

# The process towards development of an integrated National Nutrition Policy framework for Lesotho



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## **ABSTRACT**

### **Background and motivation**

This thesis was prompted by the deteriorating health and economic status in Lesotho. The country is experiencing the double burden of disease including HIV/AIDS, communicable and non-communicable diseases, as well as micronutrient deficiencies. The situation is compounded by the prevailing food insecurity due to climatic shocks and stresses surging through Southern Africa. The deteriorating health burden is drawing heavily on limited resources in the country.

As a medium term measure towards realisation of the longer-term vision 2020, the Government of Lesotho (GOL) has recently developed the national Poverty Reduction Strategy Programme (PRSP). Health is the fifth of the eight priority areas of the PRSP. One of the proposed strategies is reduction of nutrition related illness to be achieved through the development of a coherent nutrition policy.

### **The aim**

This thesis has attempted to produce a framework towards development of an integrated nutrition policy. The approach used follows standard procedures towards development of a policy. The specific objectives to be fulfilled by this thesis include problem identification and definition; analysing the magnitude of the problem and population groups affected; existing systems for reducing the impact of the problem among vulnerable groups; defining a framework that will articulate the desired output to be achieved by the proposed policy; a strategy articulating mechanisms to be implemented to achieve the output and a system for monitoring and evaluating the desired impact.

## **The methods**

Permission to proceed in defining the integrated national nutrition policy framework for Lesotho was obtained from relevant authorities in the country. A consultative process to define the process and solicit support from stakeholders within nutrition in Lesotho was engaged throughout the development of this thesis. The United Nations Children's fund's (UNICEF) conceptual framework depicting the causality of malnutrition was used to describe the nutrition related problems and their causes in Lesotho. In this thesis only the immediate causal factors of malnutrition are addressed. Other underlying causal factors contributing to these immediate causes can be pursued elsewhere when designing relevant specific interventions.

This thesis describes the magnitude of disease experienced in Lesotho using secondary data generated from the World Health Organization (WHO) and the Ministry of Health and Social Welfare (MOHSW). Existing information on food security was obtained from studies undertaken in Lesotho, including the inter-agency assessment of the prevailing food shortage humanitarian crisis currently facing Southern African, vulnerability assessments, dietary intake and micronutrient deficiency studies. Selected elements of the existing national nutrition programme have been used in this thesis, taking cognizance of the problem, its size and location. The framework for developing a suitable nutrition policy for Lesotho is suggested. The suggested process will be participatory to include all stakeholders in an attempt to build components of sustainability.

## **Results**

Analysis of the prevailing situation confirms the double burden of disease, where infectious diseases are more prevalent in the younger age groups. In the older population, chronic illnesses are more prevalent. Both data sets used reflect that the burden of disease is a result of higher mortality rates compared to morbidity. HIV/AIDS, respiratory and other infections are causing a

major proportion of the disease burden. The male population is more affected relative to the females, with the exception of females at the age of 15 to 29 years, probably because of maternal related complications. Analysis by age indicates the population group from 5 to 14 years old has lower rates of morbidity and mortality. This age group is the window of hope for correcting nutrition-related diseases. If the right interventions are targeted at this group, there is hope of attaining the national goal for vision 2020.

It should be appreciated that this information reflects the burden of disease of those who seek health care within the health service delivery facilities. Both the exact magnitude of diseases and their causal factors can be confirmed by undertaking relevant research covering representative samples of the total population in Lesotho.

The food security situation in Lesotho is far from optimal. Poor breastfeeding and infant feeding practices, such as early introduction of other foods besides breastfeeding, early cessation of breastfeeding, low nutrient (including energy) dense weaning foods and reduced feeding during illness and recuperation are ascertained as causal factors contributing to malnutrition amongst children in Lesotho. The mountain areas are identified as highly susceptible areas to food insecurity, followed by the southern districts. The vulnerability and high risk factors of populations in these locations are further confirmed by the high prevalence of chronic malnutrition and under-weights compared to the rest of the country. Indicators that were associated with vulnerability to food insecurity were households that were either widow or elderly headed, those engaging in multiple income earning mechanisms or relying on farming, herding, informal business or/and casual labour for income and those with a high ratio of dependents. The Food and Agriculture Organisation/World Food Programme (FAO/WFP) cereal production forecast for the 2003/04 period predicted that 45% of the total population in Lesotho would require food assistance in varying quantities. The livelihoods vulnerability assessment

undertaken in 2003 estimated a nationwide food/income deficit ranging from 10 to 47%. The FAO/WFP report suggested improved soil husbandry and extension practices. The vulnerability assessment report suggested livelihood-based interventions, together with direct food and income transfers as relevant interventions.

Analysis of the existing food and nutrition programme in Lesotho looked at main components that would strongly influence the integrated nutrition policy. The approach was borrowed from the European Union nutrition programme. In this thesis only the three elements of the national nutrition programme that would directly influence the nutritional outcomes were studied. These were nutrition security, food security and trade issues. On analysis, these elements reveal a fragmented implementation of nutrition interventions. This situation exists despite efforts by the GOL to establish a coordination office mandated with synchronizing all nutrition stakeholders countrywide on policy, programme, monitoring, evaluation and research issues. As a result of the fragmented non-cohesive approach and inefficient utilisation of resources, especially the scanty human resource, the national nutrition programme has not realised a positive impact on the prevalence of malnutrition in Lesotho.

The main elements to constitute the policy will consider core values and principles of the nutrition profession and programme in Lesotho. This thesis assumes the national nutrition programme will embrace the common national vision 2020 and will share the similar mission reiterated by the Food and Nutrition Coordinating Office (FNCO) in the poverty reduction thematic nutrition paper. The nutrition policy advisory committee in Lesotho would, however, confirm this assumption or design alternative statements. The processes towards identifying relevant objectives and strategies have been defined in this thesis and will have to be undertaken by the committee, which will also define implementation mechanisms including financing, monitoring and evaluation mechanisms. The national nutrition programme has identified the

need for technical support in some areas. The author, therefore, suggests that the WHO and the United Nations/ Standing Committee on Nutrition (UN/SCN) can be approached for this support.

### **Conclusions**

The GOL demonstrated commitment towards the nutrition policy. The process toward defining the integrated nutrition policy for Lesotho should be completely participatory. This thesis has addressed the first component of the framework, which is the situation analysis and description of the main policy components. The situation analysis has portrayed a need for an integrated nutrition policy to address the double burden of disease compounded by HIV/AIDS and chronic food shortage. This adverse situation can be curbed through a coherent cost-effective food and nutrition programme. The FNCO, mandated with nutrition policy design, therefore, has to revitalize the policy advisory committee to carry the policy defining processes forward. A framework to be used in this process has been developed and presented in this thesis.

### **Recommendations**

The stakeholders in nutrition should agree on systemic issues to be changed or maintained. The process for policy definition should state the institutional arrangements, such as stakeholders' analysis, financial mechanisms and management and coordination. The programme implementation arrangements should define the beneficiaries, realistic objectives aligned with the Poverty Reduction Strategy Paper (PRSP), strategies, prioritize cost-effective nutrition interventions and agree on coordination, monitoring and evaluation mechanisms. The nutrition policy will mainstream the cross-cutting issues such as HIV/AIDS, gender, environment and governance.

On completion of this thesis the author will present it to the relevant authorities in Lesotho for the policy development processes to continue in line with the proposed time frame and implementation plan given in Chapter 5.

## **ABSTRAK**

### **Agtergrond en Motivering**

Die proefskrif is gemotiveer deur die agteruitgang in gesondheid en ekonomiese status in Lesotho. Dié land ondervind 'n dubbele lading van aansteeklike en nie-aansteeklike siektes, sowel as mikronutriënttekorte. Dit word vererger deur die heersende voedselinsekuriteit as gevolg van klimaatrampe in Suider-Afrika. Die verslegtende gesondheidstoestand plaas 'n geweldige las op die beperkte hulpbronne in Lesotho.

Die Lesotho-regering het onlangs 'n medium-termyn strategie om armoede te verminder, ontwikkel as deel van 'n langer-termyn visie vir 2020. Een van die strategieë is 'n vermindering van voeding-verwante siektes, deur 'n koherente, samehangende, geïntegreerde voedingbeleid te ontwikkel.

### **Doelwitte**

Hierdie proefskrif poog om 'n raamwerk te verskaf vir die ontwikkeling van 'n voedingbeleid. Spesifieke doelwitte sluit in: probleem-identifisering en definiëring; 'n analise van die omvang van die probleem en identifisering van populasiegroepe wat die meeste geaffekteer word; 'n beskrywing van bestaande sisteme om die probleem in kwesbare groepe aan te spreek; 'n definiëring van 'n raamwerk wat die gewenste uitkomst van 'n voorgestelde beleid sal artikuleer; 'n beskrywing van 'n strategie met meganismes wat geïmplementeer moet word om die verwagte uitkomst te verkry, sowel as 'n stelsel om monitering en evaluering van die impak van so 'n beleid moontlik te maak.

## **Metodes**

Die relevante owerhede in Lesotho het toestemming verleen vir die ontwikkeling van 'n raamwerk vir 'n geïntegreerde, nasionale voedingbeleid. 'n Konsulteringsproses met alle belanghebbendes is gevolg. UNICEF [die Verenigde Nasies (VN) se kinderfonds] se konsepsuele raamwerk wat die oorsake van wanvoeding beskryf, is gebruik om die voedingverwante probleme in Lesotho aan te dui. Ander oorsaaklike faktore kan later beskryf word wanneer relevante, spesifieke intervensies voorgestel word.

Die proefskrif beskryf die omvang van siekte in Lesotho deur van sekondêre data van die Wêreldgesondheidsorganisasie (WGO) en die Ministerie van Gesondheid en Welsyn (MGW) van Lesotho gebruik te maak. Inligting oor voedselsekuriteit is van studies wat in Lesotho gedoen is verkry, soos die VN inter-agentskap se beraming van heersende voedseltekorte en humanitêre krisis in Suider-Afrika, beramings van kwesbaarheid, sowel as dieetinnames en mikronutriënttekorte. Elemente van die huidige voedingprogram word in die proefskrif gebruik, met kennisname van die probleem, die omvang en die lokalisering daarvan.

'n Raamwerk vir die ontwikkeling van 'n geskikte, nasionale voedingbeleid vir Lesotho word voorgestel. Die aanbevole proses is deelnemend en betrek alle belanghebbendes om onderhoubaarheid te verseker.

## **Resultate**

Analise van die heersende gesondheidstoestande het die dubbele lading van siekte bevestig. Infektiewe siektes is meer algemeen in die jonger ouderdomsgroepe, terwyl die chroniese, nie-aansteeklike siektes meer algemeen in die ouer groepe is. Beide datastelle wat gebruik is het aangedui dat die siektelading veral mortaliteit (in vergelyking met morbiditeit) verhoog. MIV/VIGS, respiratoriese en ander infeksies veroorsaak die grootste gedeelte van die

siektebelading. In verhouding, word die manlike meer as die vroulike geslag geaffekteer, met die uitsondering van vroue in die 15- tot 29-jarige groep, waarskynlik as gevolg van bevallingsverwante komplikasies. Die analises per ouderdomsgroep het aangetoon dat die 5- tot 14-jariges laer morbiditeit en mortaliteit vertoon. Hierdie ouderdomsgroep kan dus gesien word as “’n venster van hoop” om voedingsverwante probleme aan te spreek. As geskikte intervensies in hierdie groep toegepas word, mag die nasionale doelwitte van Lesotho se 2020 visie bereik word.

Dit moet ingedagte gehou word dat die data wat gebruik is, gebaseer is op diegene wat gesondheidsorghulp binne die gesondheidsorgfasiliteite soek. Data oor die omvang van siektes en oorsaaklike faktore behoort ondersteun en versterk te word met relevante navorsing in ewekansige steekproewe van die totale populasie in Lesotho.

Voedselsekuriteit is alles behalwe optimaal in Lesotho. Praktyke met betrekking tot borsvoeding en kindervoeding moet verbeter. Afwesigheid van eksklusiewe en voortydige staking van borsvoeding, die lae nutriënt- en energiedigtheid van voedsel tydens spening en verminderde voedselinname tydens siekte en herstel, is almal oorsaaklike faktore wat tot wanvoeding van kinders in Lesotho bydra. Voedsel-insekuriteit kom veral voor in die bergagtige streke, gevolg deur die Suidelike distrikte. Die kwesbaarheid van populasies in hierdie streke word bevestig deur die hoë voorkoms van chroniese wanvoeding en ondergewig in vergelyking met die res van die populasie. Indikatore wat met voedsel-insekuriteit verband gehou het was: huishoudings met ’n weduwee of bejaarde as hoof; persone met veelvuldige inkomste-genereringsmeganismes; afhanklikheid van boerdery, veewagtery, informele besigheid of los arbeid vir inkomste; en diegene met ’n hoë verhouding van afhanklikes. Die Voedsel en Landbouorganisasie van die VN se wêreld voedselprogram (FAO/WFP) het voorspel dat lokale graanproduksie vir 2003/2004 in slegs 45% van die totale populasie se behoeftes sal voorsien en dat Lesotho voedselhelp in variërende hoeveelhede sal benodig. In 2003 het ’n raming van lewensonderhoud ’n tekort

van 10 tot 47% in voedsel en inkomste aangetoon. Die FAO/WFP-verslag het verbeterde grondonderhoud en landboukundige praktyke aanbeveel. Die relevante intervensies wat in die lewensonderhoudsraming aanbeveel word, sluit onder andere in lewensonderhoud-gebaseerde intervensies sowel as direkte voedsel- en inkomstehulp.

Die analise van die bestaande voedsel- en voedingprogram in Lesotho het gefokus op komponente wat 'n geïntegreerde voedingbeleid mag beïnvloed. Die benadering was geskoei op dié van die Europese Unie se voedingprogram. In hierdie proefskrif is drie elemente van die nasionale voedingprogram uitgesonder, naamlik voedingsekuriteit, voedselsekuriteit en handelsake. Die analise het 'n gefragmenteerde implementering van voedingintervensies aangetoon. Hierdie situasie bestaan ten spyte van die Lesotho-regering se pogings om landswyd alle belanghebbendes rakende beleid, programme, monitering, evaluering en navorsing oor voeding te koördineer en te integreer. As gevolg van die gefragmenteerde, onsamehangende benadering en oneffektiewe gebruik van hulpbronne, veral van die skaars menslike hulpbronne, het die nasionale voedingprogram nog geen effek op die voorkoms van wanvoeding in Lesotho gehad nie.

Die hoofelemente om 'n beleid saam te stel sal kernwaardes en beginsels van die voedingprofessie en program in Lesotho insluit. Dit word in hierdie proefskrif aanvaar dat die nasionale voedingprogram die nasionale visie vir 2020 deel, en dat 'n soortgelyke missie as dié wat deur die Voedsel en Voeding-koördineringskantoor (FNC) se armoedeverminderingsskema gestel word, gevolg sal word. Die komitee wat die beleid formuleer sal egter hierdie aanname moet bevestig of alternatiewe stellings ontwerp. Die proses om relevante doelwitte en strategieë te ontwikkel word in hierdie proefskrif gedefinieer. Hierdie proses sal deur Lesotho se voedingbeleidadvieskomitee gevolg kon word. Laasgenoemde sal ook implementeringsmeganismes insluitende befondsing, monitering en evaluering moet beskryf. Die nasionale voedingprogram identifiseer die

behoefte aan tegniese ondersteuning in sommige areas. Die navorser beveel aan dat die WGO en die VN se staande komitee vir voeding genader kan word vir hierdie ondersteuning.

### **Gevolgtrekkings**

Die regering van Lesotho is verbind tot 'n voedingbeleid. Die proses om 'n geïntegreerde voedingbeleid te definieer moet totaal deelnemend wees. Hierdie proefskrif het die eerste komponent van die beleid aangespreek, naamlik die situasie-analise en het die hoofkomponente van 'n beleid beskryf. Die situasie-analise het die behoefte vir 'n geïntegreerde beleid uitgewys wat die dubbele siektelading wat deur MIV/VIGS vererger word, en die chroniese voedseltekorte sal kan aanspreek. Hierdie ongunstige toestand kan deur 'n samehangende, koste-effektiewe voedsel- en voedingprogram verbeter word. Lesotho se voedsel- en voedingkoördineringskantoor, met 'n mandaat om voedingbeleid te formuleer, behoort die advieskomitee vir beleid te heraktiveer om die proses om die beleid te formuleer verder te voer. Hierdie proefskrif stel 'n raamwerk vir hierdie proses voor.

### **Aanbevelings**

Die belanghebbendes in voeding behoort ooreen te kom oor die sistemiese sake wat moet verander of gehandhaaf moet word. Die proses vir beleiddefiniëring moet institusionele reëlins en ooreenkomste betreffende die belanghebbendes, finansiële meganismes, bestuur en koördinerings in ag neem. Die programimplementering moet die begunstigdes definieer, realistiese doelwitte aanpas by armoedereduksie-strategieë, koste-effektiewe intervensies prioritiseer en koördinerings-, monitering- en evalueringmeganismes beskryf. Die voedingbeleid behoort gemeenskaplike sake soos MIV/VIGS, geslag, omgewing en regering voor op te stel.

Met voltooiing van die proefskrif, sal dit voorgelê word aan die relevante outoriteite in Lesotho vir die proses van ontwikkeling van die voedingbeleid soos voorgestel in Hoofstuk 5.

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Hopefully this work will contribute towards the turning point for betterment of health for the Basotho people.

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## LIST OF ABBREVIATIONS

ACC	Administrative Committee on Coordination
AIDS	Acquired Immuno-Deficiency Syndrome
ANP	Applied Nutrition Programme
ATS	Appropriate Technology Section
BCC	Behavioral Change Communication
BOD	Burden of Disease
BOS	Bureau of Statistics
CARE	Cooperation and Relief Everywhere
CAP	Common Agricultural Policy
CBL	Credit Bureau of Lesotho
CHAL	Christian Health Association of Lesotho
DAC	Development Assistance Committee
DMA	Disaster Management Authority
EPI	Expanded Programme for Immunization
EU	European Union
FAO	Food and Agricultural Organisation
FMU	Food Management Unit
FYL	Five Years Later
GBD	Global Burden of Disease
GDP	Gross Domestic Product
GNI	Gross National Income
GOL	Government of Lesotho
HIA	Health Impact Assessment
HIV	Human Immuno-Deficiency Virus
HMIS	Health management Information system
HSAs	Health Service Areas
HSSF	Health Sector's Strategic Framework
ICN	International Nutrition Conference
IDSR	Integrated Disease Surveillance and Response
IEC	Information, Education and Communication
IEMS	Institute of Extra Mural Studies
IMR	Infant Mortality Rate
INP	Integrated Nutrition Programme
IUNS	International Union of Nutritional Sciences
LDC	Least Developed Country
LDTC	Lesotho Distance Teaching Center
LFNC	Lesotho Food and Nutrition Council
LIC	Low Income Country
LNDC	Lesotho National Development Cooperation
LPPA	Lesotho Planned Parenthood Association
LRC	Lesotho Red Cross
LUP	Land Use Planning
MDGs	Millennium Development Goals
MICS	Multi Cluster Survey
MMR	Maternal Mortality Ratio

MOA&FS	Ministry of Agriculture and Food Security
MOE	Ministry of Education
MOFLR	Ministry of Forestry and Land Reclamation
MOIT&M	Ministry of Industry, Trade and Marketing
MOLG	Ministry of Local Government
MOHSW	Ministry of Health and Social Welfare
NAPN	National Action Plan for Nutrition
NBS	National Standards Body
NCDC	National Curriculum Development Centre
NEWS	National Early Warning System
NGOs	Non-government Organisations
NUL	National University of Lesotho
PAI	Planning Assistance Incorporation
PBN	Permanent Bureau of Nutrition
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
ppm	Parts per million
PRSP	Poverty Reduction Strategy Programme
PSIRP	Public Sector Improvement Reforms Programme
SADC	Southern Africa development Community
SCN	Sub-Committee on Nutrition
SMI	Safe Motherhood Initiative
TB	Tuberculosis
U5MR	Under-five mortality rate
UNAIDS	United Nations AIDS programme
UNICEF	United Nations International Children's Fund
UNHCR for HR	United Nations High Commission for Human Rights
UNU	United Nations Universities
VAC	Vulnerability Assessment Committee
W/A	Weight For Age
WFS	World Food Summit
WHO	World Health Organisation
W/H <sup>2</sup>	Weight For Height x 2
H/W	Height For Weight

## **CHAPTER 1**

### **INTRODUCTION: MOTIVATION AND BACKGROUND**

#### **1.1. INTRODUCTION**

In Lesotho the limited resources in the health sector are presently overwhelmed by the high burden of disease. The gains that had been made through a well functioning public and primary health care system are now being reversed by the adverse impact of HIV/AIDS related illnesses, which is affecting about 30% of the population. A significant proportion of the burden could be avoided through an effective, efficient nutrition programme. The absence of a clear policy direction for the nutrition programme is rendering all the efforts by respective stakeholders futile.

The scenario in Lesotho characterises it as one of the developing countries currently experiencing high morbidity and mortality rates amongst the vulnerable groups. A synopsis of the situation in the country according to the UNICEF causal factor model (Figure 2.1 in Chapter 2) depicts the prevailing condition as follows: malnutrition rates amongst the children are very high in the form of stunting, underweight and wasting. Micronutrient deficiencies and chronic types of malnutrition amongst all vulnerable groups are also relatively high and call for public health intervention.

This sub-optimal nutritional status is inversely related to inadequate food supplies, poor feeding patterns, low-income level, inadequate water and sanitation provision, as well as chronic and intermittently recurring infections. Mothers' education level is also related to poor care practices, increasing the risk of malnutrition. Hence it is imperative that Lesotho has considered defining of a national nutrition policy as one of the national priorities within the poverty reduction strategy.

It is in response to this need that the author of this thesis has proposed to develop an integrated nutrition policy for Lesotho as part of a Doctoral study.

The principals in authority within the Government of Lesotho (GOL) appreciate the crucial role that nutrition plays in development. In his address to members of Parliament on the 9 September 2002, the Honourable Prime Minister of Lesotho, Professor Pakalitha Mosisili, emphasised the prevailing crisis of food insecurity compounded by HIV and the increased susceptibility to burden of disease due to malnutrition. The Honourable Prime Minister focused on the pivotal role that health and the equitable delivery of basic services play in the realization of successful development, because people are central to sustainable development.

Amongst the interventions to be delivered, the Prime Minister highlighted the role of nutrition in addressing the AIDS epidemic, burden of communicable and non-communicable diseases and injuries (WHO, 2002a). He further urged a collective approach in stimulating local initiatives towards impacting positively on people's lives, choices and options. In his speech, the Prime Minister made reference to the commitment by the respective health ministers to provide stewardship for streamlining administrative systems, scaling up of health care in alliance with relevant partners and linked together with targeted food distribution. This public presentation indicates the commitment of the GOL towards the proposed integrated nutrition policy that will be an output of this thesis. To further demonstrate the commitment of the relevant authorities, GOL granted permission for the development of the integrated nutrition policy by the researcher (see Appendices 1 and 2). WHO has also approved that the studies conducted by the author of this research should be used towards development of the policy framework (Appendix 3).

## **1.2. BACKGROUND**

### **1.2.1 The geography and economy of the country**

Lesotho is a least developed country (LDC) and low income country (LIC) as defined by the United Nations and the Development Assistance Committee (DAC) of the Organisation for

Economic Co-operation and Development (WHO, 2001). The projected population in the country is 2.2 million with a 3% growth rate ([www.bos.gov.ls](http://www.bos.gov.ls)).

Lesotho is a mountainous country completely surrounded by South Africa, with a total land area of approximately 33 000 km<sup>2</sup>. Approximately 75% of the land is mountainous and 9% is arable. It is estimated that 80 to 84% of the population live in the rural areas. More than 30% of the total population is landless, while those with land own one field of approximately one hectare. This condition, together with poor agricultural practices have resulted in overcultivation, worsened the land degradation and consequently soil erosion, predisposing the country to adverse nutritional problems.

The impact of the above mentioned elements on food security is described in Chapter 2. However, the consequence is that the country is classified as food deficient, ranking 137 out of 172 on food availability. In 2001 the Gross National Income (GNI) was US\$888, and the Gross Domestic Product (GDP) was US\$650. Agriculture provides employment to about 50% of the domestic labour force, even though its contribution to the GDP fell from 50% in 1973 to 11% in 1996. In normal years the country relies on imports for about 25% of its basic food requirements, depending largely on South Africa for food imports and on remittances from Lesotho nationals employed in South African mines.

