

MARSHALLS HUMAN DEVELOPMENT PROJECT:

A CURRENT REPORT

May, 1976

Institute of Cultural Affairs
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The Institute of Cultural Affairs respectfully submits the following report on the Marshallese Human Development Project, which is designed for the socio-economic development on the local level for all the peoples of the Trust Territory of the Pacific Islands. The Marshall Islands, one of six districts of the Trust Territory, in September of 1974, stood in critical need of social and economic redevelopment. Economically, the Islands struggled under a nine to one import-export deficit ratio, and under a deficit of skills crucial for effective economy management. Socially, they suffered under inadequate structures in such areas as health, education, training, housing, transportation; and in response to this need the comprehensive program of the project was initiated under the consultative guidance of the Institute of Cultural Affairs in Chicago.

At the end of eighteen months, noticeable shifts had taken place. The outstanding one was the extension of the focus of the program from the starting point in Majuro, the District Center, to all the other atolls in the chain. The second was the shift from the economic development, which was the most urgent area, to the inclusion of the social development as well. The third was the increased pace in the momentum of the people, and the shocking amount of effort that is being expended in developing the Marshalls that is quite independent of the direct thrust of the MHDP. The last aspect is related to the business operations. Twenty local retail merchants formed a corporation to provide corporate buying power and act on the programs. TASC (Trans Atoll Service Corporation) has now expanded to twenty-seven member merchants and to the outlying atolls of the islands. There are six small industries presently underway with plans for twenty four within the next two years. In the businesses as well as the other programs, there is a new kind of already engaged leadership, who, though particularly engaged and particularly skilled, grasp themselves as part of an informal body of people moving together toward the comprehensive development of the islands.

The anticipated results of the MHDP have to do not only with the Marshallese people themselves, but with our total nation, as Trustee of Micronesia. On the local scene, the project will reverse the trend toward economic dependence and social stagnation by providing local citizens with the practical means of participating in the creation of their own social environment. The project revolves around the practical training of the local leadership within a span of four years to do precisely this. Second, the MHDP, built on the principle of replicability, will serve as a pilot project relative to the other districts of the Trust Territory as well as supplying useful methodologies for community development efforts anywhere in the nation or beyond. Lastly, by 1980, the MHDP can possibly be a Trust Territory "show piece" in local social and economic development to the benefit of our nation relevant to our present trusteeship and to the future relations of Micronesia to the United States of America

A DECLARATION OF INTER DEPENDENCE

The undersigned citizens of the Marshall Islands, acting as representatives of the people of our island nation, hereby affirm that we will work for the overall betterment of our islands and people. This will be done through the Comprehensive Human Development Plan in coordination with other development institutions and activities. This insures both the social betterment and the economic advancement of all the islands.

Representing each urban center and every island and atoll of the Marshalls, we combine to support the Plan through our catalytic involvement:

We will work - to foster cooperation and coordination between the private and governmental sectors for social and economic development;

We will work - to serve as liaison between the efforts of the Territorial, District, Nitijela and Municipal Offices and the agencies of the United Nations; and

We will work - to create the common mind of the whole community in realizing the vision of the new society.

We hereby promise together that these renewed Islands shall be a sign and service for all island people of the Trust Territory and the world.

PROJECT FUNDING FLOW CHART
toward local self-sufficiency

years		year one	year two	year three	year four	Four Year Totals
sources		launching	expanding	resolving	rendering	
I Special Federal Grants		\$1,826,785	\$ 913,392	\$ 446,696	\$ --0--	\$3,186,873
II Local Support Monies	I Private Participation	1,374,180	621,000	400,000	200,000	2,595,180
	II Local Support	114,660	125,608	135,304	145,000	520,572
	III Program Income	665,780	456,370	309,570	225,000	1,656,720
TOTAL		2,154,405	1,202,978	844,874	570,000	4,772,472
GRAND TOTAL		3,981,405	2,116,370	1,291,570	570,000	7,959,345

The economic development schemes of the MHDP are designed so that their profits are reinvested in the local community. This allows for a phased withdrawal of federal monies during the four year life of the project.

ARENA	PROGRAM NAME	BASIC OBJECTIVE	ORIGINAL SITUATION
E D U C A T I O N	MARSHALLS TRAINING CORPS I	To train Marshallese youth in basic and vocational skills	Today there are 60 elementary schools and 5 high schools on all the atolls. Lack of skill, limited high school opportunities, and many drop outs from the schools--coupled with the acceleration of economic development is requiring more skilled people, and indicates the need for alternative youth training programs.
	ALL ISLAND PRESCHOOL II	To provide early learning experiences for all 3-5 year old children on each atoll.	Of the 26 inhabited islands, only three have early learning structures. Ebeye has a kindergarten sponsored by the Nitijela; Arno has 3 Head Start Centers. Majuro has 2 Head Start Centers and a Marshall Islands Preschooling Institute.
	INCLUSIVE APPRENTICESHIP PROGRAM III	To train 1000 members of the adult segment in marketable skills.	There is a critical lack of skilled laborers, technicians, trained office workers, and effective business managers. A recent survey revealed that there are 203 TV sets, autos, and boats on Majuro that go unrepaired because of the lack of simple maintenance care.
	ADULT EDUCATION PROGRAM IV	To introduce 1000 adults to basic literacy and useful skills.	No program of basic technical and mechanical skills training is locally available. Even those limited outside opportunities are out of reach and unrelated to 60% majority on the outer islands. The residents are faced with the obliteration of memory in the ancient Marshallese heritage.
S E R V I C E S	CREDIT BASE DESIGN V	To extend the credit power to hold capital in the community, circulated 9 times before leaving.	There is difficulty obtaining bank loans from the single bank as current assets or government loans provide the only kind of collateral that is acceptable. Undeveloped merchandising methods and limited retail credit stall the distribution chain at the retail store level.
	DISTRICT CARE STRUCTURES	To create on each inhabited atoll a cadre of volunteers who will be responsible for community care.	Effective planning, acting and assisting at the local level apparently has been limited to occasional acts of cleaning public spaces and individual acts of assistance. Local groups continue to provide particular services, but these are not comprehensive enough.

MARSHALLS HUMAN DEVELOPMENT PROJECT
STATUS REPORT FOR EIGHTEEN MONTHS

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INTRODUCTION

The Marshall Islands ~~are~~ located north of the equator in the heart of the Western Pacific and occupy one million square miles of ocean, ~~approximately half-way between Japan and Australia.~~ The Marshalls Human Development Project is a comprehensive effort that involves both the social and economic advancement of the islands. It was conceived in collaboration with territorial and federal government officials. Local leaders and citizens who provided the substance of the project design intend to significantly upgrade the island's economy; to provide the functional structures for practical training and social participation in development efforts; and to transpose their ancient heritage into forms relevant to the challenges of the Twentieth Century. The MHDP is seen as a pilot program which can be replicated in other districts of the Trust Territory and can stand as a demonstration of useful methods for the development of other communities in critical need across the world.

As a part of its comprehensive plan, the MHDP organizes the arenas of action for the development of the project into programs, called "Actuating Programs".

