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キリバス・トゥヴァル
保健医療分野

（内部検討資料）

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キリバス（要約）

1．保健行政管理

キリバスの保健サービスに対する政府のコミットメントは、国家予算の約15％を占める。これは国民一人当たりの支出では他の南太平洋諸国に比べて極めて高いものである。政府は近年、保健サービスの行政管理において、より効果的な指導力を確保するため、保健局長のポストを設置した。

2．リプロダクティブヘルス、家族計画、性別の保健（セクシャルヘルス）

上記３分野は当国保健省によって特別に強化されており、重要な問題として捉えられている。ローマカトリック教が大部分を占める当国は、家族計画と人口増加の削減の促進に苦慮している。この問題は当国にとって大きな障害で、妊娠・出産（不特定な生まれつきの衰弱）による高い死亡率、近年のHIV/AIDS感染とそれによる志望率の増加が深刻化しており、これらの問題を扱うコミュニティの積極的な参加が求められている。

3．プライマリーとルーラルヘルスケア

キリバスはプライマリーヘルスケア（PHC）を受入、実施した太平洋諸国の最初の国のひとつのため、保健サービスは国全体でうまく行き渡っている。なぜなら、すべてのキリバス人が、医療管理施設から５㎞以上離れていないとするキリバス政府の公約に基づき、当国では24の保健センターと52の薬局（基礎的医薬品の配給施設）がある。また、当国は保健センターを有効かつ効果的に使うために必要な技術と知識をもつ医療支援訓練プログラムを開発した。地方（離島）の薬局の増加は保健管理システムを容易くし、すべての国民が利用できるようにしている。しかしながら、プライマリーヘルスケアの効果的な実施はなされてなく、妊娠・出産による高い死亡率問題は継続している。

4．保健分野の人材育成

人材の不備はキリバスが抱えるヘルスケア問題の根源である。これは、プライマリーヘルスケア及び二次・三次ケアのワーカーも含め保健人材の数と質に起因する。

現在キリバスで働く医師の半分は、海外からの派遣医師、または既に退職した医師の再雇用のどちらかである。医師一人当たりの人口は、約4,000人である。さらに悪いことは薬、外科、小児科、産婦人科の特別な資格を有する人材が不足している。

5．トゥンガル病院（TCH）

1991年に建設された同病院の二次・三次の保健医療施設はもはやその需要を超えている。同病院は当初設計されたサービスを既に超えており、拡張が必要となっている。この状態

の原因はタラワへの人口流入問題がある。離島の薬局や保健センターで十分な医療とサービスが得られない人々はトゥンガル病院へ医療を求めてやってくる。トゥンガル病院の収容能力はもはや限界を超えており、現在の能力を拡張する必要がある。

6．情報とデータ処理

近年、保健省は医療保健統計ユニットを設置し、全体のパフォーマンスの評価、査定ができるようなシステム作りを行っている。保健省及びトゥンガル病院は他国との情報交換による技術の拡大を重要視している。

7．保健労働力訓練

医療学校卒業生レベルのみならず特別に訓練を受けた医師が現在も不足している。医療支援の訓練は、地方の保健センターの役割を効果的に果たすためにも必須である。戦略的な計画としては、保健省と病院からシニアスタッフを地方保健センターと離島薬局へ指導にあたらせることである。

以上

トゥヴァル（要約）

1．行政管理とリーダーシップ（指導力）

過去10年間程トゥヴァルの慢性的な医師不足は保健サービスの動向と発展に悪影響を及ぼしている。そのため、今でも国連ボランティア医師に頼らざるをえない状況が続いている。保健医療施設としてプリンスマーガレット病院（PMH）の役割は、医療の専門的技術とリーダーシップの不足、適切な医療を受けるための患者の海外渡航等で効果的になされている。また、二次・三次ケアを提供する病院の適応力は、極めて低いサービスにより失われてきている。実際、これらは広い範囲で適切なマネジメントと二次・三次ケアを求める患者の治療を提供できる十分な設備を備えた新しい中核病院の建設を求めるという根拠にもなる。

2．保健労働力

医師不足が解決されなければ、仮に新しく十分に設備された建物（病院）が建設されたとしても、保健サービスの現在の問題を取り除けないだろう。現在、そして近い将来若いトゥヴァル人の医学卒業生が労働力に入ってきている。これらの医学卒業生はプリンスマーガレット病院によるさまざまな特別分野での二次・三次ケアのさらなる実践的な訓練が必要である。海外からの短期間派遣の医師にたよることは問題の解決にならない。

3．離島薬局

昨年（1998年）通過したFale　Kaupule法令で、活動は今や離島カウンセル（評議会）が自身のコミュニティーでヘルスケアサービスの提供を実施するようになった。この評議会の設置は離島のプライマリーヘルスケアの効果的な実施に極めて有意義である。離島評議会による薬局は、独自の役割を確保するためにプリンスマーガレット病院と薬局間の密な連絡とコミュニケーションの維持が重要となっている。

4．保健情報システム

保健情報システムは当国の保健データを集めて調査分析するとともに、外国との情報交換を維持するのに重要である。とりわけ、２つの電子メールの地域サービス（PACNETとWPHNET）との連結は情報収集だけでなく、ヘルスケアに関する相談の窓口として利用されている。

5．国際機関及び主なドナーの支援

世界保健機構（WHO）は、保健の人材育成、環境ヘルス、公衆衛生、薬の供給、HIV/AID問題の改善及び他の国際機関（UNFPA、UNICEF、IPPF）のプログラムを支援し

ている。特にWHOは、トゥヴァル人の人材育成に力を入れており、技術的、財政的な協力を実施し、保健サービスの促進やヘルスワーカーへのワークショップを実施している。

オーストラリア（AusAID）は毎年、特別医療チームを派遣し、現地の医師が適切な処置ができない皮膚の治療を始め、マネジメントの側面的支援を実施している。また、財政的支援（奨学金制度）で保健分野の大学生（院生）レベルの人材育成を実施している。同様にニュージーランド（NZODA）も人材育成に力を入れて財政的支援（奨学金制度）等を実施している。

以上

HEALTH SERVICES IN KIRIBATI.

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March, 1999.

KIRIBATI

GILBERT ISLANDS

Makin
Butaritari
Marakei
Abaiang
Tarawa
Maiana
Abemama
Kuria
Aranuka
Nonouti
Beru
Nikunau
Banaba
Tabiteuea
Onotoa
Tamana
Arorae

PHOENIX ISLANDS

Kanton
Enderbury
Birnie
Rawaki
McKean
Nikumaroro
Orona
Manra

LINE ISLANDS

Teraina
Tabuaeran
Kiritimati
Malden
Starbuck
Caroline
Vostok
Flint

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HEALTH SERVICES IN KIRIBATI

March, 1999.

1. HEALTH ADMINISTRATION & PLAN.

1.1. National Health Administration and Plan.

1.1.1. National Health Administration Organs.

Health Services throughout the Kiribati islands comes under the sole jurisdiction of the Ministry of Health and Family Planning (MHFP) of the Government of the Republic of Kiribati. It is presently provided as a freely accessible public service at little or no cost to its citizens, in accordance with individual capabilities to pay for it. Whilst there is as yet no formal private sector participation in the provision of health care, the decision and commitment to do so has been formally endorsed, and it is expected that by the second half of 1999, a handful of local doctors will be registered and practicing as private General Practitioners in Tarawa.

The Kiribati Medical Council has just been recently established as well, not only to address this specific issue, but also for monitoring purposes as the controlling body which oversees and maintains the standards of professional and technical proficiencies that doctors in general, and private practitioners in particular must comply with. This is a most laudable development because the profession and its administrators in Kiribati have taken the lead role amongst small Pacific island regional communities to legislate for the re-registration of doctors and other health care workers on an annual basis, through the payment of relevant fees and verification of appropriate professional development as qualifying hurdles for the renewal of registration. Both requirements are long overdue prerequisites needed to convince doctors and other health workers in the region, to participate actively in the pursuit of their own continuing medical and health education.

The Health Administration of the MHFP in Kiribati functions under, and is thus directly answerable to Parliament and the community, through its Minister and the bureaucratic and regulatory constraints of the Public Service. Its activities and overall performance is under the management authority and control of the Director General of Health, yet to be appointed; but whose role is supplemented, supported, and currently discharged by the Permanent Secretary, the Director of Public Health Services and the Director of Hospital Services.

1.1.2. Financing Health Services.

The MHFP's 1998 budget amounted to $(A)8,014,921.00 which is 15.7% of the National Budget. This represents a per capita spending of $(A)98.93 on health services. It also meant that the Ministry had been able to achieve its policy of targeting 15% of the National Budget for health services, very laudable indeed for a least developed small Pacific island nation.

1.1.3. National Health Plan.

1. 2. Health Plan in the Medium Term Development Plan.

The MHFP had produced a series of five year medium term Health Plans since 1982, and has a current plan for the five years between1997-2001. It also recently developed and launched a ten year Health Work Force Plan, covering the period from 1996 to 2005.

The ***Mission Statement*** for the Health and Workforce Plans stipulated that the Ministry will provide health services to the people of Kiribati through the Primary Health Care (PHC) approach for prevention and curative services so that all I-Kiribati will achieve excellent levels of mental, social and physical well-being, thereby enabling them to be productive, self-reliant and fully responsible for enjoying their lives to the full. The ***Outcome*** for that Health Plan is seen as the improvement of the health of all I-Kiribati to those levels defined and set by the community and the people themselves.

The ***Objectives*** of the Health Plan is aimed at the attainment of excellent levels of mental, social and physical well-being for all I-Kiribati, by targeting broad health program areas whose objectives are the improvement of hospital, population and family planning services, through the active participation of the community, as equal partners in such developments. The underlying ***Strategies*** for achieving those objectives will be guided by the following principles;

- the equitable distribution of resources,
- full community participation,
- proper emphasis on primary prevention,
- deployment of appropriate technology, and
- the commitment to a multi-sector approach.

2. DEMOGRAPHY.

2.1. Total Population, Growth Rate and Age Distribution..

The latest census for Kiribati was conducted in 1995 and showed a total count of 77,658 people; 75,901or 97.8% of whom are ethnic I-Kiribatis. The 19 islands of the Gilbert Group have populations ranging from 339 for Banaba to 28,350 for South Tarawa, and makes up 92.4% of the total population; whilst the 4 islands of the Line & Phoenix Group have 5,901 persons or 7.6% of the total population.

From 1973 to 1995, the population growth rate fluctuated between 2.3 and 2.6 % and as would be expected, the population is a relatively young one. Those aged under 15 years make up 41.5% of population at 32,212 young I-Kiribati's, whilst the working age group represented by the 15 to 64 year olds, made up 42,776 or 55.1% of the total population. At the other end of the spectrum is the elderly group of 65 years and older, with a total count of 2,670 which is only 3.4% of the Kiribati people.

2.2. Population Distribution by Region.

Although there is little decentralization of administrative management, which is virtually confined to the Ministry's Headquarters at present, Kiribati has been divided into 6 districts for a number of reasons, including the processing and management of health data. These districts and their populations in 1995 were;

Districts	Population
• Northern,	14,483
• Tarawa/Banaba,	32,693
• Central,	7,612
• South-Western,	9,747
• South-Eastern,	7,222
• Linnix (Line & Phoenix Group).	5,901

2.3. Fertility Rates.

More than half the population are females and because it is also relatively young in age distribution, the fertility of Kiribati women is comparatively high. This is why there is a strong emphasis on family planning as depicted in the renaming of the Ministry. Fertility as expressed by the number of children per woman and the crude birth rate (per 1,000) range respectively from 4.7 to 4.5 and 34.9 to 32.2 between 1973 and 1995, right up there at the top end of the range of such values for the small island nations of the Pacific.