The livelihoods-based vulnerability assessment (LBVA) conducted in Lesotho during April-May 2003 (SADC, 2003) reflected that the consumer maize meal prices increased by 20 to 40% in urban areas. In rural areas the increase ranges between 30 to 50%. This condition has been a shock to households that are mainly dependent on purchased staple foods. Hence the government expects that sections of the population will likely remain vulnerable for the consecutive marketing year.

### 1.2.2 Health and nutrition status

As already mentioned, the present assumption is that the health indicators (see Table 1.1 below) for Lesotho depict unfavourable situations for the vulnerable groups such as children, women and the elderly.

Clearly there is dire need for aggressive programmes in Lesotho towards attainment of the global millennium development goals. The prevailing poverty, due to high rates of unemployment (31.4%) and about 65% of the population earning below the poverty datum line (CARE, 2001) has not improved the situation. This is compounded again by the prevailing humanitarian crisis in Southern Africa and high rates of HIV, estimated at 30% amongst the young people aged 15 to 49 (MOHSW, 2003). The 2001 sentinel surveillance reports estimate that 42.2% of pregnant mothers attending antenatal clinics are HIV-positive (MOHSW, 2002). Information generated through regular health statistics also indicate a resurgence in tuberculosis (TB) and pellagra (niacin deficiency).

**Table 1.1. Health indicators for vulnerable groups in Lesotho**

INDICATOR	LATEST SITUATION		SOURCE OF INFORMATION	SOUTH AFRICAN HEALTH STATUS INFORMATION (Health systems trust, 2000)
	Clinic based information	Demographic Health Survey (2001)		
Maternal mortality ratio (MMR)	738/100,000	419/100,000		150/100,000
Infant mortality rate (IMR)	72/1,000	81/1,000		45.5/1,000
Under-five mortality rate (USMR)	99/1,000	113/1,000		59.4/1,000
Immunisation coverage amongst children aged 0 to 23 months	66.7 (72.6%*)		EPI and nutrition cluster survey, 2002	
<b>Nutritional status of &lt;5s</b>				
Low birth weights	9.8%		MOHSW & FNCO 2002	
Underweight (W/A)	15.4%		"	9.0%
Wasting (W/H)	16%		MOHSW & WHO 2001	2.6%
Stunting (H/A)	30.7%		MOHSW & FNCO 2002	13 – 23%

\* information obtained from the mother/caretaker.

W/A Weight for age  
H/A Height for weight

<5s Children aged less than 5 years.  
W/H Weight for height

Micronutrient deficiency diseases such as iodine and vitamin A deficiencies have been reported in Lesotho. Iodine deficiency causes growth and mental retardation and consequently impacts

negatively on the economy of the country. The seriousness of this condition is reflected in the reported 39% total goiter rate (15% visible goiter rate) amongst the general population and 42% total goiter rate amongst school children (FNCO, 1994). These rates are much higher than the WHO cut-off point of 10% for severe conditions.

Vitamin A deficiency (serum levels below  $0.35\mu\text{mol/L}$ ) has been reported at 13% and low levels (between  $0.35$  and  $0.69\mu\text{mol/L}$ ) at 65% amongst children aged 2 to 6 years. Lesotho is also experiencing problems of over-nutrition as indicated by the study on prevalence of diabetes mellitus and hypertension. Prevalence of 1.5% and 37.6% were found respectively, with obesity ranging from 46% in the urban areas and 33.5% in the rural areas amongst both women and men (Letsie & Nkonyana, 2001).

The World Health Organization (WHO, 2001) suggests that with appropriate interventions, the annual deaths and disability adjusted life years (DALYs) caused by nutritional deficiencies, infections and cardiovascular diseases in developing countries can be reduced effectively as shown in Tables 1.2 and 1.3 below. It is, therefore, worthwhile for the GOL to invest in policies and strategies that will support coherent implementation of interventions towards attainment of these reductions.

**Table 1.2. Rates of death and DALYs (in millions) occurring in the developing countries without appropriate interventions**

	1998	2015
DALYs due to nutrient deficiencies and infections	300	312
Annual death rates due to nutrient deficiencies and infections	9	8.8
DALYs due to cardiovascular diseases	65	96
Annual death rates due to cardio vascular diseases	3	4.4

Adapted from WHO (2001)

**Table 1.3. Rates of death and DALYs (in millions) occurring in developing countries with appropriate interventions**

	<b>1998</b>	<b>2015</b>
DALYs due to nutrient deficiencies and infections	300	100
Annual death rates due to nutrient deficiencies and infections	9	3
DALYs due to cardiovascular diseases	65	73
Annual death rates due to cardiovascular diseases	3	3.3

Adapted from WHO (2001)

### **1.2.3 Sectoral reforms and other developments**

The GOL as a democratic dispensation is committed to good governance, with all its components of transparency, accountability and equitable public service delivery to the nation at large. Poverty reduction and public sector improvement reforms are, therefore, the priority programme of the government. Hence, Lesotho is currently engaged in reforms within priority social and economic sectors, such as public service, education, health, finance and planning. The Poverty Reduction Strategy Programme (PRSP) is another social structural adjustment initiative introduced by the World Bank to highly indebted countries.

Although Lesotho does not fall within this criterion, it has taken the strategy on board as a short-term intervention towards economic empowerment and promotion of equity-based growth and the realization of the country's long-term vision for the year 2020 (GOL, 2004a). The main aim of the vision is that **"by the year 2020, Lesotho shall be a stable democracy, a united and prosperous nation at peace with itself and its neighbors. It shall have a healthy and well-developed human resource base. Its economy will be strong; its environment well managed and its technology well established"** (GOL, 2004b).

To facilitate realization of the country's vision, strategic mechanisms are being engaged by all the stakeholders, from the communities, relevant authorities at respective service delivery levels (districts and nation level) and policy makers. The national nutrition programme was actively

involved in the consultative process during development of the poverty reduction strategy paper (FNCO and UNICEF, 2002; GOL, 2004a). Of the eight priorities that emanated in the PRSP, health is priority number five and one of the strategies specifically articulated in the document is strengthening of the national nutrition programme towards attainment of a healthy human resource base. One of the specific activities includes refinement of the nutrition policy. This thesis will, therefore, provide a framework for development of a nationally owned nutrition policy for Lesotho.

#### **1.2.4 The National Food and Nutrition Programme**

The Food and Nutrition Coordinating Office (FNCO) was established in 1977 in Lesotho. The GOL mandated it with the role of coordination of all food and nutrition related activities countrywide. The office would set multi-sectoral advisory groups to provide technical advice on policy issues, research, communication, planning and coordination of nutrition activities. The membership of these groups was drawn from key ministries such as Agriculture, Education, Health, Local Government, Trade and Industry and Disaster Management, Non-Government Organisations (NGOs), UN agencies, Development Partners and tertiary training institutions. It is in line with this mandatory position that the author of this thesis has sought permission from FNCO to proceed with the development of the nutrition policy.

In Lesotho the framework that was developed in 1997 to guide the nutrition programme following the Rome International Conference on Nutrition in 1992, is the National Plan of Action in Nutrition (NPAN). This plan has never been implemented in a coherent manner and this is another reason why Lesotho needs to develop a comprehensive national nutrition policy and strategic plan. Once the Policy has been adopted as an official document for Lesotho it is envisaged that FNCO would work closely with the relevant departments to implement the strategic plan, with the support of the development partners and other stakeholders.

### **1.3. OBJECTIVES**

#### **1.3.1. The main objective**

The main objective of this thesis is to define the framework for development of an integrated national nutrition policy for Lesotho.

#### **1.3.2. Specific Objectives**

To achieve the requirements for the integrated policy (mentioned below) and the main objective, the following specific objectives are formulated for this thesis:

- To review the existing situation reports related to food and nutrition in Lesotho;
- To review some of the existing policies, strategies and frameworks related to food and nutrition within and outside the country;
- To identify and fill information gaps to feed into the policy;
- On the basis of all available information formulate a framework for developing an integrated national nutrition policy (and implementation strategies), including monitoring and evaluation mechanisms.

To achieve the objectives the methodology described below was used:

### **1.4 METHODOLOGY**

#### **1.4.1. Methodology for developing policy**

##### **1.4.1.1. Designing the integrated nutrition policy for Lesotho**

The process for designing this integrated nutrition policy was consultative. The Food and Nutrition Coordinating Office (FNCO) took the responsibility of the development process by rendering all the necessary support to the researcher/student and assigning their economic planner to work with the author throughout the study period. The initial sensitisation and plenary meetings involved stakeholders at central level, whereby FNCO brought on board the relevant stakeholders such as the Ministry of Health and Social Welfare (MOHSW), Ministry of Agriculture and Food Security (MOA&FS), Ministry of Trade and Industry (MOT&I), Ministry

of Education (MOE), Ministry of Local Government (MOLG) and civil society involved in nutrition, Non-Government Organisations, Community Based Organisations, development partners involved in nutrition (WHO, UNICEF & WFP) and other experts in the policy design area (Ministry of Environment, Science and Technology section) who were in the process of designing policies for their respective sectors and tertiary training institutions. All these offices were consulted to either provide relevant policy information or to critique the initial situation analysis. The information generated in this process has been used in both Chapters 2 and 3.

The overall goal of the proposed policy will be similar to other specific food and nutrition policies, such as the one highlighted in the WHO European region's first action plan (WHO, 2001a). The WHO European region's nutrition action plan states its aim as attainment of protection and promotion of health to reduce the burden of food-related diseases, at the same time contributing towards socio-economic development and a sustainable environment.

Successful development policies are those that emphasise harmonisation with other existing development policies and also ensuring built-in monitoring and evaluation mechanisms (Lock *et al.*, 2003; Mannan, 2003; Shafer, 2003; WHO, 2001a; Grindle, 1980; Babu & Chapasuka, 1997). The final report on ending malnutrition of the Administrative Committee on Coordination/Sub-Committee on Nutrition (ACC/SCN, 2002) indicates that it is essential to adopt the human rights approach for nutrition planning, as this ensures accountability and transparency. Monitoring and reporting are inherent to the human rights system. Hence, the integrated nutrition policy framework that will be defined by this thesis will also emphasise areas such as human rights, poverty reduction, environment and gender approaches as integral components of the development of the framework. The monitoring and evaluation framework for the policy will also be outlined in this thesis.

#### **1.4.1.2. Assessment of the situation**

This thesis will concentrate on the process for formulation of a national nutrition policy for Lesotho on the basis of relevant research and review of other existing policies within and outside the country. The documents to be reviewed will include issues pertaining to nutrition, health and food security (household and national), the latest humanitarian crisis of food deficit and associated problems, such as HIV/AIDS and poverty facing Southern Africa countries. The nutrition systems (service provision) will also be studied to assess the competencies, equitable access of services to all and structural environment within which the policy will be implemented. Relevant linkages with other services within the country, regional and international, will also be explored.

The component for research on policy will clarify the position of all stakeholders in nutrition. It will address the social status of high risk groups vulnerable to nutrition disorders (both under and overnutrition), and perceptions of communities on nutrition problems as revealed in existing research reports, such as the poverty reduction strategy paper/vision 2020, community needs assessment and vulnerability assessments. Existing policy documents within the relevant sectors namely, Health, Agriculture, Education (including training institutions), Trade and Industry, and Science and Technology will also be reviewed.

#### **1.4.1.3. Identification of gaps**

Where gaps exist support will be mobilised from relevant stakeholders, specifically FNCO, MOHSW, the National training institutions and WHO for data collection. The process engaged throughout will facilitate consensus building, such that relevant stakeholders should have ownership of the policy.

#### **1.4.1.4. Consensus meetings**

The consultative process will involve all the above mentioned stakeholders. The National Plan of Action of Nutrition (1992) reflects all the major stakeholders in the Lesotho Nutrition programme and their mandated functions. Hence it can be used as reference point.

#### **1.4.1.5. Production of the thesis and the policy document**

From the information synthesized in the above process a document will be produced by the researcher/student towards the doctoral studies and a policy framework for the GOL. The desire is to use a substantial part of this work also for journal articles, ensuring that the work will be published.

### **1.5. POLICY DEVELOPMENT PROCESS**

Policy is defined by the Oxford dictionary as “a plan of action or statement of ideals, proposed or adopted by a government, political party, business, etc” (OALD, 1995). Jenkins (1978), defines policy as “a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and means of achieving them, within a specified situation. Where the decisions should in principle be within the power of those actors to achieve”. The Alliance for Health Policy and Systems Research (2003), links policy and research as an aim to clarify the understanding for policy or decision makers about a problem they want to solve and ways of solving it. For development interventions to be implemented effectively there is a need for relevant legislative regulations and policies to be instituted. Therefore, food and nutrition programmes are developmental programmes that are relevant for direct improvement of economic growth and poverty reduction. In developing countries these programmes can be implemented effectively if supported by policies and clear strategies such as the national plan of action on nutrition, including health and food security issues.

Policies are usually informed by evidence from situations within which the strategies are to be effected (Hanney *et al.*, 2000). This author further explains that when policy is based on research, then a wider range of validated concepts and experiences are the basis of the policy formulation process, where both successes and failures of similar policies are also studied. Consequently, policies formulated on the basis of research can be considered to emanate from a well informed base.

#### **1.6. PERMISSION FOR DEVELOPING THE POLICY FRAMEWORK AND TO USE THE INFORMATION FROM OTHER STUDIES.**

Permission was granted by the MOH&SW, FNCO and WHO to use information generated by the respective offices towards production of this thesis (See Appendices 1, 2 and 3).

#### **1.7. DEFINITION OF TERMS**

##### **Diabetes mellitus**

Diabetes mellitus is a metabolic disease characterised by elevated blood glucose concentration. The condition is associated with impaired insulin production or action resulting in the body's inability to metabolise nutrients properly.

##### **Disability Adjusted Life Years (DALYs)**

Disability adjusted life years associated with a disease. These are the number of years lost due to chronic disability and premature mortality. The years spent experiencing chronic disability are converted to life years lost using a conversion factor reflecting the severity of the disability. Death of a young or middle-aged person is translated to a loss of many years of life. The number of years are then translated into economic value.

**Gross National Product (GNP)**

GNP is the value of a country's final output of goods and services in a given year. This value is usually calculated as the total amount of expenditure on a country's final output of goods and services, or totalling the income of all citizens of a country including the income from factors of production used abroad.

**Hypertension**

High blood pressure is the common term used to define this condition. This elevation in blood pressure is associated with risk to develop cardiovascular diseases. Complications of untreated hypertension include heart failure, chronic renal failure, stroke and coronary heart disease.

**Integrated management of childhood illness (IMCI)**

Integrated management of childhood illness is a strategy developed by both WHO and UNICEF towards reduction of death, illness and disability and, therefore, promoting improved growth and development among children under five years of age. The strategy includes both preventive and curative aspects that can be implemented by families, communities and health facilities.

**Least Developed Country (LDC)**

A country is classified as a least developed country if it meets inclusion criteria for three indicators, namely if the Gross Domestic Product (GDP) per capita in 2001 was less than US\$800; weak human resource based on indicators of life expectancy, per capita calorie intake, combined primary and secondary school enrolment and adult literacy rate; low level of economic diversification based on the share of manufacturing in GDP, the share of the labour force in industry, annual per capita commercial energy consumption and the United Nations Conference on Trade and Development merchandise export concentration index.

## **MDF**

A worldwide training and consultancy firm, operating management training and a consultancy bureau. It is registered and located in the Netherlands, Sri Lanka, Belgium and Tanzania. Its mission is to enhance management capacities of professionals and organisations in the development sector.

## **Obesity**

Obesity or excessive weight for height is diagnosed when the body mass index (BMI) in  $\text{Kg/m}^2$  exceeds 30. Overweight is classified as a BMI of 25-29.9  $\text{Kg/m}^2$ . Obesity is associated with increased risk of developing cardiovascular complications and high mortality rates due to sudden congestive heart failure. The immediate on-set of death might occur as an influence of the excessive weight on blood pressure, blood lipid levels and development of type 2 diabetes mellitus. Overweight and obesity develop from consuming more calories (energy) than the body requires and not engaging in adequate physical activity to utilize the energy.

## **Policy**

The word “policy” can describe a variety of social or political intentions or desires, but as indicated earlier, for the purpose of this thesis and in government settings it can be described as “a course of action taken by political actors to address social concerns”. The process would contain a number of aspects, such as recognition and/or definition of the problem to be addressed by the policy; identification and description of the situation when the problem exists, and when it is either reduced or non-existent; a strategy to achieve either reduction or removal of the problem and monitoring and evaluation of obtaining the desired outcomes.

### **Poverty Reduction Strategy Programme (PRSP)**

Low income countries are each preparing a Poverty Reduction Strategy Programme (PRSP) as a framework for addressing poverty reduction in a sustainable comprehensive approach through donor funding.

### **Programme**

“The programme” will be used interchangeably to mean either a comprehensive sequenced plan of future activities based on the scenario within which the implementation will occur or it will refer to an action of a government department mandated to design, implement, monitor and evaluate a logical framework and sequence of events to achieve the desired goals, using available resources from within and those externally mobilised.

### **Prudent Diet**

Nutritionally adequate diets, in which total energy, especially energy from fat, is limited not to exceed requirements, associated with optimal nutrition and low risk for development of non-communicable diseases (NCDs).

### **Strategic plan**

This is a process for the operationalising of a policy. The plan can be either short-term (2-3 year rolling plan), or medium term (normally 5 to 10 years). An action plan to implement the policy is then designed to link with the national programme. The plan would elaborate on the strategies, activities, resources required, outputs, outcomes and monitoring and evaluation mechanisms.

## **1.8. STRUCTURE OF THE THESIS**

This section of the thesis will give an overview of the rationale that motivated the development of the integrated nutrition policy and the expected output. In this chapter both the processes

required for developing the policy and the elements that are an integral feature for a policy will be defined. To enable the reader and users of this document to conceptualize the context that the desired policy will be based on, other countries' nutrition policies will be used as points of reference, including the generic development of policy frameworks. The processes/methodologies that were used to develop this policy are also described in this chapter. The desired impact that the proposed policy framework should have will be forecast in this chapter. The terms used in the whole thesis will be described here.

Policy has been described in a variety of ways. However, all the definitions indicate that policy is "a **course of action** taken by all actors towards alleviating a **social concern**". The policy framework consists of the following four components:

- Recognising and defining of the problem to be addressed by instituting a policy;
- Analysis of the situation for the problem location, magnitude and the desired output to be achieved by policy;
- A strategy articulating mechanisms to achieve the desired output;
- A system to assess progress made towards attainment of the desired impact.

The successive chapters will reiterate the above mentioned policy components. Chapter 2 will highlight the causal factors contributing to sub-optimal nutrition status. However, the reader should appreciate that a vicious cycle effect exists between malnutrition and diseases (see Figure 2.2 in Chapter 2). Available information from the WHO and the health sector in Lesotho will be synthesized to define the types and size of nutrition-related problems experienced nationwide. The researcher will analyse this information aggregated by age and gender to identify the specific populations most affected. The food security situation in Lesotho will be another aspect of Chapter 2. Existing information from various sources, such as the livelihoods vulnerability studies commissioned by GOL and Southern Africa Development Community (SADC) and the

assessments from the joint FAO/WFP missions will be used to provide a synopsis of food availability and the shocks and coping strategies on livelihoods. Several studies that have been undertaken on nutritional status, feeding practices and dietary intakes will be used as reference. Analysis of all these data sets will provide information on most of the factors that contribute to malnutrition (see Figure 2.1 in Chapter 2).

Chapter 3 will define the systems available in Lesotho to address nutrition issues. The chapter will analyse the objectives that the respective programmes in Lesotho are to achieve, the existing resource capacity to achieve them and the progress to date. For efficient analysis of the systems, the researcher will hold consultative sessions with the relevant stakeholders in Lesotho (i.e. the programme directors, managers and the nutrition technocrats and development partners). The analysis and consultative process have been designed to facilitate identification of existing gaps and weaknesses to be filled by the policy framework that will emanate from this thesis.

Chapter 4 will describe the framework for defining a national integrated nutrition policy for Lesotho on the basis of information produced in the preceding chapters. Experiences of other countries, social scientists and nutrition professionals will be drawn on to provide the strategic directions. The policy framework suggested will be designed towards fulfillment of the primary purpose of reduction of the burden of disease due to malnutrition and realization of the national priorities (poverty reduction strategy and vision 2020) as explained earlier in this chapter. The process for defining the monitoring and evaluation system will also be explained in Chapter 4. These will include other supportive systems/mechanisms that have to be instituted towards operationalising and implementation of the policy direction.

The final chapter will give conclusion and recommendations, which will hopefully be taken forward by relevant authorities in Lesotho, such as the Food and Nutrition Coordination Office and the Ministry of Health and Social Welfare.

## **CHAPTER 2**

### **THE FOOD AND NUTRITION SECURITY RELATED BURDEN OF DISEASE IN LESOTHO**

#### **2.1. INTRODUCTION**

Lesotho is amongst the six Southern African countries currently facing extreme food shortages due to the harsh weather conditions over the past decade. The prevailing food insecurity coupled with the HIV/AIDS pandemic further exacerbate the vulnerability of the marginalized groups to accelerated morbidity and mortality. This chapter will discuss the factors that are contributing to compromised nutritional status and consequently leading to nutrition insecurity in Lesotho. The factors contributing to sub-optimal nutritional status are multifaceted, as illustrated in Figure 2.1 below. In this chapter the magnitude of the immediate and underlying causes, such as disease burden, dietary intake and food security will be discussed. This will include synthesis of available information on the burden of disease due to nutrition or related diseases (communicable, maternal perinatal and non-communicable diseases), dietary intakes and the prevailing food insecurity issues that are affecting the vulnerable groups in Lesotho. The other social and economic aspects that contribute to sub-optimal nutritional status (see Figure 2.1) will only be alluded to during the discussion in this section. However, Chapter 3 on analysis of the food and nutrition situation and system and Chapter 4 on the integrated nutrition policy will both synthesize other underlying factors related to service provision that are highlighted in the conceptual framework given in Figure 2.1. The possible interventions that can be implemented as an attempt by relevant stakeholders to reduce the nutrition insecurity will also be suggested in this chapter.

Lesotho is currently preparing to undertake a demographic health survey (DHS) that will provide baseline information for most of the health indicators and could also influence major policy decisions related to service delivery in the priority areas of HIV, reproductive health, nutrition and the on-going reform process within the health sector. The DHS will be assessing nutrition parameters such as anthropometrical measurements to assess body mass index, stunting, underweight and wasting; iron status amongst women of child bearing age and availability and rates of iodated salt utilization in the households. At present available data in Lesotho cannot be used with confidence, because they have several shortcomings as will be explained in this section. Therefore, for the purpose of this thesis the World Health Organization (WHO) data set compiled with the principal intention of providing information for policy development will be used. This WHO data will also be complemented, compared and contrasted with existing data from the Ministry of Health and Social Welfare (MOHSW) in Lesotho. The disability adjusted life years (DALYs) will be used to describe the broad patterns of burden of disease.

The WHO has designed and proposed DALYs as the comparative summary measures that can be used across populations to describe ill-health due to various diseases, injuries and risk factors (Murray & Lopez, 2000). Lopez (2000) also mentions that DALYs simultaneously quantify the burden of disease from several causes and hence minimize the tendency to inflate the rates from specific conditions if they were viewed in isolation. Since both the WHO data and information obtained from Lesotho MOHSW were used, it is also possible to identify existing discrepancies. However, the WHO database is based on global aggregates and tends to depict conditions that do not exist in specific countries, such as Malaria in Lesotho. Despite this limitation, the database can still be manipulated to correct any weaknesses.

Over the years several studies have been undertaken in Lesotho to determine the existing situation of the nutritional status of vulnerable groups, especially children and women of child-bearing age.

Some of these studies have also incorporated clinic-based data on the prevalence of under-weight amongst children attending growth monitoring promotion sessions and birth weight outcomes (Hanson & Sebotsa, 2002). Relevant information from these studies will be used to depict the trends and other systemic issues that cannot be obtained from the routine data collected at the health facilities. From this existing data the most vulnerable population groups will be identified and it will be confirmed if Lesotho is experiencing the double burden of disease due to both under and overnutrition.

Food security is another aspect that contributes to nutrition security as illustrated in Figures 2.1 and 2.3. However, professional forums such as the World Health Policy Forum (ACC-SCN, 2000) and other writers (Schuftan, 1979) have acknowledged that nutrition in the real context is rarely integrated with food and other relevant policies. This thesis will attempt to integrate food into the proposed policy. Therefore, for this section of the thesis, available information on the latest food security situation and trends in Lesotho obtained from a series of assessments undertaken by the multi-lateral agencies in collaboration with the Government of Lesotho (GOL) will also be used (FAO, 2004 & UN, 2003). These studies include the vulnerability assessments and periodic crop assessments conducted by the FAO and WFP. Data from the assessments will again be coupled with information from other studies that have been conducted in Lesotho on household food security (Hanson & Sebotsa, 2002).