The programs of the MHDP shown on the following plate are sixteen in number. Eight of these have to do with the social well-being of the community. The intent of these programs is to unify, organize and equip the community for self-dependence. Four of the eight relate to community education and four relate to social development. The other group of eight programs relates to the economic being of the community. The aim of these programs is to expand viable local industry and develop supporting resources and services. The first group of economic programs is concerned with developing business and maintenance services. The second group deals with the development of light industries. The third group focuses on resource development embracing new directions for both agriculture and mariculture.

Following the plate is an interim status report on the sixteen programs being actuated as a part of the Marshalls Human Development Project.

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I. MARSHALLS TRAINING CORPS

Marshalls Consult I recommended that the Marshalls Training Corps be formed of Marshallese youth who would travel throughout the Marshalls on a ship fitted for their training purposes, stopping at islands to help harvest and plant copra and other crops. The Corps would focus on a shipboard training academy, a foundational education program, an elders teaching guild, and practical island skills. The Corps is currently in a holding pattern pending funding now being considered in the U.S. Congress. A suitable ship, the "Phoenix," has been located at Bremerton Shipyard in Seattle, Washington. In August, 1975, a Marshallese delegation, under the auspices of Congressman Lloyd Meeds, toured the ship. It seems that the process of obtaining the ship may take some time. On the other hand, the need to begin this program is intensifying with the demand for movement between the islands and the development of the youth. Therefore, the Marshalls Training Corps will be launched immediately. The first step following the consult is securing, as quickly as possible, the "Phoenix" or a suitable substitute. While this work is underway, the program will be initiated using the present field trip service or the projected ferry service as a means of transport for the Corps.

II. ALL ISLAND PRE-SCHOOL

To date nine local women have been trained in the Pre-school through a two-week training session and continuous on-the-job training. Head Start, with the Institute of Cultural Affairs Consultants, sponsored a two-week Early Education Conference in July, 1975, in which 130 participants from 12 atolls took part. The Pre-school teachers participated in the total Marshalls Human Development Project through the Island Survey trip, Consult II and the Marshall Islands Business School classes. Both Head Start and the Pre-School have formed Parent Teacher Associations and elected boards or committees to advise their activities and direction. Parents have created the playground space, built slides, see-saws, and painted the walls. Local businesses have donated all the paint and lumber for these workdays and for Pre-school tables and benches. The Pre-school began in Uliga in October, 1974 with one master teacher, four trainees and 50 children aged 3,4, and 5 years. In January, the enrollment rose to 100 with double sessions and three more trainees joined the staff. One teacher and six trainees ran the summer program and one more teacher was added in September, 1975, when the Pre-school expanded to Rita.

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III. INCLUSIVE APPRENTICESHIP PROGRAM

The apprenticeship structure has functioned in supplying the Uliga Pre-school, the Multi-purpose Repair Center and the Laura Land Farm with young workers eager to take on the role of apprentice. With the effort to make the Repair Center self-supporting, instruction has emphasized on-the-job training. Of the Comprehensive Educational Training Act (CETA) employees who have worked in the shop, one has progressed from an intermediate to an advanced mechanic and is now learning managerial functions; one who came trained in mechanics learned refrigeration, became a shop foreman and has since received a scholarship to support more formal training in electronics; two are performing more basic functions in the shop. Teaching apprentices at the Uliga Pre-school have received, over the past year, one half day a week of training in curriculum building and teaching methods. Over the twelve months of the project, four Marshallese women have been trained to manage a class by themselves and two more teach with support of a master teacher. Manuals for secretarial services, business administration, and functional English programs are in process. During its first three months of operation, the Laura Land Farm has begun to train a group of men in methods of scientific farming. Apprentices are also being trained in commercial fishing and construction work.

IV. ADULT EDUCATION PROGRAM

The introduction of TV in Majuro and the continuation of English language classes in the public and business schools have been instrumental in providing education for the residents. The Island Survey Trip used the method of the community forum or "town meeting" to introduce the Marshalls Human Development Program to the people of the outer islands. A curriculum for completing the requirements for a high school diploma has been developed, and is being taught for the second year by the ICA staff. The curriculum introduces adults to college level literacy skills and the practical methods essential for twentieth century living. It is designed to prepare serious adults for effective engagement in society.

V. MULTI-PURPOSE REPAIR CENTER

The Multi-Purpose Repair Center was established operationally in January, 1975, with the arrival of the KITCO (Kwajalein Import and Trading Company) refrigeration unit. KITCO made available its abandoned repair garage for the Center. The garage was refurbished, miscellaneous tools and equipment were gathered to initiate the program. Ten CETA (Comprehensive Employment Training Act) trainees were employed in April.

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The ICA provided a master machinist, an electrician, and a refrigeration consultant. An operational agreement made with KITCO made the Repair Center an operating division of the company. Diagnostic and testing equipment arrived in December and January, through an EDLF (Economic Development Loan Fund) of \$5,000. KITCO has invested in concrete floors, roofing, office facilities, equipment, spare parts, tools and payroll. The Repair Center serviced the Toyota dealership for KITCO as well as KITCO's Evinrude dealership. The grand opening was held on January 19, 1976. With the arrival of a business manager, needed tools and equipment, and a spare parts inventory, the Repair Center is now capable of comprehensive repair service. The Repair Center serves as one of the locales for the apprenticeship program, mentioned previously in this report. Several who are enrolled as apprentices have been trained to take leadership roles and are taking advanced courses in the Center.

VI. THE MAJURO BUSINESS CENTER

The first class, in secretarial skills, was held during November, 1974 with additional classes in bookkeeping, business English and typing started in January, 1975. Twenty students attended these evening and Saturday classes held at the Marshall Islands High School. KITCO received an audited, certified financial statement for this year end, and financial models were built for the coming year. The second quarter began with three rented IBM typewriters and donated office equipment next to the KITCO General Office with 30 students. The Center also prepared SBA (Small Business Association) loans for TASC, MIECO, ITSCO, and AWC. An audited, certified financial statement was published as of March, 1975, for TASC, and eleven additional balance sheets and income statements were published for all the then existing TASC companies. Twenty TASC member company financial statements were published as of June 30, 1975, and daily field visits were continued in order to update, revise, create and install accounting systems and procedures. The Center enrollment increased to 32 for the January to March session and 31 for the July to September session, 1975.

VII. SMALL INDUSTRY PROGRAM *

Over the past eighteen months since the initiation of the MHDP, 18 new industries, 62 new jobs with a payroll of \$125,000 have been established in the arenas of tourism, crafts, services, and manufacturing. The tourism industries that have been established are: Air Service, a new hotel, and a marina. The Alele Shop, a crafts industry, specializes in a high quality traditional Marshallese basket design. The service industries created are: Auto Rust Proofing, Reefer Storage, Auto and Marine Repair, Auto Body, Accounting and Bookkeeping, Secretarial Training and Cable Television. Small manufacturing companies that now exist are: Laura Land Farm, the Sewing Shop, Shark Fishing (Bako, Inc.) Island Fiberglass, and Cola

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Bottling Plant. In addition, three industries are under development: the Sawmill, Copra Processing, and the Iron Works. Financing of the Chippery, local food products, has been approved, and production begun. Recent additions to the small industry program are the intended establishment of an integrated wood industry including not only the sawmill but furniture, wallboard and charcoal products, and expansion of the metals industry to include an ironworks, machine shop and assembly plant in addition to the maintenance repair center.

