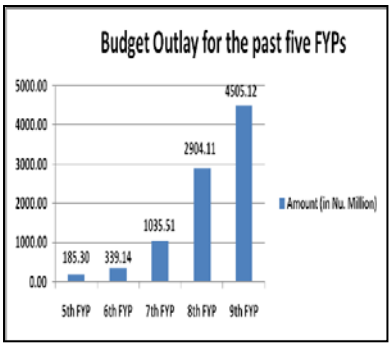
# 1 EXECUTIVE SUMMARY

## Why RAA did this study?

Article 25.1 of the Constitution of Kingdom of Bhutan and Section 3 of the Audit Act of Bhutan 2006 state that ***"There shall be a Royal Audit Authority to audit and report on the economy, efficiency and effectiveness in the use of public resources".*** In line with this important constitutional responsibility, the RAA is required to examine whether the Government agencies are achieving value for money in their operations. In doing so, the RAA not only looks at "what has been done", but also "what has not been done" to achieve the agencies' ultimate objective. The Performance Audit or the audit of 3Es of the Health Sector was selected based on the following performance audit selection criteria:

- Overall estimated audit impact on the agencies and the Government,
- Financial Materiality,
- Significance of the programme/activity to the overall development of the country,
- Risks to Good Management.

As evident from the Budget allocation, the RGoB has been according high priority to the health sector since the beginning of the first Five-Year Plan. According to World Health Organization (WHO), the current allocation of about 10% of the total budget, representing 4% of the GDP is considered to be the highest allocation for health in the region.




During the 9th Five Year Plan, a total budget of Nu. 4,505.12 million was allocated to the Ministry of Health for achieving the following targets:

- Enhancing the quality of health services and reaching the unreached;
- Strengthening traditional medicine system and its integration with the overall health services;
- Intensify HRD for health and establish a system of continuing education; and
- Strengthen health management information systems and research and their use.

In line with this, the Performance Audit of the Health Sector was taken up with the following main objectives:

- To determine input deliveries, activities and various targets/goals and objectives set in the Ninth Plan were achieved;
- To identify the actual implementation issues and the bottlenecks; and
- To evaluate and identify what methods and strategies worked best over time.

## What RAA found?

The Royal Audit Authority reviewed all relevant documents made available by the Ministry of Health, Department of Public Accounts and the Gross National Happiness Commission Secretariat besides visiting 13 Dzongkhags, 11 hospitals and 18 Basic Health Units. Based on the review of documents and other performance audit procedures, the RAA observed that the significant accomplishments were made by the Health Sector in providing health services. There were also issues and concerns noted which would impede the effective delivery of health services.

### Notable Accomplishments:

Several commendable progresses were made by the Ministry of Health (MoH) in the 9th Five Year Plan. Some of the notable achievements as observed from the Health Indicators are *(Refer Annexure A for details)*:

- The total fertility rate dropped from 4.7 to 2.6 against its target of 4.0;
- Population growth rate was reduced from 2.5% to 1.3% against the target of 2%;
- The infant mortality rate and U5 (under 5 years) mortality rates have also been steadily decreasing;
- Malnutrition and low birth weight have also reduced significantly, and the infant immunization reached 94.4%;
- 80% of the pregnant women attend ante-natal care 4 times or more; and
- Access to safe drinking water in rural areas increased from 73% to 83%.
- The expansion of the infrastructures by constructing 350 bedded hospitals in Thimphu in currently under progress besides construction of 150 bedded Regional Referral Hospital in Mongar and 150 bedded in Dagana District Hospital.
- The number of BHU's increased to 178 in 2007 from 166 in 2002, and likewise the number of ORCs increased to 519 from 455. Around 35 doctors joined the MoH during the 9th FYP period.
- Major equipments and technologies like the MRI, CT scan and dialysis machines were also introduced thereby enhancing diagnostic capacity within the country.

### Shortcoming and concerns:

The Ministry of Health has certainly come a long way and has been making steady progress in delivering health services to the people. However, the RAA also observed certain deficiencies and shortcomings which impede the effective delivery of services. Some of the significant observations are briefly summarised below:

- With the exception of very few programmes, the achievements were generally not evaluated against the set targets even at the end of the 9th Five-Year Plan, thereby

rendering the monitoring system ineffective. The Annual Health Bulletin, a window to the health sector performance highlights only the selected national health indicators thereby ignoring the evaluation of programme-wise achievements of its objectives and targets in a more comprehensive manner;

- There was no proper coordination at the grass-root levels between the health sector, other sectors and the local government to ensure efficient and effective use of resources;
- Most Dzongkhags have no performance indicators at the Dzongkhag level to monitor the quality of health care services and programmes of the BHUs and hospitals;
- Delivery of effective health services have been constrained by the shortage of technical staff, and in some cases equipment. Some of the state-of-the-art equipment were found lying idle due to lack of trained personnel to operate these equipment;
- The acute shortage of manpower is felt more in remote Dzongkhags and Gewogs. The ratio of physicians and nursing & midwifery per 10,000 population was found to be lowest amongst the SAARC countries;
- The standard diet has been provided for all in-patients, even though the patients suffer from different diseases which warrant different intake of diet;
- There seems to be an unequal distribution of health personnel in the BHUs and hospitals. Some have excess health staff while there were acute shortages in other BHUs;
- There were cases where right people were not deployed for the right job. People trained to handle particular equipments were found posted in areas where there were no such equipments;
- There is lack of proper awareness on the prevention of new lifestyle diseases such as diabetes, hypertension, cancer and obesity, alcohol diseases and peptic ulcer syndromes;
- Village Health Workers (VHWs) were found to be very instrumental in providing basic health services in the rural areas which are far from nearest health facilities. However, if training for the VHWs is not properly designed and job responsibility not explained, the VHWs program will just be a voluntarily program with high attrition rate ***(Refer Appendix A for a case study done on VHW programme);*** and
- The Vector borne Diseases Control Programme (VDCP) lacks proper infrastructure with research facilities. The VDCP office is currently housed in a rented building with limited opportunities for expansion. Their awareness campaign and the destruction of vectors needed to be made more effective.

The detailed observations are given in Chapter 3 and 4 of this report.

## What RAA Recommends?

Based on the audit conducted and in the light of audit findings, the RAA made some recommendations aimed at improving the effectiveness in the delivery of health care services in Bhutan. Some of the significant recommendations are briefly summarised below:

® Where ever the targets are set for the various programmes, the performance of the programmes should be gauged against the set targets, and appropriate course of actions drawn to mitigate any set-back;

® Effective coordination should be ensured between the Centre, Dzongkhag and the Gewog level for enhanced and effective delivery of health services and ensuring optimal utilisation of available resources;

® Existing system of recruitment, distribution and allocation of health workers should be reviewed and measures for ensuring fair and equitable distribution of health workers instituted. Right people should be given the right job;

® Line of responsibility to the DMOs and DHOs should be clearly defined setting appropriate health indicators to evaluate their output;

® Vector borne Diseases Control Programme should be strengthened through building its own infrastructures with proper research facilities, and developing competencies for carrying out research in other tropical diseases;

® Existing system of providing standard diet for all in-patients suffering from different diseases should be reviewed and possibility of setting different standards examined;

® The Ministry has plans to promote private medical care under the draft Economic Development Policy. However, the majority of the health officials who were interviewed expressed their scepticism on the appropriateness of the launching time. Therefore, the Ministry should conduct proper study and obtain feed back of stakeholders before implementing such plans; and

® The Health Ministry should ensure optimum utilization of equipments which were either not being used at all or to their fullest potential.