Information discussed in this chapter will be used to inform possible interventions and realistic targets and target groups. Taking cognisance of the current Government of Lesotho (GOL) reforms, including the medium term Poverty Reduction Strategy (PRSP) and the long-term National Vision 2020 (GOL, 2003), relevant stakeholders in the integrated nutrition programme can design, own and operationalise the relevant strategies using information (see Chapter 1) produced herein. This will be another attempt to empower the nutrition programme in Lesotho to

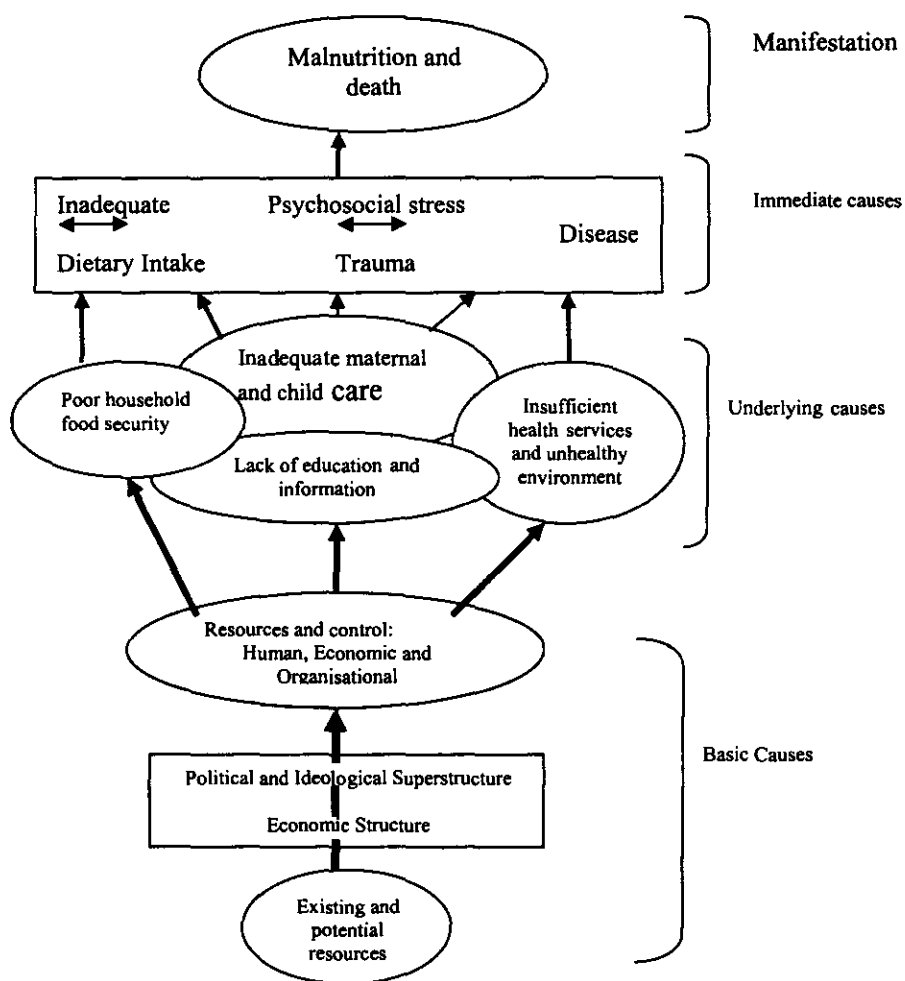
participate in the realization of the nutrition related poverty reduction goals and the millennium development goals (MDG's).

To respond to the need for reliable and timely information on the health status of populations that would inform public policy formulation, WHO was given a mandate to manage information through synthesizing and disseminating evidence on the major components of the health status of populations and existing health systems. Hence in 1998 the WHO-CHOICE (CHOosing Interventions that are COst Effective) project was established (WHO, 2002; WHO, 2004). WHO-CHOICE has compiled data from 171 WHO member states to formulate health profiles of these respective countries from different sources, including national health profiles and UN agency documents. WHO-CHOICE has also produced a database on cost-effectiveness of interventions for 17 sub-regions grouped together by the disease epidemiological trends, infrastructure and economic situation (WHO, 2004). The WHO-CHOICE programme has been developing tools and methods to enable cost effective analysis (CEA) as a tool that can be used by decision makers for assessment of actual performance and potential improvement of the health systems. The CEA requires information on how the effect of current and potential interventions can impact on the health of the population. The design of the programme has appreciated that health systems with similar levels of expenditure per capita can have marked variations in disease outcomes, which could also be due to other non-health confounding factors such as the population's level of education or factors given in Figure 1. The skewed health impact of the interventions could also be due to the limited effects that could be targeting only a small proportion of the population. The WHO-CHOICE programme can, therefore, be used for the following:

- To determine cost/health effectiveness of interventions.
- To determine the resources or costs required to implement an intervention.
- To enable policy makers and other stakeholders to interpret and use evidence produced.

- To provide a rational basis to decide on effective resource re-allocation between interventions for attainment of social objectives.

For this section of the thesis only the basics of this process will be discussed to inform the intervention selection process.



**Figure 2.1. Causal factors contributing to malnutrition (Conceptual framework (Adapted from UNICEF, 1997))**

## 2.2. BURDEN OF DISEASE (BOD) IN LESOTHO

This section of the thesis will first discuss the BOD for Lesotho as depicted by WHO, then by the MOHSW within the country. The Global Burden of Disease (GBD) is an initiative by both the World Bank and WHO, which was introduced with the aim of compiling data for provision of timely information on levels of ill-health aggregated by age and sex, from pre-mature mortality and non-fatal health outcomes. It also aims to examine the extent to which the different diseases, injuries and risk factors contribute to ill-health and to provide both short to medium-term projections on pre-mature mortality and non-fatal health outcomes (Murray *et al.*, 2001). This is an on-going activity that started in 1990 and has undergone a series of improvements. In this chapter, information on Lesotho for the year 2000 obtained from the 2002 WHO data bank on global burden of disease will be used. The WHO list includes 108 specific diseases and injuries categorized according to public health importance (Appendix 4). The authors (Murray *et al.*, 2001) suggest that the list can be modified to remove diseases that are not relevant and include the additional categories that are of public health importance to respective countries. The categories are disaggregated into levels according to cause (see Table 2.1). Murray and Lopez (1996) proposed a standard structure when determining the burden of disease. For the purpose of this thesis only those diseases that are of public health significance in Lesotho will be used to reflect the burden of disease due to nutrition insecurity (See Tables 2.2 and 2.3).

**Table 2.1. First level categorizing**

CATEGORY	DISEASES
Group I	Communicable diseases Maternal causes Perinatal disease Nutritional deficiencies
Group II	Non-communicable disease
Group III	Intentional and unintentional injuries

The existing information from the MOHSW is derived from the statistical summary tables produced routinely from in-patients, and outpatients records, in public health centres and hospitals. A FOXPRO computer programme was used for creation of the database and a

prescribed coding system (ICD-9) similar to the one used by WHO is used as illustrated in Appendix 5 (MOHSW, 2002). In this thesis the health statistics for 2002 will be used. The department charged with the responsibility of data management for the health sector [Health Planning and Statistics Unit (HPSU)] recognises that due to inadequate capacity, the data could be incomplete and inconsistencies in coding might exist (Lesotho, MOHSW, 2002). This limitation introduces a certain level of unreliability regarding this information. However, to correct for this weakness the HPSU assessed the existing data for completeness, verified the existing gaps, cleaned the data (using a statistical package) and believes that the tables are produced from about 70 to 80% of the data collected in the health facilities (MOHSW, 2002).

### **2.2.1. Nutrition related BOD in Lesotho as reported by WHO**

According to the WHO classification, Lesotho falls within the high child and very high adult mortality strata (WHO, 2002b). This classification is based on data from 191 WHO member states, which are divided into five mortality strata on the basis of the levels of mortality amongst children under five years of age and male mortality for 15 to 59 year olds as follows:

A = Very low child, very low adult mortality

B = Low child, low adult mortality

C = Low child, high adult mortality

D = High child, high adult mortality

E = High child, and very high adult mortality.

Africa-E stratum includes those sub-Saharan African countries that are adversely affected by HIV/AIDS.

#### **2.2.1.1 Death due to nutrition related disease in Lesotho**

The information in Table 2.2 has been extrapolated from the twenty leading causes of death nationwide (WHO, 2002b). The diseases reflected in the table are those that are either directly or

indirectly related to nutrition, meaning that they can depict the consequences of either over or undernutrition. The listed diseases can also be prevented or their adverse impact (early onset and early mortality) manipulated through dietary intervention.

**Table 2.2. Leading causes of death in Lesotho**

DISEASES AMONGST TOTAL POPULATION	% DEATHS	DISEASES AMONGST MALES	% DEATHS	DISEASES AMONGST FEMALES	% DEATHS
HIV/AIDS	50.5	HIV/AIDS	48.9	HIV/AIDS	52.1
Lower respiratory infections	4.4	Lower respiratory infections	5.1	Lower respiratory infections	3.7
Diarrhoeal diseases	4.2	Diarrhoeal diseases	4.7	Diarrhoeal diseases	3.7
Perinatal complications	3.5	Tuberculosis	3.1	Cerebrovascular disease	3.5
Ischaemic diseases	2.9	Ischaemic diseases	2.7	Ischaemic diseases	3.1
Cerebrovascular disease	2.8	Cerebrovascular disease	2	Perinatal complications	3.1
Tuberculosis	2.1	Measles	1.7	Cervical cancer	1.8
Measles	1.7	Oesophagus cancer	1.4	Measles	1.6
Pertussis	1.1	Pertussis	1.1	Tuberculosis	1.3
Oesophagus cancer	1.0	Liver cirrhosis	0.8	Pertussis	1.1
Liver cirrhosis	0.7	Nephritis & nephrosis	0.8	Maternal haemorrhage	0.8
Nephritis & nephrosis	0.6	Prostate cancer	0.7	Breast cancer	0.7
Hypertensive heart disease	0.5	Mouth oropharynx cancer	0.6	Maternal sepsis	0.7
				Oesophagus cancer	0.7
				Hypertension	0.6
				Liver cirrhosis	0.5
<b>Sub-Total</b>	<b>76.0</b>		<b>73.6</b>		<b>79.0</b>

Adapted from WHO (2002b)

The information in Table 2.2 reflects that about half of the deaths recorded in Lesotho are due to HIV/AIDS, with a substantial proportion of deaths caused by nutrition related diseases, almost at a comparable rate amongst both sexes. For the females there is a wider range of diseases

including maternal related diseases. This latter observation compares favourably with other health indicators (see Chapter 3) and the section below on information from health facility based information. Currently the official maternal mortality rate is estimated at 738/100 000 live-births (Lesotho, Bureau of Statistics and UNFPA, 2003).

#### **2.2.1.2. Disability adjusted live years (DALYs)**

The WHO has calculated the DALYs to describe the broader patterns of a population's health status for the GBD database (WHO, 2002b). The DALYs are the number of years lost due to chronic disability and premature mortality and can also be defined as the sum of the burden of premature mortality (YLL) and the disability burden of non-fatal burden (YLD). The years spent experiencing chronic disability are converted to life years lost using a conversion factor reflecting the severity of the disability. Death of a young or middle-aged person is translated to a loss of many years of life. The DALYs, therefore, measure the future stream of life lost due to each incident case of disease or injury [hence DALYs are described as an incidence measure more than a prevalence based measure, WHO (2001c)]. There is also a factor of discounting rate that is used depending on the age of disease onset, whereby a year of healthy life gained in 10 year's time is worth 24% less than one gained now. The number of years lost can then be translated into economic value. The limitations of using this data set will be explained elsewhere in this chapter. For this policy making process to appreciate both socio-economic impact of nutrition related disease in Lesotho, the DALYs obtained from the WHO data are displayed in Table 2.3. The WHO, however, cautions that the precise values of the DALY burden for many of the conditions lower in the overall ranking of conditions will fluctuate from year to year due to variations in the incidence and mortality rates.

HIV/AIDS once again is the leading cause of disability in Lesotho. Table 2.3 indicates that nutrition-related diseases contribute quite a substantive proportion to the DALYs. Compared

with the contributions to the total deaths depicted in Table 2.2, infections are those contributing a higher proportion to the burden of disease. The information in Table 2.3 now includes specific deficiency diseases such as PEM and iodine deficiency disorders. The female gender is once again reported with a higher proportion of DALYs, which includes maternal related morbidity.

**Table 2. 3. Leading causes of DALYs in Lesotho**

DISEASES AMONGST TOTAL POPULATION	% TOTAL DALYS	DALYS AMONGST MALES	% TOTAL DALYS	DALYS AMONGST FEMALES	% TOTAL DALYS
HIV/AIDS	49.9	HIV/AIDS	47.2	HIV/AIDS	52.4
Perinatal complications	4.2	Diarrhoeal diseases	4.6	Perinatal complications	3.7
Diarrhoeal diseases	4	Lower respiratory infections	3.5	Diarrhoeal diseases	3.4
Lower respiratory infections	3	Tuberculosis	2.5	Lower respiratory infections	2.6
Measles	1.9	Measles	2.0	Measles	1.8
Tuberculosis	1.8	Pertussis	1.4	Pertussis	1.3
Pertussis	1.3	Ischaemic diseases	0.9	Tuberculosis	1.1
Cerebrovascular disease	0.9	Cerebrovascular disease	0.8	Cerebrovascular disease	1.1
Ischaemic diseases	0.9	Protein Energy Malnutrition	0.7	Ischaemic diseases	1.0
Protein Energy Malnutrition	0.6	Asthma	0.6	Maternal sepsis	0.8
Asthma	0.6	Iodine Deficiency	0.6	Abortion	0.8
Cataracts	0.5			Maternal haemorrhage	0.7
Congenital anomalies	0.5			Protein Energy Malnutrition	0.6
<b>Sub Total</b>	<b>70.1</b>		<b>64.8</b>		<b>71.3</b>

Adapted from WHO (2002b)

### 2.2.1.3. Years lived with disability (YLD)

The WHO has also determined the years lived with disability for the member states. The data used to determine the YLD are the disability incidence, disability duration (including remission, case-fatality rates and relative risk of mortality), age of onset and distribution by severity class. All these are disaggregated by age and sex. For efficient calculation the estimates for incidence,

remission, case fatality rates or relative risk by age and sex have to be made (WHO, 2001c). Murray *et al.*, (2001) state that comprehensive, consistent estimates for disease incidence and point prevalence have to be developed to facilitate calculations of YLD. They describe that the following formula can be used to estimate the years lived with disability.

$$YLD = I \times DW \times L$$

Where

I = number of incident cases during the reference period

DW = disability weight (ranging from 0 to 1)

L = average duration of disability (measured in years)

The information in Table 2.4 implies that amongst the total population in Lesotho, HIV/AIDS is again the leading cause of YLD, followed by micronutrient deficiency diseases amongst the males, then respiratory infections and perinatal complications. Amongst females, maternal health issues are taking precedence in YLD, following the high rates of HIV/AIDS.

**Table 2.4. Leading causes of YLD in Lesotho**

DISEASES AMONGST TOTAL POPULATION	% TOTAL YDL	YLD AMONGST MALES	% TOTAL YLD	YLD AMONGST FEMALES	% TOTAL YLD
HIV/AIDS	25.6	HIV/AIDS	24.2	HIV/AIDS	26.8
Perinatal complications	2.5	Iodine deficiency	2.6	Perinatal complications	2.5
Cataracts	2.2	Perinatal Complications	2.5	Cataracts	2.2
Asthma	2.1	Asthma	2.3	Asthma	2.0
Iodine deficiency	1.7	Cataracts	2.2	Abortion	1.9
Protein Energy Malnutrition	1.5	Protein Energy Malnutrition	1.6	Protein Energy Malnutrition	1.4
Iron-deficiency Anaemia	1.4	Iron-Deficiency Anaemias	1.5	Iron-Deficiency Anaemias	1.3
		Tuberculosis	1.2		
<b>Sub-total</b>	<b>37.0</b>		<b>38.1</b>		<b>38.1</b>

Adapted from WHO (2002b)

#### 2.2.1.4. Burden of disease for 2002 aggregated by age group and gender in Lesotho

The rates for mortality, YLD and DALYs that resulted from the communicable, maternal, perinatal and nutritional diseases in Lesotho during 2002, was aggregated by age group and gender. This analysis will provide a synopsis of the most affected age group and the disadvantaged gender. It can be used to guide policy issues and consequently where the available resources can be directed for effective equitable interventions that can reduce nutrition-related burden of diseases. However, it should be noted that a high proportion of the DALYs is from case fatality (see Figure 2.2 and Appendix 7).

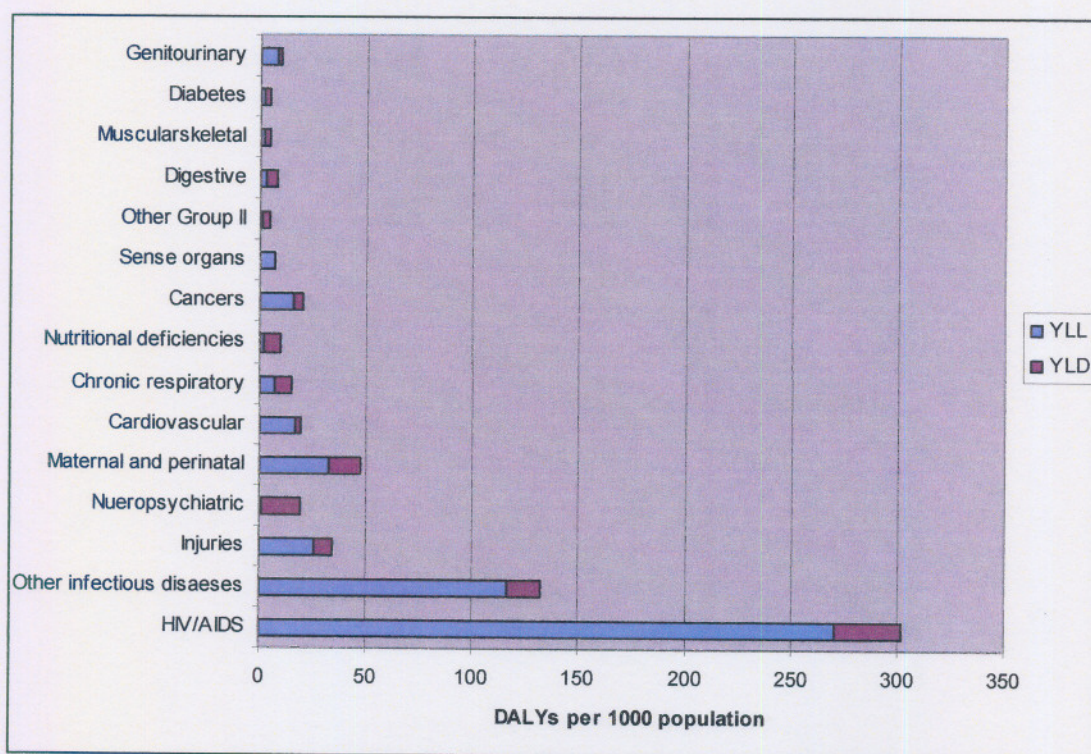
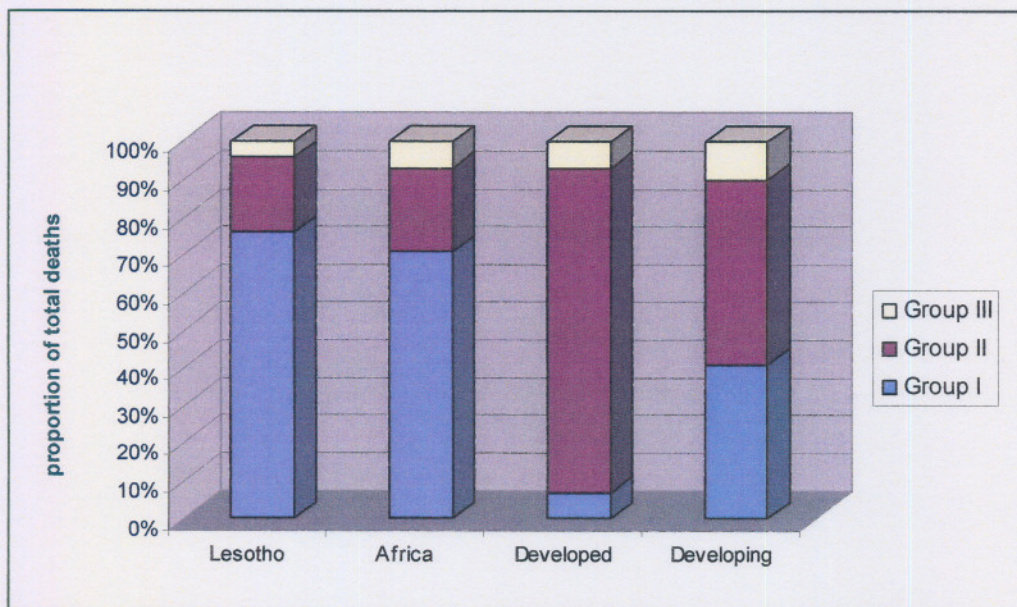


Figure 2.2. The DALY rates for Lesotho in 2002 (Source: WHO, 2002b)

#### Mortality by age and gender

Mortality in Lesotho is high due to communicable disease, followed by non-communicable disease, where the former is contributing about 75% and the latter 20%. The remaining 5% is attributable to trauma/injuries (Figure 2.3). On aggregation by age, death rates due to infections

are higher among the younger age group (0 to 50 years). In the older age group (sixty and above) mortality is mainly due to non-communicable diseases. Aggregation by age and gender indicates higher mortality rates among the older age group. Mortality rates are higher in males than in females among all age groups, with the exception of the 15 to 29 year olds (see Figure 2.4). This observed increase amongst the females during this age could be attributed to maternal health and care issues. There is need for further research to confirm this speculation. The high rate of mortality in males is due to other infections, genitor-urinary, injuries and digestive illnesses, which are less in females.



**Figure 2.3. Proportion of mortality rates by illness in 2002 for Lesotho (Source: WHO, 2002b)**

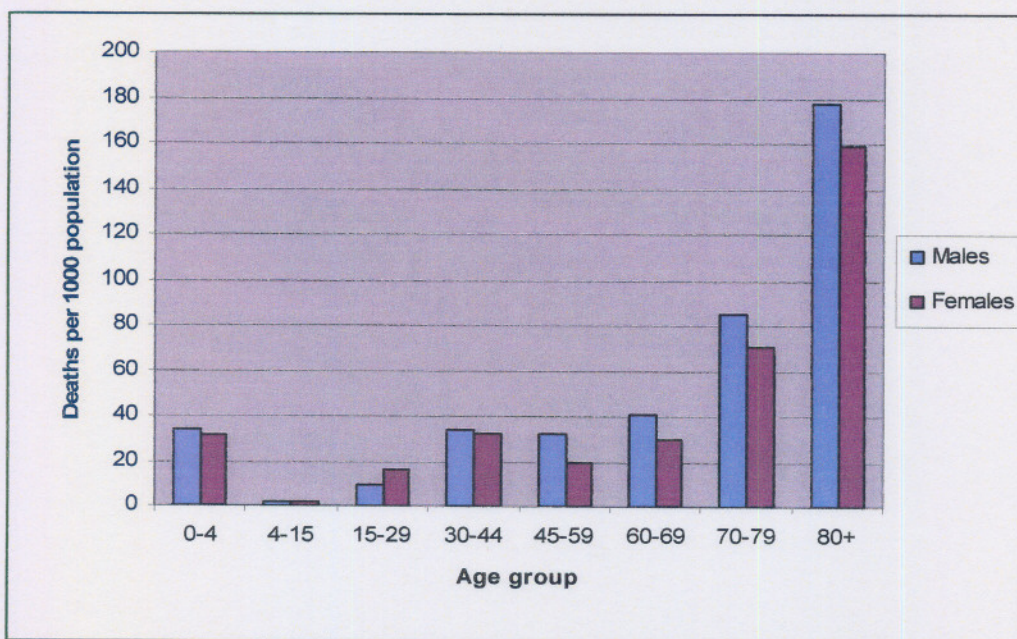


Figure 2.4. 2002 mortality rates by age group in Lesotho (Source: WHO, 2002b)

#### YLD by age and gender

The disability burden due to non-fatal diseases (YLD) that are nutrition related in 2002 in Lesotho showed another interesting trend. Both the 0 to 4 year and the 15 to 44 year olds showed high YLD, with the later group having higher rates (Figure 2.4 and Appendix 6). The male gender again is showing more unfavourable trends with YLD of 100 per 1,000 for boys and 85 per 1,000 for girls amongst children below 5 years of age. The trends amongst the older age group 15 to 44 are reversed, whereby the YLD rates are higher for the females at 150 to 90 per 1,000 and 100 to 80 per 1,000 amongst the male gender. The observed switch in trend could be attributable to the increase in adolescent and maternal related diseases like HIV and complications that could occur during child birth and non-communicable diseases which normally manifest during adulthood. The trends observed here do compare with other studies conducted in Lesotho such as the HIV epidemiology reports (MOHSW, 2003a) which reflect that the population aged 15 to 59 years is the one reporting high rates of HIV.