VIII. COPRA LAGOON SYSTEM

The elements of the copra lagoon system include outer island stores, a lagoon boat fleet, a warehousing barge system, and field trip vessels. TASC is responsible for organizing and managing the system, training the personnel, and obtaining the vessels. TASC is now supplying trade goods to stockholding companies on ten of the fourteen islands of the central and southern field trip circuits to test economic feasibility and effectivity of service. These trips gave an indication of the potential volume, impact, and effect which the availability of lower cost goods to the TASC stores will have. Many attempts have been made to locate vessels, and leads still exist to obtain ships from the U.S. Government for use in the system. Increased production will be aided by the copra processing plant that MIDA (Marshall Island Development Association) will build in Majuro in December, 1976. This will also stimulate the search for new markets.

IX. OCEAN FISHING ENTERPRISE

The Ocean Fishing Enterprise is intended ultimately to become a company which can coordinate fishing, processing, and storage of fish. Beginning the week of March 3, 1975, a trained Marshallese fisherman and ten apprentices began shark fishing as a part of an interim plan. Contacts have been made in the Pacific and the East relative to the marketing of shark fins for an expanded use of this product. Until now, lack of adequate refrigeration facilities has been a key contradiction to the expansion of this industry by the Marshallese. Now, however, there is a 500 ton reefer plant at the new dock in Majuro currently under construction. Bako, Incorporated, began shark fishing operations in August, 1975, with a converted tug boat. This new company has the potential to supply meat to the local market, as well as exporting jaws, fins and hides to established markets in Honolulu and Japan. The present catching capacity does not yet meet the demand for exportable products. A 25-foot tuna fishing boat was acquired by the small industry program in October, 1975. It was overhauled, repaired, and is now ready for operation. Arrangements are being made with a local fisherman to use this boat in his already established three-boat, seven-man, tuna fishing enterprise. The consultative efforts of Dr. Eugene Buck resulted in new designs and methods for increasing the

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shark catch and netting methods to increase the catch of other varieties of saleable fish. All of these methods are still in the experimental stages.

X. COCONUT PROCESSING PLANT

Capital investment has been secured for the construction of a plant, under the auspices of the Marshall Islands Development Association (MIDA). Present plans call for this plant to be constructed in March of 1976, and to be in operation by December of 1976. The plant will hire 29 local residents to be employed with on-the-job training. It is planned that a manager work with three Marshallese people to train them quickly in operational techniques. In addition, a production capability study for Majuro held a site visit to Ponape to see a Wanger Plant in operation. Smaller in scope, a Wanger plant produces fresh oil for the local market which would be used for cooking, perfume, soap and cosmetic manufacture. Research is also in process to determine the feasibility of a local industry in the arena of the large amount of mill by-products that will be available. These could be in the area of feed for cattle, fowl and pigs; coconut fibre rope and/or charcoal.

XI. MARINE FARM DEMONSTRATION

The basic approach is to initiate small, low-capital investment projects designed to encourage the economic self-sufficiency of the Marshallese people and to re-distribute natural food resources. Practical progress in the arena of marine farming began in December, 1975, with the arrival of Dr. Eugene Buck from Anchorage, Alaska. The previous year's research began to take concrete form with the discovery in Majuro of what may be marketable Euchema seaweed. The world market for Euchema is \$600/ton. A site was located, and nets were set to begin test-growing methods. At the same time, samples were sent to Marine Colloids in the United States for testing. Other projects, such as the building of fish traps by MCAA (Marshalls Community Action Agency) and the construction of coconut crab traps, were commenced. These are yet in the experimental stage. Many other possibilities have come to light, such as the harvesting of sea urchin roe (eggs), primarily for export to Japan, and sea cucumbers, bait fish and spiny lobster. Methods were developed by Dr. Buck for these projects, but experienced supervision and management are not presently available in order to fully initiate the program.

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XII. DEMONSTRATION LAND FARM

The Laura Land Farm and Agriculture Station have both moved significantly to increase fresh produce. Toward the end of the year, the local markets had Chinese and head cabbage, ear corn, cucumbers, melons, taro, banana and breadfruit. There is a growing trend to reduce wholesale and retail costs of these foods. Little has been done to improve feed, and copra is still the main local feed product. The Laura Land Farm now has experimental plots growing new varieties of vegetables and some new tree crops. New agricultural methods are being introduced with concepts of row crops, composting and mulching and plowing. Further work needs to be done in livestock feed and care and development of new fruit, vegetables and feed crops. Steps are currently underway to establish a corporation farm capable of purchasing equipment, fertilizer, pesticides and seed needed for making a giant step forward in Marshall Island agriculture. The Demonstration Land Farm is to demonstrate new farming practices utilizing corporate business structure and modern growing methods and machinery. In its four months of operation, it has introduced new vegetable crops, improved the propagation of existing crops, obtained agricultural machinery and seed, hired one employee and cleared 10 acres for cultivation.

XIII. INTER-ISLAND FERRY SYSTEM

In order to determine local readiness for initiation of the ferry program, an island survey trip was made to all of the 26 inhabited islands in the Marshalls Chain. On the trip, the people were called together into a community "town meeting", in which they expressed their concerns. One common issue was transportation within the atoll and between the atolls. A survey of the needs and plans for a ferry system were made by the team of 28 men and 9 women representing the local business and social structures of the atolls. The islanders indicated that they would travel frequently enough to support a ferry system. Since then, some transportation services have expanded; direct shipping of goods via two lines from the West Coast of the United States with reduced rates and a line each from Japan and Australia have started. The Trust Territory Department of Transportation has a ship position tracking board and has published three monthly schedules. The government ships one stop copra pickup schedule has begun to be initiated in order to speed up the circuits from lagoon to lagoon. Extensive research has been made on the type, size, cost, and location of ships which could be used in creating a five-ship fleet for the system. Designs are in hand for the boats most highly recommended, as well as a plan for an interim system for leasing equipment. Personnel are readily available and could be employed

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immediately. A tentative initial schedule for the system has been sketched out. The possibility of replication throughout the Marshalls of all programs hinges on the actualization of this program.