The detailed recommendations are given in Chapter 5 of this report.

# 2 INTRODUCTION

Traditional medicines were introduced in Bhutan during the seventeen century after the arrival of Shabdrung Ngawang Namgyel in 1616. The traditional medicine existed side by side with modern allopathic health care which was included in the national health system in 1967. The real expansion of infrastructure began only in the 1980's with the introduction of the primary health care system propounded at Alma Ata Declaration in 1978 to which Bhutan is a signatory.

The modern health systems and health infrastructure started in 1960's during the First Five-Year Plan with 2 hospitals and 11 dispensaries. During 1970's BHU's were established in certain areas. All theses facilities were staffed by expatriate doctors and nurses with very few national medical personnel. Modern allopathic system of medicine was formally introduced in Bhutan during the First Five-Year Plan.

Bhutan is a socially welfare oriented state providing free health care services to the people with provisions for referrals outside. The past five-year-plans have witnessed tremendous increase in the health care facilities, related infrastructure and the manpower. The RGOB has been allocating huge resources to the health sector with the aim of providing free health care facilities in achieving the noble concept of Gross National Happiness. During the 9th Five-Year Plan, the health sector, as usual, saw unprecedented priority accorded.

Table 2.1: Health facilities

| Health Facilities | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|
| Number of hospitals | 29 | 29 | 29 | 29 | 29 | 29 |
| Number of basic health units | 166 | 172 | 176 | 176 | 176 | 178 |
| Number of dispensaries/outreach clinic | 455 | 440 | 476 | 485 | 514 | 519 |
| Number of indigenous hospitals | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of indigenous dispensaries | 19 | 19 | 21 | 21 | 21 | 26 |
| Number of doctors | 122 | 140 | 144 | 145 | 150 | 157 |
| Persons per doctor* | 5872 | 5245 | 5227 | 4379 | 4312 | 4197 |
| Number of hospital beds | 1023 | 1093 | 1113 | 1078 | 1133 | 1159 |
| Persons per hospital beds | 700 | 672 | 676 | 589 | 571 | 568 |
| Doctors per 10,000 persons | 1.7 | 1.9 | 1.9 | 2.3 | 2.3 | 2.4 |
| Hospital bed per 10,000 persons | 14 | 15 | 15 | 17 | 18 | 18 |
| Population covered by health care (%) | 90 | 90 | 90 | 90 | 90 | 90 |
| Population access to safe drinking water (%) | n.a | 71.0 | n.a | 84.0 | 81.4 | 82.3 |
| Women attended by trained personnel during child birth (%) | 24 | 46.7 | 53.6 | 52.3 | 57.1 | 53.6 |

The health sector's physical infrastructure consists of a four tiered network of a National Referral Hospital, Regional Referral Hospitals, District Hospitals and Basic Health Units (BHUs). The health services are provided through 29 hospitals, 178 BHUs and over 519 Out Reach Clinics (ORCs) covering approximately 90% of the population as exhibited in **Table 2.1**.

## Achievements:

As in the earlier five year plans, Health Sector continued to receive priority in the Ninth Five-Year Plan. During the 9th Five-Year Plan, a total budget of Nu. 4,505.12 million was allocated to the Health sector. Notable accomplishments, initiatives and impacts made by the Health Sector were as detailed below:

- The Medical and Health Council Act (BHMC) 2002 and Bhutan Medicines Act 2003 were endorsed by the National Assembly and accordingly Bhutan Health Council Secretariat and Drug Regulatory Authority were established in 2005. Tobacco was banned by the Ministry of Health and the nationwide ban on sale of tobacco product was implemented from 17th December 2004. In 2005, Narcotics Act was endorsed by the National Assembly;
- The reproductive heath activities have further gained momentum with Her Majesty Ashi Sangay Choden Wangchuck, the Goodwill Ambassador for UNFPA taking extra efforts and initiatives to educate and promote reproductive health issues to the people. Due to the deep socio-economic problems and the stigma of the community towards HIV/AIDS, a Royal Kasho on HIV/AIDS was granted by the Fourth Druk Gyalpo and a National Commission and Multi-sectoral Task Force for HIV/AIDS was formed;
- Tuberculosis is well under control and Tuberculosis programme had been framed in line with the international standard. A major oesophagus surgery was successfully conducted at Jigme Dorji Wangchuck National Referral Hospital (JDWNRH);
- In order to achieve quality in the delivery of health services, a Quality and Assurance Division was formed in the Headquarter. This division conducted a survey on the quality aspect in all the hospitals;
- Two Satellite clinics were built in Thimphu in order to decrease the mounting pressure in the JDWNRH. Most of the Outreach Clinics were upgraded to BHUs, and the nation currently boasts of 178 BHUs. Health Information and Counselling Services was opened in Thimphu and Phuentsholing. In 2000, Health Tele-matic project was introduced in Mongar, TrashiYangste and Lhunste to link and diagnose complicated medical cases;
- In the traditional medicine, tradition system of medicine was integrated with general health care system. Staffs were trained in pharmacology, animal studies, medicine chemistry, quality control and drugs testing. A MoU was signed with two universities in Mongolia;
- To enhance self-reliance and sustainability, user fees for echocardiography was introduced. The Health Trust Fund was operationalized and the total capitalized funds to date stands over USD 23 million. It also started contributing towards procurement of few essential vaccines;

- In order to retain the doctors and health workers and make medical profession more attractive, the government introduced allowances from January 2009 and medical grant to private medical students in March 2009. Doctors were also hired from Myanmar and six superannuated doctors were recruited on contract basis to handle shortage of doctors in the country;
- To a certain extent, the service delivery system in the hospitals, particularly JDWNRH was streamlined with the introduction of the electronic token system;
- In addition to providing health services through its network Regional Hospitals, District Hospitals, BHUs and the Outreach Clinics, the Ministry of Health also continues to refer patients outside country for better health service delivery for those that cannot be treated in-country;
- The total fertility rate dropped from 4.7 to 2.6 against its target of 4.0;
- Population growth rate was reduced from 2.5% to 1.3% against the target of 2%;
- The infant mortality rate and (under 5 years) U5 mortality rates have also been steadily decreasing;
- Malnutrition and low birth weight have also reduced significantly, and the infant immunization reached 94.4%;
- 80% of the pregnant women attend ante-natal care 4 times or more; and
- Access to safe drinking water in rural areas increased from 73% to 83%.
- The MoH expanded its infrastructures by constructing 350 bedded hospitals in Thimphu, 150 bedded Regional Referral Hospital in Mongar and 150 bedded in Dagana District Hospital;
- The number of BHU's increased to 178 in 2007 from 166 in 2002, and likewise the number of ORCs increased to 519 from 455. Around 35 doctors joined the MoH during the 9th FYP period; and
- Major equipments and technologies like the MRI, CT scan and dialysis machines were also introduced enhancing diagnostic capacity within the country.

Indeed, taking stocks of the accomplishment of the Health Sector, there has been considerable improvement in the delivery of health care services.