2.4. Mortality Rates.

Infant mortality (deaths per 1,000 live births) are amongst the highest in the region, changing from 87 to 82, to 65, and on to 67 respectively, for the periods between 1973-1978, 1978-1985, 1985-1990 and 1990-1996. Life expectancy for males and females over those same periods are 50.3, 50.6, 57.7 and 57.15 years for males, compared with 54.5, 55.6, 62.8 and 62.3 years for females. The drop in life expectancy and rise in IMR for the 1990-1996 period and 7 years jump in life expectancies between 1985 and 1990 for both sexes, are perplexing mysteries.

3. EPIDEMIOLOGY.

3.1. Overview.

The Statistical Information section of the Health administration is very much in its infancy at the moment and much of the data needed to validly assess or predict epidemiological parameters is incomplete or unavailable at present. It is however evident that the administration of the MHFP is determined to overcome this gap, and appropriate measures have been activated towards this end. There are current difficulties in transferring the responsibility of collecting and processing health related data from the central government to the MHFP, and the unavailability of essential and accurate health statistics is a serious concern at the moment.

Infectious diseases remain a major health threat for the community although other problems that are uniquely entrenched to this part of the Pacific appear to pose greater challenges and risks to most I-Kiribati. These would include many health problems for women because of pregnancy and child birth, nutritional deficiencies and abnormalities, non-communicable diseases of the cardiovascular system, diabetes, and liver associated and related problems that reflect the high incidence of Hepatitis B amongst the indigenous population.

3.2. Mortality.

The Register of Births and Deaths is kept at the Government's Central Bureau of Statistics and is currently in the process of being transferred to the MHFP's Statistics and Information Section. Statistical information made available from the Bureau of Statistics for the years 1992 to 1996 for Mortality Rates indicate that the ten (10) leading causes of death over that period, which also coincides with the data for Morbidity given by the MHPF's Statistician are as follows:

Top 10 Causes of Death in Kiribati From 1992 - 1996 (in rank order).

Cause (Diagnosis)	Number
Unspecified Congenital Debility	195
Diarrhoea	137
Unknown or undiagnosed	137
Old age	96
Stroke	80
Malnutrition (NOS)	79
Diabetes Mellitus	78
Pulmonary Tuberculosis	59
Meningitis (unspecified)	59
Hepatitis (unspecified)	51

These figures are for deaths over the five years between 1992 to 1996 and, on a yearly total, would range from 39 deaths for unspecified congenital debility to 10 for unspecified hepatitis. Focussing however on health problems which appear to be uniquely intrinsic to the local community and, combining the total number of related deaths for 1966 alone, gives an indication of the extent of specific health care problems associated with those conditions, as reflected in the tabulated list given below;

Pregnancy & Childbirth...	**62 deaths**
Circulatory & Cardiovascular...	**45 "**
Liver Related...	**44 "**
Pulmonary Related...	**35 "**
Malnutrition & Diabetes...	**31 "**
Diarrhoea & Infectious Diarrhoea...	**26 "**
Malignant Neoplasm & Cancer...	**16 "**

3.3. Morbidity.

A five year report of morbidity data compiled from the numbers of cases seen at Health Centres and Dispensaries during 1992 to 1996 was released in February 1998 as the first major documented statistical output for data processing by the Ministry's recently established Health Information Section. The list of morbidity problems in descending order of total number of cases seen is listed as;

- Respiratory Tract Infections,
- Diarrhoeal Diseases,
- Skin Diseases,
- Wounds/Sores & Accidents,

- Diseases of Ear & Eyes,
- Communicable Diseases,
- Anaemia & Nutritional Disorders,
- Dental & Oral Health Problems,
- Parasitic Infestation,
- Fish Poisoning.

It is disturbingly puzzling that the three major causes of death in Kiribati which includes all the health problems associated with pregnancy and childbirth; health problems that are either related to hepatitis or involve diseases of the liver; as well as the non-communicable diseases of the heart and cardiovascular system, are not represented in the top ten causes of morbidity for the country. The most likely explanation for such disparity would be the probability that, in common with fellow Pacific islanders elsewhere, the indigenous I-Kiribati does not seek medical or health care support until very late in the course of such diseases.

3.3.1. Child Health.

This remains as one of the major challenges for the MHFP, given the still very high infant mortality rate and the high incidences of acute respiratory tract infections, dairrhoea and malnutrition. The Ministry is accordingly refocusing much of its PHC efforts into these problems for the purpose of increasing the level of primary prevention as its priority public health objective.

3.3.2. Women's Health.

Women's health in Kiribati is an issue of major concern. An exploding growth rate of the population, is apparently occurring within a health care delivery system that is slow to develop or expand its services to include appropriate and effective measures which specifically address the wide ranging problems and challenges associated with pregnancy, childbirth and postnatal care, thus placing the health and lives of women their foetuses and infants at increasingly greater risks. Reproductive Health, Family Planning and Sexual Health (RH/FP/SH) therefore assumed increasingly greater significance as health issues, culminating eventually in the recent change of the Health ministry's name from the Health and Social Welfare title, to that of Health and Family Planning as it is now called.

A government Sectoral Review Report was released in March 1996 and, later on in the same year, UNFPA and WHO held a Priority Setting Workshop for issues of concern in RH/PF/SH that should be addressed in the 1997 - 2001 funding cycle for small island communities of the Pacific. The Workshop was able to

identify and recommend the following areas of concern for the women of Kiribati in the priority order listed hereunder:

- the relatively high rate of maternal morbidity as reflected by the high incidences of ante and post-partum haemorrhages, pre-eclampsia and peupeural sepsis,
- low family planning coverage together with the need for wider choices, awareness and availability of contraceptive methods,
- teenage pregnancy and suicide,
- sexually transmitted diseases, especially HIV/AIDS.

The Ministry's commitment to address these issues saw the appointment in 1997 of a WHO Consultant on HIV/AIDS for one month, to evaluate the extent of the problem in Kiribati, and recommend ways to effectively tackle it. Unfortunately however, his report is not yet released or available from WHO.

3.3.3. Adults' Health.

Non-communicable diseases of the cardiovascular system is the major cause of mortality in adults. Diseases involving the liver or associated with infection by hepatitis B, cancer, diabetes and pulmonary infections (including tuberculosis) are also major causes of death in adults. Although there are health promotional programmes which are aimed at preventing these deaths, statistical information from Health Centres and Dispensaries show that relatively few patients seek treatment for most of these problems, a clear reflection of the unfortunate and often tragic reluctance of most Pacific islanders, to seek medical consultation for assistance and the treatment of these insidious ailments until, in most cases, it is usually too late. The need for more effective health education of the community for the purpose of being better informed and more aware of these health risks is clearly implicated and strongly recommended.

3.4. Infectious Diseases.

Returns from rural Health Centres and Dispensaries show that infectious diseases make up well in excess of half the number of patients seeking treatment during the five years between 1992 and 1996, in which total patient visits were recorded respectively as 187046, 220690, 194846, 167068 and 197305 for each year. The most common complaints recorded were for respiratory tract infections, other infections of the skin, conjunctivitis, worm infestation and diarrhoeal diseases.

3.4.1. Immuno-Preventable Diseases

The MHFP is essentially satisfied with its immunization programme in which the overall coverage of childhood immunization is well over 80% except for measles, where coverage is thought to be below 60%; and the recently introduced hepatitis B vaccination programme in which there is serious concern that the mandatory requirement to administer the first dose within 24 hours after birth may not be strictly observed. There are however two Principal Nursing Officers (PNO) who are specifically assigned to address the problem and they are optimistic about the outcome of measures already instituted to counteract this problem.

3.4.2. Diarrhoeal Diseases.

This is a major problem in Kiribati and as seen in the lists of causes of morbidity and mortality given above, it ranks as the second highest on both counts. The more common forms are due to enteric viral or bacterial infections. Spoiled food and poisoning by exo-toxins, dysentry and even typhoid are other causes of diarrhoea. Although there is no specifically assigned PNO for this particular issue, the seven PNOs who look after the various health districts are charged with the responsibility for carrying out effective health education on this problem.

3.4.3. Acute Respiratory Infection (ARI).

Acute respiratory tract infection is by far the highest cause of morbidity, and the record of cases presenting at Health Centres and Dispensaries from 1992 to 1996 gave total figures of 95728, 123842, 109425, 105620 and 121849 respectively, for each of those years, which represents more than 57% of all acute patient visits to these health facilities. Mortality from these complaints however are relatively low, and are not in the top ten causes of death during those five years. On the other hand, such deaths are mainly in children, often because of, or consequential to, underlying malnutrition as well.

3.4.4. Tuberculosis.

This was a relatively serious health problem in the past although, with assistance from WHO and the South Pacific Community, effective counter measures have been successfully implemented to combat these diseases. The new Tungaru Central Hospital (TCH) has 10 beds for treatment and control of acute infections, before releasing the non-infectious outpatients for home therapy.

3.4.5. Leprosy.

This was also a serious health problem which was highly endemic to I-Kiribati communities in the past. An intensive control programme during this decade has however effectively eliminated the threat of this debilitating disease and appears poised to eradicate it altogether from the community in the not too distant future.

3.4.6. HIV/AIDS.

HIV/AIDS was first diagnosed in 1992 when 2 cases were identified, followed by another in 1995, then 11 more the following year, 6 in 1997 and 3 last yea; a grand total of 22 diagnosed cases. One male patient aged 20-29 years, 6 males and 2 females aged 30-39 years have all died from the disease since. A total of 22 cases and 9 deaths in seven years in a population of less than 80,000 people is very serious situation and reason indeed for grave concern.

3.4.7. Other Infectious Diseases.

(1) Dengue Fever.

Unlike other neighbouring Pacific island communities, this condition is not seen as a health problem in Kiribati because of the absence of Haemorrhagic Fever in the indigenous population, plus its sporadic and non-epidemic appearances.

(2) Filariasis.

Again a health problem that is of no serious concern to the Kiribati health authorities, because it is virtually non-existent in the indigenous population.

(3) Viral Hepatitis.

This problem however is one that is of serious concern and a real challenge to the MHFP. Although there are no confirmed figures to reflect the prevalence of hepatitis B positive carriers in Kiribati, information derived from TCH indicated that up to 60% of blood collected from relatives of patients undergoing surgical operations in the last few years were hepatitis B positive. There is also a high mortality rate for diseases and conditions related to the liver or consequent to hepatitis B infection.

3.5. Non-Communicable Diseases & Injuries.

3.5.1. Malnutrition.

In a country that is made up of small, low lying atolls with agriculturally poor soil of sand and coral, growing fruits, root crops and especially green leafy vegetables, is an enormous challenge for the local population. Malnutrition is therefore one of the main problems for the I-Kiribati community. Vitamin A and iron deficiency are of particular concern because of how they can affect growth and development in children.

3.5.2. Chronic Degenerative Diseases.

(1) Cardiovascular Diseases.

As seen in the list of mortality figures, degenerative diseases associated with the heart and the circulatory system ranks as the second highest in Kiribati. Adding diabetes to the list worsens the total picture. Hypertension is a growing problem and coupled with a changed dietary trend from eating fish to fatty meats (pork, turkey tails, imported mutton flaps etc) is a worry. Smoking is similarly prevalent and there does not appear to be any effective and concerted effort to discourage the community from this most unhealthy habit.

3.5.3. Mental Disorder.

This is not seen as a serious problem in the I-Kiribati community at this stage. A small and separate mental hospital facility copes adequately with the problem at present and the only real worry is the high suicide rate in young people.