XIV. HERITAGE TOURISM PROJECT

During the past year research has been done with the elders towards a heritage curriculum. Several elders participated in the Island Survey trip, telling the story of "The Diamond of the Pacific". Work days have been effective in the cleaning and beautification of the community and in catalyzing other groups to do the same. The Alele Shop has been opened, passing on the traditional weaving skills. Work has begun in building traditional fish traps. A signal event in tourist promotion occurred in the spring of 1975 with the opening of the new International Airport Terminal in Majuro. Thousands of dollars of traditional Marshallese handicrafts are being sold by the Busy Hands Shop, the Marshall Islands Handicraft Shop, KITCO's Handicraft Hut, and the new Alele Shop. The new Hotel Ajidrik opened in September, 1975, with nine rooms. The Eastern Gateway Hotel recently changed ownership and announced plans for improvements and expansion of rooms. Facilities, designed to appeal to the tourists, include the new ITSCO Restaurant and Lounge, the remodeled KITCO Bar, the remodeled MIECO Bar, the new Reef Bar, and the Marshallese decorated Whitney Brothers Restaurant. Transportation on Majuro has been improved with the addition of 50 new rental cars and 20 cent taxis; a boat marina and a charter-seaplane.

XV. DEMONSTRATION HOUSING PROJECT

The high cost of adequate housing has prohibited the average family from investing in a home. Presently, the cost of erecting a house is approximately \$8,000. Research is being done in order to reduce that cost to \$3,000. This would appeal to lending markets and can be borne by local families.

The Demonstration Housing Project was designed to meet the desire of the people to combine a traditional architectural style with the low cost construction advantages of modern building techniques. A housing board is currently functioning to assist low income housing. A sawmill has been secured and will be used to organize a building materials production and distribution system. A preliminary cluster design was created by an architect in 1975, which appears to meet the conceptual standard for future housing on the islands. Two types of housing materials; wood and plastic, have been adapted to this basic layout, but no models have yet been built. There is indication that experimental work in seasoning and treating or coating coconut lumber is needed.

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XVI. ALL ISLAND HEALTH SERVICES

Primary health care in the Marshall Islands is presently made available through government medical services and public health programs. Efforts have been made during the past sixteen months to facilitate these ongoing services through additional structural aids. The first leg of the Island Survey Trip, a 16-day voyage to ten atolls in the other islands, permitted a health team to gather important base line data, such as the first handicap census. On that trip a public health team also immunized 800 children, a task which otherwise would have required several months to complete. In addition to the trip, training programs have been held through the Marshalls Community Action Agency to equip the staff of various local agencies to inform community residents about practical health care methods. The May 1975 medical report of Dr. Kenneth Gilbert, ICA consultant, recommended that emphasis be placed in the areas of nutrition, sanitation and transportation in order to complement ongoing public sector service in other areas. The Laura Land Farm, the water-sealed toilets project, and the National School Lunch Program have been responsive to this need. Local production and the import to Majuro of atoll produce through TASC have been encouraged, and the Marshalls Community Action Agency adult education programs dealing in these recommended arenas have been made available. Other atoll health care improvement measures continue to depend largely on the development of a rapid, regular transportation system. A small seaplane now operates which provides emergency evacuation service throughout the Marshalls. The Community Health Planner's and Marshalls Community Action Agency's efforts to promote interagency cooperation have made the services of outside medical specialists more widely available.

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CONCLUSION

Probably the most astounding shift that has taken place is related to the outer islands. The first few months of the MHDP dealt with all of the programs for the whole Marshall Islands group. It is obvious that the actional focus has been on the atoll of Majuro, the District Center. Over the past year, activities on Majuro, plus the all island survey trip have called the MHDP to the attention of people on all the atolls. The major focus in the next phase of development is to move to these outer islands. The ferry system becomes of prime importance, which means suitable boats must be acquired.

The second major change is related to the whole arena of social development. Due both to the history of the MHDP and the need of the Marshalls, the major thrust in the initiation stage has been in economic development. Recently a major emphasis has been placed on the social programs in order to broaden the base of the project.

The third arena of trend is more difficult to articulate. Consultants and local staff as well as outside observers, have noted the increased pace in Majuro. There seems to be a new sense of purpose observed in three ways on the atoll. First, the whole pace and bearing and attitude of the people has changed. They walk faster and stand straighter. There is new life in their faces. Second, a shocking amount of effort has been expended in efforts at developing the Marshalls that is quite independent of the direct thrust of the MHDP. There is an accelerated momentum in the established structures of the Marshalls, both in the private and public sectors.

Also a new kind of disciplined informal leadership has emerged. This was most evident in the local participation at the second Consult. Numbers of local people who participated in the Consult greatly increased, but beyond this, the type of participation had also changed. Many worked 15 hours a day for five days, often taking this time from other pressing responsibilities. Participation in terms of creative input was also greatly increased. The conclusion is that there is a broad and growing momentum toward the human development of the Marshall Islands, which has accelerated in the last sixteen months since the initiation of the Marshalls Human Development Project.

Another alteration in status is related to outside support systems. It is evident that the initial stages of the project have been carried out with relatively low inputs of specialized expertise and funds. However, as the project became established, program implementation accelerated and became more complex, a stronger support system has been necessary, such as greater local and national funding sources, individual and group expertise, and TASC and EDGE.

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The last aspect of the conclusion is related to the business operations. The acceleration and expansion of economic activity was noticeable to those who live in Majuro as well as those who returned for the second Consult on the Marshall Islands. Eighteen new industries have started. TASC grew in membership, particularly in the stores on the outer islands. The prices have dropped in the stores. TASC sees the need to make further progress in sustaining the influx of businesses, to strengthen the operation of TASC and to accelerate the economic turn-around of small businesses so that they can stand on their own feet. In the business operations of the islands, as well as the other programs, there is a new engaged leadership, who, though particularly engaged and particularly skilled, grasp themselves as part of an informal body of people moving together toward the comprehensive human development of the Marshall Islands.

MARSHALLS HUMAN DEVELOPMENT PROJECT

THE ALL-ISLANDS HEALTH SERVICE

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THE
MARSHALL
ISLANDS

The Marshall Islands District of the Trust Territory in Micronesia occupies one million square miles of ocean in the heart of the Pacific. The Marshallese people are at a destinal juncture in their history as they move toward self-sufficiency. This goal requires a comprehensive program of social and economic development. The Marshallese can and will pick up the major responsibility for such an undertaking, but they are going to need assistance. Therefore, the Institute of Cultural Affairs of Chicago has been requested to provide this assistance.

THE
PROJECT
CONSULTANTS

The ICA is a research, training, and demonstration group concerned with the human element in world development. The Institute is engaged in planning and actuating community development projects across the world. Registered as a not-for-profit corporation in the State of Illinois, with headquarters in Chicago, it has over 100 outlets in the major cities of the world, in some 23 different nations. The parent corporation for ICA is the Ecumenical Institute, also a not-for-profit corporation with a board of directors chartered in Illinois. The support of ICA comes from government departments and agencies on the federal, state, and municipal levels, from private foundations, major corporations, denominational bodies, and concerned individuals.

THE
COMMUNITY
CONSULTATION

In September, 1974, the Board of Directors of the Kwajalein Island Trading Company (KITCO) invited the Institute of Cultural Affairs to set up a consult on all sectors of the Marshall Islands. The ICA has a board of consultants who meet semi-annually to plan and to review matters pertaining to program development and implementation. Thirty professional men and women from this ICA board, and from ICA staff, assembled in Majuro for ten days. They represented many diverse fields of expertise, from the legal, medical, and teaching professions to the building industry, governmental services, and oceanography. With the cooperation and endorsement of local Marshallese leaders, the Marshalls Human Development Project was created.

