava i le matasami. O nisi o nei nu'u tutusolo i le talafatai i saute o Tutuila ma ua latou feso'ota'i fa'atasi ma le totonugalemū o fefa'ataua'iga i Pago Pago i se auala ta itu-lua. I le va o le fagaloa i Pago Pago ma le Mataoso Oti latalata i le nu'u o Nu'uuli, e mulimuli le auala i le laina o le talafatai ma e saogofie i le ta'alaelae o le sami atoa ma le 'aia i galuafā. Ua fausia e le Malo o Samoa Amerika ni pa ma'a po'o ua la'uma'aina isi vaega o le auala ua tau afaina i le 'aia. O isi vaega o lo'o aunoa ma ni



Shoreline erosion between Pago Pago and Nuuuli threatens utility lines as well as the only highway through this area.

areas are also experiencing erosion which, if left unchecked, could severely damage the road.

Severe storms and the January 1973 hurricane damaged some of the improved sections by undermining the toe and cracking the grouted concrete riprap revetment. In addition, some of the areas behind the dumped rock protection eroded through the rock because of the lack of an underlayer, and have reduced the effectiveness of the dumped rock protection.

Because the road is the only overland link between the villages and Pago Pago, the threat of damage from shoreline erosion is of serious concern to the Government of American Samoa. Closure of the road for any reason would have serious impacts on the socioeconomic welfare of the residents of the villages along the south shore west of Pago Pago. Without the road, they would have to rely on ocean transportation to move goods to and from Pago Pago.

In response to the Government of American Samoa's request and under the authority of Section 103a of the River and Harbor Act of 1962, as amended, the Corps is investigating the feasibility of Federal participation in improvements to protect the shoreline between Pago Pago and Nuuuli. Alternative solutions are being developed, and will be discussed at a public meeting in mid-1975 prior to selection of a recommended plan.

AUNU'U HARBOR

The island of Aunu'u lies a mile off of the southeastern tip of Tutuila. It is elliptical in shape and consists of a volcanic tuff cone on the eastern half and a saucer-shaped marshy lowland on the western half. The island's population of about 500 Samoans is concentrated in the village of Aunu'u on the west coast. The village consists of about 75 homes varying from traditional Samoan "fales" to western style homes. Communication is primarily by word of mouth except for radio communication between Government of American Samoa agencies. Electrical power is obtained from Tutuila through an underwater cable. There are no roads or harbors on the island. Walking is the only means of overland transportation. Interisland transportation is accomplished over water since there is no area suitable for development of a landing strip.

puipuiga, o lo'o va'aia fo'i le 'aia, ae afai o le a tu'ulafoa'i, o le a mafai ona matuā fa'aleagaina ai le auala.

O matagi malolosi ma le afã o lanuari i le 1973, sa fa'aleagaina ai ni vaega ua fa'aleleia, ina ua āva le to'ele ma mavaevae ai pa ma'a ua fa'amolemoleina. I se fa'aopoopoga, o nisi vaega i tua o la'uga ma'a ua 'aia ona o le leai o se tanu ua ala ona fa'aiti'itia le lelei o le tanu ma'a mo le puipuiga.

Ona o le pau lava lea o le auala e feso'ota'i ai nu'u ma Pago Pago o le fa'afefe i le fa'aleaga mai i le 'aia mai tai ua avea lea ma fa'afitauli mata'utia i le Malō o Samoa Amerika. O le tapunia o le auala ona o ni tulaga fa'apea o le a afaina ai le tamāoaiga o tagatanu'u o alalafaga fa'asolo atu i le talafatai i saute, sisifo o Pago Pago. Ana leai le auala o le a latou fa'alagolago lava i femalagaina i luga o le sami mo le fe'avea'ina atu o oloa i Pago Pago ma toe fo'i mai.

O le tali atu i le mana'oga o le Malō o Samoa Amerika i lalo o le malosi'aga o le vaega 103a, i le Tulafono tau Vaitafe ma le Taulaga o le 1962, e pei ona suia, o le Vaega o Inisinia o lo'o su'esu'eina nei ni aiaiga tatau ina ia fa'atasi mai ai le Malō tele i le fa'aleleiga o le puipuiga o le apitagalu i le va o Pago Pago ma Nu'uuli. O nisi auala o lo'o fuafuaina nei, ma o le a talaoaina i se fono-aofia a le lautele i le ogātotonu o le 1975 a'o le'i filifiliaina se ata fa'atauanau.

TAULAGA O AUNU'U

O le motu o Aunu'u e ta'oto i le si'u sautesasa'e o Tutuila e tusa o se maila. E fa'asalafa ona foliga ma e iai le mauga mu i le 'afa i sasa'e ma se laufanua maulalo fa'ataufusi i le itu i sisifo. E a ma le 500 Samoa e nonofo i le nu'u o Aunu'u i le talafatai i sisifo. O le nu'u e iai fale e a ma le 75, o fale Samoa ma fale fa'a-Europa. O feso'ota'iga e tu'u gutu vaganā ai feso'ota'iga i le leitiō i le va o sui o le Malō o Amerika Samoa. O le malosi fa'a-eletise e maua mai Tutuila i se uaea i lalo o le sami. E leai ni auala po'o ni taulaga i le motu. O le savali lava le auala o feuia'iga i le va o nu'u e faia i luga o le sami ona e leai se laufanua e fa'aagaaga mo le faia o se malae va'alele.



Construction of a harbor at the tip of Aunu'u island on the right would benefit islanders who commute daily by longboat to work and school on the opposite shores of Tutuila.