# 3 COMMON FINDINGS

## 3.1 Achievements of the 9th Five-Year Plan not evaluated against the set targets

With the aim of promoting the overall health care services in the country, the Ministry of Health developed 29 programmes for the 9th Five-Year Plan. It is commendable to note that each programme had its own objectives, targets and strategies. While it is important to develop such targets and strategies, it is equally important to monitor and measure the achievement of the set targets from time to time, so as to keep track of the achievements. However, it was observed that, with the exception of very few programmes, the achievements were not monitored and measured against the set targets even at the end of the 9th Five-Year Plan. Even the Annual Health Bulletin, a window to the health sector performance, highlights only the selected national health indicators thereby undermining the importance of the programme-wise achievements of its objectives and targets.

## 3.2 Absence of Performance indicators at the Dzongkhag Level

Performance indicators are an important benchmark to measure the actual performance, monitoring the quality of health care services, health programmes and also to assess the performances of the BHUs and hospitals in each Dzongkhag. They also enable the agencies in prioritising the allocation of resources according to the needs and constraints of each Health Centre.

In most of the hospitals and BHUs that audit team visited, there were no performance indicators set at their level with the exception of Trashigang Hospital. Performance indicators at the Dzongkhag level could help set proper directions in achieving the national indicators of the Health Sector. Most Basic Health Workers (BHWs) opined that their duty ended after compilation of the weekly and monthly reports and sending it to the Dzongkhag Health Sector. However, they prepare annual work plan based on the available budget and accordingly prioritize their work.

In the absence of such indicators, the audit had to review the annual work plans that merely outlined the activities that will be carried out during the year. For example, all BHUs provide de-worming tablets to the students of their respective locality. However, the hospitals and BHUs lacked targets to enable to assess the impact of the supply of the de-worming tablets such as measuring the reduction of worm infections.

In the case of promoting institutional delivery, the Dzongkhag maintains data on the total population of the Geog. The annual household survey shows the numbers of productive men and women in a particular Geog. It also has information on the total pregnant women and those who came for 1st ANC check-up. The health sector, however, does not set the target of achieving institutional deliveries by each health facility in order to achieve the set objective. Lack of such performance indicators at the grass-root levels could impede achievement of its national health indicators.

### Best Practice in Trashigang Hospital


*The Trashigang Hospital has developed its own targets aligned with the 9th FYP targets of the health sector. The table 3.1 (below) shows the National Health Indicators alongside the Dzongkhags' indicator which is an example of best practice. The alignment of the Dzongkhag target with the overall national target will facilitate in keeping proper track of the progress at the Dzongkhag level aimed towards achieving the overall national goal.*

*Such practices will also help the Ministry in keeping track of the achievement of the Ministry's targets and objectives.*

### *Table 3.1: Health indicators in Trashigang Hospital*

| Health Indicators | National Health Indicator | Dzongkhag Health 8th FYP (2001) | Achievement 9th FYP (2006) | Dzongkhag Target for 9th FYP |
|---|---|---|---|---|
| ***Reproductive Health:*** | | | | |
| Growth Rate in % | 2 | 2.2 | 1.20 | Below 2% |
| Contraceptive Prevalence Rate in % | 60 | 29.4 | 64.70 | More than 70% |
| Maternal Mortality Rate | 2 | 2 | 2 | Less than 2 |
| Infant Mortality Rate | 60.5 | 21 | 32.2 | Per 1000 |
| Under 5 Mortality Rate | 84 | 7 | 4.2 | Per 1000 |
| % of trained Delivery | 23.6 | 29 | 18.7 | |
| Institutional Delivery | | | 66.80% | Above 95% |
| ***Most common diseases:*** | | | | |
| Acute Respiratory Infection | | 21% | 30% | Reduce to 30% |
| Diarrhoea/Dysentery | | 13% | 7% | Reduced to below 10% |
| ***Water sanitation:*** | | | | |
| Houses with pit Latrine | | 91% | 97% | Above 95% |
| Water supply(RWSS) | | 68% | 91% | Above 95% |

### 3.3 Lack of proper co-ordination

Co-ordination at the grass-root levels between the health sector, other sectors and the local government is instrumental in prioritizing activities and for the economic and effective planning and delivery of services.

It was observed that there exists poor coordination between the health sector at the Dzongkhag level and the gups at the Geog level. The Gups assess the needs of the local people and prioritize its activities for planning. Non-involvement of sector staff at the GYT levels could greatly undermine the decentralization process and deprive the people of better facilities. The audit team observed that there were cases where the health sector officials were not invited to the meetings, and in some cases the health officials did not attend the meetings despite being invited.

In addition, the co-ordination with other relevant sectors at the time of creating awareness and promoting preventive measures were also found lacking. With limited human and financial resources, coordination with other sectors for activities like awareness campaigns would have provided better options for achieving the intended objectives in the least expensive way.

### 3.4 Deficiencies in planning, execution and monitoring the Centrally Executed Programmes during the 9th FYP

With the aim of assessing the implementation problems of the centrally executed programmes during the 9th Five-Year Plan, the RAA tried to study the problems faced by the health officials in the Dzongkhag. Questionnaires, interviews and inquiries were made to gather the information from the Dzongkhag Health Officials. Based on the feedback and their subsequent review, the following observations are made:

*Planning Stage:*

- Dzongkhags were generally not involved while preparing the plans for the centrally executed programmes;
- There was inconsistency in the preparation of programme plans among PPD, Programme Officials and the Dzongkhags.

*Execution Stage:*

- The Dzongkhags tend to get several ad-hoc activities from the Ministry thereby leading to time constraints and delays in the implementation of planned activities;
- Most of the programmes were decided from the Centre without the involvement of the Dzongkhag. Therefore, officials at the Dzongkhags face problems when implementing activities which were fully planned and prepared without their involvement;
- Quite often Dzongkhag plans overlap with those of the Centre;

- Lack of time, capacity and funds were often cited as one of the major problems faced in implementing the planned activities by the Dzongkhag Health officials;
- It takes considerable time to reach funds from the Centre to the Dzongkhags especially when funds were released through drafts.

***Monitoring Stage:***

- There is lack of proper monitoring of the plans. It lacked clear policy guidelines on monitoring the implementation of the plans. Some believe that it should be monitored by the PPD while others felt that it should be monitored by the concerned Programme Managers. However, the fact remains that most of the activities were not monitored from the Centre;
- While activity reports, monthly/quarterly and annual reports were submitted to the Ministry, there were very few cases of field monitoring. On the whole, a standard mechanism of monitoring the planned activities was found lacking.

### 3.5 Ineffective 9th FYP Awareness Programme

About 53 users of health services including both in-patient and out-patient in 9 Dzongkhags were surveyed to find the level of awareness of the programmes initiated by the MoH in the 9th FYP. The survey revealed that only 25% of the respondents were aware of the HIV/AIDS program followed closely by NMCP (18%), NTCP (16%), NLCP (14%), MHP (14%) and EPI (12%). Besides, most of the respondents stated that they became aware of the precautionary measures such as condom usage, family planning methods and its benefits only after visiting the health centres.

### 3.6 Inequitable distribution of health staffs

One of the main objectives of the Ministry of Health in the 9th FYP is the proper and equitable distribution of health staff for enhancing the quality of health services throughout the country.