### **DALYs by age and gender**

The DALY rates of the population are highest amongst the under fives. The DALYs in Lesotho mainly arise from communicable diseases, maternal, perinatal and nutritional deficiencies. HIV followed by other infections are the leading causes of DALYs with rates of 48% and 23% respectively among men and 53% and 19% among females (Appendix 7).

### **Proportional contribution of diseases to burden of disease in Lesotho by age group and gender**

In Lesotho amongst the under fives and the older age group up to age 60, communicable diseases, maternal causes, perinatal disease and nutritional deficiencies are the main causes of mortality. In the older age group (from 60 years onwards) mortality is mainly due to non-communicable disease. Aggregation of mortality by age group and gender shows that mortality was higher amongst the males in almost all the age groups except for those aged 15 to 29, where women were reported with a higher mortality rate. This information also indicates that at age 5 to 14 the mortality, YLD and DALY rates are lower. Therefore, this is an opportunity to implement behavioural change strategies and other cost effective intervention that can promote healthy living practices.

#### **2.2.2. Information available in Lesotho on the burden of disease**

The Health Management Information System (HMIS) in Lesotho is a component of the ongoing health sector reform process. Information generated by the HMIS can be used for planning, monitoring, evaluation and for policy making purposes. All these aspects are urgently needed as part and parcel of the current reform within the health sector. Hence the need to strengthen the capacity for the system to be able to generate routine data in a timely manner (MOHSW – Government of Lesotho, 2002). The current situation is that a backlog of data from the peripheral health service providers has to be compiled and processed. To fast-track the process the

department responsible (HPSU) has produced a health management information system policy and strategic plan that will facilitate effective implementation by all relevant stakeholders. Data on illnesses/diseases presented in the outpatient departments of health facilities (from primary to tertiary) during the whole of 2002 (January to December) have been classified into ten categories as depicted in Table 2.5. The incidence of HIV/AIDS will be reported separately as it is collated under a different programme.

**Table 2.5. Classification of diseases by the HMIS**

CATEGORY	ILLNESSES/DISEASES
A	Guarantinable diseases
B	Notifiable diseases
C	Expanded Programme of Immunization (EPI) target diseases
D	Respiratory tract
E	Cardiovascular
F	Digestive system
G	Endocrine and nutrition
H	Genitourinary
I	Other morbidity
J	Maternal

Source – MOHSW (2002)

The available information at the MOHSW for the year 2002, compared to the WHO data does not provide the possibility of aggregating the data according to the WHO classification and makes it difficult to compare the two data sets. However, Tables 2.6, 2.7 and 2.8 provide a synopsis on the proportion of the ten leading causes of morbidity and mortality in Lesotho during 2002, according to the HMIS. In Appendix 2 the classification of diseases through the data management process used within the HMIS in Lesotho has only considered nutrition related illnesses such as marasmus, kwashiorkor, pellagra, diabetes mellitus and other diseases that have not been specified.

#### **2.2.2.1. Morbidity reported by the HMIS in Lesotho**

The information in Table 2.6 was collected from the out-patients departments of health centres and hospitals in Lesotho during 2002. It illustrates that the highest proportion of patients who visited the health facilities in Lesotho were those presenting other morbidity, at 40.8%, followed

by those presenting with respiratory tract infections at 21.8%, while nutrition and endocrine illnesses were reported at very low rates at 3.6%. This observation requires closer follow-up by the health sector and the nutrition programme, because it could be a result of poor classification of diseases, inadequate skills to diagnose or other factors.

From both Tables 2.7 and 2.8, tuberculosis is the leading cause of admissions and deaths amongst both men and women. It should be noted that tuberculosis may be an outcome (opportunistic infection) related to HIV/AIDS. In Table 2.7, it is shown that in 2002 the prevalence of other diseases, specifically respiratory infections and pneumonia were higher amongst women. The rate of abortions is also notably high. It would be informative to investigate further for causal factors, to elicit the possibility of nutrition-related factors such as low dietary iron levels, mother's presenting low body weight or other complications.

**Table 2.6. Proportion of diseases seen in the outpatients department in Lesotho health facilities in 2002**

CLASSIFICATION**	TOTAL	% OF TOTAL DISEASES
A	2	0.00
B	352	0.14
C	7356	2.83
D	56653	21.79
E	21083	8.11
F	22838	8.79
G	9254	3.56
H	25001	9.62
I	106081	40.81
J	11340	4.36
<b>Total</b>	<b>259960</b>	<b>100.00</b>

Source – MOHSW, 2002

\*\* See Table 2.5 for classification.

Table 2.9 indicates that haemoglobin levels were low in 11% of the population studied in the early 1990's, whereby 7% of pregnant women and 15% of non-pregnant women aged between 15 and 49 years presented with the deficiency (Lesotho, FNCO and UNICEF, 1994).

**Table 2.7. Ten leading causes of admissions in Lesotho for 2002**

<b>DISEASES AMONGST TOTAL POPULATION</b>	<b>% OF TOTAL ADMISSIONS</b>	<b>% ADMISSIONS AMONGST MALES</b>	<b>% ADMISSIONS AMONGST FEMALES</b>
Tuberculosis	24.0	25.5	22.1
Signs and symptoms of ill defined conditions	12.7	11.3	14.5
Pneumonia	7.5	7.0	8.0
Gastroenteritis	7.0	6.3	8.0
Other injuries	12.7	18.0	6.2
Respiratory infections	9.8	9.0	10.8
Diseases of other parts of the digestive system	5.2	5.3	5.1
Open wounds and injury to blood vessels	5.8	8.1	3.0
Fractures	8.0	9.6	6.0
Abortion	7.3	0	16.4
<b>Sub-Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Source: Lesotho Health Management Information System (HMIS) (2002)**

Effective management and control of tuberculosis also includes dietary interventions and during this age of HIV/AIDS, both research and health facility data reveal that almost 50% of persons with the HIV infection are presenting some form of tuberculosis. Analysis of information from the HMIS statistics summary indicates that the MOHSW surveillance system reports 84% prevalence of HIV amongst persons tested at the health facilities, with 86% prevalence in women and 83% in men (MOHSW, 2002). It should be noted that these high figures are found amongst those who seek services at the health facilities and is not indicative for the total population.

**Table 2.8. Leading causes of death in Lesotho**

DISEASES AMONGST TOTAL POPULATION	% DEATHS	% DEATHS AMONGST MALES	% DEATHS AMONGST FEMALES
Tuberculosis	39.3	41.1	36.6
Signs and symptoms of ill defined conditions	14.9	13	17.6
Pneumonia	11.3	10.6	12.2
Gastroenteritis	11.0	10.2	12.2
Other injuries	6.9	9.7	3.0
Respiratory infections	9.0	7.7	10.8
Diseases of other parts of the digestive system	4.2	3.8	4.7
Open wounds and injury to blood vessels	1.6	2.5	.3
Fractures	1.3	1.4	1.3
Abortion	0.5	0	1.2
<b>Sub-Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Lesotho Health Management Information System , 2002

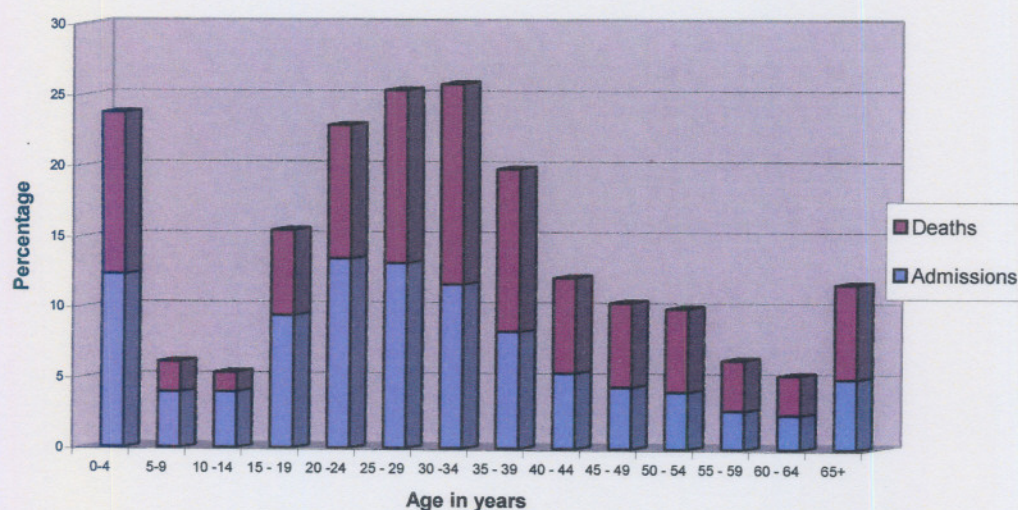
Aggregation of the top ten admissions by age (see Figure 2.5) indicates that the population aged 0 to 4 years is the most affected, with a steep increase observed from age group 20 to 39 and gradually tapering off. The age groups between 5 to 19 and the older age groups of 40 to 64 are less affected. Mortality rates aggregated by age are also giving a similar pattern, although the percentage of deaths is higher amongst the older age group relative to admissions. From this data the window of hope is with the population group aged 5 to 14 years.

Micronutrient deficiency diseases such as iodine and vitamin A deficiencies have been reported in Lesotho (see Table 2.9) at rates much higher than the acceptable international WHO cut-off points for severe conditions. Iodine deficiency causes growth and mental retardation and consequently impacts negatively on the economy of the country.

**Table 2.9. Nutritional indicators from studies undertaken in Lesotho**

NUTRITION INDICATOR	INCIDENCE	SOURCE	ACCEPTABLE CUT-OFF LEVELS
<b>Iodine deficiency</b>			
<b>TOTAL POPULATION</b>			
Total goiter rate	39%	FNCO, 1994	10% (WHO)
Visible goiter rate	15%	FNCO, 1994	
<b>School children</b>			
Total goiter rate	42%	FNCO, 1994	
<b>Vitamin A</b>			
Children aged 2 to 6 deficiencies (> 0.35µmol/L) low (0.35 to 0.69µmol/L)	13%	FNCO, 1994	
Low haemoglobin level	11%	FNCO 1994	

Lesotho is also experiencing problems of over-nutrition as indicated by the study on prevalence of diabetes mellitus and hypertension. A prevalence of 1.5% and 37.6% was found respectively, with obesity ranging from 46% in the urban areas and 33.5% in the rural areas amongst both women and men (Letsie & Nkonyana, 2002).



**Figure 2. 5. Hospital admission rates for top ten diseases by age in Lesotho 2002 (Source: HMIS, 2002)**

**2.2.3. Limitations of information used to determine the burden of disease in Lesotho**

The two sets of data that have been used for the purpose of this thesis (the WHO and MOHSW – HMIS) should be interpreted with caution. The WHO data are very general. As mentioned

earlier in the text they have been obtained from several sources including data from the MOHSW. The inconsistencies observed with the categorizing of the different diseases between WHO and HMIS, introduce limitations in making definite conclusions about the burden of disease in Lesotho. However, the vulnerability of the age groups to morbidity and mortality is constant between the two data sets, as will be explained later in this chapter. The MOHSW has admitted that there has been a lag in data processing and management due to several factors including lack of capacity (Lesotho, MOHWS , 2002). As mentioned above it is estimated that the data used here represents 70 to 80% of the statistics captured by the health service providers.

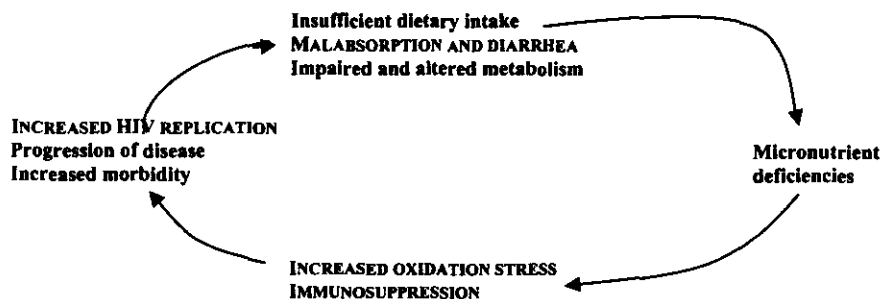
### **2.3. DISCUSSION ON BURDEN OF DISEASE IN LESOTHO**

All the parameters reflected in this section are outside the acceptable limits. It is justifiable that the decision makers and development partners in Lesotho should (and are) prioritize nutrition as one of the major programmes that requires strengthening. During development of the poverty reduction strategy paper in Lesotho, it was necessary to highlight nutrition as one of the cross-cutting themes towards poverty reduction (GOL and UNICEF, 2002). It is also necessary to strengthen the national nutrition programme in an attempt to address the millennium development goals. The Lesotho national PRSP has projected health as the fifth priority and improved nutritional status of vulnerable groups has been identified as the second strategy for this priority, with **“refinement of the national nutrition policy”** specifically articulated as one of the proposed activities towards attainment of the health goals (GOL, 2004). This thesis will, therefore, feed into the PRSP process for Lesotho.

The information synthesized by WHO and HMIS has to be interpreted with caution because it is mostly based on health facility data, which are biased towards those already presenting complications, that push them to seek health care and do not necessarily represent the real situation existing in communities. The information in Table 2.3 depicts that the burden of disease

in Lesotho is due to over-nutrition, because under-nutrition diseases such as Protein Energy Malnutrition (PEM) appear lower on the list, contributing about 0.7 % of the deaths, while cardiovascular diseases contributed to 6.3% of the total deaths in 2002 in the country. However, the information from both WHO and HMIS indicates that infectious diseases are also contributing to the burden of disease in the country. HIV/AIDS-related diseases are contributing to a notably high proportion of the deaths and to the disability burden of non-fatal diseases using both the WHO and HMIS data sets, with death rates notably high at 50.5 %, compared to 25.6% using the non-fatal disability burden. Maternal morbidity is third in magnitude from both sources of data. WHO data depict the male gender as the most affected during the early stages of life, with the rate of maternal complications taking precedence at maturity, while the HMIS depicts the female gender as the one reporting higher rates than the males, with the exception of tuberculosis.

The infectious diseases such as lower respiratory infections, HIV/AIDS, tuberculosis, measles, and diarrhoea create a vicious cycle effect on the nutritional status of individuals. These infectious diseases as described by others (Semba & Tang, 1999) can manifest quite easily when an individual's nutritional status is sub-optimal. The manifestation of these diseases can further debilitate and compromise the health of an individual, consequently rendering the person susceptible to the infections, as illustrated in Figure 2.6 below. It is, therefore, necessary for Lesotho to consider a policy that will be designed appropriately to tackle the double burden of disease from both over and undernutrition.



**Figure 2.6 Vicious cycle of micronutrient deficiencies and HIV (Adapted from Semba & Tang, 1999)**

Given the above scenario, the information in Figure 2.1 can be used to draw the necessary interventions as will be described below and in Chapter 4.

#### 2.4. FOOD AND NUTRITION SECURITY IN LESOTHO

Nutrition security is strongly influenced by optimal food security through its components of access, availability, intra-household distribution and utilisation as illustrated by the diagram in Figure 2.7. An overview of the food security situation in Lesotho will be described in this section, according to findings from studies undertaken by others and the author of this thesis (Hanson & Sebotsa, 2002). The section will focus only on issues related to feeding practices and availability of food in Lesotho at aggregate national and household levels.

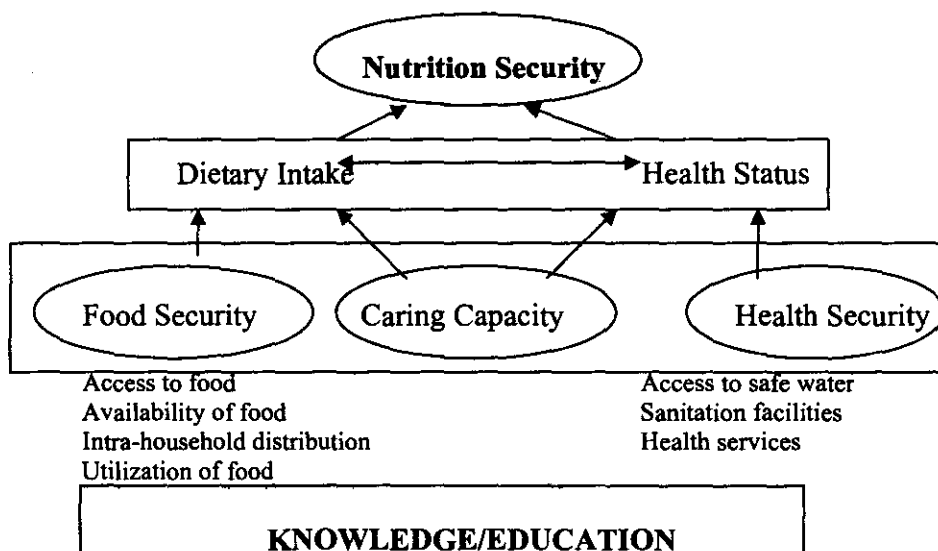


Figure 2.7. Determinants of nutrition security (Adapted from Roetten & Krawinkel, 2000)

The food security patterns of population groups in Lesotho can be derived from several studies that have been undertaken in the country. The studies include the vulnerability assessment and mapping exercises undertaken countrywide. Table 2.10 summarises information from various studies on dietary patterns amongst the most vulnerable populations, especially children.

**Table 2.10. Inadequate dietary intakes and feeding patterns at household level**

OBSERVATION	SOURCE
<ul style="list-style-type: none"> <li>• 22 % exclusively breastfed for at least 3 months</li> <li>• 47% early cessation of breastfeeding at age between 1 and 2 years</li> <li>• Early introduction of other foods (average 3 to 4 months)</li> <li>• Reduced feeding during illness and lack of recuperative feeding after/during illness</li> <li>• Low nutrient density foods, and non- diversity (75% of children below 5 years old are fed on soft porridge with milk)</li> <li>• 81% with dietary energy intake lower than 60% of the recommended dietary allowance</li> <li>• Low utilization of iodised salt at 31%</li> </ul>	<p style="text-align: center;">UNICEF, 2000</p> <p style="text-align: center;">“</p> <p style="text-align: center;">Hanson &amp; Sebotsa, 2002; MOHSW, 2003</p> <p style="text-align: center;">“</p> <p style="text-align: center;">“</p> <p style="text-align: center;">Hanson &amp; Sebotsa, 2002</p> <p style="text-align: center;">“</p>

**Adapted from GOL and UNICEF, 2002.**

#### **2.4.1 Availability and access to food**

The Bureau of Statistics in Lesotho (BOS, 2002) suggests that population transition from the mountain districts to other areas of the country is attributed to the harsh climatic conditions experienced in the mountains. In response to the prevailing harsh climatic conditions, adverse food insecurity has recurred in Sub-Saharan Africa. A series of response activities have been commissioned by international multi-lateral organisations, regional and local authorities (UN, 2002; FAO, 2004; SADC, 2003). These have included rapid assessments, periodic monitoring mechanisms such as the livelihoods-based vulnerability assessments and interventions, including appeals to donor communities to respond to this humanitarian crisis. This existing food insecurity situation has worsened the already compromised nutritional status of marginalized communities in Lesotho.

The livelihoods-based vulnerability assessment exercise (SADC, 2003) categorised the mountains as the most highly susceptible areas to food insecurity. The Southern districts of Qachas’Nek, Quthing and Mohale’s Hoek were the most vulnerable, and their sensitive position is further confirmed by data on nutritional status which portrays these three districts amongst those with relatively high prevalence of chronic malnutrition and under-weight, compared to the rest of the country (UNICEF, 2003).

According to the 2002 vulnerability assessment the mountain districts of Thaba-Tseka and Mokhotlong were the ones experiencing severe levels of income poverty, but were less vulnerable to agricultural production shocks caused by unexpectedly adverse weather conditions. During the exercise the following features were identified as commonly reported characteristics of food insecure households. Most of these characteristics are associated with few employment opportunities and assets:

- multiple income earning strategies;
- a reliance on farming, herding, informal business or/and casual labour for income;
- households headed by widows;
- households headed by elderly (over 60 years old);
- Households with high age dependency ratio.

#### **2.4.2 Estimates of food needs for 2003**

The 2003 vulnerability exercise (SADC, 2003) estimated a nation-wide food/income deficit ranging from 10 to 47% of the total access to food and suggested that to fulfil household food security for 2003-04, livelihood-based interventions coupled with direct food and income transfers would be worth considering for intervention options. The total population would require targeted food aid and through the appeals made with the integrated agency appeal for the prevailing humanitarian crisis in the SADC region, food aid was secured from donor countries. In 2003 and 2004 the appeal for Lesotho elicited a response.

The latest interagency (FAO/WFP) crop and food supply assessment report (FAO, 2004) reveals that the cereal production forecasts for 2003/04 will again be inadequate to satisfy the national requirements and, therefore, predict that a total of 948300 people (45% of the total population) in Lesotho will need food assistance in varying quantities. The mission's report also highlights that

severe soil and land degradation, inappropriate land tillage and crop husbandry practices, inefficient utilisation of other agricultural inputs (seeds, fertilizers, and pesticides), along with inadequate extension service capacity are also impacting negatively on the food security situation in Lesotho.

## **2.5. WHO APPROACH TO INTERVENTIONS TO ADDRESS NUTRITION RELATED BURDEN OF DISEASES IN LESOTHO**

In their report WHO (2001) suggests that with appropriate interventions, the annual deaths and disability adjusted years (DALYs) caused by nutritional deficiencies, infections and cardiovascular diseases in developing countries can be reduced effectively. It is, therefore, worthwhile for the GOL to invest in policies and strategies that will support coherent implementation of interventions towards attainment of suitable reductions in the burden of disease experienced by developing countries. This section of the thesis will suggest cost effective interventions that can be implemented in Lesotho to reduce the burden of disease. Elsewhere, as a follow-up to work done in this thesis, the WHO-CHOICE programme can be used for selection of interventions.

The WHO has developed tools and methods that can be used by decision makers to assess and improve performance for health systems. Cost effective analysis (CEA) is one of the tools. It indicates the type of interventions that can be implemented to provide the highest value for money, maximizing on available resources (Johns *et al.*, 2003, Hutubessy *et al.*, 2002 and Murray *et al.*, 2001). In this thesis the principle of interventions from the WHO list of interventions will be discussed. The WHO list details the coverage and activities for each intervention. The costs for each intervention are estimated to determine if the scarce resources available are being used efficiently or if there is scope to reallocate them in such a way that the health of vulnerable populations can be improved (Johns *et al.*, 2003). The WHO costing exercise has taken into consideration the programme costs and patient costs which are usually omitted during analysing

of the cost effectiveness of interventions. The process has also determined the amount of resources and their cost and the different coverage levels for each intervention.

The analysis of programme costs has considered the cost for introducing each intervention singly and in combination with related interventions. Johns *et al.* (2003) explain that it has been necessary for WHO to identify costs for shared resources which is another component of the methodology that is at times overlooked. In programme cost analysis WHO has incorporated all the resources used at levels above the provider facility required to start-up and maintain the intervention over the intervention period. The programme costs include administration, technical personnel requirements for the programme development and implementation, materials, supplies, media, transport and capital items (such as vehicles and office space). The total programme costs for all interventions are then calculated for a 10 year period with a 3% discount rate (to allow for comparability across the regions). The total values are averaged for one year.

For patient costs WHO has incorporated resources at the level of provider facility, including hospital inpatient days, hospital outpatient visits, health centre visits, laboratory tests and prescribed drugs. The patient's costs for all interventions are again calculated similar to the programme costs, with a discounted rate of 3% and averaged discount for one year are then calculated. For effectiveness of intervention on DALYs averted, the level of impact of interventions on the total population is measured in terms of DALYs averted per year of implementation. Because the DALYs incorporated the combined effect in reductions in mortality and morbidity, the intervention effects that are assessed are those obtained in the population compared to counterfactual situations where no intervention was available for the risk factor or disease in question. Again, the total effectiveness is calculated for a 10 year period with a 3% discount rate, then the total values are averaged for one year.