3.5.4. Injuries & Accidents.

Between 1992 and 1996, a total of 102988 cases of injuries or sores presented for medical treatment at Health Centres and Dispensaries. In contrast, only 648 cases from motor vehicle accidents were seen during the same period, resulting in three deaths. The geography of the country and its roads does not allow for high speed driving which is the major known cause of motor vehicle accidents, and although congestion of the roadways because of increasing numbers of motor vehicles is a serious and growing concern, it is unlikely that motor vehicle accidents or deaths from it will seriously increase because it is impossible to drive fast in Kitibati.

4. HEALTH PROGRAMMES.

4.1. Primary Health Care (PHC).

The Republic of Kiribati is one of the first Pacific island governments to comply with WHO's recommendation to decentralize health care services by adopting the PHC approach, when it was first proposed during the late seventies and the early eighties. Government's policy and strategies then was to upgrade and supplement the existing three year basic nurse training program at the time, by introducing an additional PHC training component to improve the overall competencies of nurse graduates. Further upgrading of training requirements meant higher professional capabilities for Medical Assistants to effectively man and operate these Health Centres. This similarly applied to District Health Nurses who look after the various dispensaries throughout the country.

As reported earlier, there are six health districts in Kiribati, each of which has a total of 4 Health Centres as well as numerous Dispensaries ranging from 4 to 15 in total numbers, depending on the size of the population and the area of land mass in each District. In total therefore, there are 24 Health Centres manned by Medical Assistants, with more 52 Dispensaries looked after by District Nurses, throughout the whole of the country. The numbers of these facilities was based on government's commitment to the policy that no Kiribatis will be further away than 5 kilometeres, from the nearest health care facility.

Each of these Districts has one Principal District Nursing Officer (PDNO) who is assigned to it. A seventh PDNO is deployed at the Tungaru Central Hospital in charge of the HIV/AIDS Control programme. These PDNO not only look after their own districts for the purpose of making sure that the staff of the Health Centre and Dispensaries also discharge the essential health promotional and preventive components of PHC as partners with members of these communities, they also have their own areas of overall expertise such as EPI, FP, NCD, etc.

4.2. Expanded Program on Immunization (EPI).

Childhood immunization enjoys total coverage levels of well over 80% for DPT, BCG, Polio. Measles vaccination on the other hand has not been as well covered, and renewed efforts have been directed towards improving outcomes in this area. Similarly, hepatitis B vaccination is causing some worry to the authorities since it started in 1996 because, whilst overall coverage is satisfactory, it is possible that the first dose may not always be given within the first 24 hours after birth as necessary for maximum effectiveness. Both UNICEF and WHO, in collaboration with the MHFP continue to push and promote EPI, through the free supply of vaccines, and training of staff to strictly observe procedural guidelines and,

effective maintenance of the cold chain. The DPNO for the Tarawa District also carries the expertise and responsibilities for the EPI program.

4.3. Nutrition.

This is a very serious problem in Kiribati, particularly for young children. It is however becoming increasingly problematic for adults also, where malnutrition results from excess calorie intake and over-nutrition, rather than lack of specific nutritional requirements. Obesity and diabetes are the usual outcome of such a situation, which invariably leads to hypertension, high blood levels of glucose, cholesterol and fatty acids, that collectively predispose towards strokes or heart attacks; problems which escalating in Kiribati, as reflected in the mortality rates.

With the collaboration and support of UNICEF, Vitamin A deficiency in children was surveyed, quantified, effectively managed and treated initially by Vitamin A Supplementation, that was associated with and progressively replaced by Vitamin A Awareness and Home Gardening programs that increase the natural intake of Vitamin A through growing and eating relevant natural foods. This program is now part of an extended effort which promotes proper nutrition through growing, obtaining and including appropriate food items into the normal Kiribati diet, as the result of extensive and intensive health educational strategies. This program is collectively coordinated and promoted by the Nutritionist i/c of the Nutrition Centre, and supported by the Senior Health Education Officer i/c of that Office.

4.3.1. Maternal & Child Health.

This is under the coordinating responsibility of the PDNO who also looks after the South West District. Implemented through the Health Centres, Dispensaries or Special Clinics, the focus of activities here include ante and post natal care, EPI, Breast Feeding & Growth monitoring, Parental Care, Weaning, Prevention of diarrhoeal diseases and some Family Planning.

4.4. Family Planning.

As stated earlier, this priority issue for the MHFP was addressed through two Workshops in 1996 which prioritized and developed counteractive strategies. Data on Contraceptive practices for 1990 to 1994 indicate that the order of prevalence in usage of contraceptive techniques begins with injections, followed by ovulation methods, pills, condoms, male sterilization, I.U.D's, local herbal methods, female sterilization, then implants. The prevalence rate or percentage of coverage for women of reproductive age range from 27.6%, 26%, 26.3%, 30.2% and 24.2% respectively during 1990 to 1994; no where near satisfactory, and most

certainly worrying, if not altogether discouraging in view of the trend seen. The 1994 data is however incomplete and not officially endorsed as yet.

What is even more worrying however is the fact that more than 54% of the Kiribati population are Roman Catholics and, in view of their official religious stand on contraception and Family Planning, this particular health problem will remain a major challenge for the health services in Kiribati generally, and the administration of the MHFP in particular.

4.5. HIV/AIDS Control.

Twenty two confirmed cases of HIV/AIDS and 9 deaths therefrom in eight years in a total population of less than 80,000 people is a huge worry indeed, especially for a sexually transmitted disease with no known cure. Such a toehold into a socially promiscuous community with renowned friendly customs and traditions of profound hospitality, is a major cause for concern where there are no effective control measures. This is the reason why HIV/AIDS is one of the central themes for the enhanced multi-sector health educational drive into the community, by specifically targeting Schools, Youth Groups and Parental Organizations.

WHO is also very clearly concerned with this problem and has approved funding for a special project (WP/98/KIR/RPH/001) titled ***Strengthening RH/FP/SH*** at (US)$100,000 for 1998 which also received a further (US)$120,000 for 1999. As stated earlier, a WHO STC on HIV/AIDS was also assigned to Kiribati for one month in 1997 to assess and fully evaluate the problem and recommend strategic measures to control the problem.

Kiribati has just under 2000 seamen, most of whom were graduates of its Marine Training School, before joining foreign merchant ships as crewmen, the most likely vehicle for entry of HIV to Kiribati. Educational programmes and strict medical testing of trainees and returning sailors has been fully institutionalized.

4.5. Diarrhoeal Diseases.

Health Centres, Dispensaries and Special Clinic programmes on Diarrhoea and its consequences are pivotal to endeavours by the health services to control this particular problem, one of the major challenges for the Ministry's PHC sector. Proper nursing, continued feeding of victims and ORS therapy, or alternate ways to effectively re-hydrate patients, have been the loud and clear health educational message for looking after patients at the community level. It is also emphasised however that, if no improvement is seen or patient's conditions deteriorate, then immediate referral for treatment in a health care facility becomes mandatory.

4.6. Other Infectious Diseases.

4.6.1. Tuberculosis Control.

The Pacific Community (SPC) and World Health Organization (WHO) have been working in collaboration with each other and the Kiribati government in a joint and concerted effort to control and eradicate this previously endemic disease in the community. Home based treatment and therapy is the focus of management in line with WHO's recommendation for all Pacific island communities, but with the multiple drugs necessary for tuberculosis therapy, patient compliance is very much of a problem for its control. The recommended strategy from both bodies on how best to overcome this difficulty, is for direct observation of therapy or DOT.

Although there is no WHO country programme for T.B. in Kiribati, WHO is still very much involved and is helping to secure the combination of drugs needed for DOT from WHPRO regional programmes for tuberculosis out of Manila, as well as provide fiscal or technical support for DOT. SPC is similarly committed and involved through Training Workshops on DOT, for those health professionals who will be directly interacting with community members involved in DOT.

4.6.2. Leprosy Control.

Leprosy is endemic to Kiribati, and in the early days, reached incidence rates of epidemic or near epidemic proportions. The advent of multi-drug therapy (MDT) however, produced dramatic successes in the results of collaborative measures by WHO, New Zealand Leprosy Trust Board and MHFP, to control and eradicate the disease. The strategic multi-pronged attack to control leprosy involves the maintenance of a register for all known cases, comprehensive drug therapy based on the recommended regime by the WHO Expert Committee on Chemotherapy, finding new cases and fully assessing these, plus proper monitoring of outcomes.

Establishing the Leprosy Register and instituting MDT with full assessment of treatment outcomes, began in the late fifties. A report by Kiribati's WHO Country Liaison Officer in 1982 was however adversely critical of the results and progress of the Control Program. A WHO Leprosy Consultant was accordingly assigned to visit Kiribati in 1987 to assess and evaluate programme performance. His findings and report was also critical of the program because the register had not been maintained and MDT was poorly administered if at all. The assessment and evaluation of patients was also unsatisfactory and few or no new cases have been identified or reported in most of the districts. This same Consultant visited Kiribati at least once a year to encourage and supervise control programs and surveys whereby more than 80% of all I-Kiribati have been examined and tested with funding and technical support by N.Z. Leprosy Trust Board and WHO.

4.6.3. Dengue Fever Control.

4.6.4. Filariasis Control.

As stated earlier, both these diseases which present as major health problems in other islands of the Pacific, have little threat or health risks to the I-Kiribati people because there is hardly any micro-filarial infestation in the country, whilst dengue fever poses very little threat to life in the absence of haemmorhagic fever amongst the indigenous population.

4.7. Other Diseases.

4.7.1. Cardiovascular Diseases Control.

Health Education about lifestyles and dietary intake of natural high fibre foods as well as avoiding excessive consumption of animal fats especially; active physical exercise and activities, keeping a watch on blood pressure and obesity, as well as having regular medical check ups and seeking immediate medical attention and help when not feeling well or concerned about physical wellbeing, is the message that is being dissipated through community health education activities.

4.7.2. Cancer Control.

Of particular concern to the Ministry is the very high incidence of Cancer of the Cervix when compared with other malignancies in males or females. The MHFP has therefore committed itself to undertake an effective Screening Program by setting up the laboratory capability for processing and evaluating Pap Smears, and has successfully trained a cytologist who is now based at the TCH.

4.7.3. Blindness Control.

Not yet a problem in Kiribati, except for children in the past as the consequence of Vitamin A deficiency, which was counteracted by vitamin supplementation at the beginning of a program that also promoted home gardening, combined with health education, for proper dietary supply of Vitamin A. For adults however, there are no specific control programs other than general health education on how to prevent or seek proper treatment for the problem.

4.7.4. Rehabilitation.

Again an area that has little impact on the overall health of I-Kiribati people that is presently, a responsibility assigned to the Physiotherapist based at TCH.

5. HEALTH SERVICE DELIVERY SYSTEM.

5.1. Health Facilities.

The Tungaru Central Hospital (TCH) is the referral hospital for in-patient care and has a capacity of 120 beds, plus all other necessary health service facilities for inpatient management. There are also 4 Health Centres (HC) for each of the six Districts and at least one on each island has holding beds for inpatients as well. These are further supplemented by many more Dispensaries throughout the Republic in view of the government's policy that no I-Kiribati citizen will be further away than 5 kilometres from the nearest health care facility.

5.1.1. Public Sector.

Health Care in Kiribati is currently, the exclusive domain of the public sector. In addition to the TCH, there are 24 HC under the care of Medical Assistants (MA), and 52 Dispensaries which are looked after by Registered Nurses (RO). Two of the HC (Betio and Christmas Island) have many more holding beds, are manned by a doctor, two Medical Assistants and Nurses.

Because of the very dense population in Betio and the remoteness of Christmas and other islands of the Linnix group, it is the intention of the MHFP to upgrade those two HC in the near future to become the first District Hospitals for the Republic.

5.1.2. Private Sector/Missionaries.

As stated earlier, there is no private sector or church involvement in health care in the Republic at the present time.