Lack of adequate health personnel was identified to be a major constraint for the Ministry of Health that has impeded smooth delivery of health services in the country. It was observed that even the limited health personnel were not properly distributed among the hospitals and BHUs in the country. The health personnel in some of the health centres were found overworked while there were relatively more staffs for limited job in some centres.

Every health centre requires a female HA to ensure the health and well being of women and child through provision of quality care to all women during pregnancy, labour, lactation and family planning. However, as

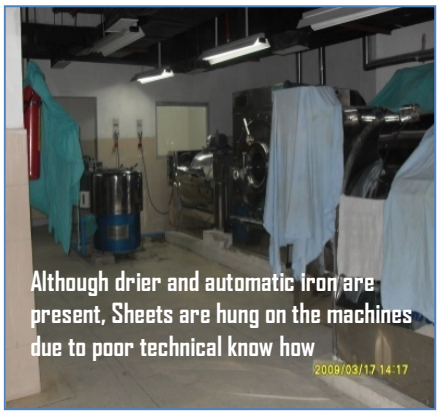
evident from Annexure C, some of the health centres do not have any women staffs in order to promote institutional delivery and decrease maternal mortality rate.

## 3.7 Underutilisation of the Equipment

One of the major constraints in the effective delivery of health services is the shortage of right equipments at all levels of health facilities. This has greatly reduced the ability of each level of health facilities in detection and diagnosis of the diseases. However, some of the important and expensive equipments were found lying idle only due to lack of trained personnel to operate those equipments. The kidney dialysis machine in Gelephu and Mongar hospitals remained unused.



In Mongar Referral Hospital, the sterilization unit has one heavy machine remaining idle due to unavailability of cassette. The machine was





supposed to be used for sterilizing stained clothes in high temperature. The laundry unit did not use the installed drier and iron due to poor technological know-how of the staffs. Ironically, the sheets and clothes were found dried by simply hanging on those idle machines.

In addition, the pathology unit also had one machine kept idle. If it were used, it could speed up the tests for speedy diagnoses in case of emergencies.

Similar cases were also observed in other hospitals where X-ray machines, Ultra sound machines, etc. were kept idle simply due to lack of trained

technicians. This situation had also resulted in wasteful expenditure because some of the consumables that are required for these machines have now expired.

The Dialysis machines in both Mongar and Gelephu hospitals have not catered to a single patient even after a year and half of their installation. *"The number of kidney or renal failure cases in Bhutan is increasing, said the medical specialist at JDWNRH, Dr. Tek Bahadur Rai.* At present, there are forty-five patients taking turns undergoing hemodialysis at JDWNRH, a significant increase from only 8 patients in 1998, when the dialysis unit was first opened. Some of the health officials expressed that some of the trained technicians were posted in areas where there are no equipments. In places, where the equipments were available, the trained technicians to operate them were not available. There were also cases where the trained technician felt that the machines were different from the ones on which they were trained.

In this regard, a problem tree analysis and objective tree analysis has been done to provide the management a clearer understanding of the repercussions due to improper utilisation and shortage of dialysis equipment. **(Refer Appendix B)**

It may also be attributed to poor planning that led to such a situation. If the Ministry could foresee the need for equipment, they could have also foreseen the need for people to operate those equipments. Accordingly, people could have been sent for training so that by the time the machines are installed, those people could also have completed their training.

### 3.8 Lack of Standard on Equipment across health centres

In line with the 9th Plan document of the health sector, standards on the type of health infrastructure, distribution of health workers and equipments have been prepared. Draft standards for medical supplies had also been completed for the Laboratory Department, Orthopaedic Department and Dental Department. Such standards are important in ensuring quality of health services across the country.

However, such standards were found lacking in practice. They were not followed in any of the health centres. Many cases were observed where equipments of different standards were available in different hospitals due to which even the trained technicians were not able to use them.

### 3.9 Lack of adequate staff/ shortage of health staff

The effective management health system entail financial resources, human resources, drugs & supplies, equipments & infrastructure, health delivery

services and health information systems. Of all the requirements mentioned above, it was observed that the delivery of health services in Bhutan are often hampered by acute shortage of doctors and health workers. The total number of health staffs reportedly stood at 3,414 with a current shortage gap of 2081. The situation had been further aggravated with the increase in health infrastructures such as the construction of 350 bed hospitals in Thimphu, 150 bed Regional Referral Hospital in Mongar and up-gradation of several BHUs and hospitals. Such shortages were found more prevalent in the remote Dzongkhags and Geogs.

As per the WHO Report, the ratio of nursing and midwifery personnel per 10,000 populations in Bhutan is the lowest among the SAARC countries. Similarly ratio of physician per 10,000 populations is less than 1 which is also the lowest among the SAARC countries. The ratio of nurses and midwives to physicians is 16 indicating that we have 16 nurses and midwives for every physician while the standard is 3-4 nurses and midwives to each physician.

Table 3.2 Population-Health workers ratio in SAARC countries

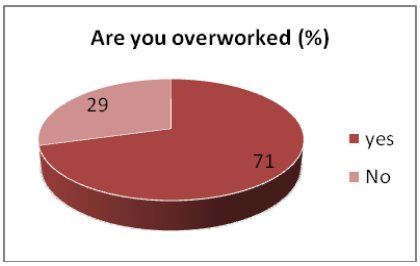
| Indicator | Bangladesh | Bhutan | India | Maldives | Nepal | Pakistan | Sri Lanka |
|---|---|---|---|---|---|---|---|
| Dentistry personnel density (per 10 000 population) | <1 (2005) | <1 (2007) | <1 (2004) | <1 (2004) | <1 (2004) | 1.00 (2005) | <1 (2004) |
| Environment and public health workers density (per 10 000 population) | <1 (2005) | <1 (2007) | <1 (1991) | N/A | <1 (2004) | <1 (2004) | <1 (2004) |
| Hospital beds (per 10 000 population) | 3.0 (2001) | 16.0 (2001) | N/A | 23.0 (2003) | 2.0 (2001) | 12.0 (2005) | 29.0 (2000) |
| Laboratory health workers density (per 10 000 population) | <1 (2005) | <1 (2007) | <1 (1991) | 5.00 (2004) | 1.00 (2004) | <1 (2004) | <1 (2004) |
| Nursing and midwifery personnel density (per 10 000 population) | 3.00 (2005) | 3.00 (2007) | 13.00 (2004) | 27.00 (2004) | 5.00 (2004) | 5.00 (2005) | 17.00 (2004) |
| Other health service providers density (per 10 000 population) | <1 (2005) | 2.00 (2007) | 7.00 (2003) | 13.00 (2004) | <1 (2004) | 1.00 (2004) | <1 (2004) |
| Pharmaceutical personnel density (per 10 000 population) | <1 (2004) | <1 (2007) | 5.00 (2003) | 7.00 (2004) | <1 (2004) | <1 (2004) | <1 (2004) |
| Physicians density (per 10 000 population) | 3.00 (2005) | <1 (2007) | 6.00 (2004) | 9.00 (2004) | 2.00 (2004) | 8.00 (2005) | 6.00 (2004) |
| Ratio of nurses and midwives to physicians | 0.9 (2005) | 16.0 (2007) | 2.1 (2004) | 2.9 (2004) | 2.2 (2004) | 0.6 (2005) | 3.1 (2004) |
| Total expenditure on health as percentage of gross domestic product | 2.8 (2005) | 4.0 (2005) | 5.0 (2005) | 12.4 (2005) | 5.8 (2005) | 2.1 (2005) | 4.1 (2005) |

**source WHO report

The Asia Pacific Development, Journal, Vol. 12 of 2005 puts scarcity of doctors and high rates of births not attended by skilled health personnel as the main cause of the low quality of health services in the Asian countries. It states that in countries like Bangladesh, Bhutan, Cambodia, Indonesia, the Lao People's Democratic Republic and Nepal, the physicians to population ratios are very small, thus the quality of health care cannot be expected.