WHO has evaluated and grouped these interventions according to the following broad categories:

- Unsafe water, sanitation and hygiene;
- addictive substances;
- child undernutrition;
- other nutrition related risk factors and physical inactivity;
- sexual and reproductive health;
- unsafe injections;
- iron deficiency.

These categories are elaborated and defined elsewhere by WHO (WHO, 2002). The relevant authorities in Lesotho will be familiarised about the detail and the possibility of using the methodology to select appropriate cost effective interventions by the author and experts drawn from the UN agencies such as UNICEF and WHO, as mentioned in the suggested policy formulation implementation matrix.

## **2.6. CONCLUSIONS AND RECOMMENDATIONS**

This chapter has highlighted that in Lesotho there is a huge burden of disease due to poor infant and maternal morbidity and mortality caused by communicable, maternal, perinatal and infectious illnesses and non-communicable diseases. The latter mostly occurring in the older population group. All these are public health concerns that can adversely influence the economy of the country. These negative effects can be mitigated effectively through a well integrated national nutrition programme. The health sector and the poverty reduction programme in Lesotho have responded positively by prioritising the nutrition programme, together with the integrated management of childhood illnesses, expanded immunization, reproductive health, non-communicable diseases and water and sanitation as essential services to be provided at the operational level in Lesotho (MOHSW, 2003). However, for a coherent service there is a need to

define a national nutrition policy and strategy that will drive the multi-sectoral approach towards alleviating nutrition-related problems.

The policy should address the pertinent issues raised in this section and should articulate the following:

1. On the basis of available information, including the burden of disease and food security, address priority issues within the nutrition context, aligned with the government of Lesotho's priorities towards achievement of the millennium goals.
2. Realistic goals in line with available resources and mobilize and implement suitable strategies.
3. Strengthen financial management within the nutrition programme to ensure budget allocation will be in accordance with priorities.
4. Specify priority systems to be strengthened.
5. Stakeholders' involvement to ensure operationalising of the document.
6. Define the beneficiaries and target groups according to burden of disease and vulnerability to other shocks.
7. Define strategies that will be implemented, and consider the following:
  - take the opportunity that the population aged 5 to 14 are presenting a lower burden of disease and consider relevant behavioural change and empowerment strategies for this group;
  - aggressive strategy towards control of the adverse effects of HIV which are contributing towards more than half of the disease burden and are also impacting negatively on food production;
  - for the children below 5 years of age and the 15 to 59 year olds to engage a balanced approach to preventive and curative strategies;
  - relevant reproductive health nutrition strategies to address maternal health issues;

- promotion of prudent dietary intakes to prevent overnutrition;
  - food security for the mountain and rural areas (especially the landless).
8. Define monitoring components of the policy.
  9. Well developed research and development programmes.
  10. Well integrated within existing policies.
  11. Dissemination process well defined.

## **CHAPTER 3**

### **AN ANALYSIS OF THE FOOD AND NUTRITION SITUATION IN LESOTHO**

#### **3.1 INTRODUCTION**

To respond to prevailing nutrition problems in Lesotho, several sectors such as agriculture, education, health and trade established departments mandated to focus on nutrition. The Government of Lesotho (GOL) also established the Food and Nutrition Coordinating Office (FNCO) within the Prime Minister's Office as an overall coordinating body to oversee policy issues, ensure collaboration in programme implementation and employ effective and efficient monitoring and evaluation mechanisms nationwide, so that programmes would be responsive to the prevailing nutrition situation at any given point in time. This chapter of the thesis will elaborate on the rationale behind establishing the existing nutrition programme delivery system in Lesotho, the current activities they are engaged in and their effectiveness in managing and controlling nutrition problems. The intended output in this chapter is to present the strengths, opportunities, weaknesses and threats within a selection of these sectors and eventually to identify policy issues that can be brought on board when formulating the integrated nutrition policy for Lesotho. All these efforts would be an attempt to address the deteriorating nutrition and household food security status of vulnerable groups and work towards attainment of optimal nutrition as one of the contributing components for achieving the millennium development goals (MDGs) adapted for the Lesotho situation (see Table 3.1).

**Table 3.1 Lesotho millennium development goals**

GOAL	TARGET	INDICATORS
Combat HIV/AIDS the spread of HIV/AIDS by 2007	Have halted and began to reverse	- HIV/AIDS prevalence rate among 15-49 year olds - Percentage of women using condoms - Death rates associated with tuberculosis
Eradicate Extreme Poverty and Hunger	Cut by one third, the proportion of people who live below the poverty line, by 2015  Halve, by 2015, the proportion of people who suffer from hunger	-Proportion of people who live below the poverty line  -Prevalence of underweight children under 5 years of age
Achieve universal primary education	Ensure that children everywhere (boys and girls alike) will be able to complete a full course of primary schooling by 2007	-Net enrolment ratio in primary education -Proportion of pupils in Standard 1 who reach Standard 5 -Adult literacy
Promote gender equality and empower women	Eliminate gender disparity in all levels of education and increase proportion of seats by women in national Assembly to 30 percent by 2007.	-Ratio of girls to boys in: Primary/100Secondary/100
Reduce child mortality	Cut Infant mortality by one third by 2015.	-Under-5 mortality rate -Mortality rate -Proportion of 1 year old children immunized against measles
Improve maternal health	Reduce by 2015 the maternal mortality ratio by two thirds	-Maternal mortality ratio Proportion of births attended by skilled health personnel -Contraceptive prevalence rate
Ensure environmental sustainability	Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.  Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	-Arable land -Landlessness (percentage of households without access to land) -Soil erosion (lost top soil per annum in million tons)  - Proportion of people without access to safe drinking water - Proportion of people without access to basic sanitation
Develop a global partnership for development	Develop an open, rule -based, non - discriminatory trading and financial system (includes a commitment to good governance, development, and poverty reduction - both nationally and internationally)  Address the special needs of the Least Developed Countries (includes: tariff and quota free access for LDC exports; enhanced programme of debt relief for HIPC and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction)  Address the Special Needs of landlocked countries  Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term  Develop and implement strategies for decent and productive work for youth  Provide access to affordable, essential drugs in developing countries  Make available the benefits of the new technologies, especially information and communication technology (ICT)	

Source: Lesotho, 2004b.

The discussion section in this chapter will focus on areas that have been identified by relevant stakeholders as policy shortcomings in Lesotho. In this section, examples from other countries and regional situations where nutrition policies have been successful will be highlighted. Based on these best practices the discussion will highlight policy issues that the nutrition programme in Lesotho can take on board.

## **3.2. AVAILABLE NUTRITION STRUCTURES IN LESOTHO**

### **3.2.1 Collaboration and coordination**

The synopsis of the national programme currently addressing nutrition problems is illustrated in Figure 3.1 below. From the diagramme it can be appreciated that there is commitment by the GOL and partners in development to work towards attainment of optimal nutrition of the nation. In this chapter only three selected elements that can influence the nutritional outcomes will be discussed, namely nutrition security, food security and trade issues. This idea is partially influenced by the approach that was taken by the European Union (EU) nutrition programme, which preferred to use the three tier approach when designing their first action plan for food and nutrition policy (WHO, 2001).

### **3.2.2. The Food and Nutrition Coordinating Office (FNCO)**

#### **3.2.2.1. Background**

The FNCO was established as a result of the nutrition survey which was conducted from 1956 to 1960. The study recommended setting up of the Permanent Bureau of Nutrition (PBN). The PBN in turn pioneered the Applied Nutrition Programme (ANP) in the early 1960's, which was housed within the then Ministry of Agriculture. The stakeholders soon realised that optimal realisation of the PBN's efforts were actually hindered by its being housed in one Ministry.

The PAI finalized the agreements in the setting up of a coordinating office and new arrangements were finally approved in a Cabinet Memorandum of March 1977. The Memorandum specified the Lesotho Food and Nutrition Council (LFNC) as comprising of four sections:

**i. Cabinet Sub-Committee on Nutrition**

This committee would consist of the Ministers of Health, Education, Rural Development and Agriculture with the Minister in the Prime Minister's office as chairman. This committee would head the LFNC.

**ii. The Food and Nutrition Coordinating Office**

This office would act as the LFNCO secretariat.

**iii. National Food and Nutrition Advisory Group**

The group would be made up of policy level representatives of all major ministries and donor/voluntary agencies involved in nutrition activities.

**iv. Technical Support Group**

This fourth group would consist of technical resource persons and agencies that would be consulted on a day to day operational basis.

Eventually the creation of the LFNC with its secretariat (the FNCO) took place and the necessary arrangements were completed in early 1978. FNCO officially opened and moved into new quarters in April 1978. The operational structure that was designed for the FNCO to implement the mandated responsibility of coordination is summarised in Figure 3.2.

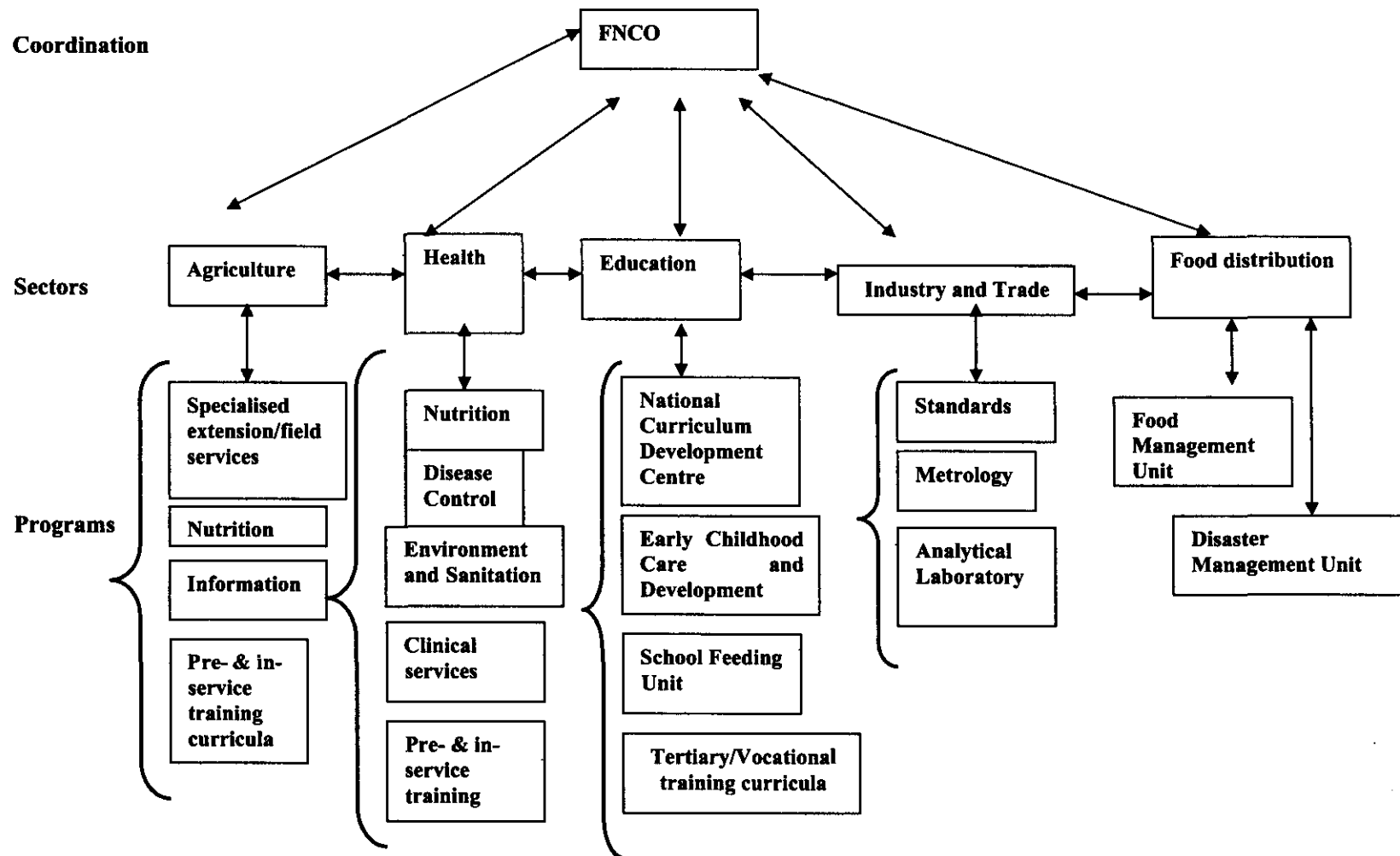


Figure 3.1. The national nutrition programme delivery structure in Lesotho (Source: Input from FNCO, 2003)

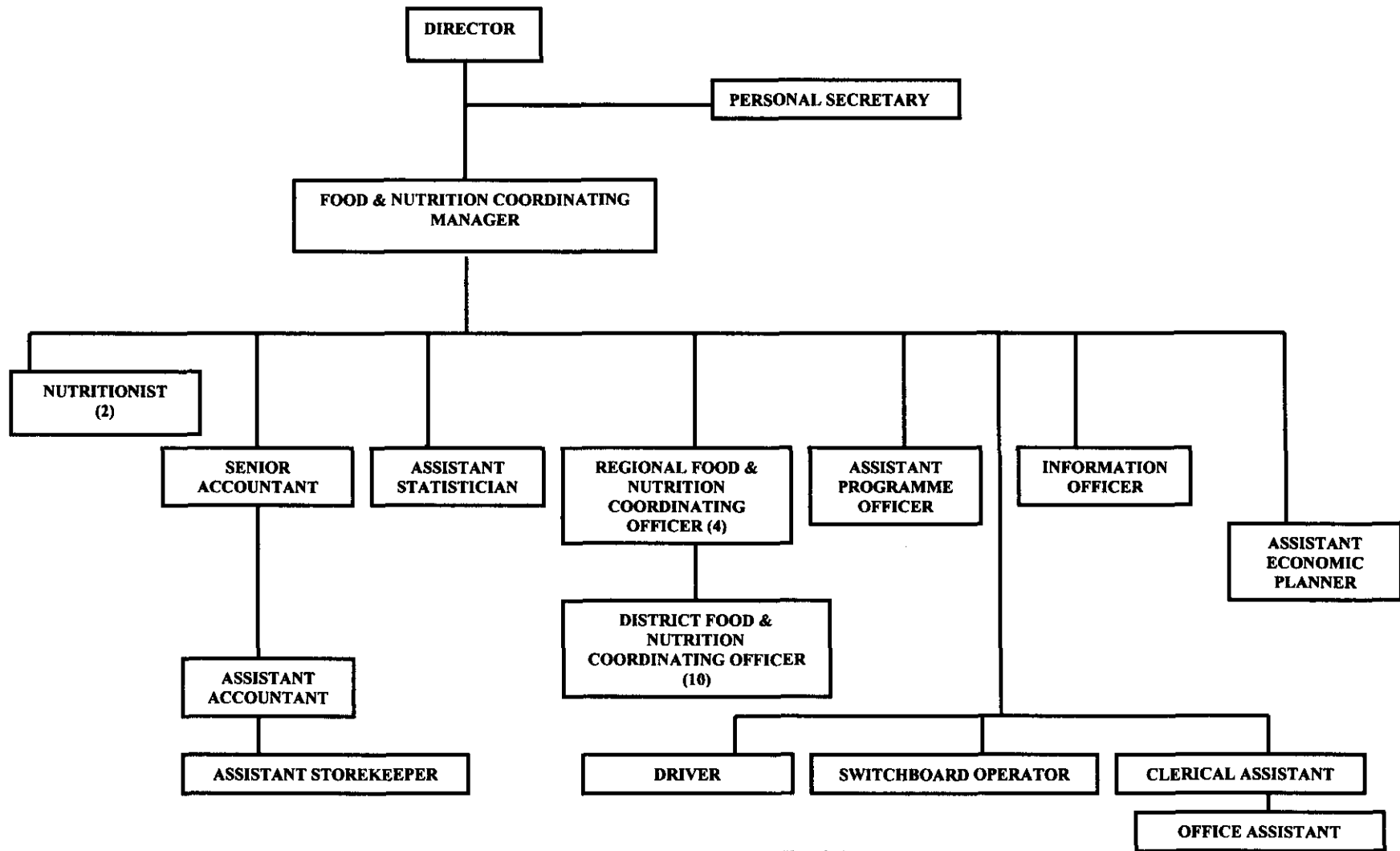


Figure 3.2. FSCO structure (FSCO input)

### **3.2.2.2. The mandate of the FNCO and the LFNC**

To optimise the nutritional status of the Basotho through co-ordination of all activities the purpose of LFNC was defined as:

- food production;
- food distribution;
- food consumption/utilisation;
- nutrition education;
- food and nutrition research;
- food and nutrition policy formulation.

Consequently the FNCO mission is “to provide an environment appropriate for every Mosotho to access adequate nutrition in order to attain optimum potential, which can be attained through making nutrition a national development goal” (FNCO, 2002).

FNCO as the LFNC Secretariat operates to fulfil the following goals:

- assist in the formulation of nutrition policy and recommend food and nutrition laws and regulations;
- initiate, promote and ensure coordinated research in support of core food and nutrition programmes;
- gather and disseminate multisectoral information from various sectors in support of national food and nutrition programmes;
- ensure efficient coordination of nutrition related projects through strengthening of multisectoral planning and implementation of core food and nutrition projects;
- ensure timely, efficient and effective administration of FNCO and the LFNC.

As part of the Lesotho Public Sector Improvement Reforms Programme (PSIRP), which entails clear defining of the purpose, and objectives of all government departments, the objectives mentioned above have recently been rephrased as follows:

- formulate nutrition policies, laws and regulations by 2006 and monitor existing food policies, laws and regulations bi-annually;
- gather and disseminate all food and nutrition information annually;
- identify, coordinate and strengthen all the existing food and nutrition related projects in the country;
- reduce the prevalence of malnutrition due to poverty and HIV/AIDS by 10% by 2006;
- manage and administer all FNCO activities.

### **3.2.2.3 Operational systems for FNCO**

The FNCO has to facilitate the smooth running of the LFNC and hence several committees/task forces to realise the various nutrition activities at all levels of operation in the country (national level for policy formulation, district and local levels for planning and programme implementation). These task forces are made up of several organisations/ministries that deal with nutrition, either directly or indirectly. However, some of these committees/task forces are not operational at the moment. The current programme activities will be elaborated in section 3 of this chapter.

The mandated committees/task forces are as follows:

#### **i. Technical Support**

This committee consists of primary contacts from ministries involved in food and nutrition. Through these offices, FNCO has access to the respective ministry projects and to the non-government and/or partner organisations that work through the relevant ministries. They in turn have access to FNCO's input.

**ii. Advisory Group Sub-Committees**

The four sub-committees, namely policy, research, information and planning and coordination are to meet at least monthly and more often if necessary and submit their progress reports to the Advisory Sub-Committee on a quarterly basis. In turn, these reports are submitted to the Council of Ministers Sub-Committee on Nutrition every four months.

**iii. Policy Sub-Committee**

The responsibility of this specific committee is the development of policy recommendations consistent with the national food and nutrition strategy and prepares the relevant documents for the Council of Ministers Sub-Committee. The membership is constituted by Ministries of Industry, Trade, and Marketing; Agriculture and Food Security; Health and Social Welfare; Food and Management Unit (FMU); Finance and Development Planning; Education - the National Curriculum Development Centre (NCDC); Local Government, Disaster Management Authority (DMA) and FNCO.

**iv Information Sub-Committee**

This committee is responsible for information gathering, analysis and dissemination from a multi-sectoral perspective in support of projects and to create and promote awareness of food and nutrition related issues. The membership consists of Ministries of Agriculture and Food Security; Industry, Trade and Marketing; Health and Social Welfare; Education - NCDC; Information and Broadcasting; Local Government; The National University of Lesotho (NUL); Institute of Extra Mural Studies (IEMS) and FNCO.

The Information Education and Communication (IEC) Working Group is periodically appointed and assigned duties as and when the need arises by the information sub-committee.

**v. Research Sub-Committee**

The primary responsibility of this specific committee is to ensure that priority research needs in support of an integrated multi-sectoral national food and nutrition programme are identified and pursued, using existing resources as much as possible. The main focus of this specific committee is the national surveillance of food and nutrition indicators. The committee also advises on evaluation procedures necessary to assess the impact of nutrition interventions and assists in survey design and the analysis and interpretation of data. Membership is made up of Ministries of Agriculture and Food Security – Research; Industry, Trade, and Marketing; Water and Natural Resources – Meteorology; Education – Lesotho Distance Teaching Centre (LDTC); Local Government – Appropriate Technology Section (ATS); Finance and Development Planning – Bureau of Statistics (BOS), Health and Social Welfare and FNCO.

**vi. Planning and Co-ordination Sub-Committee**

This Sub-Committee works closely with the planning units of all ministries and agencies and particularly with those of Agriculture and Food Security; Health and Social welfare; Education; Local Government-Rural Development; Industry, Trade, and Marketing and Finance and Development Planning. FNCO actively participates in ministerial level planning, including the periodic reviews of ministry sectoral plans in order to ensure that they are consistent with the National Food and Nutrition Programme. To achieve this, FNCO has a representative in the Projects Review Committee of the Ministry of Finance and Development Planning. These

mechanisms are designed to examine needs and seek to include nutrition objectives in development projects and programmes as appropriate. The membership for this specific committee consists of Ministries of Local Government; Finance and Development Planning; Education; Health and Social Welfare; Industry, Trade, and Marketing; Agriculture and Food Security and FNCO.

**vii. Micronutrients Task Force**

The terms of reference for this Task Force are to:

- develop and approve micro-nutrient deficiency control programmes work plan and budget;
- solicit funds from donor agencies for micro-nutrient related activities;
- monitor micro-nutrient activities such as availability and utilisation of iodised salt and rates of Vitamin A supplementation;
- create and promote public awareness on micro-nutrient issues;
- prepare policy options for micro-nutrient issues;
- harmonise with specific departments or organisations in collaborating on activities that will complement the work undertaken by the Task Force;
- produce and disseminate an annual report on micro-nutrient issues;
- plan and conduct micro-nutrient surveys;
- disseminate results from surveys for programme planning.

**3.2.3 The nutrition services within the Health Sector**

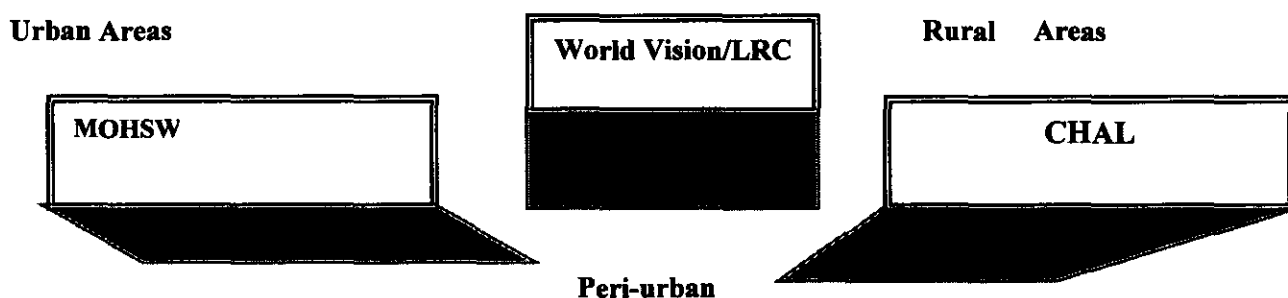
The Health Sector in Lesotho has the mandatory role of reducing the impact of nutrition related problems, through delivery of preventive, curative and/or rehabilitation services for those at high risk of nutritional disorders. The health services delivery system is decentralised to district and community levels to facilitate equitable delivery of services which are offered in hospitals and clinics owned by the GOL and non-government private non-profit

organisations such as the Christian Health Association of Lesotho (CHAL), Lesotho Red Cross (LRC), World Vision and the Lesotho Planned Parenthood Association (LPPA).

To attain the desired equity of access to health services including nutrition by the most vulnerable and marginalised, the GOL provides services through district/ administrative based hospitals and clinics around the catchment areas, while the CHAL institutions are based in the more remote underserved rural areas. NGO's such as World Vision and LRC fit in to serve other marginalised areas such as the peri-urban areas and foothills, as reflected in Figure 3.3 below. Nearly all villages in Lesotho have a community health worker. The most recent census carried out in 2003 indicated a total of 6,000 community health workers countrywide.