5.2. Logistics.

5.2.1. Pharmaceuticals & Pharmacy Service.

This is also under the exclusive prerogative of the MHFP as there are no private pharmacies in Kiribati. There are two qualified Pharmacists and nine trained local assistants, who dispense and distribute about one million dollars worth of essential drugs purchased every year for the health services. The MA and RN are also trained to dispense drugs from the HC and Dispensaries. Running short, or out of drugs altogether, is a constant problem and even though the budget had been progressively increased in recent years, it is still far from adequate in accordance with the TCH based Chief Pharmacist.

5.3. Utilization of Health Services.

5.3.1. Perspective of Community Residents.

No confirmed data is available on the percentage of sick people who are seen and treated by the formal health sector, or the proportion of Kiribati patients who die without being seen or treated by a formal health care provider. With a population of only 77,658 people and close to 80 equitably distributed, easily accessible and widely decentralized health care facilities throughout the Republic, the MHFP feels very strongly that virtually all sick people needing medical assistance would be seen and treated by the present health care system. Official returns for the years 1992 - 1996 show that on average, a total of well over 200,000 patient visits were recorded each year for that period. This data is strongly supportive of the Ministry's assumption and feelings of very high utilization of its facilities.

5.3.2. Utilization of District Health Facilities.

The widely and equitably distributed HC and Dispensaries in the six Districts of the Republic caters for most of the patient contact consultations and treatment.

5.3.3. Traditional Medicine.

Like other indigenous Pacific island communities in the region, virtually all I-Kiribati citizens believe and practice traditional healing and medicinal cures. It is a practice that is regarded by the Ministry as part and parcel of the choices that is available to the community, for treatment of their health needs and problems and that, for a high percentage of the population, this is the first avenue for help and support when they are sick or unwell. In fact, for many women, this is also the preferred method for making sure that the size of their family is what they want, and when giving birth, the traditional birth attendant is often consulted first.

Whilst there are situations in which traditional healing works, or at least has no adverse effects on the underlying health problem, there are also many more times and other situations where no benefit is achieved or worse, where it deleteriously worsens the condition. Whether it is the case of no benefit at all or secondary to adverse outcomes, the real problem lies in the fact that when patients finally seek the help of the formal health sector, it is usually very late or too late to do much good and, managing the condition becomes very costly and usually unsuccessful. Traditional medicine is therefore part of the curriculum for both the Nursing and Medical Assistants training programme, to underscore its existence and how they should deal with it. Traditional Birth Attendants are also encouraged to learn and understand some of the fundamental principles in midwifery.

5.4. Managerial Information System.

The MHFP has just recently established its own Statistics & Information System and is actually in the process of developing its capacity and capabilities to take over the handling of all health data collection and processing which had been the responsibility of the Government Statistician's Office until now. Naturally there are teething problems, but the Ministry is committed to overcome these because it has set goals and objectives to ensure that it does not miss the boat, in taking full advantage of the enormous benefits that is available through the IT network.

In this regard, the MHFP will expand its E-mail connections and linkages with the rest of the Pacific to take advantage of two very important networks for the region, i.e. the Health Surveillance Network (PACNET) which the SPC (Pacific Community) operates, and the Health Advisory and Consultation Network for the Western Pacific (WPHNET) that the Fiji School of Medicine is associated with.

5.5. Medical Insurance System.

There is none for the local population at the present time, nor is there a need for one because health services is provided free by the government at the moment.

5.6. Emergency Medical Assistance System.

Emergency evacuation of patients is an important part of a health service system based on the onward referral of problems that cannot be properly treated at the level of first contavt. There are therefore two levels of referral; Internal, from the Dispensaries to HC and finally to TCH, and External, from Kiribati to another country. There is a special budget item for Overseas referral which for 1997, cost $400,000. Internal referral on the other hand is included as part of Internal Travel and Transport budget item which was approved at $660,668 for the same year.

(1) Hospital Emergency System.

The Casualty and Emergency section of Outpatient Department of the TCH is seriously inadequate and therefore grossly inefficient and unsatisfactory at the present time. This in fact is one area which the Kiribati government is seeking support from JICA in its desire to upgrade and enlarge what exists now. There is only one small room which serves as the reception, examination and treatment areas. There are no provisions for cleaning and washing, holding beds, or security barriers, and trying to keep relatives and friends away as well as managing the patient(s), is a real problem in itself because of overcrowding.

The TCH has three ambulances which are used for transporting patients as well as for other tasks like moving staff, drugs, equipment and supplies in Tarawa or for shipping to outer islands. The ambulances are not normally equipped as emergency life support vehicles, but can be so fitted when required. The same applies to small passenger planes chartered for emergency evacuations from the outer islands.

(2) Red Cross Society.

There is no formal presence of the Red Cross as an organization in Kiribati, but there are members of staff in the health sector and others in the wider community who belong to Red Cross, and who come together to form the nucleus of the Red Cross relief operations when necessary. These people serve as the local contact point for any internationally coordinated disaster relief support from the Red Cross movement.

(3) Disaster Management.

Kiribati is unusually blessed in that real natural disasters very rarely affect it. It is situated outside the normal hurricane belt, and earthquakes or volcanic activities have not threatened these islands. The low atolls do face a real danger, should a tidal wave strike it, but it has not done so yet. There are also no rivers that can cause flooding and although rain may not fall for sometime, prolonged droughts seldom occur. It is little wonder therefore that the community appears not to be overly concerned about natural disasters, despite WHO's concerted efforts to convince other Pacific islanders to be prepared for such natural disasters.

5.6. Research Institutions.

There is no Research Institution for Health in Kiribati.

6. HEALTH MANPOWER.

6.1. Medical & Health Practitioners by Type.

The MHFP is seriously concerned about its human resources and is determined to appropriately and effectively address the issue, hence the 10 year Workforce Plan for 1996 to 2005. The purpose of that plan is to ensure that human resource needs are catered for in terms of not only filling existing establishment vacancies, but to also progressively improve the population to health worker ratios, for each of the categories of health professionals. The table below lists such current ratios for four categories of health care providers;

Number of Population per Medical Practitioner (1998).

	Doctors	*Medical Asst.*	*Nurses*	*Others*	*Combined*
Nationally;	3,698	2,678	452	1,362	278

All the twenty two (22) doctors currently working in Kiribati are attached to the MHFP, except for the CLO for WHO Nine doctors are expatriates and two of the local doctors are retirees who have been re-employed. The remaining technical health care workforce is made up of twenty nine (29) Medical Assistants and 165 registered nurses, most of whom are stationed in Health Centres or Dispensaries within the rural population of the outer islands.

6.2. Administration of the MHFP.

As mentioned earlier, the Administration of the MHFP is also based at the TCH under the political leadership of the Minister, who is currently advised by his Permanent Secretary and two Directors in charge of Public Health and Hospital Services respectively. A Director General of Health as the top administrator has been approved by Parliament but no suitable candidate has been identified so far.

Other Senior Administrative Officers who are based at the TCH as Coordinators and Officers in charge of Ministry programs include the following;

- Chief and Deputy Chief Nursing Officers,
- Senior Medical Doctor in Charge of Medical Assistant Training,
- Principal Nursing Officer in charge of the School of Nursing,
- Senior Health Education Officer,
- Health Information Officer in Charge,
- Environmental Officer in Charge and Senior Health Inspector,
- National Coordinator of Healthy Islands,
- Senior Nutritionist in Charge of Nutrition Centre,
- Senior Public Health Nurse,
- Chief Pharmacist,
- Laboratory Superintendent,
- Senior Assistant Secretary.

6.3. District Principal Nursing Officers.

Principal Nursing Officers are the senior District administrators responsible for the implementation of the PHC approach and services provided by MA's and RN's, who look after the HC's and Dispensaries in the six Districts. They also coordinate and spearhead various health programs for which they have specific expertise through special training. The list includes the following;

- Tarawa District and EPI,
- South West District and MCH,
- Northern District and RH/FP/SH,
- Central District and Nutrition,
- South-East District and CDD plus NCD,
- Linnix Group and ARI,
- TCH and HIV/AIDS.

6.3. Human Resource Development.

This is one of the main reasons for developing the Workforce.

6.3.1. Training System and Institutions..

(1) Doctors.

These are trained at the Fiji School of Medicine (FSM) in Suva or the Faculty of Medicine of the University of Papuaniugini (UPNG). Other Medical Schools in Australia and New Zealand also offer training, although the high costs and low success rates, coupled with incompatibility of cultures for training in these two countries, are disincentives to sponsors in particular, because there is also the real possibility that graduates from Australia or NZ, may not return to Kiribati.

(2) Other Health Practitioners.

(i). Dentist & Dental Therapists.

Dentists may be trained at FSM, NZ or Australia but the same barriers faced by Doctors for NZ and Australia also apply. Dental Therapists may be trained at FSM or UPNG.

(ii) Nurses.

There is a three year basic Nurse Training course at the TCH which also offers Post-basic courses in Midwifery and Public Health Nursing, both of which were only available previously from the Fiji School of Nursing.

(iii). Pharmacists, Radiographers, Medical Laboratory Technologists, Nutritionists/Dieticians, Environmental/Public Health Inspectors and Physical Therapists (or Physiotherapists).
There are 3-year Diploma Programs available at FSM for all of the above cadres of health workers, and UPNG also offer 3-year degree courses for the first three cadres of health workers. Studies and training may also be taken in Australia or NZ, where high costs, low success rate and cultural constraints also apply.

(iv). Medical Assistants.
Kiribati has its own MA Training program where selected Nurse graduates are given an additional year of higher training and learning in PHC to become MA's.

7. ENVIRONMENTAL HEALTH.

7.1. Environmental Health & Sanitation.

An unhealthy environment due to poor sanitation is the scourge of undeveloped and developing communities world wide, because of the high incidence of water borne and fecal-oral sources of infections. On an atoll setting where the storage and source of water is not only inadequate but easily polluted as well through the improper disposal of waste, the challenge of maintaining a healthy environment is very daunting. Therefore, adequately addressing and resolving such a problem becomes a huge challenge in which the multi-sector approach would appear to be the most appropriate strategy. The three sectors concerned are;

- Health; through its Environmental/Public Health Department,
- Public Works; through its Public Utilities Board,
- Municipal & Rural Councils; through their Waste Disposal Units.

7.1.1. Environmental & Public Health Department.

This consists of five professionally qualified and five locally trained officers who work in close collaboration with Councils and the Utilities Board, in an advisory capacity. Primary responsibility here is adequate and proper disposal of excreta. More than 50% of the population from the rural community, are now using water sealed latrines. Solid waste, especially the non-degradable variety, is also a problem for communities living on atolls, where proper disposal of rubbish requires constant and strict monitoring. Safe water for human consumption, be it collected from rain and stored, or from domestic wells, is also a collaborative undertaking with Municipal authorities.

7.1.2. Municipal/ Rural Councils & Public Utilities Board (PUB).

Collaboration with the MHFP is already explained above. All three authorities work very closely with each other in the supply of piped water and disposal of human waste. The sourcing and storage of water as well as the installation of the reticulating system and network requires effective collaboration between these three bodies. Building the infrastructure needed for this as well as a proper sewerage system is the responsibility of the PUB.

7.2. Pollution.

7.2.1. Water Pollution.

Pollution of shrinking water lens by the surrounding sea water as the result of no rainfall, is a problem that atoll communities constantly face. Other than proper placement and location of the well site at the middle of the water lens, or praying for rain however, there is little that can be done to counteract this, and in the situation where there is not much land mass above the sea level anyway, the prolonged absence of rain that can lead to a drought will have devastating effects.

Pollution of the surrounding sea water by domestic and commercial waste is a more serious and worsening problem for atolls, especially within the lagoons and underwater craters of these submarine land masses. Seepage or drainage of fecal waste water has pathogenically contaminated the lagoons of heavily populated atolls such as Tarawa. Swimming in or eating marine life from these waters pose the real risk of becoming infected with gastro-enteric bacteria. Some of these discarded non-degradable waste material in lagoons or surrounding ocean waters also threaten certain marine life that may eat indigestible plastic compounds with no nutritional value that may harm their digestive systems.