According to the study conducted by the Royal Education Council (REC), the shortage of health care professionals in Bhutan including doctors, nurses and paramedics will continue to be around 30% even by 2020.

Figure 3.1: Are you overworked (%)




As per the survey conducted for a total of 187 doctors and health workers in 13 dzongkhags, 71% of them said that they were overworked. Some of the prominent measures suggested by them to address the acute shortages of doctors and health workers were:

- increase the intake of MBBS students;
- hire more doctors from abroad/neigboururing countries on contract;
- avoid transfer of doctors in the administrative section; and
- increase & provide incentives/scarcity allowances to the doctors.

### 3.10 New Doctors posted as DMOs without any orientation or training

District Medicals Officers (DMOs) head one hospital or BHU Gade I. Their jobs entail not only attending to patients but also other day to day administrative works which demands knowledge of various government rules and regulations such as Financial Rules and Regulations 2001, BCSR 2006, etc.

Upon interviewing some of the DMOs, they expressed that they were posted as DMOs right after completing their studies and therefore they lack knowledge on many of the government rules and regulations, including the management practices.

### 3.11 Limited awareness on new lifestyle diseases

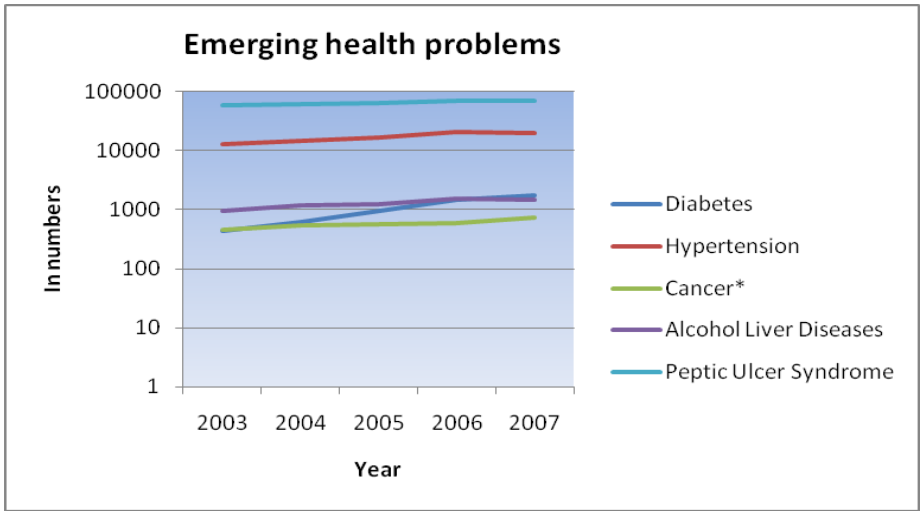
There also exists a general view amongst the DMOs that they were never consulted by the DHOs on certain technical matters while organising workshops and seminars. They felt that such health workshop and

seminars involve technicalities where their input or consultation is necessary.

The Health Sector witnessed several emerging lifestyle diseases, such as diabetes, hypertension, cancer and obesity. Alcohol liver diseases and Peptic ulcer syndrome have been in the society for a long time and the cases seem to be rising. Lack of proper awareness on prevention, control and treatment of these diseases could be the main reasons for their rising trend.

Alcohol liver diseases are rampant in Bhutan because alcohol is not restricted in Bhutan. The traditional Bhutanese diet consists mainly of rice and chilli which also has adverse effects on the health of a person. Peptic Ulcer Syndrome is one of the common diseases with around 68,000 people suffering every year. New diseases like diabetes and hypertension are creeping into our society, and diabetes is increasing at a very alarming rate (Annexure B). It is evident from the diagram below that the number of patients suffering from diabetes, alcohol liver diseases, hypertension, cancer and peptic ulcer syndrome has been increasing over the years.

**Figure 3.2: Emerging health problems**




*Annual Health Bulletin, 2008 (*includes cervical cancers and other cancers)*

As per the World Health Report 2004, roughly 60% of total deaths in Asia Pacific regions in 2002 were as a result of non-communicable diseases, which are a reflection of the correlation between changing socio-economic conditions and health, while communicable diseases accounted for only around 29.9% of total deaths.

Compared to the increasing trend of such emerging diseases, the level of awareness on the prevention of such diseases through radios, televisions and other forms of media was generally found lagging behind.

### 3.12 Standard Patient Diet provided irrespective of the patients' disease

The diet plays a critical role in the recovery and control of certain diseases. The well being of a patient depends very much to the kind of diet that is provided to him/her. "A person would be prescribed with a treatment plan when he is suffering from a medical condition which may include a medication, special diet, an exercise plan and lifestyle changes", (Dr. Smith, 1999-2008). According to her, the patients are given the responsibility to manage the diseases and the medication is just a component of the total treatment plan. Therefore, diet forms a very important part of the treatment plan.

*The diet given to in-patients has neither restriction nor nutritional value.*

The JDWNRH has prepared a daily issue of diet per patient which is same for all in-patients suffering from different types of diseases. However, certain diseases like diabetes and hypertension require a closely monitored diet and with lot of restrictions. Tuberculosis patients need diet rich in nutritional value than a diet that can be given to other patients. Without proper diet for different patients, it may not likely aid treatment of patients suffering from different diseases.

### 3.13 Disposal of equipments – Concern in remote BHUs

With the passage of time and change in technology, some health equipments have become obsolete and un-serviceable.

Obsolete and unserviceable equipments lying in the remote BHUs pose special problems due to lack of buyers and high transportation costs. Unless proper system is evolved to ensure timely disposal of such equipments, besides occupying space and entailing blockade of funds, their further deterioration with the passage of time would render it even more difficult to dispose the items.

### 3.14 Lack of proper management of Medical Wastes

A mission report prepared by Dr. Geeta Mehta (May 2005) with support from World Health Organization, Regional Office for South-East Asia (SEARO) pointed out several problems related to medical waste management.

The shortage of microbiologist in the country is found to be one of the main causes of the lack of proper control and management of medical wastes in the country. There is only one microbiologist in the entire Ministry.

Staffs handling infectious wastes are at high risk of contact with infected sharp objects as the wastes are not segregated in different plastic bags. In Monggar Regional Referral Hospital, the plastic bags were found of identical colour for different types of wastes which should be disposed in different manner. Although Infection Control (IC) Team were formed in the hospitals, the RAA found that most recommendations of the IC and the Waste Management Report were not implemented in the 9th FYP, thereby posing serious health hazards to the staffs handling infectious wastes, to the environment and to the public in general. Burning of expired drugs and dumping of hazardous wastes are rampant in all hospitals in the country which by its very nature is fatal and environmentally hazardous.