### 3.2.3.1 Nutrition services within the Health Sector

The nutrition services in the Ministry of Health and Social Welfare (MOHSW) are mandated to address all health-related nutritional issues of the vulnerable groups, especially women, children and persons presenting chronic nutrition disorders. The Nutrition Programme, Environmental Health and Non-Communicable Disease Control (NCDC) programmes are within the Department of Primary Health Care. All three programmes predominantly address policy and community nutrition issues, while the Dietetics Department is within clinical services and focuses on clinical/therapeutic nutrition.



**Figure 3.3. System for equitable nutrition and health service delivery in Lesotho**

### **3.2.3.2 Specific objectives for the Health Sector's Nutrition Programme**

The programme objectives for the Health Sector's Nutrition Programme are to:

- create a platform for delivery of nutrition education, especially infant and young child feeding messages, maternal nutrition, HIV and other chronic nutritional disorders;
- create awareness within the communities on nutrition disorders and how they could be solved so as to reduce malnutrition amongst the most vulnerable groups;
- integrate nutrition with other health development programmes at policy making and implementation levels;
- ensure that women are empowered and involved in child care services to promote proper child feeding practices;
- improve service providers' knowledge on nutrition to advocate for mainstreaming of nutrition into development programmes.

#### **Functions of the Health Nutrition Programme**

The Family Health Nutrition Programme in collaboration with other programmes charged with child survival and reproductive health within the Family Health Division, facilitate the following in the health sector:

- data collection, analysis and utilisation as part of the surveillance, research and health information systems;
- holistic provision of child survival services, by incorporating nutrition into the integrated management of childhood illnesses strategy and the expanded programme of immunization, including administration of relevant micronutrient supplementation;
- strengthening of the Safe Motherhood Initiative (SMI) programme as an effort towards reduction of maternal and infant mortality rates, by maintaining the micronutrient interventions and routine monitoring of

pregnant mothers to identify high risk cases by improving the obstetric record;

- development and dissemination of appropriate behavioural change communication (BCC) methods to address prevailing nutrition related problems, including the current pandemic of HIV/AIDS and the resurgence of tuberculosis and niacin deficiency. This aspect of the system is undertaken in collaboration with the Health Education Division and other relevant stakeholders, including the FNCO;
- designing timely, appropriate interventions in response to the prevailing adverse weather conditions and food shortages facing Lesotho and parts of Southern Africa.

#### **Functions of the Non-Communicable Disease Control (NCDC) programme**

The NCDC did not exist until as recently as 2001, when it was established to undertake the following functions:

- design relevant training and referral systems for control of chronic nutrition conditions;
- ensure procurement and distribution mechanisms for appropriate drugs, materials and equipment for management of the chronic conditions;
- advocate for establishment of support groups and activities (including health promotion) at all levels of operation for control and management of the chronic conditions;
- collaborate and network with industry and professional bodies to ensure that practitioners and the health system in Lesotho is abreast of new developments related to the control of chronic nutrition conditions;
- ensure that the Lesotho NCDC programme is operating within set national, global and/or international standards, such as adherence to the essential drug

list, referral systems and utilising set national guidelines and protocols, in an effort to ensure equitable access to health services.

#### **The functions of the Dietetics Department**

The dietetics department of the MOHSW is the most undermined programme, manned by only one person. The function of this office is to provide clinical nutrition services within the whole health service delivery system.

#### **Functions of the Environmental Health Programme**

This section collaborates closely with other stakeholders, such as the FNCO, the Standards Section of the Ministry of Industry, Trade, and Marketing (MOIT&M) and Disaster Management Authority (DMA). It is also designated as the health sector's focal point for the emergency preparedness and response system in Lesotho (MOHSW, 2003; UNDP, 2003; Lesotho and SADC, 2003). The functions of this section are:

- provision of health services for promoting, and monitoring food hygiene and safety;
- ensure availability and provision of safe water and sanitation for vulnerable communities;
- effective implementation of an integrated disease surveillance and response (IDSR) system in selected sentinel areas.

#### **3.2.4. Nutrition unit within the Agriculture Sector**

The Nutrition Section is established within the Extension Services of the Ministry of Agriculture and Food Security. Earlier in this chapter this was the same government ministry that housed the FNCO. The mandate of the Nutrition Unit herein is to deal mainly with household food security issues (FNCO, 1997; MOA&FS, 2002).

#### **3.2.4.1. Objectives of the Nutrition Unit within the MOA&FS**

In the two documents referred to above, the mandated objectives of the Nutrition Unit in MOA&FS are described as:

- creation and promotion of awareness on the importance that good food and nutrition principles play within the philosophy of primary health care;
- provide technical guidance in improving availability of nutritious foods through appropriate technology;
- network and collaborate with other nutrition stakeholders.

#### **Functions of the Nutrition Unit**

Functions of the Nutrition Unit in the MOA&FS include:

- establishment of community based self help groups, to support families and individuals with special needs.
- empowerment of families to be self-sustaining by engaging in innovative income generating activities, by promoting engagement in both on-farm and off-farm activities;
- promotion of research on food production towards achievement of optimal nutrition;
- educating the public on principles of nutrition and the life cycle;
- supporting households in rural communities to be food self sufficient, throughout the year.

#### **3.2.5 The Nutrition Programmes in the Ministry of Industry, Trade and Marketing (MOIT&M)**

The MOIT&M is another public service sector that plays a pivotal role in delivery of an effective food and nutrition system, as illustrated in Figure 3.1. The ministry is also one of the public sectors currently being restructured, with the intention of improving efficacy in the

organisation and management of services (MOIT&M, 2003). The restructuring process for the MOIT&M was a three tier process, that involved management audit, followed by strategic planning and designing of an appropriate organisational structure and staffing pattern. Within the MOIT&M the Department of Standards and Quality Assurance is mandated with components of the National Nutrition Programme. The current organisational structure of the Food Standards Department has some human resource shortfalls that do not enable effective service delivery. The Public Sector reform process has, therefore, suggested the organisational structure illustrated in Figure 3.4. Currently existing positions within the department are that of Chief Standards Officer, Principal Standards Officer, Principal Metrologist, Senior Standards Officer, and Controller of Weights and Measures. All five of these positions are occupied. In this section of the document the mission, the operational objectives and functions of the department will be further elaborated.

#### **3.2.5.1. Mission statement for the Department of Standards and Quality Assurance**

The mission statement for the Department of Standards and Quality Assurance states that it is "committed to providing the necessary institutional framework for enhancing competitiveness of Lesotho products in the international market and to foster fair trading practices".

#### **3.2.5.2. Objectives for the Department of Standards and Quality Assurance**

As a consequence of the sectoral review the following objectives were decided for the Department of Standards and Quality Assurance:

- to establish and manage a viable programme effectively on standardisation, quality, accreditation and metrology;
- coordinate national efforts on quality and related activities;
- to contribute to consumer protection through incorporation of food safety and health concerns in products and services and to ensure fair measurement practices in business;

- to enhance competitiveness of Lesotho's goods and services through quality and productivity improvement.

### **Functions of the Department of Standards and Quality Assurance**

To operationalise the objectives the following functions were designated for the department:

- to serve as a national link with international partners on issues of standards, quality, accreditation and metrology;
- to initiate formulation of relevant policy and legislation;
- to provide services for quality and measurement conformity assessment;
- to ensure appropriate participation and representation of Lesotho in international fora on standardisation, quality accreditation and metrology.

### **3.2. 5. 3. Systems in the Department of Standards and Quality Assurance**

There are three specified systems within this department as depicted in Figure 3.4. One section is responsible for standards and quality assurance, the second deals with metrology issues, and the analytical laboratory service is the final section. Their objectives and functions are further defined as follows:

#### **3.2.5.4. Standards and Quality Assurance Section**

##### **Objectives for the Standards and Quality Assurance Section**

- to establish and manage a National Standards Body (NSB) effectively, in order to be able to institutionalise standards and quality management in the business sector;
- to promote the adoption of quality management in the country's business sector in order to enhance its competitiveness in the international, regional and domestic markets and to contribute to accelerated industrial and commercial growth;

- to protect consumers against unsafe products and services;
- to contribute to productivity improvement and customer satisfaction in the public and private enterprise;
- to ensure compliance with safety, health and other requirements through monitoring and control of import and export commodities.

### **Functions for the Standards and Quality Assurance Section**

The functions mandatory for the Standards and Quality Assurance Section are to:

- participate and contribute in regional and global standardization and quality management programmes in order to enhance national efforts in achieving high levels of this performance in the trade and industry sector;
- provide testing, calibration and verification services to the Manufacturing and Trade Sectors in order to assist them to ascertain the quality of their products and imports;
- provide training, consultancy and information services on standards and quality management to public and private sector organisations;
- coordinate and facilitate the formulation of national standards;
- be the focal point of international and regional standardisation and quality management programmes for Lesotho;
- support export promotion programmes for Lesotho by providing information on technical requirements of export markets and by testing products and certifying their conformity to export markets specifications/requirements;
- safeguard the country against the dumping of inferior quality goods as well as unsafe and ecologically hazardous goods.

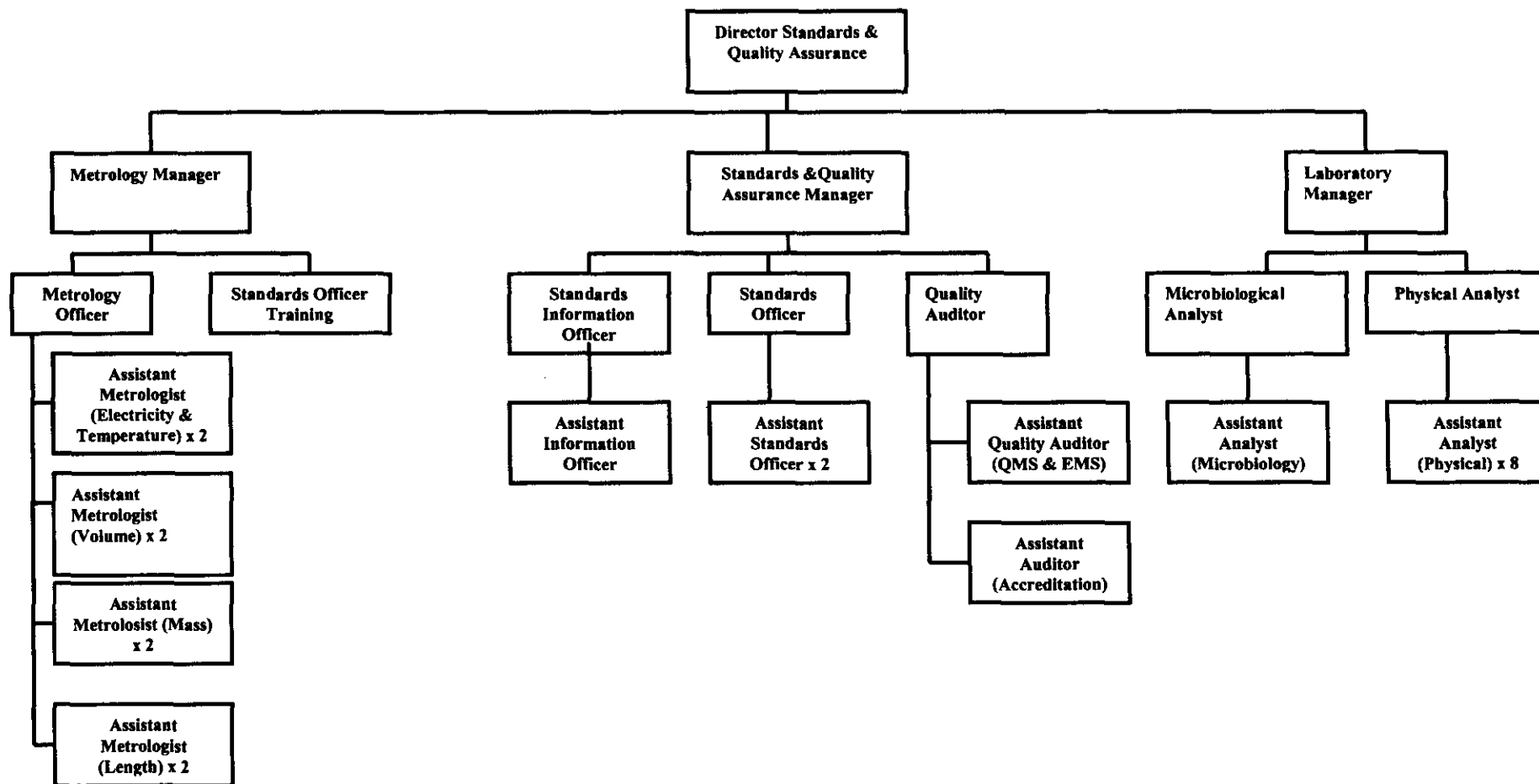


Figure 3. 4. Proposed staffing structure for the Department of Standards and Quality Assurance (Source: MOIT&M, 2003).

### **3.2.5.5. Mandate of the Metrology Section**

#### **Objectives**

The specific objectives for the Metrology Section are to:

- formulate the basic legislation and provide basic institutional arrangements required to make a viable national measurement (metrology) system;
- ensure that the relevant weights and measures laws are adhered to at all times;
- protect consumers' interests at the market place by fostering fair trading practices;
- promote the metrology as a necessary support to standardisation.

#### **Functions of the Metrology Section**

The Metrology Section is expected to undertake the following functions:

- provide verification and calibration services to trade, government and private industry;
- perform routine checks on quantities of pre-packed goods at the point of sale as a means of ensuring fair trading practices and for consumer protection;
- review and up-date metrology laws, by-laws and regulations, where necessary, to ensure that the national measurement (metrology) system is operational;
- procure and maintain national standards of measurements of appropriate accuracy;
- ensure that the working standards are periodically calibrated against reference standards;
- provide calibration services, which are traceable to international standards;
- ensure proper co-ordination of activities and provide the necessary support activities such as metrology training and promotion of public awareness;

- provide services for the calibration of measuring instruments used in the industrial and other sectors of the economy, such as manufacturing and quality control of products, construction, mining, communication and environmental control.

#### **3.2.5.6. The Analytical Laboratory Services Section**

A microbiology laboratory was established within the Department of Standards and Quality Assurance in 1997 with support from the Food and Agricultural Organisation (FAO), in collaboration with Ministry of Health and Social Welfare (MOHSW) and Environmental Health Programme.

#### **Objectives for the Analytical Laboratory Services Section**

The analytical laboratory is expected to fulfil the operational objectives as designated and should fulfil the quality of their results, timeliness and be cost-effective and should be undertaken in collaboration with other relevant sectors. These are to:

- produce reliable test results;
- produce analytical data of adequate accuracy and reliability within acceptable time and acceptable cost;
- establish that the correct results have been obtained and, therefore, ensure that the data is reliable enough to inform appropriate decisions.

#### **Functions**

Functions designated to the Analytical Laboratory Services Section are to:

- conduct research and consultancies to assist manufacturing industries in product development and product improvement;

- provide testing services for industries, for product certification and for quality control purposes;
- perform routine analytical checks on import and export commodities to ascertain their quality level and to assess their compliance with the stipulated quality and legal requirements;
- conduct research to develop new test methods or to improve upon the existing analytical methods;
- participate in regional and international laboratories inter-comparison schemes to be able to assess the competencies of the Lesotho laboratory and to keep abreast of developments in the analytical field.

### **3.3. NUTRITION PROGRAMME ACTIVITIES**

The specific programme activities that are implemented by various sectors in the national nutrition programme are intertwined, without clear lines of demarcation, such that at times there is duplication of efforts, overlaps or gaps. This eventually creates much conflict whereby the desired coordination and collaboration is minimised. Consequently, the nutritional status of beneficiaries of the programme is compromised. In this section the activities undertaken by individual sectors will be described. This section will include the strengths, weaknesses, opportunities and threats within the sectors from previous evaluations that have been undertaken to assess the impact of these programmes. Some sectors, namely the health, trade and agriculture have already identified areas that need policy intervention, as will be elaborated here. The thematic nutrition paper prepared by FNCO and UNICEF (2002) attempted also to highlight relevant poverty reduction oriented policy issues. All these issues will be further summarised in Table 3.1.

### **3.3.1. Current nutrition programme activities**

Since the inception of the FNCO, several strategic plans have been developed including the two documents developed in the 1980's, bridging the gaps and crossing the bridges. After the Rome 1992 International Nutrition Conference (ICN) the National Plan of Action for Nutrition (NPAN) for Lesotho was also compiled. All the documents mentioned above attempted to define the national programme on the basis of prevailing nutrition problems, available government policies and resources. Partner development organisations (multi-laterals, bi-laterals and others) have also been supportive to the efforts made by the GOL towards reduction of malnutrition by developing capacity within the national nutrition programme, providing technical expertise, financial and other material support as and when required. This section of the chapter will also describe the gaps that require strengthening through legislated policy intervention.

### **3.3.2 Programme activities within the FNCO**

It should be appreciated that as indicated earlier, the FNCO's core business is coordination of the national nutrition programme in Lesotho. Therefore, programme activities in FNCO should focus on the realisation of the mandated position to ensure effectiveness of activities by other stakeholders in nutrition. Currently, the following activities are undertaken by the FNCO:

- **Monitoring of the legislation on universal salt iodisation**

At the moment the department deals with monitoring and enforcing the Iodated Salt Legislation.

- **Poverty reduction and nutrition and HIV/AIDS**

The FNCO together with its partners have developed a document on Lesotho Nutrition and Poverty in which an implementation matrix was developed (FNCO & UNICEF, 2002). However, the document in its entirety has not yet been implemented. It is still awaiting the formal approval of the poverty reduction strategy paper for Lesotho by the

relevant authorities (Cabinet and Government). However, because the nutrition and poverty programme is a live document, some activities included in the action plan are already underway, such as nutritional care and support of people living with HIV/AIDS, which is being undertaken by almost all the departments working on nutrition due to its cross-cutting nature; fortification of staple foods and the training of health and other field personnel on screening and early detection of malnutrition (both under and overnutrition). Probably the most important is the establishment of the degree training programme in nutrition within the Department of Health Science at the National University of Lesotho. To date twenty six students (ten in the third, and sixteen in the second year programme) are enrolled in the Baccalaureate of Science Degree in Nutrition.

- **Nutrition Surveillance**

The FNCO together with the relevant sub-committee, are already facilitating the pilot phase of the nutrition surveillance system in Mokhotlong and Qacha's Nek. This activity is undertaken in collaboration with other key government departments involved in surveillance activities, such as the HMIS, National Early Warning System (NEWS) and Vulnerability Assessment Committee (VAC).

- **Permaculture**

The FNCO has currently deployed a Peace Corps Volunteer in nine districts, based at the community level, helping them with permaculture food production to support HIV/AIDS activities.

- **Policy formulation**

Attempts towards defining the national nutrition policy have been made as mentioned above. However, due to high staff turnover in the management level of FNCO, it has taken some time for the office to facilitate formulation of an integrated nutrition policy for Lesotho. The FNCO has committed to development of the integrated nutrition policy

for Lesotho (see Appendix 2). On completion of this thesis the process for informing the policy decisions will already be underway.

**Weaknesses in the Department:**

The FNCO is not able to meet all its goals and objectives due to the following reasons:

1. Different Ministries/ Departments have different priorities. This leads to lack of commitment in some activities. The FNCO is, therefore, unable to coordinate such activities.
2. Roles and responsibilities are not clearly specified in the national strategic plans for the nutrition programme in Lesotho or any other policy papers. This situation, therefore, leads to some confusion in some cases. This sentiment is similarly also felt by other stakeholders as mentioned in the agriculture strategy paper (MOA&FS, 2003). This problem also calls for the review of the 1997 National Plan of Action for Nutrition.

**Opportunities**

These opportunities and threats have already been cited by FNCO and UNICEF, (2002) and are re-emphasised here as:

**Opportunities**

- global and regional interest to improve and strengthen nutrition programmes;
- the varied interest and support from development partners must be obtained;
- involvement of various sectors in nutrition creates a conducive atmosphere for the multi-sectoral integrated approach;
- strategic placement of FNCO within the Prime Minister's ministry gives the office a vantage position to influence policy.

### **Threats**

Despite the GOL's commitment in setting up systems, there is low government commitment for programme implementation as will be indicated by the following threats:

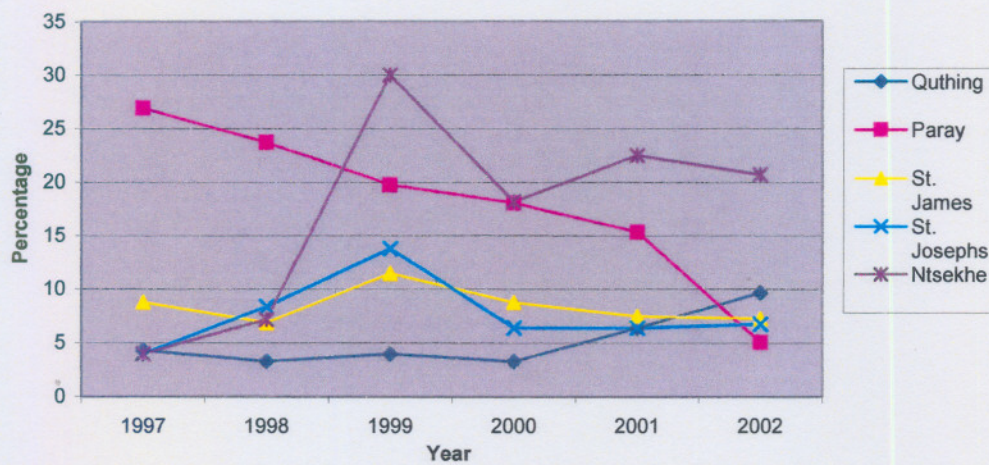
- low investment in nutrition, with increased dependency on support from development partners;
- lack of trained personnel to implement programmes;
- limited skills of personnel.

### **3.3.3. Activities within the Health Sector's Nutrition Programme**

On the basis of prevailing nutritional problems, the FNCO in the 1980's, through its advisory committee, initiated the establishment of the Nutrition Programme within the MOHSW. Since 1989 the programme implemented the pilot phase of the Child Nutrition and Household Food Security Project in two districts. Clinic-based information revealed a high prevalence of under-weights (MOHSW 1990) in these two districts relative to the rest of the country. The project adopted a multisectoral approach and had four main components, namely nutrition surveillance (including growth monitoring promotion), infant and young child feeding, nutrition education and control of micronutrient deficiency disorders. Before then the health sector nationwide was undertaking nutrition activities such as growth monitoring and nutrition surveillance, nutrition education in specialised out-patient clinic such as ante and postnatal, diabetes and hypertension. A multi-sectoral nutrition paediatric sub-committee was involved in the paediatric ward of the national referral hospital (Tolboom, 1986) and dietary therapy for management of in-patients at the national referral hospital (Queen Elizabeth II Hospital).

Routine nutrition surveillance data collected by the Health Sector are mainly on children under five years old during the ante-natal clinics. The aggregated information collected in preparation for the inter-agency appeal in 2002 indicated that in areas (Quthing and Paray [Thaba-Tseka])

where the community-based growth monitoring was established by the project, the rates of under-weights declined over the years (see Figure 3.5). This could have been due to early detection of growth faltering and timely intervention with nutrition education. However, in 1998 a steep increase in reported rates of under-weights was observed. This could have been the after effects of the anarchy that occurred in the country at that given point and another increase in 2001, possible due to the adverse weather conditions that the country experienced then.