THE
SUPPORTING
NETWORK

A systematic follow-up of the Majuro Consult established an authorization network involving both the public and private sectors on the local, territorial, and federal levels. The Marshallese Human Development Project (MHDP) has received the full cooperation of the District Administrator, Mr. Oscar DeBrum; senator Amata Kabua; the speaker of the Nitijela, Mr. Atlan Anlen; and major business leaders, such as Mr. Robert Reamers, Mr. Samuels, and Mr. Ajidrik Bien. The

traditional leadership of the Marshall Islands, the Iroj, such as Kabua Kabua and Joba Kabua, are firmly behind the MHDP. Most importantly, the people at large are highly enthusiastic about the new possibilities the project offers. On the territorial level the High Commissioner, Mr. Edward Johnson and the Deputy Commissioner, Mr. Peter Coleman, are active supporters of the project, which hopefully can later be replicated in the other five districts. The project has been presented to the Department of the Interior which was interested in the design of the project and supportive of its goals and its programs. It is anticipated that specific areas of cooperative effort will be established with this department. Other agencies and departments in the national government have expressed interest in the project.

THE MODEL:
INCLUSIVE
DESIGN

The MHDP is aimed at the social and economic betterment of the Marshallese people, directing all efforts commonly toward self-sufficiency and stability. The initial Majuro Consult designed a comprehensive model of socio-economic development for the Marshalls. The model consists of 22 complex programs with four sub-programs under each. This total of 88 programs intends first, to develop an inclusive and relevant community training construct; second, to develop community structures and upgrade social services; and third, to develop a progressively balanced, privately managed local economy.

THE
TACTICAL
PROGRAMS

Since the first Majuro consult, forces working together have built tactical systems to activate the Inclusive plan of MHDP. These actuating tactics, have been organized into two phases covering two years. In each phase, four programs relate to economic development and four to social development. The four phase one programs in the economic arena are: The Small Industry Program; The Copra Lagoon System; The Multi-Purpose Repair Center; and The Majuro Business Center. The four in social development are: The Inter-Island Ferry System; The Marshallese Training Corps; The All-Island Pre-School; and The Heritage-Tourism Project. The four phase two programs in the economic arena are: The Marine Farm Demonstration; The Tuna Fishing Enterprise; The Coconut Processing Plant; and The Demonstration Land Farm. The four in social development are: The Inclusive Apprenticeship Program; The Demonstration Housing Project; The Adult Education Program; and The All-Islands Health Service. The ICA believes that if all of these are actualized, discernible evidence of socio-economic revitalization will occur before the end of 1976.

THE
PROGRAM
INTENT

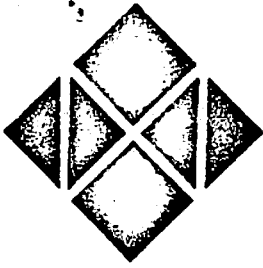
In the pursuit of providing adequate medical care for the 40,000 Marshallese people, many experiments and modifications of those experiments in health care have greatly improved island health standards. Presently there are no forms of ongoing medical care outside of the in-patient facility on Majuro and Ebeye. The present transportation system among the islands provides poor emergency medical care. Available health and diet education facilities on the islands have not been utilized by residents of the communities. Para-medics on the outer islands lack adequate training and remain relatively unused by the residents. The present situation warrants immediate attention in ongoing medical care, lay and professional education and training, and a regularized transportation system.

THE
PROGRAM
DESCRIPTION

Present health standards on the islands will be improved with the creation and updating of training for lay and professional staff by providing ongoing medical services on an outpatient basis. Satellite outpatient clinics closely linked to already existing inpatient facilities will focus on patient treatment and provide emergency medical care. A health assessment survey of the Marshall Islands will inform and direct the present health program. Regularized and emergency boat transportation will actualize the use of satellite medical facilities. A support structure for para-medics on the outer islands will include extensive practical training and education in preventive medicine, nutrition, and diet for the island people. These programs are obviously not totally unknown to the Marshall Islands, and some have been experimented with in the past. The key to all these in the future is the implementation of the program with the total understanding of the people.

THE
BUDGET
REQUEST

For the year of June, 1975 through June, 1976 the budget for the all-island health service will be \$224,500 with \$78,000 of that coming from private sources and \$146,500 from proposed governmental support. The three outer islands satellite outpatient clinics will cost \$54,000 with set-up expense of \$10,000, equipment \$20,000, and staffing of four full-time staff members \$24,000. Preventive health and dietary education for the Marshallese people at approximately \$500/month/clinic will total \$18,000. Para-medical support education at \$2,500/para-medical/clinic will total \$7,500. The health assessment survey will cost \$45,000. The all-island boat transportation system will offer a comprehensive emergency program with a great expense at the onset which will in the future be almost self-supporting. This program will cost \$100,000.



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CURRENT SITUATION

A population of 30,000 persons living on 25 inhabited atolls, with major population concentrations in the "district center" of Majuro atoll (approx 10,000 persons) and on the island of Ebeye (approx 5,000 persons, but due to small size of island, the pop. density is very great). Ebeye serves as the workers camp for the military establishment of Kwajalein, and like the Majuro atoll, draws persons from the outer islands because of the availability of government salaries. The remaining 15,000 persons are scattered through the outer islands.

Social fabric of these people is an ancient feudal form, greatly under stress due to the sudden "urbanization" caused by the availability of government salaries at two locations in the district. Historically the people have been organized into large clans ruled over by a royal class called the Iroje. Kingship is an hereditary position within this class, and carries the responsibility of allotting land to the members of the clan, and of insuring that food distribution through the clan is adequate. Everything produced on the king's land belongs to the king, and he receives first a vassalage (tax in kind), and secondly the surplus beyond what is needed by the family. While this system produced a stable society in which every member was cared for, the impact of western money economy and trade goods, as well as concentration of persons in urban centers without regard for the original family groupings, is causing the breakdown of the system and considerable innocent suffering.

Health care as a system is impacted in ways that are typical for all social services in such a situation as the transition is made from a feudal society to a capitalist society. As part of the Trust Territory of the Pacific, the Islands are being provided Western social services primarily through the funding and administration of the Dept. of Interior of the US government. To provide health services, the Dept of Interior has funded a 130 bed hospital on Majuro District Center. There is a 20 bed satellite hospital on Ebeye and a second satellite is planned for Jaluit Island. There is a team of four Marshallese and 2 expatriot western physicians providing both inpatient and outpatient care through these hospitals. There are no other practicing physicians on the islands. Service to the outer islands is provided through community medical workers who live on the outer islands and provide outreach services on those islands. This program of community Health Workers has been in existence for twelve years and has had signal success in reducing infant mortality and in providing liaison from the outer islands to the hospital in cases of more serious illness. The chief of staff at the Marshall Islands Hospital currently has dreams of being able to send specially trained personnel out to an island whenever there is a report of a premature birth in the hope that special techniques of feeding such infants may reduce the mortality in this group. Both in the district center and on the outer islands, traditional Marshallese healing methods have been allowed to continue in instances of less serious illness, as well as cases of terminal illnesses, and even within the hospital there is considerable accommodation to Marshallese custom.