7.2.2. Air Pollution & "Green House Effect".

Kiribati, like other developing communities of small island nations in the Pacific, which have no industrial base or heavy motor vehicle usage, contributes little if any, to the pollution of the atmosphere with waste carbon gases that is slowly and insidiously warming the temperature of sea water and mother earth itself. This is a scientific fact which is well known to the atmospheric air polluters of heavily industrialized societies in the highly developed world, because it is conclusively demonstrated in theory and practice, that the level of seawater world wide is rising slowly and surely. Atoll islands with land masses of only a few metres above sea level, like all the islands of the Kiribati group, are therefore slowly sinking or drowning because of the rising waters of the Pacific ocean.

Research Findings.

Scientists from Showa College of Pharmaceutical Sciences in Tokyo have been collaboratively investigating with Quam University, the rise of the sea level of Tarawa lagoon, in these past five years. Discussions with the Japanese Professor who is conducting field measurements, showed that ***the depth of the lagoon and the level of the sea water had risen by 38 mm. during the past five years, with high tide now measuring 1 metre more than it did five years ago.***

7.2.3. Occupational Health.

In a small island economy where the vast majority of the population live and work in subsistence employment within the natural environmental of its rural surroundings, occupational health is not a problem. The morbidity data for 1992 - 1996 showed yearly patient contacts of over 20,000 for wounds and sores, and over 100 for accidents, virtually all of which are from motor vehicles. Health education is all that needs to be pursued at the moment in counteracting the present situation.

8. INTERNATIONAL COOPERATION IN HEALTH.

8.1. Cooperation by Donors as Development Partners.

8.1.1. International Organizations.

(1). World Health Organization (WHO).
The WHO maintains an Office with a Country Liaison Officer (CLO) in Kiribati for many years now, and it is currently and conveniently located within the TCH complex. In addition to having specific Projects as part of WHPRO Collaborative Programmes, it also acts as the executing agent for programmes such as EPI and Reproductive Health (PH/FP/SH) which are funded by other UN Organizations such as UNICEF and UNFPA. Disease Control programmes like Tuberculosis, Leprosy, etc have also been supported by WHO for many years. It is also one of the major sponsors which fund training fellowships as part of Human Resources Development for Health.

(2). United Nations Children's Fund (UNICEF).
UNICEF has traditionally sponsored Childhood Survival projects in a number of areas in the Pacific over many years. These includes its Expanded Programme of Immunization (EPI), Growth Monitoring, Childhood Nutrition, including Breast Feeding, and so on. Vitamin A deficiency and supplementation is one of the its successes in Kiribati.

(3). United Nations Fund for Population Activities (UNFPA).

The Reproductive Health Project that UNFPA funds and technically supports, is a very important one for Kiribati, given the Ministry's concern over the excessive growth rate of the population, and its commitment to ensure that its strategies for the success of Family Planning can be effectively implemented. Control of STD, including HIV/AIDS is also part of the RH/FP/SH project.

(4). The Pacific Community (SPC).

Previously known as the South Pacific Commission, the SPC is collaboratively involved with WHO in a TB control programme for Kiribati. SPC is developing electronic health information networks which Kiribati is committed to be part of.

(5). Foundation for Peoples of the South Pacific (FPSP).

Initially established by USAID and currently supported by AusAid, this Pacific wide organization with a primary objective to promote and support community development at grass roots level, is very actively involved in Kiribati, and some of their projects include promoting PHC and health improvement.

(6). Asian Development Bank (ADB).

Negotiations to acquire funding from the ADB to support a major Water Supply project for Tarawa which is estimated to cost about ten million U.S. dollars, had been going on for sometime, and indications are that this should be approved in the immediate future, because all necessary preconditions for the loan have been complied with. The project will involve development of the source and storage of water in North Tarawa, together with the replacement, upgrading and expansion of the existing reticulation system, for the effective supply of fresh water to the whole of Tarawa. When completed, this project should resolve most of Kiribati's water supply problems well into the future.

8.1.2. Bilateral Cooperation and Support.

(1). Australia;

AusAid is based at the Australian High Commission in Bairiki and is apparently working collaboratively with the Kiribati government to provide technical and fiscal support of around five million (A) dollars for a major water supply project in Christmas islands, along the same concepts as the ADB funded Tarawa water supply project referred to above. AusAid has also been providing fellowships for human resource development through its Third Country Training scheme where training is undertaken in an institution located in another Pacific island country.

(2). Peoples Republic of China;

China also has an embassy in Bairiki which is probably the largest in Kiribati. There are four Chinese doctors from the Peoples Republic of China currently attached to the TCH on local contract for periods of 2 to 3 years initially. At the present time however, China is not involved with any other projects in health.

(3). New Zealand.

New Zealand's Overseas Development Aid (NZODA) programme is actively involved in development assistance to Kiribati, and although there are no major projects approved or contemplated at the moment, NZODA is still supporting its own third country training (3CT) scheme which provide fellowship support for human resources development, most of these being awarded to the health sector. NZODA also funds a Medical Treatment Scheme which enable patients with life threatening or very serious and debilitating conditions to be referred for further or proper treatment in a hospital in New Zealand.

(4) United Kingdom.

The British Government is winding down its development assistance programs in the Pacific and in Kiribati, it has a handful of VSO's and a couple of technical advisors working in the education sector rather than in health.

(5) United States.

The U.S. is also pulling out of the Pacific as a development partner, except for the Peace Corps which is still very much involved in education and community development.

8.2. Cooperation by Japan.

Japan International Cooperation Agency (JICA) has been, and is still very actively involved in bilateral cooperation and support for institutional and infrastructure developments in the Republic of Kiribati. Bilateral cooperation and interactive relationship between the two governments is still growing and expanding.

The 120 bed Tungaru Central Hospital, which was built and equipped under the financial support of JICA, has been in operation now for nearly a decade. More recently completed as well, was the project to rebuild, upgrade and expand the King George V High School complex. The biggest and costliest project however, which is still very much in its implementation phase and yet to be completed, is the reconstruction, rebuilding and expansion of the Wharves, Shipping and Cargo Handling Facilities at the Betio International Port. This is estimated to cost around 30 million (US) dollars when completed.

9. Impressions and Conclusions.

1. Health Administration.
Political commitment and support for Health Services in Kiribati appears to be well established and strongly endorsed, with around 15% of the National Budget earmarked for it, enabling a per capita spending which compares very favourably with other Pacific Island communities. The recently created position of Director General of Health is additional evidence of government's determination to ensure proper and effective leadership in the management of health services, although whether it can be filled by an appropriately qualified local person remains to be seen.

2. Reproductive Health, Family Planning and Sexual Health (RH/FP/SH)
The special emphasis on RH/FP/SH is a laudable undertaking by the Ministry, given the magnitudes of the problems and challenges it is confronted with in these areas. For a country that is religiously dominated by the Roman Catholic faith, Kiribati faces the daunting task of trying to effectively promote and implement family planning and reduction of its population growth rate. Despite the technical commitment to address this problem (as evidenced by the change in the Ministry's name from Health and Social Welfare to Health and Family Planning or MHFP), it is still a big hurdle and major challenge to get the support and willing participation of the community in addressing problems in RH/FP/SH as manifested in its high population growth rate; high mortality rate associated with pregnancy and childbirth (including unspecified congenital debilities; and more recently as well as more seriously, the exploding incidence of HIV/AIDS infections and deaths.

3. Primary and Rural Health Care.
As one of the first Pacific Island communities to accept and implement Primary Health Care (PHC), health services in Kiribati is well and truly decentralized, because of the government's political commitment that ***every I-Kiribati shall be no further than five (5) kilometres from the nearest health care facility.*** *That is why there are 24 Health Centres and 52 Dispensaries in the country. Kiribati also developed its own Medical Assistant training programme that they would have the necessary skills and knowledge required to effectively run their Health Centres. The increase in numbers of rural Dispensaries ensured that the health care system is easily and fully accessible to everyone in Kiribati. However, to be still experiencing the high incidences of health problems associated with pregnancy, birth and postpartum situations implies that PHC is not being effectively implemented and practiced at all.*

4. Human Resources in Health.
I believe that the inadequacies in this area is the root cause to most of the health care problems that Kiribati is experiencing. These inadequacies relate to the numbers and quality of health workers, and includes secondary/tertiary care professionals as well as PHC workers. Half the doctors now working in Kiribati are either expatriates or retirees on re-employment, and with a current ratio of one doctor to nearly 4,000 I-Kiribati, the situation is anything but acceptable. Worse still however is the fact that there are not enough locals with specialist qualifications in the broad areas of Medicine, Surgery, Paediatrics and Obstetrics and Gynecology. Similarly, there should be real concern regarding the effectiveness of PHC workers such as Medical Assistants and Registered nurses who are looking after the Health Centres and Dispensaries. The magnitude of problems associated with pregnancy, birth and infant care, clearly show

that proper antenatal care, a very basic component of PHC, is not being effectively promoted and practiced. The growing concern about the rising incidence of Cervical cancer is more evidence of the failure of one of the most basic and fundamental prerequisites to effective PHC.

5. Tungaru Central Hospital (TCH).

It seems incredible that a secondary/tertiary health care facility which was planned, constructed and opened for operation less than ten years ago, can no longer cope with the demands it faces. TCH is over-capacitated and must be expanded and enlarged if it is to effectively provide the services it was designed for. A likely explanation for this unsatisfactory situation may be the "urban drift" of the population to Tarawa. It is also likely that the rural Health Centres and Dispensaries are not effectively discharging their service roles and people are therefore seeking care at the TCH. Whatever the reason for the over-loading, the reality is that TCH can no longer provide the services it was designed for without the necessary renovations to enlarge and expand its present capacity.

6. Information and Data Processing.

The recently established Medical & Health Statistics Unit at the MHFP and TCH is a step in the right direction. Such information is necessary if the Ministry is to be able to evaluate and assess its overall performance as well as those of the individual it employs. In this age of interactive and expanding technology for information exchange, it is important for the Ministry and TCH to be in touch with the outside world.

7. Health Workforce Training.

As stated earlier, the shortages in this area must be urgently addressed particularly in relation to Doctors at the undergraduate level as well as for the training of Specialists. Effective support may be through the provision of relevant training fellowships. Similarly, the training of Medical Assistants needs to be reassessed in order to produce a product that would effectively discharge the service role of the rural Health Centres. A strategic plan should also be in place to provide better and on-going supervision of Health Centres and Dispensaries by senior staff from the Ministry and Hospital. It may also be possible to develop a bridging programme for the best of Medical Assistant graduates to enter the MBBS course at the Fiji School of Medicine somewhere in the middle of the programme.

HEALTH SERVICES IN TUVALU.

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TUVALU

NANUMAE

NIUTAO

NANUMANGA

NUI

VAITUPU

NUKUFETAU

FUNAFUTI

NUKULAELAE

10°

NIULAKITA

180°

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HEALTH SERVICES IN TUVALU.

1. HEALTH ADMINISTRATION AND PLAN.

1.1. National Health Administration and Plan.

1.1.1. National Health Administration Organ.

The Health Services of the Government of Tuvalu is under the full jurisdiction of the Ministry of Health, Women and Community Affairs, Education and Culture. The Minister is therefore advised by two Permanents Secretaries, and for Health, Women and Community Affairs, the incumbent appointee is a career administrator who is not a health professional. She accordingly relies on her Director of Health Services and Director of Public Health, for technical advice on all health issues from health promotion, to disease prevention and curative care, at every level of service provision.