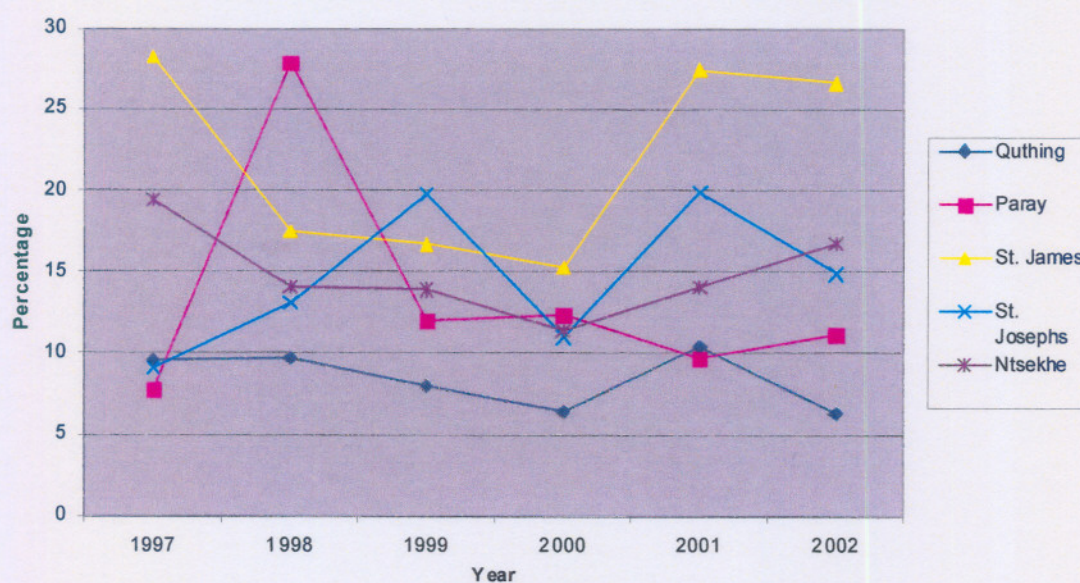


**Figure 3.5.** Note that the data for 2002 are based on information for the first quarter of the year only.  
**Trends on prevalence of under-weights in selected health service areas in Lesotho (WHO, 2002).**

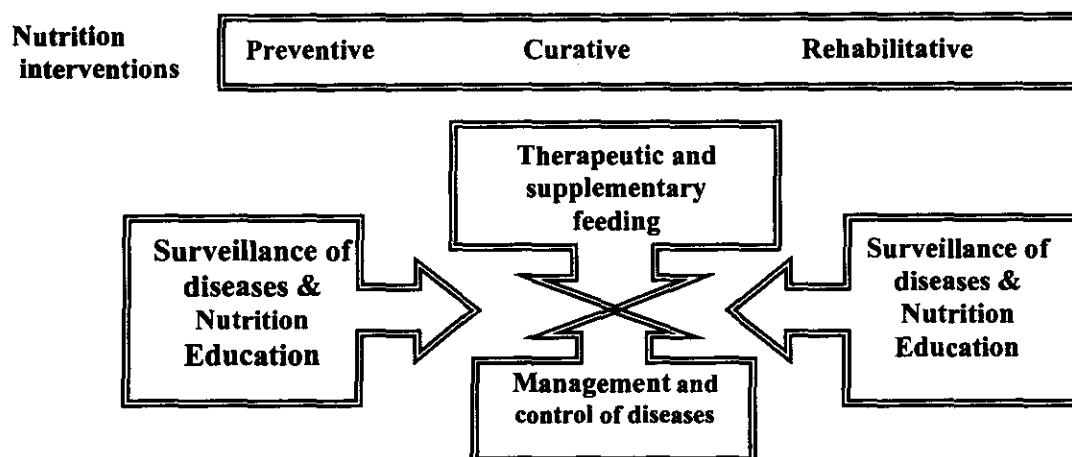
The information in Figures 3.5 and 3.6 was collected during the 2002 inter-agency assessment for the present humanitarian food shortage crisis currently facing the Southern Africa region (WHO, 2002). This adverse nutritional status of vulnerable groups was also substantiated with clinic-based data on low birth weights (Figure 3.6). This data also indicates that since 2000, a gradual increase in the rates of low birth weight was recorded in the five health service areas (HSAs) visited. The trends follow those observed for the under-weights (Figure 3.5).

Despite attempts by the development partner organisations to assist Lesotho in its response to the crisis, the food security situation is worsening as will be illustrated in the food security section of this paper.

Despite the limited staffing pattern and the skill capacity within the Health Sector's Nutrition Programme, attempts are being made to respond to the prevailing nutrition problems in the country such as the humanitarian crisis, the rising prevalence of non-communicable disease and HIV-related infections. These interventions are mainly evidence-based and are responsive to the prevailing health status of the population. Some of them are based on the recommendations that were made after various assessment studies (Hanson & Sebotsa, 2001; United Nations, 2003; Letsie & Nkonyana, 2001). A schematic diagram on how these interventions complement each other towards attainment of optimal nutritional status is given in Figure 3.7.



**Figure 3. 6. Trends (\*\*\*) on prevalence of low birth-weights in selected HSAs in Lesotho (WHO, 2002)**  
 \*\*\* Data for 2002 is based on information for the first quarter of the year only.



**Figure 3. 7. Nutrition intervention in the health sectors**

The interventions implemented in the Health Sector include:

- i. Accelerated training of district based clinicians (doctors and nurses) on proper case management of children presenting with severe protein energy malnutrition, respiratory and diarrhoeal diseases;
- ii. Nutrition syllabus included into continued professional development training for health professionals on HIV/AIDS and other clinical conditions, in collaboration with the Lesotho Medical Association (LMA) and Lesotho Nursing Association;
- ii. Home-based care of malnutrition cases by community health workers and support groups;
- iii. Distribution of supplementary feeding in areas that were most vulnerable;
- iv. Intensified growth monitoring sessions for under five year old children to facilitate early detection of growth faltering and intervention;
- v. Integrated disease surveillance;
- vi. Incorporated nutrition into HIV/AIDS programmes such as Prevention of Mother to Child Transmission (PMTCT);
- vii. Routine outpatient clinics for non-communicable nutrition disorders (diabetes and hypertension);

- viii. Intensified training of health workers on improved access to safe water supplies to communities, schools and health facilities;
- ix. Intensified participatory sessions on hygiene education and sanitation.

### **Weaknesses**

There has been high staff attrition in the Nutrition Programme (especially of qualified personnel). This has resulted in available human resources being drawn from the other allied health professions. Consequently, there is inadequate continuity in programme implementation. This haphazard programme implementation leads to an incoherent programme within the health sector.

### **Strengths within the Health Sector's Nutrition Programme**

The nutrition services in the Health Sector entails several programmes within Primary Health Care (PHC) and clinical services and other health service providers as illustrated in Figure 3.3. By virtue of its design, these particular services create a conducive situation to demonstrate the desired characteristics that are integral components required for an effective nutrition policy, such as intersectoral coordination, integration of nutrition into other programmes and decentralised services and programme planning (Collins, 1994; Bossert & Beauvais, 2002; Rondinelli & Ruddell, 1980).

### **Opportunity**

The on-going Health Sector Reform process allows the nutrition programme the privilege to develop policy connections with other sectors.

#### **3.3.4 Activities within the Department of Standards and Quality Assurance**

The specific nutrition programmes currently implemented by the Department of Standards within MOT&I include:

- In collaboration with the MOHSW, the FNCO micronutrient task force, MOIT&M instituted a regulation on importation of iodised salt into the public health law. The regulation specifies that imported salt should contain levels of 100 parts per million (ppm) iodine at point of entry into the country to allow for losses during transportation and a reasonable shelf life before point of sale;
- The department also represents the GOL in selected CODEX Alimentaire forums. These are dialogue sessions on standards, where consumers, manufacturers/industries and governments debate on quality assurance and control issues;
- Another recently approved (May/June 2003) FAO supported project is on compiling a food composition table on the nutrient value of local/indigenous vegetables and plants (foods) as an attempt to promote these foods. The MOIT&M will be coordinating the project. The MOA&FS, division of nutrition and home economics will be the implementing partner;
- An attempt to ensure food safety within the hospitality and catering food industry, such as restaurants, street vendors and fast foods. The Department of Standards, in collaboration with MOHSW (Nutrition Programme, and Environmental Health Programme) proposed a baseline study that would be the basis of defining a relevant, appropriate set of regulations for both the formal and informal food industry. To-date adequate funding has not been secured to undertake this endeavour. However, FAO has assisted the department in training food handlers and routine screening for risk pathogenic coliforms (easily detectable markers that are disease causing micro-organisms), or other easily /contagious diseases of the handlers is undertaken before they are licensed to operate within the rural and urban market.

### **Weaknesses in the Department of Standards**

To date the Department is not able to perform the mandated functions as indicated above and in other documents such as the NAPN (FNCO *et al*, 1996) and the nutrition poverty reduction paper (FNCO, 2002) due to unclear policy and overlaps with some of the key departments as explained below. It can also be appreciated that there is a need to consider strengthening the human resource capacity in quantity and quality, given the highly specialised range of activities mandated to the Department. Figure 3.4 depicts the proposed structure for the Department of Standards and Quality Assurance.

The majority of licensed food outlets (both formal and informal) are situated in the urban areas. Without a clear policy it is rather confusing to designate the appropriate office that should be responsible for monitoring and regulation for the industry. There are conflicting ideas on whether the responsibility lies with the City Council, MOIT&M or MOHSW.

#### **3.3.5. Household food security activities within the MOA&FS**

Since the early 1950s, when the Nutrition Unit was set up in the MOA& FS, the focus has been on empowering women groups countrywide on home economic issues, namely skills on small scale and farm activities, such as chicken rearing, vegetable production using organic methods and innovative processing and preservation to ensure year round availability of a variety of foods. The extension workers within this unit have also engaged women and other interest groups in off-farm activities for income generation.

The Agricultural Sector Strategy (MOA&FS, 2002) observes that the unit has been experiencing both technical and implementation difficulties. These have hindered attainment of set targets. The observed weaknesses are categorised as:

### **Technical weaknesses**

- increasing rates of malnutrition amongst vulnerable groups, with HIV/AIDS exacerbating the problem;
- lack of working capital for the community groups;
- poor marketing skills;
- low awareness of the important role of nutrition in poverty reduction and limited research and surveillance in monitoring effectiveness of interventions (mainly due to lack of expertise).

### **Implementation weaknesses**

- inadequate numbers of extension workers;
- absence of incentives for the extension workers;
- unclear roles of duties and responsibilities of the extension workers;
- interventions not based on needs of communities; the top down approach used to plan interventions;
- insufficient capacity and expertise of nutrition extension workers;
- absence of supportive Behavioural Change Communication (BCC) materials;
- fragmented nutrition programmes.

### **3.4. THE PROPOSED NUTRITION PROGRAMME**

On the basis of the prevailing situation in Lesotho, it is clear from the above that there is obvious fragmentation and parallel nutrition programme implementation, even where Government had established a coordinating body. It is imperative that the policy makers and technicians should go back to the drawing board to redefine nutrition policy issues in Lesotho. This thesis can be useful for the authorities and stakeholders in Lesotho to inform the policy decisions. In this section the

possible approach that can be used to fill the existing gaps will be discussed. Experiences from other countries will also be captured in this section. From these the best practices can be harnessed towards development of an integrated nutrition policy.

#### **3.4.1. Gaps in the Nutrition Programme**

Previous work done for other purposes has identified performance gaps within the National Nutrition Programme, despite efforts to coordinate programme activities. The information in Table 3.2 is adapted from the Lesotho Poverty Reduction Programme, and has incorporated work by other authors (MOA&FS, 2003).

In their document, FNCO and UNICEF (2002) summarize the causal factors to the existing gaps in nutrition programme implementation as:

- the approach used is more curative than preventive, an example is that the preventive promotional activities are only provided by the health sector and these are limited to clients that are already seeking health care. This system excludes people who do not go to health facilities and is inclined to be more responsive than preventive;
- coverage of activities is limited to selected areas. Effective projects are not rolled out;
- emphasis is on nutrition education, which tends to provide knowledge and simple technologies that may not affect change in behaviour;
- limited human resource development for effective programme delivery at all operational levels;
- limited advocacy to create awareness and support for mainstreaming nutrition in development interventions in the country.

**Table 3.2. Factors contributing to gaps in the nutrition programme delivery**

GAPS IN SERVICES	PERCEIVED CAUSES OF THE GAP
Fragmented nutrition programmes	<ul style="list-style-type: none"> <li>• Coordination and harmonization is limited due to inadequate operational resources for FNCO;</li> <li>• NGOs and private sector not adequately involved in nutrition issues;</li> <li>• Best practices not documented and shared;</li> <li>• Limited linkage between produced crops and nutrition benefits.</li> </ul>
Low awareness of pivotal role of nutrition	<ul style="list-style-type: none"> <li>• Advocacy inadequate at all operational levels</li> <li>• Inadequate budget allocation by GOL to implement the NPAN</li> <li>• IEC component of the programme performs inadequately</li> <li>• No set nutrition goals or milestones;</li> <li>• Lack of professionally trained nutrition personnel.</li> </ul>
Low quality services	<ul style="list-style-type: none"> <li>• Low technical competence of nutrition service providers;</li> <li>• Inefficient use of resources;</li> <li>• Untimely provision of supplies;</li> <li>• Poor motivation of staff;</li> <li>• Inadequate supervision;</li> <li>• Focus is on nutrition not on behaviour change communication;</li> <li>• Inadequate availability of protocols and guidelines;</li> <li>• Lack of an in-service training programme.</li> </ul>
Ineffectiveness of interventions	<ul style="list-style-type: none"> <li>• No reinforcement of key nutrition messages using other existing communication channels;</li> <li>• Poor provider client interaction;</li> <li>• Inadequate relevance of technology, methodology and content to address community nutritional problems;</li> <li>• Lack of harmonization of nutrition messages by service providers (NGOs, government and private).</li> </ul>
Inadequate service coverage	<ul style="list-style-type: none"> <li>• Community-based programmes such as growth monitoring do not cover the whole country;</li> <li>• Poor link of the health facilities with community-based structures;</li> <li>• Lack of community, district-based planning.</li> </ul>
Limited research and surveillance to monitor effectiveness of interventions	<ul style="list-style-type: none"> <li>• Lack of competent researchers;</li> <li>• Poor coverage of operational research;</li> <li>• Present surveillance system not very effective (no system to monitor and evaluate effectiveness of nutrition interventions).</li> </ul>
Limited human resource capacity in terms of skills and competencies	<ul style="list-style-type: none"> <li>• No systematic human resource development plan;</li> <li>• Inadequate human resource for the programme;</li> <li>• Inadequate, inappropriate training materials to support the nutrition curricula;</li> <li>• Relevant stakeholders are not involved in curriculum development and implementation.</li> </ul>

### 3.4.2. Nutrition policy formulation experiences from other countries

An integrated approach towards developing of a nutrition policy has already been realised by several countries (Lock *et al.*, 2003). The European Union (EU) developed the Common

Agricultural Policy (CAP) as the key international agriculture policy to be adopted by all its member states. The Swedish government conducted a review of the impact of four elements of this CAP (dairy products; fruits and vegetables; tobacco and alcohol) on the health status of the Swedish population (Shafer, 2003). This approach initiated collaboration between the health and agriculture sectors in Sweden. Lock *et al.*, (2003) mention that the Republic of Slovenia, another European country, had to undertake a health impact assessment (HIA) of the agriculture, food and nutrition policies because of the following reasons:

- In preparation to join the EU the Slovenia government had to adopt the CAP legislation and consequently decided to assess the influence this would have on the national agriculture policy;
- Investigate health concerns in the evolving multi-sectoral development of agriculture, food and nutrition policy;
- The State Secretary for Health in the Republic of Slovenia was concerned that there was one state already reporting relatively high rates of mortality compared to other states even though it had the largest agriculture sector, with 20% of the population employed in farming or related industry. The Secretary was assuming that it was likely that CAP would adversely affect this state;
- The Ministry of Health was developing a national food and nutrition action plan in line with the agreed European strategy that states “there is a need to develop food and nutrition policies that protect and promote health and reduce the burden of food related diseases, while contributing to socio-economic development and sustainable environment”. The strategy recognises legitimacy for the health sector to be concerned about the impact of food on public health and, therefore, suggests clear links between the agriculture and health sectors for designing relevant policies on how sustainable food supply can prevent disease and promote health.

The first action plan for food and nutrition policy for Europe (WHO, 2001a) suggests that countries should identify food security models that are most appropriate and should also use data collected to assess the level of food and nutrition security during disasters in developing policies, consequently linking humanitarian and development work. The EU (WHO, 2001a) also suggests that an effective food and nutrition policy should harmonise core issues for all sectors involved, in order to produce an integrated policy product. The issue of lack of data on the actual cost of food related disease burden that can be used to design cost-effective policies should be taken into consideration, such that where it is possible the relevant analysis should be undertaken.

As illustrated by the conceptual framework in Chapter 2 (Figure 2.1), the factors that contribute to malnutrition are multifaceted. Hence they are the responsibility of various sectors. All of these factors have to be addressed to achieve good nutrition and health outcomes. Therefore, the interventions designed by the various sectors should have a nutrition focus, as this approach would compensate for failure of the development process to reach and benefit vulnerable groups.

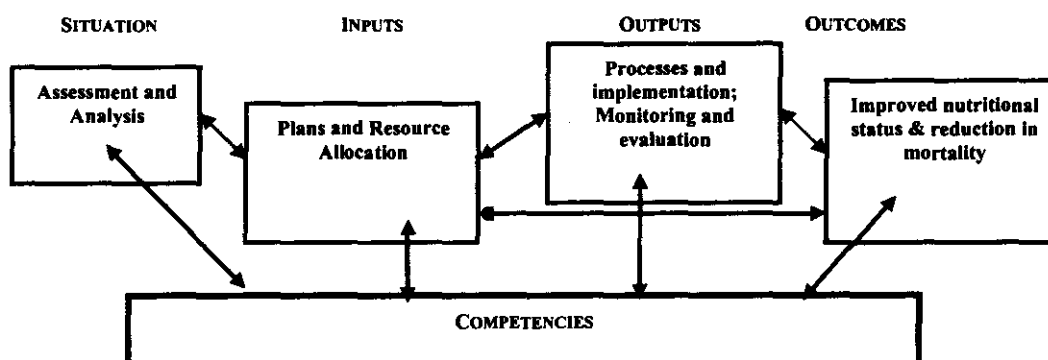
The levels of success can vary in different sectors. One policy may be successful in addressing one or two factors that influence the nutritional status, but would not show measurable impact if other factors continue to have negative nutritional effects.

The systems approach should be used whereby the entire food and nutrition programme operates in a manner that predicts the policy implications (Frenk, 1994). Policy makers should be aware of potential effects of various development policies and programmes on the poor and malnourished, as illustrated in Figure 3.7. Three possibilities are likely to occur whereby a policy can have either positive, negative or no effects. It is, therefore, important that safety nets should be built-in into the policy design. Hence a need for inter-sectoral collaboration when designing policy interventions to counteract the negative effect that can occur from sectoral policies.

An effective integrated nutrition policy should encompass components such as economic growth, agriculture, health, education, environment, population and urbanization and international economic environment.

### **3.5. DISCUSSION AND CONCLUSIONS**

The issue of regulating, monitoring and evaluating programme implementations is not realistic in the case of Lesotho, because of the individual ministries developing their own strategic plans and setting their own independent targets that would not be of relevance to the integrated nutrition programme. With the integrated policy, the systems required and the roles for all stakeholders will be clearly defined and appropriate legislation should be instituted. This would form the basis for formulating relevant, fully costed strategic plans with clear goals, reflecting the desired outcomes as indicated in Figure 3.8. If the process is internalised and stakeholders are involved, the approach also builds on local competencies, and ownership. This would be another approach towards building mechanisms for programme sustainability. The process would be transparent enough for government and its partners in development to be able to determine the anticipated outcome on the health and nutritional status of the population. Therefore, it is in the best interests of the GOL, with support of the development partners, to invest in an integrated national nutrition policy for Lesotho, in an effort to demonstrate the country's commitment towards attainment of the MDG's, and work cohesively to address the government priority of poverty reduction.



**Figure 3.8. Systematic development and implementation of an integrated policy with built-in mechanisms for sustainability (Adapted from Frenk, 1994)**

### 3.6 RECOMMENDATIONS

From the above observations it is, therefore, recommended that the process for developing the integrated policy for Lesotho should be firmly encouraged and the proposed policy document should focus on the following elements:

- identification of the problem and its magnitude;
- the desired outcome, in the case of Lesotho would be optimal nutrition and reduction in mortality;
- systems required to address the nutritional problem, this would include equity issues (population eligible and institutional arrangements);
- programmatic issues, such as priority setting and cost effectiveness;
- organisational issues, such as technical competencies that would determine productivity and quality of care;
- institutional research and information capacity, for information, scientific research, technical development and human resource development.

The proposed integrated policy would define the types of changes required: Whether total or partial reform is needed and whether the process would require restructuring, reprogramming,

reorganisation or reinforcement. The issues of integration, intersectoral collaboration and decentralisation would also be inherent in the policy. This would re-emphasise the cost effectiveness of interventions, given the available resources and would enable counteraction of any adverse spin-offs from other policies.

## CHAPTER 4

### INTEGRATED NATIONAL NUTRITION POLICY

#### 4.1. INTRODUCTION

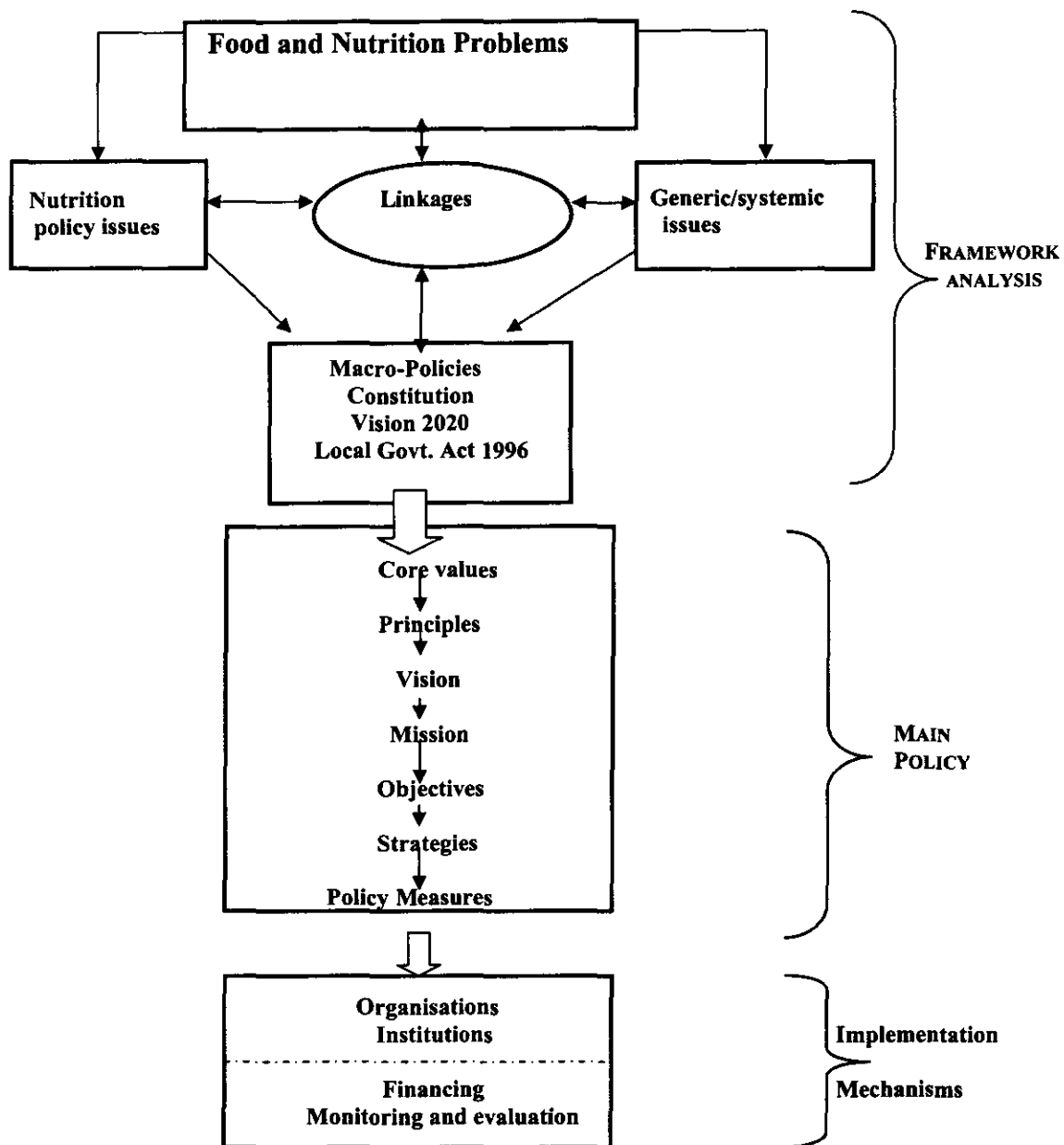
An integrated nutrition policy is the primary cohesive framework developed to direct the strategies and interventions designed to curb the multifaceted problem of sub-optimal nutrition amongst vulnerable population groups. The policy framework should consist of a sequence of building blocks as illustrated in Figure 4.1. To conceptualise what constitutes an integrated nutrition policy, this section of the thesis will define the components that should be generic features of any form of policy. The author will take the reader through the definitions of food security and nutrition security. The integrated nutrition policy for Lesotho will evolve from these two concepts and the existing situations in the country as described in the preceding chapters. The current thinking and experiences on nutrition policies from other countries and within global forums will be drawn on to allow this policy framework to be all encompassing. The generic policy development framework follows the process flow illustrated in the diagram in Figure 4.1 (MOHSW, 2003; Cassels, 1997). The framework of analysis has been addressed in the preceding sections of this thesis. This chapter will, therefore, focus on the main policy framework. The implementation arrangements will not form part of this thesis but will be taken on by the FNCO through its policy development advisory committee, as stipulated in Chapter 3.