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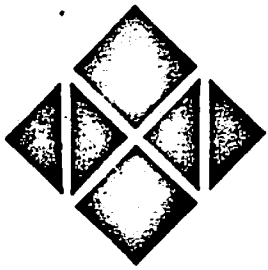
HEALTH INDICES

The following statistics are taken from the publication Trust Territory of the Pacific Islands, published in 1973 by Dept of State. Statistics are for 1972, but there is no reason to believe that they have changed drastically since that time. Where statistics were given only for the Trust Territory as a whole, that is noted.

	Live Births	Infant Deaths*	Other Deaths
January	71	1	8
February	78	3	11
March	78	2	7
April	79	3	7
May	81	3	16
June	64	2	8
July	76	-	10
August	70	1	11
September	85	3	12
October	74	2	13
November	64	2	8
December	64	3	13
Total	893	25	124

* Infant Deaths are computed as deaths of infants weighing greater than five pounds at birth, or having achieved a weight of five pounds and dying before achieving the age of one year.

For the Marshall Islands as a whole, the crude birth rate (births per 1,000 population) was 33.4. The crude death rate (deaths per 1,000 population) was 5.1, a figure artificially low because of the high percentage of children in the population. And the Infant Mortality Rate (deaths of infants per 1,000 live births) was 31.3. All of these statistics are for the year 1972. By comparison, the Infant Mortality Rate in the most affluent areas of the U.S. is approx 13, while for the Black Urban Poor of the U.S. is about 40. In 1972 there was one maternal death in the Marshall Islands. It is believed that 80% or less of births and infant deaths are actually registered. Especially on the outer islands it may be that the Marshallese custom of waiting until the first birthday of the child to celebrate his birth may significantly alter the accuracy of statistical methods.



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HEALTH INDICES

indices by age group

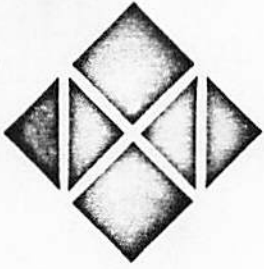
Age Group	Deaths	Births
under 1	25	
1-4	9	
5-9	2	
10-14	3	2
15-19	3	171
20-24	4	312
25-29	-	200
30-34	5	107
35-39	3	62
40-44	4	34
45-49	3	5
50-54	9	
55-59	9	
60-64	8	
65-69	7	
70-74	7	
75-79	5	
80 and up	18	

*births to women of a given age group. (Registered live births only)

deaths for whole Trust Territory in years 1971 and 1972

cause of death	1971	1972	infant deaths by cause	1971	1972
diseases of heart	39	51	prematurity	29	30
malignancies	45	48	influenza and pneumonia	21	30
influenza	13	35	birth injury, anoxia and hypoxia	21	17
pneumonia	36	35	diarrheal diseases	19	11
prematurity	29	30	congenital anom.	6	9
chronic respiratory	15	25	accidents	4	2
diarrheal	50	24	all other specified	16	19
cerebrovascular	28	22	other unknown	15	12
accidents	24	22	total	131	120
birth injury etc	12	17			
TB all forms	25	15			
suicide	5	14			
diabetes	7	13			
congenital anomalies	10	81			
cirrhosis of liver	10	8			
nutritional	6	7			
maternal deaths	2	5			
homicide	10	5			
all other specified	87	69			
other unknown	111	123			
totals	560	579			

under-reporting and lack of coroners law requiring autopsy in certain cases contributes to the unreliability of these figures.



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HEALTH INDICES

New Cases of Notifiable Diseases Reported in the Trust Territory
in Fiscal Year 1972 and 1973.

Disease	1972	1973	note*
influenza-like syndrome	25,338	24,176	
amebiasis	2,315	2,788	preventable by sanitation
gonococcal infections	723	756	
hepatitis, infectious	28	485	preventable by sanitation
chickenpox	431	338	
fish poisoning	#&%375	@#L231	from environmental toxins taken up by fish
tuberculosis, all forms	168	123	
filariasis	94	99	not present in Marshalls
german measles (rubella)	321	97	preventable by vaccination
pertussis (whooping cough)	25	46	preventable by vaccination
mumps	72	38	preventable by vaccination
leprosy	9	20	
measles (rubeola)	429	13	preventable by vaccination
others total	13	21	

*note is provided by the editor, and is not part of the TT publication.
The total population reporting these diseases in 1972 was 114,645



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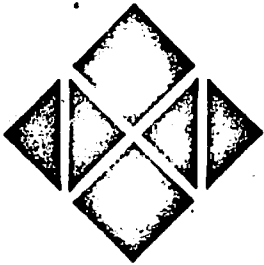
CONSULTATION REPORT: HEALTH SERVICES IN THE MARSHALL ISLANDS

OVERVIEW OF WRITTEN REPORT

The following report and recommendations were synthesized through a series of conversations with Marshallese physicians and laymen, conversations with ICA staff assigned to location, and personal observations. The three critical areas identified are 1. transportation (inadequate capacity to move people and goods among the islands for training and service) 2. sanitation (a rural sanitation system in a location that has high population density) and 3. nutrition (inadequate knowledge of nutrition concepts and inadequate supplies of appropriate foods at prices available to the common workers). Each of these three areas will be expanded below.

TRANSPORTATION

SITUATION: All civilian freight and passenger service to the Marshall Islands is via commercial shipping and air service (Continental) to Majuro atoll. Thus commercial goods from other countries must be trans-shipped through Majuro to the outer islands. This is irrationally accomplished by a series of field trip ships owned and/or managed by commercial establishments on Majuro. (several ships are owned by the U.S. government, but managed by commercial concerns) These field trip ships are the only form of inner-island transportation. Their business is to supply the outer islands with manufactured goods (primarily food). The economic system involves purchase of copra from the inhabitants of the islands for money, which they then use to purchase trade goods from the same ships which purchased their copra. Equipment breakdown has been so severe over the past decade, that no commercial concern has been able to maintain regular service to any island. The implications of this for health are numerous. Although emergency evacuation of ~~heat~~ persons needing care can be accomplished through the government order to one of the government ships (thus diverting the ship from its copra business much to the detriment of the economy in general) there is no regularly available transportation for getting professional medical personnel to the islands to provide special services, nor is there a satisfactory method to get community health workers back to Majuro Hospital for continuing education and training. A person who takes one of the current ships may be compelled to wait up to six months before another boat will arrive to take him to another island. In the past food stuffs such as vegetables and smoked fish were supplied by the outer islands to the district center, however uncertainty of means of transport has completely discouraged this trade to the detriment of the diet of the district center. A pontoon plane is scheduled to be placed in charter use within the next few months. It is privately owned, and will cost 250 dollars per hour charter fees. This makes it unavailable to all but government users. As unsatisfactory as the field trip system is, in fiscal year 1972-73, 4,994 passengers were carried by Marshall Island Field Trip Ships (pg 312 of TTPI 1973 statistical publication)



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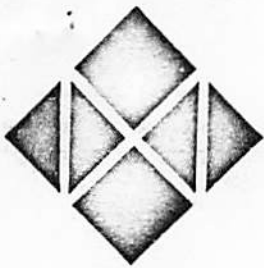
TRANSPORTATION (cont)

PROPOSAL: An inner-island ferry system must be provided if the health services to the Marshalese people are to be significantly improved. Funding for the purchase of five vessels, each capable of inner-island travel (it is 683 miles from Majuro to the outermost island) is being sought through the Federal Government with the encouragement of the Nitijella (Marshallese legislative congress). If Federal funding is not available, then other funding arrangement such as leasing of such vessels must be located. With four vessels it will be possible to schedule twice weekly service from each island to every other island and to have one vessel constantly out of service for preventive maintenance.