There were 70 employees of the Health Ministry in 1997 and 82 this year. Four of these are doctors, two in dentistry, thirty seven (37) in nursing, nine (9) Sanitation Aides, seven (7) Orderlies, and one each for other categories of health professional or administrative personnel. Three newly graduated young doctors will become part of this team later this year when they join the service in April, on completion of their internship training in Fiji.

1.1.2. Financing Health Services.

The latest available figures indicate that the Health sector was allocated just over 10% of the National budget, and that the per capita recurrent expenditure on health care came to $50.53. This may be compared to Kiribati, its closest neighbour and former fellow colonial inmate, which has about nine times the population, but with a per capita health expenditure of $98.93, which was 15% of its national budget.

1.1.3. National Health Plan.

The government of Tuvalu's **National Development Plan V** (for 1993 to 1997) also contained its ***First Five Year Health Development Plan*** for that same period as well. It is currently finalizing the next five year Health Plan for 1998 to 2002. Other than in the area of human resource development, forecasts and expectations, the 1993 - 1997 Health Development Plan pretty much accomplished what it set

out to do, and there is every reason to assume that Tuvalu's next five year Health Plan will continue the successful trend and pattern already set. The areas that are being objectively targeted, in order of priority include:

- health workforce,
- maternal and child health,
- family planning,
- disease prevention,
- and health services.

The thematic thrust of that plan is to focus on and reemphasize primary health care (PHC) in addressing the special needs of the rural population. An associated need which is essential for continuing improvements in Tuvalu's health services is the development of human resources in health and in that regard, a Health Workforce Plan will be included as part of the **National Manpower Plan** which is being developed for the next ten years.

The Ministerial policies that set the direction, goals and planning objectives for the health sector, as reflected in the previous Medium-Term Economic Framework Programme were;

- provision of improved care at all levels,
- reduction of communicable diseases,
- promotion of accident prevention,
- improvements to standards of efficiency of curative care,
- strengthening of staff and facilities at the referral hospital (PMH or Princess Margaret Hospital) on Funafuti island, and at facilities on the outer islands,
- increased collaboration between the Public Health Services Unit and other agencies,
- continuation of the New Zealand/Tuvalu Medical Treatment Scheme,
- continuation of scheme covering visits by Australian eye and skin specialists.

1.1.4. Island Councils' Health Administration & Plan.

The recently passed Fale Kaupule Act gave the eight Island Councils substantial autonomy for the governance of their social services such as health and education, at the local community level. Whilst the specific details are yet to be spelt out for the health sector, it seems likely that the cost of putting up and looking after their own health care facilities, equipment and supplies (including accommodation for personnel), will be borne by each Island Council or Kaupule. The Ministry will be responsible however for providing the necessary professional staff.

2. DERMOGRAPHY.

2.1. Total Population, Growth Rate & Distribution By Age.

The most recent census in 1991 puts Tuvalu's population at 9,043 which gives a 23% increase on its 1979 population of 7,349. The population growth rate during 1992 to 1997 ranged between 1.5 and 1.8, compared with 4.1% when it seceded from Kiribati to become independent in 1978.

At its present growth rate, the population is estimated to be around 10,000 by the start of the new millennium. It will be a relatively young population where around 45% of the people will be below fifteen (15) years of age, over 50% will be aged between 15 and 54 years, but less than 5% will be 55 years or older.

2..2. Population Distribution By Island.

Tuvalu is made up of nine atolls, eight of which are permanently populated. The government administration is in Funafuti, the most densely populated atoll with more than one third of the population. The second most populated atoll is also the biggest, with about one fifth of the 24.4 square kilometres of total land mass, and one quarter of the population. About 100 people live on the least populated atoll.

2.3. Fertility Rates.

About 250 babies were born each year between 1990 and 1995, ranging from 230 to 269. More than 70% of all births were in Funafuti's Princess Margaret Hospital (PMH). Based on these figures, the crude birth rate averaged 27.6 within a range of 25.3 to 29.7 for those six years. Similarly, the average total fertility rate would be 3.1 over a range of 2.5 to 3.5.

2.4. Mortality Rates.

During the same six years, the Crude Death Rate decreased from 11.2 to 8.2 whilst the Infant Mortality Rate dropped from 39.1 to 36, then rose to 49.8 in 1995. This produced a 1.76 rate of natural increase for the population over that period. Life expectancy was estimated at 57 and 60 years respectively for males and females in 1979, then increased respectively to 62.44 and 64.88 years in 1997.

3. EPIDEMIOLOGY.

3.1. Overview.

Collecting and processing health statistics is just starting to make its contribution to Health Services in Tuvalu, with the recent appointment of a Health Statistician at the PMH. This lone officer is however deployed at levels 8 and 7 in a rank order that starts at 10 and finishes at 1, being actually placed lower than staff nurses, dental, or laboratory assistants. Statistical information and analytical assessment of data is therefore still very much in its infancy, and will take some time before it finds its rightful place within the administrative bureaucracy.

Available data on the leading causes of death for Tuvalu is shown below;

- ill-defined causes,
- still births and perinatal deaths,
- senility
- cerebrovascular accidents,
- liver diseases,
- diabetes mellitus,
- meningitis,
- heart diseases,
- pulmonary tuberculosis.

As is obvious from the above list, the imprecise collection and handling of data is also compounded by inadequacies elsewhere, including poor diagnoses, such as ill-defined causes and senility; all of which contribute also to the lack of validated information and accurate statistics on health services in Tuvalu.

3.2. Morbidity.

Between 1990 and 1995, there were 34,962 patients suffering from diseases that come under the notifiable category, and the four leading causes were;

Disease:	Number of Cases:	Percent:
Acute Respiratory Infection	21397	61.2
Diarrhoea	8803	25.1
Conjunctivitis	2872	8.2
Fish Poisoning	838	2.3

Available data for 1993 to 1995 showed that the ten most common presentations for medical management and treatment at the PMH were;

Presenting Condition.	**Number of Cases.**
Obstetrics	556
Pneumonia/ARI	205
Diarrhoea/GIT	191
Cardiovascular	71
Diabetes	52
Accidents	48
Tuberculosis	42
Skin Diseases	41
Gynecology	39
Musculo-Skeletal	31

3.2.1. Child Health.

Although stillbirths and perinatal deaths is the second on that morbidity list, the infant mortality rate averaged only 37.4 deaths per 1000 live births between 1982 and 1986, then dropped to 26.5 from 1990 to 1995 which, for a least developed community in the Pacific, is not too bad at all. Immunization and family planning have been successfully implemented in Tuvalu, and the flow on benefits to the health of children are clearly seen. Diarrhoea, malnutrition and infections of the respiratory tract are still problematic in Tuvalu, although not as bad as elsewhere in some of the other Pacific island communities.

3.2.2. Women's Health.

The health of the women of Tuvalu is not as worrying as that of Kiribati women, and a likely contributing factor here would be the success of Family Planning in one community but failure in the other. Whereas perinatal death and stillbirths is a health problem in Tuvalu, there is no associated maternal mortality. Increasingly worrying however, is the rising incidence of cervical cancer.

3.2.3. Adult's Health.

Cerebrovascular accidents, liver diseases, diabetes mellitus, heart problems and tuberculosis, are diseases in the top ten causes of mortality for Tuvalu. The rising level of socio-economic status and the progressive invasion of Western-type food items into the Tuvaluan diet, together with lifestyle changes towards less exercise and physical exertion, is a real concern to the health authorities. Cigarette smoking and tobacco consumption is also unfortunately still on the increase.

3.3. Infectious Diseases.

The table of notifiable diseases, lists acute respiratory tract infections, diarrhoea and conjunctivitis as the top three diseases encountered during 1990 to 1995. These three diseases account for 94% of all notifiable diseases which presented for treatment by the health services.

3.3.1. Immuno-Preventable Diseases.

E.P.I. or extended program of immunization has been successfully implemented by the Health services in Tuvalu. Returns from 1990 to 1995 showed that coverage is very high indeed, at 92.2%, 85.1% and 85.5% respectively for B.C.G., Polio and D.P.T. (Diphtheria, Pertussis and Tetanus) respectively during that period. On the other hand, immunization against Hepatitis (H.B.V.) only started in 1994 with a coverage of only16.7%, which improved to 49% in 1995.

3.3.2. Diarrhoeal Diseases.

As the third highest cause of morbidity, diarrhoea is still a very significant health problem for Tuvalu. There is strong correlation between the disease and adequacy of water supply, as evidenced by the 1990 cholera outbreak in which three people died. The incidence of the disease is however declining, with a drop in the number of cases seen, from about 2,000 in 1990, to just over 1200 in 1995.

3.3.3. Acute Respiratory Infection (ARI).

ARI constitutes the second highest cause of morbidity from available data up to 1990, as well as from the 1992 to 1994 statistics. It is also the most common ailment in the list of notifiable diseases for 1990 to 1995. Fortunately however, mortality figures for ARI are relatively low, and not amongst the top ten causes.

3.3.4. Tuberculosis.

This was a relatively serious problem in the past and was actually at number 9 for the top ten causes of mortality during 1990. Effective counteractive and preventive measures, including universal BCG immunization and multi-drug therapy, have however, reduced the incidence and severity of the disease in Tuvalu. If necessary, there is provision for inpatient management, with one or two beds at PMH.

3.3.5. Leprosy.

This is no longer the problem it was in the past and for all practical purposes, it is all but eliminated. In this regard therefore, the health authorities are asking for the same WHO Consultant who had worked in Kiribati for a number of years, to carry out an evaluation assessment of leprosy in Tuvalu.

3.3.6. HIV/AIDS.

There is only one confirmed case of this dreaded disease, but because Tuvalu also has a Marine Training School, and many of its sailors also go overseas as seaman in foreign ships, the Public Health authorities are aware of the threatening danger.

3.3.7. Other Infectious Diseases.

(1) Dengue.

Dengue fever is not a problem in Tuvalu because like Kiribati, the haemorrhagic and life threatening variant of the disease has not been encountered. The physical environment of its sandy and coral atoll soil structure is also not conducive to the breeding of its mosquito vector, and epidemic episodes of the disease.

(2) Filariasis.

This is a serious problem because the condition is endemic in Tuvalu, which had an infection rate of greater than 10%. Mass treatment campaigns against filariasis were therefore undertaken in 1973 and 1984, but a 1985 survey showed that 13% of the population were still infected. Fortunately, the chronic form and serious complication of elephantisis is rarely encountered.

(3) Viral Hepatitis.

Like Kiribati and most other Pacific island communities, this endemic problem is one that has to be aggressively addressed. Vaccination against Hepatitis B started in 1994 and is at the stage now where 100% coverage has been achieved.

3.4. Non-communicable Diseases and Injuries.

3.4.1. Malnutrition.

Unlike its neighbour, Tuvalu does not have the problems of Vitamin A or other similar dietary deficiencies that Kiribati has. Tuvalu does however portray the Pacific wide trend of nutritional excess, through increasing fat consumption and refined carbohydrate intake, giving rise to the adverse consequence of obesity, hypertension and diabetes which are further aggravated by physical inactivity.

3.4.2. Chronic Degenerative Diseases.

As stated above, the effect of lifestyle changes and inappropriate dietary intake is putting many Tuvaluans at risk of Diabetes, Hypertension, Cardiac and Vascular diseases such as Strokes, Kidney Failure and Myocardial Infarction etc. Gout is also becoming increasingly seen.

(1) Cardiovascular Diseases.

The available data on mortality showed that cerebrovascular accidents and heart diseases are in the top ten causes of death in Tuvalu. Ill-defined causes of death and senility are also high on that list and it is most likely that the real cause of death in these instances, are the result of cardiovascular pathology.

3.4.3. Mental Disorder.

This is not a problem in a country with a population base of less than 10,000. The Health Services is nevertheless catering for this, through the provision of a few beds for mentally ill patients at the PMH complex.