*Red colour plastic bags for all kinds of wastes*

The Royal Audit Authority vide its environmental audit report on the audit of Medical Waste Management covering JDWNRH, Thimphu and Phuentsholing General Hospital issued in June 2008 had pointed similar problems of improper segregation of medical wastes in both the hospitals. It appeared that corrective measures were not initiated across the hospitals in Bhutan.

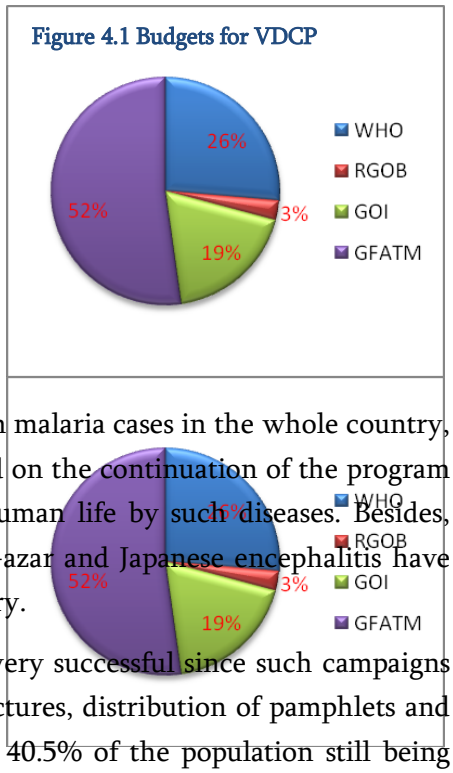
# 4 Specific Findings

## 4.1 Vector-borne Diseases Control Program (VDCP) – Lack of proper research facilities & ineffective awareness program

Malaria and other vector-borne diseases is still one of the major causes for millions of deaths worldwide. In Bhutan, the condition has improved significantly compared to the last decade. However, controlling the spread of the vectors is still a daunting task for the Health Sector. Children under-5 years of age and pregnant women are categorised under the high risk of getting vector borne diseases like malaria.

In line with this, the Royal Government of Bhutan has been giving high priority to control the endemic with other major partners like the WHO, GOI, and GFATM. The figure 4.1 shows the budget for VDCP for the past 5 years in Ngultrum (in millions). Bhutan received a grant of USD 1.73 million from GFATM in the 4th round, extending over five years.

Figure 4.1 Budgets for VDCP




**4.1.1** While there is significant reduction in malaria cases in the whole country, increasing emphasis have to be placed on the continuation of the program due to the serious threat posed to human life by such diseases. Besides, other vector borne diseases like kala-azar and Japanese encephalitis have also made their presence in the country.

**4.1.2** Awareness campaigns had not been very successful since such campaigns were normally conducted through lectures, distribution of pamphlets and demonstration methods. With about 40.5% of the population still being illiterate (2005, PHCB), such awareness campaigns have made little or no impact in the rural areas.

**4.1.3** The program lacks proper infrastructure and adequate research facilities. The head office of the program is currently housed in a rented building with very restricted opportunities for expansion or modifications;

**4.1.4** Ineffective destruction of the vectors had led to many other vector borne diseases. Lack of coordination with other sectors like the Ministry of Agriculture and MoWHS could be one of the major reasons for leading to such a situation. The VDCP had even failed to coordinate with the Ministry of Education in creating awareness on the vector borne diseases.

## 4.2 Multi-Sector Task Force – No effective contribution

Recognizing the grave implication of HIV/AIDS on the socio-economic development of the country, the Royal Government formed Multi-Sector Task Force (MSTF) in 2001 in all the twenty Dzongkhags, with the following objectives:

- Design activities for prevention and reduction of HIV and STI transmission in communities
- Contribute in reducing stigma and discrimination related to HIV/AIDS prevailing in the communities
- Provide effective support and initiate care to the people living with HIV/AIDS
- Mobilize funds for sustaining the MSTFs
- Maintain and strengthen institutional capacity of the MSTFs
- Monitor and evaluate the activities related to HIV/AIDS and STIs planned by the MSTFs

During field visit to 15 Dzongkhags, the effectiveness of the MSTFs were also assessed in line with the above objectives. The following were observed:

### 4.2.1 Core members of MSTFs were not actively engaged in planning

Although annual work plans on HIV/AIDS and STI were prepared and submitted to the Ministry for funding and technical review, it was observed that most of the plans were prepared in isolation by the Dzongkhag Health Officers. The core members of the MSTF were neither involved nor consulted during the planning. Even the draft plans were not circulated for review and no meetings on the formulation of strategies were held.

### 4.2.2 Lack of delegation of responsibilities to agencies and private organisations

Chapter 7, 7.4 on the formation of the working committees of the Dzongkhag MSTF Manual for STI & HIV/AIDS prevention and control states that: *" The MSTFs do not always need to implement activities directly but can delegate the responsibilities to interested organizations or individuals who are capable of conducting effective HIV/AIDS activities. Priority population and the private organizations can implement activities with guidance from the MSTFs. Working committees may also be created within the MSTF or among the agencies represented in the MSTF for implementation of the activities."*

No efforts were made to delegate the responsibilities to agencies and private organisations. The RAA is of the opinion that private organisations could at least be involved in organising events such as global AIDS day and other activities where they can contribute effectively. Through delegation a more effective sense of responsibility could be created.

### 4.3 Phuentsholing Hospital – Problems deterring effective prevention and treatment

With the growing number of mobile population aggravated with the drifting rural-urban migration, Phuentsholing has become the most densely populated town in the country. The problem has been further worsening by the development of several industrial areas in the peripheral of the town, and being one of the main entry points into the country. Thus it posed several challenges to the Phuntsholing Hospital to combat and control the spread of diseases in the town. During field visit to the Hospital, the following deficiencies and problems were observed in delivering effective services to the public:

**4.3.1** Every day large number of non-Bhutanese workers seek medical consultation from the Phuentsholing hospital since the fees in Bhutan are much lower compared to the neighbouring towns in India. Such a situation had led to the problems of waiting time for the patients. It was observed that the patients have to wait for a longer period of time before availing service from a doctor.

**4.3.2** There is no staff quarter in the hospital premise, thus creating inconveniences both for the patients and the health staffs during emergencies.

**4.3.3** The Hospital does not have a proper mechanism to ensure delivery of quality health services. Quality health services and patient care cannot be attained in absence of proper guidelines and appropriate monitoring mechanism.

**4.3.4** It was also observed that the centrally executed programs were not transparent enough. With the present system of vertical dissemination of information, the ultimate beneficiary had little or no idea about the programs. Dissemination of information from the Centre to the Dzongkhags was found lacking in most cases.

**4.3.5** While most people were aware of HIV/STI, they were still unaware or about taking precautions. Success of the VCT depends largely on the change in attitude of the people. Fear of stigmatization, discard and shame are found to be some of the main reasons for very little response towards VCT.

**4.3.6** Safe water supply and proper sanitation are two most important aspects in maintaining good health. However, Phuntsholing town has all the associated problems such as poor drainage, dirty environment, no proper waste management system and inadequate water supply.