INITIAL MIRACLE: Ferry service could be initiated by two old discarded yachts if that was all that was immediately available.

SANITATION:

Situation: On the heavily populated portions of the islands, individual family latrines are in nearly universal use. A few families use water-seal flush toilets with cess pools. In less highly populated areas, feces may be excreted either on the ground surface or on the reef according to local custom. While pigs are caged in the urban centers, they run loose in the rural centers (estimated swine population in 1973 is 5,600 in the Marshall Islands) as do the dogs in both rural and urban areas. The subsoil which receives this sewage is porous coral. Within the coral can be found a seawater table which is produced by the percolation in of sea water and is roughly related to the ebb and flow of tides. A freshwater table floats (due to the lesser density of freshwater) on top of the sea water, and is obviously dependent upon rainfall for maintenance. Wells sunk into this coral subsoil produce more or less brackish water, depending of recent variables such as tide level, rainfall, and usage. While the use of "catchment" water collected from rooftops during rainfall is nearly universal, this supply is inadequate during the dry six months of the year (Oct through March) at which time well water may be the only other choice. Recently a public water supply has been provided through use of a massive catchment system associated with the new airport. This water is piped down the main road of the island, and available from spickets located about every fifty feet in the more densely populated portions of the island. Not more than fifty percent of the population live close enough to this public supply that they are likely to use it. Furthermore, its adequacy to last through the dry season has not yet been demonstrated. Thus it is inevitable that in addition to the parasitic infestations associated with inadequate feces disposal, there will be continuous problems with well water drawn from the same water table that is being extensively used for sewage disposal through open latrine systems. Amoebic dysentery, as well as less clearly identified diarrheas are inevitably a health problem which becomes worse in the months when people resort to their wells - ironically the months when the fresh water "lens" is the least adequate. Infants especially



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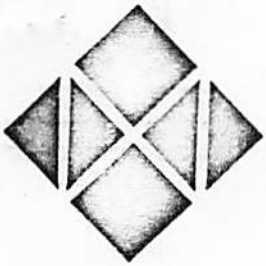
SANITATION: cont.

are liable to die from such illness, but persons of all ages are debilitated. As the population density of the urban centers becomes more dense, the situation becomes more potentially disastrous. In 1974 there was a major outbreak of Hepatitis on the island, almost certainly related to the water supply.

Solutions to this problem must take into consideration the special situation of the Marshall Islands. Among relevant considerations is the fact that the islands are very flat and are never more than several feet above sea level at high tide. Achieving adequate flow through conventional water flush sewage systems would be problematic on the islands. Supply of replacement parts for sewage systems, to say nothing of initial equipment, is deeply hindered by the transportation barriers. There is currently no precedent for maintaining any mechanical system in operational repair on the island, so it seems wise to avoid a complex sewage treatment plant of the western type. Disposal of raw sewage at sea, either through pipes or by barge, may be an acceptable option in this situation where the population is small compared to the distance between this island and its nearest neighbor, although current sentiment has been so frequently aroused against such plans in more densely populated areas that it is hard to conceive of sea dumping of sewage being an acceptable solution. If air-sealed septic tanks (closed storage of sewage without leakage to the subsoil) could be provided, the resultant anaerobic decay of the sewage would produce a sludge relatively free of parasites and pathogenic bacteria but rich in plant nutrients. Many examples are available in which such sludge was collected by a vacuum drum truck, and deposited as fertilizer on croplands. Properly collected, Methane gas is produced by this system, and could be marketed as a side product as a clean and pollution free fuel for cooking or industry.

INITIAL MIRACLE: Every well on Majuro and Ebeye needs to be sampled and tested for safety. Owners must receive notification of results, and a system established for regular testing. Existing facilities which may be enlisted in the project are the Dept of Sanitation (with offices reportedly in the hospital and facilities for doing such testing on request), and Marshalls Community Action Association with a division on Health and Sanitation. If not available locally, information and water testing kits may be obtained through the States, with ICA office contacting local Public Health Offices.

LONG RANGE: Use of public supply drinking water must be expanded and encouraged in urban centers. While it is not immediately clear which sewage disposal system is most appropriate, it is mandatory that any model house demonstration include a sealed septic tank installation. Construction of pilot closed septic tanks of the Stahl system of plastic, and installation in the KITCO compound would provide an



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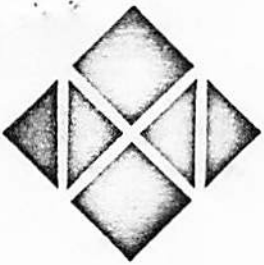
SANITATION: cont

immediate solution to a pressing problem, and would perhaps catalyze the consensus within the Trust Territory Government agencies responsible for such services and the Marshallese people as to what system should be installed for the entire urban population. It is the opinion of this consultant ~~xxx~~ that a system of closed septic tanks with anaerobic collection of sewage and use of a pump collection truck every three months would provide the simplest effective system for the situation, with the additional option of using the sludge to increase productivity of croplands.

NUTRITION:

SITUATION; Historically the Marshallese have eaten a balanced diet of native growing staples such as coconut, breadfruit, Pandanus fruit, cultivated taro tubers and bananas. A variety of seafood and some chicken provided protein. Modest use was made of other vegetables and fruits growing wild. This diet is, of necessity still employed on the outer islands with the result that outer islanders are considered by the physicians whom I interviewed to be well nourished. In the urban centers, rice was introduced by the Japanese as the starch staple, and because of the ease of preparation and status of this food available only to those in the district centers, polished rice has become the staple of the 15,000 Marshallese living in the "urban" centers. Most Marshallese in these centers eat rice three meals a day in some form, and among the poor it is eaten without supplement. Although the people realize that they would prefer greater variety, the cost of imported rice consumes such a large portion of their income that no money is left to purchase the very expensive canned or frozen imported meat and vegetables. Although both meat and vegetables could be grown in abundance on the island, lack of any such custom, and a feudal system of land ownership, makes production of such foods for an urban market at a low cost very difficult. Hence, because the political adjustments are simpler, people continue to be dependent on imported foodstuffs, paying 89 to 90% of their income for an inadequate diet.