Travel between Aunu'u and Tutuila is accomplished primarily by native longboats. Approximately 150 of the 500 Samoans on the island commute daily by longboat to work and school on Tutuila. Government and commercial vessels provide transportation between Pago Pago and Aunu'u. However, these vessels must anchor outside the reef because of the lack of a harbor. Therefore, like at Ofu and Ta'u, cargo and passengers must be transferred to longboats for the trip to and from the vessels.

Under the authority of Section 107 of the River and Harbor Act of 1960, as amended, and in response to a request from the Government of American Samoa, the Corps is conducting a detailed study of the navigation problem at Aunu'u. Alternative harbor sites have been investigated and alternative plans for the selected site are being developed. These plans will be discussed at a public meeting on Aunu'u in mid-1975. Selection of a plan to be recommended for implementation will be based on evaluation of engineering, environmental and socioeconomic factors and on the comments received during the public meeting as well as from coordination of the study results and environmental impact statement with Federal and Government of American Samoa agencies.

O femalaga'iga i le va o Aunu'u ma Tutuila e faia i tulula. E a ma le 150 o le 500 Samoa o le motu e malaga mai i Tutuila mo galuega ma a'oga i aso ta'itasi i tulula. E faia fo'i e va'a o le malo ma va'a la'u pasese femalaga'iga i le va o Pago Pago ma Aunu'u. Ae peita'i o nei va'a e tatau ona tu'utaula i tua o le â'au ona o le leai o se âva. O le mea lea, e pei ai o Ta'ū ma Ofu, o oloa ma pasese e la'uina i tulula mo le 'ave'eseina atu ma le aumaia i le va'a.

I lalo o le malosi'aga o le aaega 107 o le Tulafono tau Vaitafe ma Taulaga i le 1960, e pei ona suia, ma le tali atu i se mana'oga o le Malo o Samoa Amerika, o le Vaega o Inisinia o lo'o faia se fuafuaga au'ili'ili mo le fa'afitauli e tusa ai ma femalagaina i Aunu'u. O nisi fuafuaga mo ni tulaga o taulaga ua mae'a ona su'esu'eina ma o isi fo'i fuafuaga iloiloina o le tulaga o lo'o faia nei. O ia fuafuaga o le a talanoaina i se fonotaga lautele mo Aunu'u i le ogātotonu o le 1975. O le filifilia o se fuafuaga e fa'atagisia ai le fa'aaogaina, o le a tu'u atu i le fa'atatau fa'a-inisinia, manuia lautele atoa fo'i ma tala aogā o le fono lautele atoa fo'i ma le tu'u fa'atasiga o i'uga o su'esu'ega ma tala o nofoaga ma sui o le Malo Tele ma Vaega a le Malo o Samoa Amerika.

HARBORS AND RIVERS IN AMERICAN SAMOA

Through Section 106 of the River and Harbor Act of 1970, Congress authorized the Corps of Engineers to conduct a survey study of the harbors and rivers in American Samoa. The objectives of this study are to identify the territory's needs in the areas of navigation, flood control, and other related water resources development, to develop alternative solutions to meet these needs, and to determine the extent to which the Federal Government could participate in the implementation of the recommended solutions. Although authorized, no funds have been made available for initiation of this study.

OTHER

In response to requests from the Government of American Samoa, the Corps has completed reconnaissance investigations of shoreline erosion problems between Leone and Amanave, Trading Point and Breakers Point, and at Coconut Point, and of flood problems on Pago and Vaipito Streams on the island of Tutuila. The reconnaissance reports concluded that Federal participation in improvements to solve the water resource problems at each of these areas appears feasible and recommended further investigation of the problems. Detailed studies of the problems will be made upon receipt of study funds.

TAULAGA MA VAITAFE I AMERIKA SAMOA

I le Vaega 106 o le Tulafono o Vaitafe ma Taulaga o le 1970, ua tu'uina atu ai e le Fono i le Vaega o Inisinia e ta'ita'ia le su'esu'ega o taulaga ma vaitafe i Samoa Amerika. O le autu o nei su'esu'ega o le va'aia lea o mea e mana'omia mo folauga i le teritori, pulea o lologa, ma isi taualumaga mo alagāvai ma se auala e fa'alauteleina ai ia mana'oga, ma fuafuaina ai le tau e mafai ai e le Malō Tele o le Unaite Setete ona auai i le fa'aaogaina o auala e pei ona fautuaina. E ui lava ina ua fa'atagaina, ae leai se fa'aputugatupe ua fa'aavanoaina mo ia su'esu'ega amata.

ISI

O le tali atu i le talosaga mai i le Malō o Samoa Amerika, o le Vaega o Inisinia ua mae'a ona iloiloina muamua fa'afitauli i leāiā o apitagalu i le va o Leone ma Amanave, Tolotolo o Fefataua'iga, Matāutuloa, Tolotolo i Mulinu'u, ma fa'afitauli o lologa i Pago Pago ma le vaitafe o Vaipito i le motu o Tutuila. O le ripoti muamua na fa'ai'uina lea i le auai o le Malō Tele i le fofoina o ia fa'afitauli i mea tau alagāvai e pei ona aliali mai ma isi su'esu'ega e pei ona fautuaina mo ia fa'afitauli. O su'esu'ega au'ili'ili o nei fa'afitauli o se galuega laitiiti i lalo o le pule a le Vaega o Inisinia o leā faia i luga o tupe maua mai fa'aputugatupe.