3.4.4. Injuries and Accidents.

Data given for patients seeking help in 1992 to 1994 as the result of what were diagnosed as Accidents & Injuries showed 48 or just over 3%, which was ranked sixth for the total number of patients seeking medical treatment during the three years. With very few roads and vehicular traffic, coupled to the absence of major industries, the accidents and injuries concerned are unlikely to be very serious or life threatening.

4. HEALTH PROGRAMMES.

4.1. Primary Health Care (PHC).

The PMH in Funafuti is the only secondary (or tertiary) health care facility for the whole of Tuvalu, and PHC is therefore the mainstay of its overall Health Services. There are Health Clinics in each of the eight islands which are manned by one or two nurses, a Maternal & Child Aide whose responsibilities include home visits, follow up of cases and delivery of medications; plus a Sanitation Aide who looks after water quality and storage, sanitation requirements and household cleanliness.

4.2. Expanded Programme of Immunization (EPI).

As stated earlier, the EPI has been a success in Tuvalu with 92.5%, 85.1% and 85.5% coverage respectively for BCG, Polio and DPT vaccination. Immunization against HB/V which started in 1994 is now close to full coverage. Unfortunately, the mandatory prerequisites essential for effectively maintaining the ***cold chain*** is not always strictly observed within the rural island environments of Tuvalu.

4.3. Nutrition.

For a least developed community, nutritional deficiencies in terms of inadequate intakes or proteins, essential vitamins and minerals or calories is not a problem. The problem of malnutrition for Tuvalu is the excessive consumption of the wrong kinds of food which can lead to obesity, diabetes, hypertension and cardiovascular diseases, as already referred to earlier. Intensive and effective Health Education of the community is the only strategy likely to work. Unfortunately, many of those who are supposed to be undertaking the health education task are invariably the worst offenders themselves.

4.3.1. Maternal and Child Health (MCH).

This is a focal area for the Health Services and covers the range of MCH services from antenatal through to postnatal care, breast feeding, well baby clinics (or fale pepe) for growth monitoring and EPI. For outer Island Health Clinics, Maternal and Child Aides support the Nurses in the delivery of MCH services, including home visits. With the high population density in Funafuti where more than 70% of births (including all primigravid mothers) take place, there are three additional Child & Maternal Health Clinics to complement the services provided at PMH.

There have been significant improvements in the health status of mothers and children and every effort is being made to ensure that the successes in EPI, family planning, and education for the prevention of diarrhoeal diseases and ARI will be effectively sustained.

4.4. Family Planning.

One of the Ministry's major concerns was the rate of growth and distribution of the population. Supporting and encouraging family planning therefore became a priority policy commitment for government through targets and objectives to slow down the population growth rate by:

- reducing the population growth rate to 1.5% or less,
- increasing 1992 levels of contraception coverage by 25%,

- reducing 1992 levels of infant and maternal mortality rates by 25%,
- ensuring that MCH/FP information and methods are easily accessed.

UNFPA and WHO have fiscally and technically supported a $250,000 five year MCH and FP programme which had successfully addressed these issues. Family Planning services are now provided widely through the PMH, the Health Clinics plus the Child and Maternal Clinics. Health Education on Family Planning is also provided by these Clinics, Tuvalu Family Health Association (with support from IPPF) and the National Council of Women. The Protestant Church of Tuvalu is also supportive in its promotion of Family Planning.

From 1990 to 1995, an average of 1,046 women annually, were totally protected against pregnancy. This is just under 50% of all women of reproductive age, a most laudable achievement indeed for a least developed community. Thirty two percent of the women used Depo Provera and another 17% had been sterilized. An additional 6% of practitioners were new starters, 22% had discontinued, compared with 29% who restart each year, in accordance with planned conception.

4.5. HIV/AIDS Control.

Although not a problem yet for Tuvalu, the Marine Training School which trains and graduates seamen as ship's crew for overseas based maritime companies is a portal of entry to Tuvalu for the killer disease. Very stringent monitoring control is needed to prevent a possible calamity should the disease get established. Intensive Health Education and better awareness of this danger at all levels and in different sectors of the community is indeed mandatory.

4.6. Diarrhoeal Diseases.

Health Education at the community level through intensified contact between the staff of the rural Health Clinics and members of the community, have focussed on how to prevent the condition, to effectively treat it at home by rehydration therapy, and to seek immediate medical assistance, if progress is unsatisfactorily.

4.7. Other Infectious Diseases.

Accurate data on morbidity and mortality disallows precise information but what is available indicates clearly that whilst the presence of communicable diseases are decreasing, non-communicable diseases due to changes in life styles are rising.

4.7.1. Tuberculosis Control.

The universal coverage and success of BCG vaccination in Tuvalu, coupled with the effectiveness of Multi-Drug and DOT therapy has virtually eliminated the threat of this once endemic problem.

4.7.2. Leprosy Control.

The official feeling and views of Health authorities in Tuvalu is that this scourge, which been a chronic and prevalent cause of morbidity in the past, is also no longer a health threat for the community.

4.7.3. Dengue Fever.

This is virtually non-existent in Tuvalu and only a very few cases of dengue-like cases have been seen by the health services.

4.7.4. Filariasis Control.

Attempts to eradicate this condition through mass medication trials in the past have been unsuccessful and available data suggests a prevalence rate of between 10% and 15%. The absence of the usual complication of elephantisis in those who are affected reduces the seriousness of its presence amongst a significantly high proportion of the population.

4.8. Other Diseases.

4.8.1. Cardiovascular Disease Control.

As stated earlier, non-communicable diseases have been increasingly apparent as the prevalence of communicable diseases decline. Cerebrovascular accidents, heart diseases and diabetes mellitus are now high up the list of causes of mortality for Tuvalu. Number one on that list are Ill-defined causes, most of which are probably due to cardiovascular pathology. The size of the population and the total number of cases seen is still too small to cause much concern at present.

4.8.2. Cancer Control.

Given the size of the population, cancer is not a serious problem in Tuvalu even though cervical and lung cancer are the two malignancies which have recently emerged as health challenges, because one is preventable through giving up

smoking, and the other can be successfully treated if detected early through the use of PAP smears.

4.8.3. Blindness Control.

Cataracts are likely in a the tropical climate and many of the elderly in Tuvalu are afflicted with this condition. AusAid funds a programme which sends visiting ENT Specialists to Tuvalu to treat sufferers from these diseases.

4.8.4. Rehabilitation.

The Health Services does not deploy any physical therapists or rehabilitation workers.

5. HEALTH SERVICE DELIVERY SYSTEM.

5.1. Health Facilities.

There is no private sector involvement in the provision of Health Services in Tuvalu, which is provided as a freely accessible government service, under the responsibility of the Ministry of Health, Women and Community Affairs, Education and Culture. The only non-government organization with associated ancillary services in the health sector is the Red Cross.

The major problems faced by Tuvalu for the effective delivery of Health Services and the improvement of the health of the community are centred around the following areas;

- health workforce,
- population growth,
- environmental health and communicable diseases,
- management of health services.

5.1.1. Public Sector.

The thirty (30) bed Princess Margaret Hospital (PMH) in Funafuti is an inpatient referral hospital that was opened twenty two years ago. It consists of three wards (maternity, women's and men's), an X-ray unit, a pharmacy plus a pathology laboratory as well. There is also a general outpatient clinic as well as special MCH clinics (prenatal, postnatal and well baby), because more than 70% of births and deliveries, including all primigravidas, take place at PMH.

There are also Health Clinics or Dispensaries on each of the outer islands, each of which has a surgery, delivery room, dispensary, patients' waiting area, stores and staff rooms. Special MCH clinics (Fale Pepe) supplement these health clinics in the more populated islands. These Clinics are manned by two nurses, one Maternal and Child Aide as well as one Sanitation Aide.

5.1.2. Private Sector, Missionaries and NGO's

There is no private sector and the only other health service related activities are provided by the Red Cross, National Council of Women and Women's Church groups.

5.2. Logistics.

5.2.1. Pharmaceutical Services.

There is a Dispensary and Store for Pharmaceuticals at PMH, which supplies all the outer island dispensaries. It has been operated mostly by expatriates including volunteer Pharmacists (VSO) from England, usually on short term contracts. The Ministry purchases much of its drugs and medical supplies from agents overseas although a significant amount come as donated gifts from a variety of sources, and not surprisingly, much of these pharmaceutical compounds are out of date. Nearly half the stores was discarded as out-dated drugs by the present Pharmacist.

5.3. Utilization of Health Services.

Between 1990 and 1995, an average of 50,885 outpatient visits to PMH or Health Clinics, were made each year, which constitutes more than five visits per year for each person in Tuvalu. Thirty three percent (33%) of these visits took place in Funafuti which also contains about 33% of the population.

For inpatient care, the average number of patients admitted was 816 per year over the same five year period, and almost 80% of these were admitted to the PMH at Funafuti. Whereas over 70% of all births occur also at the PMH, almost 70% of all deaths occur in the outer islands, implying that Tuvaluans come to the PMH for the birth of their off-springs, but would prefer to live and die in their own villages. The decision by the Ministry to decentralize health services by the establishment of Health Clinics in the outer islands to promote PHC, is therefore justified. But to ensure that its referral role is effectively discharged, a disproportionately large percentage of government expenditure and resources on health has been allocated to PMH, part of which is to provide support for the outer island Clinics.

Technical supervisory and in-service training visits have been unfortunately few and infrequent because of senior staff shortage at the PMH, irregular shipping and lack of other means of transport to the outer islands. On the one hand, the isolation of outer island Clinics demand that they have well trained staff with easy access to technical and material support, but on the other hand, such isolation, difficulties in transportation and communication act as obstacles to the necessary training and supervisory support.

5.3.1. Traditional Medicine.

This is part and parcel of communal existence throughout the small island nations of the Pacific, and Tuvalu is no exception. It is therefore acknowledged by the authorities as the first option of choice for most Tuvaluans seeking treatment or help for their health problems. The official strategy to counteract this therefore, is to educate people to seek the assistance of the formal health sector as early as possible, and to avoid being too late for effective intervention.

5.4. Managerial Information System.

Reference was made earlier to the unsatisfactory situation in Tuvalu in relation to the collection and processing of health information and data, which is definitely in need of development because, even though it is a small community, it is also one that has both national and international interests and obligations. The Situation Analysis carried out in 1992 identified weaknesses in its coordinating capabilities and capacity within the service, as well as with international agencies, processing of information and data, lack of feedback within the system, purchasing, handling and delivery of pharmaceutical supplies.

A series of strategic plans and objectives were developed to try and counteract the deficiencies identified, and these were included in the 1993 - 1997 First Five Year Health Development Plan. Many of these strategies are still to be implemented and most problems in this area are yet to be resolved satisfactorily.

5.5. Medical Insurance System.

There is none in Tuvalu other than what government provides in the form of a free health care system to everyone of its citizens, and the obligations and commitment of international bodies such as the UN agencies, Red Cross etc for humanitarian assistance and support.

5.6. Emergency Medical Assistance System.

(1). Hospital Emergency System.

Although the PMH is the referral secondary care institution which caters for all medical referrals from the outer island health care facilities, its capacity is limited in terms of technical resources and emergency life support systems. In addition to these constraints, the only way for evacuating and transferring of emergency cases to the PMH is by sea.

(2). NZODA Medical Treatment Scheme (MTS).

The MTS had been funded as part of the New Zealand Official Development Assistance Programme (NZODA) for eight Pacific island nations including Tuvalu, where life threatening or seriously debilitating conditions are referred to a hospital in N.Z. The Ministry of Health also refers emergencies which can be treated in Fiji's CWM Hospital in Suva.

(3). Red Cross.