This situation is alleviated by the fact that the major importers of rice for the market are importing only vitamin enriched rice (thus compensating for the fact that it is polished rice), and that local tradition includes protein foods at virtually all celebrative meals, of which there are many. Yet, as the social fabric collapses, a significant portion of the urban poor are rarely invited to such celebrations and are not close enough to their king to seek assistance from that traditional source. As alcoholism begins to be manifest as a symptom of the transition, certain families' diets become even more insufficient.



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NUTRITION cont

An immediate remedy for the particularly displaced population most in need may be available through a current federal program for the abused and neglected children. Neglect in the society is manifest primarily in inadequate diet. Under this funding it would be possible to import sufficient milk solids to provide two cups of milk a day to these children, plus some form of vitamin C. A major additional expense would be transportation system to reach the outer islands with such a program. While this money may be helpful in the short run, importing milk is not an adequate long term solution as it is another commodity that the Marshallese would be forced to import. The appropriate long term solution is the introduction of the concept of truck farming of vegetables and accommodation to the current urbanization of the population by getting locally grown food and fish into the cash market of their urban centers free from undue restraint of the feudal system. Simultaneously, there must be a campaign towards education for the Marshallese poor to inform them of the advantages to their health and income of a rationally selected diet. There are conflicting opinions among the Marshallese as to how receptive they will be to inclusion of vegetables in their diet to the exclusion of rice. Likewise there is conflicting opinion as to the willingness of the Marshallese worker to raise truck crops for sale. A Marshallese will work hard to produce enough for his perceived needs, but is not interested in surplus (surplus must be turned over to the king). There is no assurance that a family can be motivated to increase their earnings by raising vegetables. All concerned agree that an edict from the Iroje would result in vegetables being both eaten and consumed if there were enough of a contextual education preceding such an edict that it would be evident to the people that such an edict was well thought through and well intended. The spirit of responsibility evident among the Iroje makes such an event possible.

IMMEDIATE MIRACLE: The reactivation of the vegetable farm located in the Marshalls island of Laura Island must begin at once. With the cooperation and encouragement of the Iroje, significant quantities of vegetables could be in the local market within six months. School vegetable gardens would be a source both of education and immediate improvement of dietary condition for elementary school children. A second important demonstration involves "intercropping" vegetables within existing coconut groves. Properly managed, such crops do not interfere with copra production and the coconut trees provide protection from sun burn and wind destruction to the vegetables. The technology for such a system is probably dependent on soil improvement on this island, and this will require some experimentation. Once such intercropping is demonstrated feasible, there is no question that Majuro atoll could be totally self-sufficient in foodstuffs without reducing copra production. A two crop economy would substantially increase the Marshalls independence. The availability of reasonably priced adequate foodstuffs would substantially improve the basic health of the Marshallese people.



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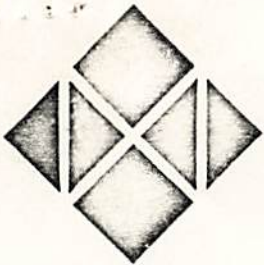
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NUTRITION cont.

The consequences for health of such a diet are multiple. Most obvious to the hospital based physician are the occasional cases of Kwasiokor (protein starvation) admitted to the hospital. This is seen frequently enough to convince these officials that less severe but none-the-less debilitating protein deficiency does occur among some children. Such low grade protein deficiency produces the hidden symptom of failure to develop full intellectual potential. It is probable that the chronic and endemic skin infections seen in the hospital are causally related to the dietary deficiencies. This is supported by the evidence that where the diet is most inadequate (Marshall's Christian High School on the island of RongRong) the skin diseases and infections are most prevalent. Diabetes is prevalent on the island and probably appears more frequently due to the high starch diet. Treatment by therapeutic diet is not even attempted by local physicians due to inadequate foods available for such a regime at a price that the patient can pay. Prematurity is the leading cause of infant mortality on the islands, and is known to be contributed to by inadequate maternal nutrition during pregnancy.

An economic implication of the current dietary pattern is that a vast percentage of the income to the island is immediately lost to the island economy through expenditures for imported foods. The effect of this pattern is to contribute to the continued economic ineffectivity of the island as a whole. Growth of food on the island would allow money to "turn over" a few more times on the island before going out for imported manufactured goods. Such an increase in "turn over" would greatly enhance the economic basis of the society, and hence contribute to the general well being of the people as a whole.

There is evidence that ample vegetables could be grown on the islands to supply the needs of the Marshallese. The Japanese occupation was a period in which vegetables for both local consumption and export were grown. More recent experiments by the Trust Territory Dept of Agriculture have established that in certain areas vegetables will grow well. If properly selected, there would be sufficient amino acids in a vegetarian diet to allow ample protein synthesis. Meat supplementation as desired could be achieved through re-establishment of the smoked fish imports from Jaluit island, or the establishment of a local fish cannery. These would be dependent upon the inner island ferry system. Other options for protein provision include domestic production of rabbits and goats. If the population was not forced to pay for imported rice, local money would certainly encourage expansion of local pig and chicken production. This discussion of protein sources must not be allowed to obscure the fact that the current diet is deficient in vitamins C and B complex as well as trace elements. Meat alone would not provide these.



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FINAL POINTS

This report has dwelt at length on the three crucial health issues currently facing the Marshallese. These are transportation, sanitation, and nutrition. The report has proposed solutions to these specific problems, with only brief allusion to the interlocking relationships to the political and cultural arenas. Needless to say, there is an especially close relationship between health and the economic arena. Given the current economic situation of the Marshallese, it is imperative that every effort be exerted to provide adequate preventive health services. Other such services which must be promptly provided include more adequate coverage of the all island vaccination program, and upgrading of the island health workers skills in birth control methods and accident prevention. These needs are currently recognized by local authorities, who have the system to carry out such upgrading once an inner-island ferry system is actualized.

Future steps must be planned for the upgrading of care provided to persons who become ill in spite of good preventive systems. As the island population matures (that is, as the percentage of persons who are over the age of 50 becomes significant) there will be increasingly more chronic disease evident, and this will require increasingly significant outlays for medical personnel sophisticated in such problems. Medical education is an expensive undertaking, and will not go on to the degree required until there is both a strong local economic base, and a substantial group of persons with high school education adequate to consider further professional studies in competition with people from more highly developed countries. Neither of these prerequisites is present at the current time, and ironically they cannot be made available until the health delivery system is further improved as suggested above. It is thus once more apparent that any program which attempts to deal with any of these issues in isolation will not succeed.

SUMMARY

The ability of the Marshallese people to participate in the world of 1975 is dependent upon their ability to meet that world on its own terms. It is inevitable that the forces of that world will be felt on the island - as they already are. If the Marshallese people are to be in any way in charge of their own destiny, a comprehensive program of human development must be on-going. Adequate health services are an integral part of that development. Three current contradictions to development have been surveyed, and proposals initiated. These proposals have appeared to be easily achieved relying on the resources of the Marshallese people. Implementation would be a firm contribution to the future capacity of the Marshallese people to participate in the times of their life.