### 4.4 Medical Supply Depot – Poor storage facilities

Medical Supply Depot, Phuentsholing functions as the main supplier of drugs and non-drug items to all health facilities in the country. It receives drugs and

equipments and dispatches to different health centres around the country. The RAA while visiting the MSD observed the following deficiencies:

**4.4.1** Drugs and vaccines are required to be kept under certain conditions to retain their curing capacities. However, there is no warehouse with proper storage facilities to retain the strength of these drugs and vaccines.

**4.4.2** Although the Medical Supply Depot stores expensive equipments and other non-drug items, the store is neither safe nor provided with proper security. Currently the office staffs take turns in ensuring that the miscreants do not break in.

*Very poor infrastructure in the interior of the MSD building*

**4.4.3** The present stores at the Medical Supply Depot appeared to be inadequate and inappropriate. The warehouse is old, and cracks have developed on the walls indicating the need for a repair. The old Phuntsholing Hospital is being used for storing equipments and non-drug items. Since the hospital was not built for such purposes, the layout of the space often poses difficulty for the mobility of the equipments and for their storage and distribution.

## 4.5 Samtse Hospital

**4.5.1** Some of the essential injections were found lying idle for long time at the Samtse Hospital. The RAA is of the opinion that there could be some of the hospitals in the country falling short of such essential items. Lack of proper communication between the Head-Quarter, DVED and the hospital could be one of the main reasons leading to such idle stocks.

**4.5.2** Proper sanitation is still a problem in some of the households in Samtse. Lack of involvement and coordination with other sectors was found to be one of the obstacles leading to such a situation.

**4.5.3** The Vector-borne Diseases Control Program (VDCP) in Gelephu supplies hospitals and BHUs with Long Lasting Insecticide Treated Bed Nets (LLIN) for distribution to the people in the respective locality. The distribution and usage of the nets have been supervised by health staff and the community leaders. However, RAA found that such supervision and monitoring had not been very effective since people reportedly use such nets for other purposes such as fishing, drying meat, etc.

**4.5.4** With the aim of benefiting Mothers and Child, the Reproductive Health and Population Programme under the Ministry of Health distributed "mother and Child handbook" containing instructions from pregnancy till the child is 5 years old.

While the RAA appreciates the efforts taken by the Ministry in coming up with such useful handbooks, it was observed that distribution was too less. BHUs in Chengmari and Yoseltse had run out of the handbooks and had to cater to the needs of the public through Health Card that was used previously.

**4.5.5** One of main problems suffered by the Health Sector is the acute shortage of health staff. The problem would worsen when even those available in the respective health facilities leave their Centre for training or on leave which increases the workload thereby impeding the effective delivery of services to the people. Proper mechanism has not been put in place in dealing with such problems.

For example, when team visited the health facilities, the available doctor in Sipsu Hospital was on leave/training, and the ACO was going through difficult time coping with the workload. Similar instance were also observed in Sarpang, Khengkhar BHU and many other places.

## 4.6 Sarpang Hospital

**4.6.1** Proper storage of drugs and vaccines are important in ensuring the curability of these medicines. Non-drug items also need to be stored properly to avoid loss from deterioration. It was observed that the Sarpang Hospital has no proper storage facilities for both drug and non-drug items.

**4.6.2** Though the hospital has ultra-Sound Machine, the machine had been lying idle due to lack of trained technician to operate it. The Dzongkhag Medical Officer (DMO), Sarpang explained that people often had to be referred to Gelephu hospital simply because of the lack of trained technician to operate the machine.

**4.6.3** There was shortage of health staff to assist DMO, thereby further increasing the patients' waiting time for treatment. The DMO had to attend to administrative works and official meetings or tours.

**4.6.4** Though the Ministry of Health has issued guidelines on the disposal of wastes, the Sarpang Hospital is facing problems arising from the unsafe disposal of infectious wastes, especially due to lack of incinerators.

## 4.7 Central Regional Referral Hospital, Gelephu

**4.7.1** The Gelephu Regional Referral Hospital has poor infrastructure, lighting facilities were inadequate and the pillars of the building were found old. Though there are proposals to shift the hospital to Lodrai, it is not certain if

proper feasibility studies have been carried out since proposed site falls alongside a seasonal river. There were past incidents of floods in the area.

**4.7.2** Two units of haemodialysis equipments worth Nu. 3,405,000.00, a portable defibrillator worth Nu. 167,390.00 and 2 adjustable bed for dialysis worth Nu. 322, 786.00 were lying unused. The date of expiry of the related accessories was found nearing, yet no action had been taken by the responsible authorities to utilize the same. This had led to blockade of fund and wasteful procurement. The investment could have been used for some other health or developmental activities of the country.

**4.7.3** The store house constructed for the medical supply does not have separate shelves for drugs and non-drugs items. Besides, the two ambulances of the hospital are also in very poor conditions.

**4.7.4** It was also observed that the bio medical wastes (hazardous infectious) are dumped along with the other non infectious wastes in the Municipal Waste Collection vehicle. There were also incidents where human degradable wastes are put in the incinerators of the hospital.

## 4.8 Zhemgang BHU I

**4.8.1** The Zhemgang BHU I caters to more population than the Yebilaptsa Hospital. It has to cater to the needs of the Dzongkhag headquarter staff and the business community in Zhemgang including the schools and nearby localities. Even as BHU I, it is deprived of an ambulance and other standard facilities that is provided for a facility of its level. The BHU also does not have staff quarters.

**4.8.2** Though BHU of such levels are normally headed by a doctor, it was found that there is only one Assistant Clinical Officer in the Zhemgang BHU I.

## 4.9 Bumthang Hospital

**4.9.1** The District hospital in Bumthang is traditionally built with wooden floors in the wards. This has created problems while cleaning because it cannot be washed, and dry-cleaning does not remove blood and other stains which could be infectious. Therefore, sanitation has been a problem since cleaning the wooden floor with water further makes the floor wet and damp especially in the summer.

**4.9.2** The hospital also faces the problem of acute water shortage which is necessary for maintenance of proper sanitation and hygiene.

## 4.10 Monggar Regional Referral Hospital

**4.10.1** All the waste baskets have the identical red colour plastics bags. Different coloured bags were not used for segregating wastes at the source. Some baskets contain infectious and non- infectious waste, while some do not have plastic bags at all.

**4.10.2** Proper storage of drugs and non drug items are necessary for maintaining the quality of the drugs. The present store has poor lighting facilities with very poor ventilation due to which dampness have developed on the boxes containing the drugs. Spoiled drugs could pose threat to human life besides leading to wastage of scarce resources.


*Dampness can be seen due to poor ventilation and light*

**4.10.3** The hospital has two dialysis equipment worth Nu. 4,523,800.00 (including all accessories). It revealed that these equipments were never used by the hospital due to the absence of qualified operator. Although there were 4 health workers and a doctor who had undergone training in Thailand on the usage of such equipment, the doctor was transferred to Thimphu right after the training. The 4 health workers stated that they could not operate the machine in absence of the doctor. While reasons like not having a surgeon to insert AV Fistula (*one cannot undergo dialysis without inserting AV Fistula*) were stated, the RAA found out that this can be undertaken at the JDWNRH months before undergoing the dialysis. So the patients can insert the AV Fistula and return to their location for undergoing dialysis, thus making use of available equipment.