The Office of Red Cross International in Tuvalu is situated next door to the PMH and provides ancillary services for health or community relief operations. It also operates in the outer islands, provides first aid training, training of mentally and physically disabled people to cope better with life. It also recruits blood donors.

5.7. Research Institutions or Activities.

There are no Research institutions or activities in Tuvalu at the present time.

6. HEALTH MANPOWER.

6.1. Medical Practitioners by Type.

Tuvalu's health services is grossly understaffed, especially for doctors. A Health Workforce Plan is therefore part of the National Manpower Plan being developed for the next ten years. The number of health workers and support staff for the whole of the health services totaled 70 in 1992, 72 in 1997 and 82 in 1998. Listed below are numbers of people per medical practitioner by type, based on the projected population;

Number of Population per Medical Practitioner (1999)

	Doctors	*Dentists*	*Nurses*	*Others*	*Combined*
Nationally	2,375	4,750	270	395	150

** Three more doctors will join the service in April, 1999.
The two currently re-employed local doctors are 74 years old.

6.2. Human Resource Development.

There are no health training institutions of any kind in Tuvalu, and the only avenue for local training is practical, on the job, learning by doing kind of health education and training. Maternal and Child Aides, Sanitation Aides and Orderlies are trained in this way. For other health workers, training are undertaken overseas.

Doctors are trained at the ***FSM; UPNG; Australia or NZ.***
Nurses are trained in Nursing Schools in ***Kiribati, Fiji, Australia or NZ.***
Other Health Workers can also be trained at ***FSM; UPNG; Australia or NZ.***
(FSM = Fiji School of Medicine; UPNG = University of Papuaniugini)

7. ENVIRONMENTAL AND OCCUPATIONAL HEALTH.

7.1. Environmental Health and Sanitation.

Safe water supply and sanitation are major concerns for all small atoll islands. For Tuvalu therefore, available water sources is mainly from private water catchments, communal or public water cisterns and ground water wells. Public cisterns depend on run-offs from large public buildings usually located centrally in each village, and had been the major source of drinking water supply in the past. By 1987 however, 85% of households had private water tanks and 70% had pit latrines, water-sealed or indoor flush toilets.

An important government policy for community development is water and sanitation with a goal that by 1994, all households will have access to safe water and sanitation facilities. The strategies deployed included;

- improved community water supplies through UNDP/UNCDF projects,
- stronger legislation in the water supply and sanitation sector,
- improved design for water supply scheme,
- better monitoring and quality testing facilities for drinking water,
- long term plans and designs for adequate water source and supply,

- more effective and appropriate technologies for the community,
- extend coverage of latrines and hygiene education programmes,
- upgrade skills and competencies of locally trained Sanitation Aides.

7.2. Sanitary Facilities.

At the time of independence, less than 50% of households had toilets but by 1994, between 80% to 86% of all households have sanitary facilities, most of which are water sealed latrines. Because of the small land areas of these atolls, pollution of the even smaller fresh water lens is a constant threat and siting and placement of sanitary facilities is very important and closely policed by Sanitation Aides. The seriousness of the situation was clearly evidenced by the cholera epidemic which killed three people in 1990, followed by a similar attack of cholera like illnesses in 1992.

7.3. Garbage Disposal.

This is a service that is provided by Island Councils with collaborative advise and support form the health services through its Environmental Health Inspectors. For the densely populated and somewhat urbanized community in Funafuti, there is the added challenge from the increasing volume of non-degradable refuge such as plastic or metal packaging of imported goods and food items, which can bee seen rotting or rusting away virtually everywhere.

7.4. Air Pollution.

In a rural island environment with little or no industrial activity, this is not a real problem. It is however worrying that the number of motor vehicles and motor cycles coming into Funafuti is virtually out of control. Nevertheless, the air pollution that is a problem for Tuvalu is the world wide "green house gases" effect on the rising sea level and the eminent threat of swamping Tuvalu underwater, a doomsday fate that it shares with its neighbour Kiribati.

This has lead to the formation of another Environment Unit as part of the Ministry of Natural Resources, which collaborates with the South Pacific Regional Environmental Program (SPREP) as part of the Pacific Islands Climate Change Assistance Program (PICCAP).

7.5. Water Pollution.

This is already dealt with under ***7.1. Environmental Health Sanitation*** above.

7.6. Occupational Health.

In a society where the major occupational activity is subsistence farming, fishing and domestic household chores, occupational safety is not a major concern. In the leading causes of Morbidity, accidents and injuries is not listed in the top ten, but in its strategic planning for control of common illnesses and diseases, accidents and injuries was regarded as among the major causes of morbidity.

8. INTERNATIONAL COOPERATION IN HEALTH.

8.1. Cooperation by Donors as Development Partners.

8.1.1. International Organizations.

(1). United Nations Development Programme (UNDP).
UNDP Volunteers (UNV) have been deployed in the Health Services for many years, the longest serving of which are doctors who take up two year renewable work assignments that cover and cater for Tuvalu's serious and long standing shortage of doctors over many years now. Pharmacists or other UNV health professionals, advisors or administrators within the health care system, have also been posted to work in Tuvalu during the past.

(2). World Health Organization (WHO).
Although Tuvalu is a full member of the Western Pacific Regional Office of the World Health Organization (WHPRO), it does not have a Country Liaison Officer (CLO), and is looked after by the South Pacific Representative for WHO, which is based in Suva. In addition to the various programmes that WHO specifically supports and promotes (human resource development in health, environmental health and sanitation, bulk purchasing and supply of pharmaceuticals, healthy islands, HIV and AIDS etc.) it also executes, coordinates and help to implement other special health programmes which are developed, promoted, supported and funded by other UN Health Agencies such as RH/FP/SH by UNFPA, EPI and Child Survival by UNICEF, Family Health Praogramme by IPPF etc).

One of WHO's major concerns is the development of human resources in health and in this regard, it provides both technical and financial fellowship support for the education and training of Tuvaluan health workers. It also plans and conducts in-country Workshops for in-service training and education of professionals and community health workers on various topics and issues that help to improve the provision of services and standards of health of the community.

(3). United Nations Children's Fund (UNICEF).
(4). United Nations Fund for Population Activities (UNFPA).
(5). International Planned Parenthood Federation (IPPF).
As stated above and elsewhere, the various health promotional and disease prevention programmes funded and supported by these Organizations are usually executed and coordinated by WHO and, in Tuvalu as elsewhere in the Pacific, they include **EPI, Childhood Survival, RH/FP/SH, Family Health Association etc.**

(6). Asian Development Bank (ADB).
Negotiations appear to have been successfully concluded for a loan by the ADB to help set up another ***Trust Fund*** that will provide the necessary revenue for the various Island Councils to locally manage and govern their own social welfare programs under the ***Fale Kaupule Act*** passed last year. This Trust Fund will be made up of 4 million US$ borrowed from the ADB, 3.5 million US$ provided by the Tuvalu's central government and 0.5 million US$ which will be raised by the different Island communities and their Councils. Interests from the investments of the Trust Fund will provide the on-going revenues for the role and operations of the Island Councils.

8.1.2. Bilateral Cooperation and Support.

(1). The Tuvalu Trust Fund.
Shortly after Tuvalu seceded from Kiribati when the former Gilbert & Ellis Islands colony was dissolved, it was also granted independence from its colonial masters. Tuvalu then managed to lobby and convince its former ruler, other donor nations, agencies and organizations, that as Tuvalu will never be able to achieve economic independence, these donors should give Tuvalu a bulk cash grant equivalent to the amount of future fiscal support that Tuvalu would be asking them for, and thereby enable Tuvalu to invest such funds on the international money market, to provide an ongoing source of revenue to run the country. That Trust Fund was indeed set up, and has been earning revenue for Tuvalu since; for example, 54% of the total government revenue of $(A)10,901,000 for 1992 was provided by the Trust Fund.

(2). Australia.
The Australian High Commission in Suva looks after Tuvalu as well although an AusAid office was just recently opened in Tuvalu to look after the many projects of cooperation and assistance that Australia supports. In health, these included the recent $1.27 million donated in 1996/97 for the improvement of its infrastructure which acquired a half million A$ Desalination Plant for the PMH. AusAid also just completed an equipment and facilities inventory appraisal and assessment study which is intended to promote and encourage proper maintenance and upkeep of the

various items concerned. The Tuvalu government is also encouraging the reform of the public sector with financial and technical support by AusAid.

AusAid also funds specialist medical teams that visit PMH annually to provide the expert treatment and management care of patients with E.N.T. or skin problems which the local doctors can not properly manage. AusAid similarly provides and funds fellowships for undergraduate or postgraduate training in health.

(3). Canada.

Canadian support through CIDA had funded the establishment and operation of a ational library and archives.

(4). Peoples Republic of China.

Although not involved in the health sector, China is supporting Tuvalu's tourism industry and government's capacity to undertake training programmes by building and donating to Tuvalu the only Hotel and Conference facility in the country.

(5). New Zealand.

New Zealand's Overseas Development Assistance (NZODA) programme provides a lot of support for the health sector in Tuvalu. It provides many fellowships for its Third Country Training (3CT) programme for development of human resources in health, as well as a Medical Treatment Scheme whereby seriously ill patients with life threatening or debilitating conditions which could not be treated locally, to be evacuated on referral to a hospital in NZ for further and proper treatment. It also recently bought a new X-Ray unit for the PMH.

(6). United Kingdom Volunteer Services Overseas (VSO).

Many health personnel on VSO assignments have been posted to Tuvalu. This includes the current Pharmacist at the PMH.

8.2. Cooperation By Japan.

The Japanese Government, through its Japan International Cooperation Agency (JICA) had just recently completed the construction of an upgraded Secondary and Primary School Project ***(Motufoua School)*** on Vaitupu, the largest island and the second most populated atoll in Tuvalu.

Also submitted in July, 1998 for Japan's Grant Aid, is a 690 million yen request for a ***Project For Construction And Supply Of Medical Equipment For Princess Margaret Hospital, Tuvalu.***

9. Impressions and Concluding Comments.

9.1. Administration and Leadership.
The chronic shortage of Doctors in Tuvalu during the past decade or so had negatively affected the direction and degree of progress of its health services, which had continued to rely on UN Volunteer doctors for sometime now. Thus the role of Princess Margaret Hospital (PMH) as a referral health care facility has been largely nullified by the lack of the necessary clinical expertise and sound leadership for it to function effectively, and by continuing with the onward referral of patients abroad, the capability of the hospital to provide proper secondary/tertiary care has been seriously eroded because of ineffective support services. This in fact is the rationale for the desire to have a totally new referral hospital constructed on the premise that it would be fully equipped to offer the full spectrum of proper management and treatment of patients who require secondary or tertiary care.

9.2. Health Workforce.
Until and unless the serious shortage of doctors is resolved, building a new and well equipped referral hospital will not remove the current problems and inadequacies in the health services. There are young Tuvaluan medical graduates entering the workforce now and in the near future, and these should be given further training in the various specialist areas of secondary or tertiary care that PMH should be able to provide. Depending on short term expatriate appointments will not solve the problem.

9.3. Outer Island Dispensaries.
With the passing of the Fale Kaupule Act last year, the stage is now set for the Island Councils to be actively involved in the provision of health care services to their own communities. Such a set up presents as an ideal platform for the effective implementation of Primary Health Care in the outer islands. To ensure that these outer island Dispensaries are effective in the roles they offer requires strong support from the staff and other resources of the PMH. Maintaining effective contact and communication between PMH and these Dispensaries is vital for such support and is one very good reason for having a boat of appropriate dimensions to service such a role.

9.4. Health Information System.
This is an area that needs to be further developed, not only for collecting and processing local health data, but for eventually establishing and maintaining information exchange with the outside world; particularly in terms of linking up with two E-mail regional services (PACNET and WPHNET) which provide surveillance and consultation services for health care.

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