It is evident that no proper planning was done prior to the procurement of such equipment. It also became evident from the enquiries, that the machines and their accessories will soon become obsolete and useless if timely action is not taken. While these equipments were lying idle at Monger, the shortage of such equipment and beds has led to overcrowding of many renal failure patients at JDWNRH, Thimphu.

## 4.11 Bajo BHU I

**4.11.1** There is a major storage problem at the Bajo BHU. Many of the supplies were kept outside the store due to lack of space in the store. Although infectious and non infectious wastes were segregated at the source on the basis of two colours of wastes bins (red for infectious and blue for non infectious), very little awareness exists among the in-patients on segregating those wastes.

**4.11.2** The two ambulances that the BHU has are over 10 years old, and therefore it pose a serious risk to the patients.

## 4.12 Punakha Hospital

**4.12.1** The hospital was constructed by PRO Bhutan project and all the major equipments were received as a grant through the project. However, most of the Operation Theatre equipments were found underutilized due to lack of surgeon.

# 5 Recommendations

## 5.1 Achievements of the Five-Year Plans should bet monitored and measured against the set targets.

Objectives and targets should be specific, measurable, achievable, realistic and time bound. Once the targets are set, the achievements should be constantly monitored and measured against the set targets. The targets should be linked to the overall national health indicators.

However, if the achievements are to be measured against the national health indicators, the targets should also be set in terms of the national health indictors. The very purpose of setting the targets is to define where you want to be and asses how far you have reached in the end. It will also aid monitoring and formulating courses of actions to achieve the targets.

## 5.2 Effective co-ordination between the Centre, Dzongkhag and the Gewogs should be ensured

Though there are several sectors in a Dzongkhag, all of them function towards delivering effective services to the people in their respective Dzongkhags. With the ultimate goal being the same, such goals can be achieved in a better, faster and in a least expensive way if the various sectors cooperate and coordinate, supplementing and complementing each others' activities. Improved inter-sectoral coordination, particularly between the Gewog Administrations and the Dzongkhags could have manifold advantages in the decentralization process.

The coordination and cooperation between the health sector and other sectors like Education, Agriculture, etc. would be of immense benefit to the health sector in creating awareness to the people and garnering support from the community. The students could be good messengers or partners in creating awareness on different types of diseases, health, hygiene and sanitation. Some of these sectors could also be partners in prevention, early diagnosis and cure of diseases.

## 5.3 Need for Involvement of relevant stakeholders in the planning process considered

There should be a proper system of planning. The dzongkhags would be in best position to assess the needs of the programmes and accordingly inform the ministry. The ministry should prioritize the programmes according to the available resources.

There should be proper coordination between the Dzongkhag health sector and the Programme Managers in the Ministry. All plans and programmes should be made transparent and inform the Dzongkhag officials of the planned activities in any particular plan period.

The Ministry should institute a mechanism of ensuring proper monitoring and supervision for all centrally executed programmes to ensure its effectiveness.

### 5.4 Present system of standard diet for in-patient suffering from different diseases should be reviewed

The proper advice should be provided to the patients suffering from different types of diseases to feed on different types of diets and other aspects of nutritional information and guidance, and it is also equally important to practice providing such diets to the in-patients suffering from different diseases. As made to understand from some dieticians, such a practice would help the doctors to correct specific dietary deficiencies. The Ministry of Health should review the present system of provision of standard diet to the in-patients and institute a system of providing different diets depending on the disease of the patients. Such a system could not only benefit the patients in terms of improved health, but also ensure effective delivery of health services.

### 5.5 Existing system of recruitment, distribution and allocation of health workers to be reviewed

The Ministry should review the existing system of recruitment, distribution and allocation of health workers with particular emphasis on the following:

- Explore how to retain the limited human resources and how it can increase the slots for doctors, nurses and technicians;
- Explore the system of continuing education through up gradation of qualifications;
- Ensure equitable distribution of female health personnel to promote institutional delivery and mother and child healthcare;
- Right people should be placed at the right job to enhance professionalism and ensure smooth delivery of health services. Any knowledge gained from the training *e.g. operating health equipments,* should be effectively utilised to gain value for money.

### 5.6 Performance indicators at the Dzongkhag level to be set

The Ministry should set performance indicators at the Dzongkhag level to ensure that the national health indicators are achieved successfully within the given time frame. This will also enable the Ministry to monitor the progress made in any particular activity.

### 5.7 Job responsibility of the DMOs and DHOs to be clearly defined

The job responsibilities between the DMOs and DHOs should be properly and clearly segregated and accordingly delegated to ensure that there is no contradiction or duplication in their job responsibilities. The interview conducted with many DMOs and DHOs revealed systemic problems, many responding as uncleared job responsibilities impeding effective delivery of health services.

### 5.8 Effective utilization of the important and expensive equipments should be made

The Ministry should ensure that the equipments lying idle at various hospitals are effectively utilised by transferring the relevant trained technicians to the respective hospitals. As an ultimate resort, the ministry may also explore transferring the equipments to hospitals where they can be effectively utilised.

The RAA cautions the Ministry of purchasing such expensive equipments without proper planning. All such future purchases should be made through proper planning by not only assessing the needs but also envisaging the effective usage of such equipments.

### 5.9 Proper system for appropriate disposal old equipments should be instituted

The cycle of replacing old equipment with new ones will continue forever within the Ministry. In this context, the Ministry should institute a system of disposing the old equipments especially those located in remote areas. The adequate awareness should also be created on the hazardous aspects of improper disposal of such medical wastes and equipments.

### 5.10 Explore introduction of hospital accounts in regional referrals for drugs and non-drug items

The Ministry should introduce a system of maintaining hospital accounts, especially for regional referral hospitals, on the flow of expenditure on drugs and non drugs items to ensure accountability and minimise wastages. Such a system will also help both the hospitals and the Ministry in planning the future requisition.

### 5.11 VDCP Programme

The Program should:

- Explore other ways of effectively disseminating information to the target population;
- Create conducive environment for research and development in areas of tropical diseases;
- Effectively co-ordinate with other agencies and hospitals;

- Ensure that the distributed Long Lasting Insecticide Treated Bed Nets are used for the intended purpose.

### 5.12 Multi-sector task force should function actively and effectively

All members of the MSTF should participate and contribute effectively in line with their Manual. The draft Annual Plan should be prepared collectively by the Task Force.

The effort should be made to involve all sector heads and wherever possible implementation of activities should be delegated to interested organisations and individuals including private parties.

### 5.13 Ensure standardization of services

While it is encouraging to note that the Ministry is in the process of standardising the supplies, it should also establish appropriate standards for the services delivered by each level of health facility.

### 5.14 Hospitals and BHUs should have proper storage facility

Drugs and non drug items loses strength, value and may even pose health hazards in absence of proper storage facility. Therefore, the Ministry should accord priority in providing proper storage facility to all health facilities beginning with the referral and other district hospitals. Such storage facilities should have enough light, space and the right temperature.

### 5.15 Strictly implement the recommendations provided by the Consultant

The MOH should review and strictly implement the recommendations as provided by the consultant in the report *"Infection Control and Healthcare Waste Management in the Kingdom of Bhutan"*, WHO SEARO, 2005. The recommendations if relevant and feasible should be effectively implemented rather than leaving such a document in the shelve and not adding any value to the system, despite huge investment being made.

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