At international level a commission has already been assigned by the ACC/SCN to consider the reasons why the world's burden of hunger and under-nutrition is not declining, despite the impressive commitments that have been made over the last decade (ACC/SCN, 2000). The commission has drawn several conclusions including an observation that UN agencies are assuming that other stakeholders have accepted the current goals set by the agencies and the

national policies emanating from therein. The commission has appreciated that this assumption is resulting in overwhelming health responsibilities due to the double burden of diseases and, therefore, proposes the following:

- to undertake an assessment of the present national policies and plans and to accelerate action where necessary;
- integrate programmes and efforts to limit institutional rivalry and existing differences within disciplines and sectors and emphasise collaboration and development of a cohesive effort;
- design new national mechanisms for developing coherent policies in diet and physical activity, including instituting of national councils based on successes drawn from Norway and Thailand, but avoiding past pitfalls. For this aspect the commission suggests that the International Union of Nutritional Sciences (IUNS) and United Nations Universities (UNU) should assume the stewardship.

It is in the light of the global recommendations, the clear picture of the double burden of disease for Lesotho (depicted in Chapter 2, despite the existence of the National Plan of Action for Nutrition (NPAN)) and existing sectoral programmes that an integrated national nutrition policy is suggested for Lesotho. In this section only the framework will be outlined. However, the participatory consultative process will be continued to finalise the policy document, in order to ensure ownership and empower the local nutrition programme members on policy development. The core values and principles to be considered in this policy should be integral to those articulated in the national constitution and vision 2020 documents, because national nutrition is part of both systems.



**Figure 4.1. Nutrition policy development framework (Adapted from MOHSW, 2003)**

**4.2. THE VISION**

Experience has proven that instituting short-term measures towards alleviation of malnutrition does not result in a sustainable impact on the nutritional status of vulnerable populations (Schuftan, 1979). The vision for the integrated nutrition policy will, therefore, be formulated

within the context of the government of Lesotho's long-term priorities and consequently will enhance the macro-economic policies such as the national constitution and the national 2020 vision. The latter has been clearly articulated in Chapter 1, while the Lesotho national constitution broadly enhances issues of equitable service delivery, good governance, universal education, protection of children, young people and health, justice and fair working conditions (GOL, 1993). The national nutrition programme will, therefore, have to identify relevant components where the nutrition objectives will facilitate realization of the Basotho nation's priorities.

In the report on ending malnutrition by 2020, the ACC/SCN (2000) mentions that the approach towards developing a nutrition policy should be more coordinated, with an improvement of the United Nations mechanisms at all operational levels. Lesotho should, therefore, consider the global thinking and visions formulated by the multilateral organisations such as WHO and FAO. The process flow in Figure 4.1 also suggests drawing on linkages at all levels. WHO states that due to the mandatory role that nutritional well-being plays in health and the control of malnutrition related mortality and morbidity, it has drawn its vision as “realising a world where people everywhere, at every age enjoy a life free of all hunger and malnutrition” (WHO, 2002). The International Conference on Nutrition (ICN) in 1992 and the World Food Summit (WFS) in 1996 both highlighted the following issues as integral to food security and nutritional security:

#### **Food security**

- the most basic of human rights is the right to enough food to support a healthy life;
- requires access for all people at all times to the food needed for a healthy life (FAO/WHO, 1992);

- a situation exists when all people, at all times have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO—UN, 2000).

#### Nutritional security

- involves the consumption and physiological use of adequate quantities of safe and nutritious food by every member of the household to support an active, productive and healthy life.

The relevant stakeholders in Lesotho can formulate the vision in line with the two national macro-policies and ensure that the above-mentioned elements of food and nutrition security are incorporated and/or implied within the vision.

#### **4.3. THE MISSION**

The Food and Nutrition Coordinating Office (FNCO) is the central body, housed within the Prime Minister's office in Lesotho and is mandated with policy formulation and an advisory role on national nutrition issues (See Chapter 3 for the details). The Mission of this office is **“to provide an environment appropriate for every Mosotho to access adequate nutrition in order to attain optimum potential”**. During the consultative process for developing the poverty reduction strategy for Lesotho, the thematic nutrition paper suggested that this mission could only be realised if nutrition was made a national development goal. As indicated in earlier chapters, nutrition is now an integral component of the GOL priorities and for the moment in this thesis the mission can be adopted as it is for the integrated nutrition policy.

#### 4.4. OBJECTIVES

Development-oriented objectives are said to be part of the participatory planning techniques, whereby all stakeholders identify and analyse the needs, interests and innovations and then formulate a cohesive plan (MDF, 2003). This participatory approach is meant to create an enabling environment of ownership, commitment and eventually sustainability. The initial stages that lead into objective formulation include (i) definition of the focal subject, (ii) stakeholder analysis and (iii) problem analysis. The fourth stage would be objective formulation, followed by strategy analysis. The first three stages have been achieved in this thesis and this section will detail the objective formulation process of the proposed integrated nutrition policy for Lesotho. The objective formulation stage entails translation of negative situations into a problem tree. In the case of nutrition, the conceptual framework of causal factors contributing to malnutrition (Figure 2.1 in Chapter 2) can be adapted as the problem tree.

In this thesis the burden of disease and the food insecurity situation portrayed in preceding chapters fills in the respective branches. These negative situations are then rephrased as positive situations. An example is the case where Lesotho is reporting high rates of iodine deficiency amongst all population groups: then the objective formulated would assume a positive direction such as “reduction in prevalence of iodine deficiencies”. The objectives would then be aligned in accordance with the hierarchy of objectives and be visualized in terms of a means-end relationship towards attainment of the desired impact. The hierarchy of objectives would be as follows:

**Table 4.1. Hierarchy of objectives**

OBJECTIVE	DESCRIPTION	OTHER TERMS USED
<b>Overall objective</b>	High-level objective to which a series of interventions will contribute. Other interventions and activities will contribute to achieving this objective. It is the ultimate overall positive effect that the specific objectives will achieve	<ul style="list-style-type: none"> <li>• Goal</li> <li>• Development objective</li> <li>• Long-term objective</li> </ul>
<b>Purpose</b>	Objective to be achieved by a specific intervention	<ul style="list-style-type: none"> <li>• Specific objective</li> <li>• Short-term objectives</li> </ul>
<b>Results</b>	Products or services resulting from the activities. A series of results lead to achievement of the purpose and are outputs that are delivered to the beneficiaries of the intervention (these could take into account age, gender, geographic location)	<ul style="list-style-type: none"> <li>• Outputs</li> <li>• Immediate objectives</li> </ul>

Adapted from MDF, 2003

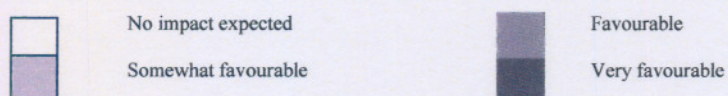
Another aspect that has to be considered when formulating the integrated nutrition policy for Lesotho is to align the objectives with the commitments that have already been made by relevant government authorities pursuant to economic growth strategies for reduction of poverty, by identifying the macro-economic policy aspects that will be changed by the proposed policy, as illustrated in Table 4.2 (UNDP, 1993).

This process enables transparent prioritization of defining clear, targeted objectives that can be set, taking careful consideration of the available resource base.

**Table 4.2. Analysis for contributions of policy change to macro policies**

GOVERNMENT OBJECTIVES AND POLICIES	Contribution to goals		
	IMPROVEMENT TO HEALTH OUTCOMES	REACHING THE DISADVANTAGED	CONTAINING COSTS
<b>Foster an enabling environment for households to improve nutrition security</b>			
Pursue economic growth policies that benefit the poor			
Expand investment in education, particularly for females			
Promote the rights and status of women through political and economic empowerment and legal protection against abuse			
<b>Improve government investment in nutrition security</b>			
Reduce government expenditures for tertiary care facilities, specialist training, and discretionary services			
Finance and ensure delivery of a public health nutrition intervention, including AIDS prevention			
Improve the management of public nutrition services			

Adapted from UNDP (1993)



#### **4.4.1. Existing national nutrition programme objectives**

The following objectives were developed by the national nutrition programme as thematic goals to feed into the nutrition chapter of the national poverty reduction strategy paper (FNCO and UNICEF, 2002):

- provide vulnerable groups with appropriate nutritional care and support to reduce malnutrition and related functional consequences, in terms of related morbidity, mortality, mental/intellectual development and physical productivity;
- provide development benefits by cutting government expenses that are incurred in treating illnesses associated with nutritional deficiencies;
- when and where necessary, improve the nutritional welfare, in terms of reducing hunger/nutrition-related morbidity and mortality of disadvantaged members of society;
- provide indicators for monitoring the process of alleviating poverty and measuring the status of poverty disaggregated by gender and community/district level;
- maximise the use of resources allocated to nutrition through appropriately synergised coordination of key activities and research.

The following second level thematic objectives were also developed for the poverty reduction strategy paper:

- reduction of stunting amongst children (a strong correlate with poverty) from 45% to 41% (an average annual decrease of 1.3% by 2005/6 and to 35% by 2010);
- reduction of the prevalence of vitamin A deficiency among children and lactating mothers;
- reduction of the prevalence of total goiter rates in the general population;

- use levels of stunting among children as a proxy measure of (comprehensive) poverty levels in the country and also as a means of targeting communities and households with other development interventions;
- use trends in weight-for-age (underweight) as a proxy measure of the progress in poverty alleviation.

The authors of the thematic paper for nutrition (FNCO, 2002) also indicated that nutritional surveillance for children under five years old using weight-for-age can be a good marker of access and utilisation of basic services such as health, water and sanitation/hygiene, information and food security of the household/community.

The above objectives can be adopted as they are, but in lieu of the observation mentioned above that poverty reduction is a short term strategy towards attainment of the development goals, and the two criterion explained in Tables 4.1 and 4.2, there is a need to reformulate the objectives to ensure that they address all the problems and gaps identified in Chapters 2 and 3. Targets have to be formulated by the involved stakeholders in Lesotho using available acceptable methods such as the WHO-CHOICE process alluded to in Chapter 2, to ensure that long-term sustainability is achieved.

It is especially important that the effects of the nutrition transition (Vorster, 2002) are monitored and that the expected rise in overnutrition-related morbidity and mortality in urban areas are addressed in objectives to steer the nutrition transition into more positive directions. In other words, to formulate as part of the policy, strategies that will improve nutrition status without leading to increased risks of obesity, diabetes, hypertension, cancer and cardiovascular disease.

#### 4.5. STRATEGIES

Development strategies are usually designed on the basis of three broad categories (symbolic, positive and negative strategies). The symbolic strategies are meant to change the goals of the key players and audiences involved in decision-making process; the positive strategies are aimed at creation of a new organisation altogether, or strengthening or creating alliances amongst organisations and enhancing an existing organisation; negative strategies are aimed at blocking the power of opposing organisations and forces. All three require that an analysis of the stakeholders be undertaken to identify those who will be pro or against the proposed policy (Reich, 1994). Thereafter, specific actions, targets problems and benefits associated with the symbolic, positive and negative strategies are also identified as illustrated in Table 4.3. From this process the strategies for action to improve on the existing situation and achieve the policy goal will emanate.

**Table 4.3. Strategies for change**  
**Policy under consideration: Integrated nutrition policy for Lesotho**

	ACTIONS	TARGETS	PROBLEMS	BENEFITS
<b>SYMBOLIC STRATEGIES</b>				
Redefine goals of key players				
Redefine buzz words associated with the decision				
<b>POSITIVE STRATEGIES</b>				
Create a new organisation				
Mobilise an existing organisation and enhance its power				
Strengthen alliances among organisations				
<b>NEGATIVE STRATEGIES</b>				
Block power of opposing organisations				

Adapted from Reich (1994).

The nine strategies that were adopted by the International Conference on Nutrition (ICN) in 1992 are:

1. Incorporation of nutritional objectives, considerations and components into development policies and programmes.

2. Improving household food security.
3. Protecting consumers through improved food quality and safety.
4. Prevent and manage infectious diseases.
5. Promoting breastfeeding.
6. Caring for the socio-economically deprived and nutritionally vulnerable.
7. Preventing and controlling specific micronutrient deficiencies.
8. Promoting appropriate diets and healthy lifestyles.
9. Assessing, analysing and monitoring nutrition situations.

Since the 1992 ICN, Lesotho developed the National Plan of Action (NAPN) in accordance with the above strategies from ICN, but the implementation has happened in an incoherent manner (if it was implemented at all). ACC/SCN (2000) is suggesting that best practice lessons should be learned. The National Nutrition Programme in Lesotho can make an effort to link its efforts effectively on eradication of nutrition problems with the neighbouring countries in the region.

Other countries such as South Africa that have attempted to strengthen the national response to address nutritional problems have also used the integrated approach (South Africa, Department of Health. 2004), whereby the strategies were multi-pronged and focused on specific areas for service delivery and strengthening systems for provision of equitable efficient services such as:

**Direct service delivery**

- nutritional management and counseling for specific diseases;
- promotion of growth monitoring;
- promotion of nutrition education and advocacy;
- control and prevention of micronutrient malnutrition;

- management of food services;
- breastfeeding promotion, protection and support;
- participate in household food security.

**Support systems:**

- nutrition information systems
- human resource plan
- financial and administrative systems.

South Africa developed these strategies within the context of the requirement of the Health Sector's Strategic Framework (HSSF), which stipulated the need for an Integrated Nutrition Programme (INP) aimed at improving and managing malnutrition as a major contributing factor to morbidity and mortality. Consequently, within the broader policy context, the INP encompassed the direct nutrition delivery services such as nutrition promotion and micronutrient supplementation within health service delivery programmes aimed at provision of safe and clean water for the following groups, which have been identified as the most vulnerable and marginalised:

- children aged below 5 years old;
- high risk pregnant and breastfeeding women;
- persons presenting any forms of malnutrition, either nutrition-related diseases of lifestyle, communicable and infectious diseases and debilitating conditions;
- public food service clients;
- high risk poor households/poor households members.

The concept that was used in South Africa was meant to be all encompassing to take cognisance of the findings and recommendations from baseline studies, which were geared towards both the

behavioural change issues and service delivery and also emphasized on targeting at the most vulnerable groups. The INP is implemented through the following delivery points:

- community gatherings/services;
- households;
- health facilities and institutions;
- schools, especially primary schools;
- care facilities and institutions.

#### **4.6. POLICY MEASURES**

##### **4.6.1 Operationalising the policy framework for Lesotho**

The final step of policy measures would be to develop activity programmes on the basis of the processes detailed above. A clearly articulated strategic plan can be developed to operationalise the policy. The plan could either be short-term (2 to 3 years rolling plan) or medium term (normally 5 to ten years). The action plan to implement policy will again be designed to link with the national programme, elaborating on the strategies, objectives and activities, including the monitoring and evaluation mechanisms. The suggested programmes that can be designed and/strengthened to address the prevailing nutrition and nutrition-related problems in Lesotho include the following:

- Strategic interventions aimed at combating childhood undernutrition. These would include selecting cost-effective programmes such as micronutrient supplementation with vitamin A, iron, and zinc as short-term intervention policy measures. Promoting food based interventions, including production and consumption of vegetables, fruit and small livestock would be long-term sustainable interventions.
- Strengthening nutrition education on child feeding practices, especially exclusive promotion of breastfeeding and nutrient dense weaning foods would also be a long-term

intervention. While supplementary feeding of underweight children or under-five year old children or those aged below 2 years old would be a short-term intervention.

- Protecting the environment that the child is growing in by strengthening the following environmental health programmes:
  - designing and enforcing legislation on regulation of food hygiene, safety and adherence to standards in the food industry;
  - improved safety of household water by disinfecting water at point of use to reduce the incidence of diarrhoeal and other water borne diseases as short-term intervention;
  - improved access of piped water to households in vulnerable areas, such as in communities that are reporting high rates of water borne diseases, as a long-term intervention.

Other nutrition related strategies would include control of increased risk to diseases of lifestyle.

These would include:

- fruit and vegetable consumption promotion;
- education on adverse effects of overconsumption of specific foods that are associated with the diseases of lifestyle.

The evidence in Chapter 2 shows that HIV/AIDS and related infections are also the leading cause of burden of disease in Lesotho. Relevant nutrition interventions such as promotion of food based interventions before and during chronic illnesses should be a priority intervention for the policy in Lesotho.

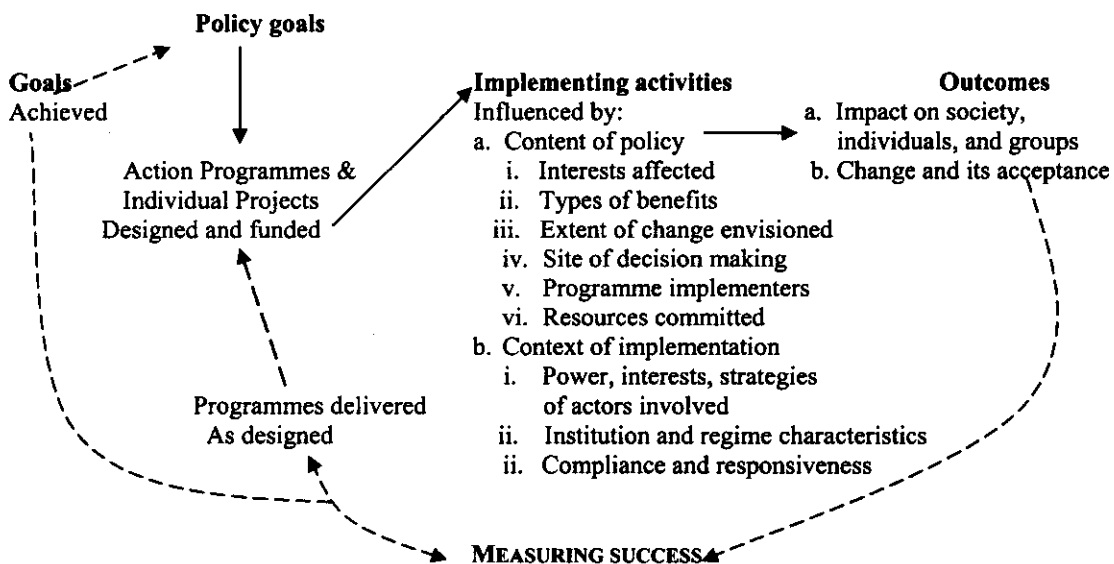
## **4. 7. MONITORING AND EVALUATION**

### **4.7.1. Monitoring**

Monitoring will be described in this thesis as regular collection, processing and reporting of information about the policy implementation. Babu & Chapasuka (1997) did some work on the elements of monitoring the food and nutrition security during an emergency situation in Malawi. These authors refer to evaluation as “systematic, objective determining of the relevance, efficiency, effectiveness and effects or impact of the policy interventions in relation to the given objectives”. Monitoring and evaluation of the policy development and implementation process is an important element to ensure that all stakeholders are involved in realizing the primary desired aim. Grindle (1980) defines policy implementation as translation of the goals of public policies into outcomes of governmental activity, involving creation and strengthening of a “policy delivery system”. The systems would include specific action programmes aimed at achieving the desired outcomes and impact mentioned in the policy, whereby several programmes may be developed in response to the same policy goals as mentioned in Chapter 4 of this thesis. Mannan (2003) also evaluated the national food and nutrition policy in Bangladesh. In this work Mannan realised that the shortcomings of the policy included lack of strong government commitment, monitoring and evaluation guidelines and over ambitious targets.

Grindle (1980), in his work on reviewing of the relationship between adopted policies and their actual delivery in the third world, mentions that policy implementation is achieved through programme implementation. This author mentions that the achievements of policy implementation can be measured through programme outcomes and also suggests that closely studying the process of policy implementation involves investigation and analysis of concrete

action programmes designed for meeting the broader policy goals. However, Grindle cautions that programme failure does not necessarily mean policy failure. This author emphasises that the programme implementation process only begins when goals, objectives, strategies and activities have been clearly defined and resources allocated to pursue the desired goals. It is only when these basic conditions have been met that the execution of public policy is activated. In his work, Grindle suggests that monitoring programmes should focus on the implementation process, and should be evaluated in terms of capacity to deliver the designed programme. Grindle also mentions that evaluation of policy implementation should measure the programme outcomes against policy goals as reflected in Figure 4.2.



**Figure 4. 2. Monitoring and evaluation framework for nutrition policy (Adapted from Grindle, 1980)**

Wentzel-Viljoen (2003) has developed a model for monitoring and evaluation of nutrition programmes in South Africa. This author suggests that a monitoring and evaluation framework for nutrition interventions should be based on the programme objectives. These objectives are defined using a conceptual framework that outlines the key programme elements and the expected relationship between the elements. The monitoring and evaluation system should be designed to assess both the process and impact of the policy. The suggested elements to be

considered in establishing a cohesive monitoring and evaluation framework on the basis of the Malawi, Bangladesh and South Africa situation are emphasizing the following dimensions:

**Political and stakeholders commitment for policy implementation**

- motivate for stakeholders and government to be committed to policy implementation;
- mobilize resources for well targeted programme interventions;
- adequately communicate the policy to stakeholders and communities;
- strengthened institutional capacity and systems to implement and sustain policies;
- promote coordination and collaboration by all stakeholders.

**The monitoring and evaluation system**

- establishment of a decentralized monitoring and evaluation system;
- design the monitoring and evaluation indicators based on the problem analysis, conceptual framework and policy objectives;
- specify the process, outcome and impact indicators for monitoring and evaluation;
- improve data generating and analysis capacity in institutions charged with programme implementation;
- develop built-in response mechanisms, such as:
  - timely response to emergency situations;
  - link relief efforts to long-term development.

Other countries, including Lesotho have experienced poor policy implementation, including monitoring and evaluation. After the 1992 Rome International Conference in Nutrition, most countries that developed either the nutrition policy or the National Plan of Action for Nutrition were not able to make any marked improvement on the nutritional indicators of vulnerable groups, as indicated in Chapter 1.5.4 and Chapter 4.1.

#### **4.7.2. Evaluation**

Evaluation results should be used to adapt policies, strategies and programmes to be more effective. It is also recognised that such evaluations should form part of the original design of programmes aimed at policy implementation. Wentzel-Viljoen (2003) recently designed a framework for evaluation of nutrition and nutrition-related programmes, given below. The framework in Table 4.4 can be used by the National Nutrition Programme in Lesotho to develop a relevant monitoring and evaluation system for the intended policy.

**Table 4.4. Framework for the evaluation of nutrition and nutrition-related programmes (Source: Wentzel-Viljoen, 2003)**

Stage of the programme								
Description	I	II	III	IV	V	VI	VII	VIII
	Initiation of programme	Planning of programme	Programme inputs	Programme outputs	Primary Programme outcomes	Secondary Programme outcomes	Impact	Broader long-term benefits
						Programme impact		
What happens with the programme	<b>Identification of the programme:</b> <ul style="list-style-type: none"> <li>• Political decision</li> <li>• Evidence based research decision</li> </ul>	<b>Development of the programme:</b> <ul style="list-style-type: none"> <li>• Conceptualisation</li> <li>• Logic model (cause-effect) including impact</li> <li>• Goals and objectives</li> <li>• Study design</li> <li>• Methodology</li> <li>• Target group</li> <li>• Coverage</li> <li>• Deliveries</li> <li>• Logistics</li> <li>• Resources</li> <li>• Pilot study, etc.</li> </ul>	The delivery of goods and services to the target group as planned	Target group receives goods and services as planned	Direct effects of delivery of goods and services on the target groups as planned	Secondary effect of goods and services delivered on the target group	Impacts of the goods and services delivered to the target group and generally reflect the primary objective of the programme	
Evaluation type	Need evaluation and programme theory evaluation		Implementation or process evaluation (Also named monitoring)		Outcome/Impact evaluation	Impact evaluation Efficiency evaluation		Long-term impact evaluation
What happens with the evaluation	A systematic approach of evaluation of the following: <ul style="list-style-type: none"> <li>• Need for programme</li> <li>• Basis for problem identification</li> <li>• Conceptual framework</li> <li>• Goals and objectives</li> <li>• Target population identification</li> <li>• Intended/planned coverage</li> <li>• Deliverables</li> <li>• Logistics, etc.</li> </ul> <b>Feedback to the programme managers</b>		A systematic approach to answer the following questions (only examples): <ul style="list-style-type: none"> <li>• Is the programme implemented as planned</li> <li>• Are the right goods and services delivered</li> <li>• Are the goods and services delivered to the correct target group</li> <li>• Coverage</li> </ul> Should be part of the programme management <ul style="list-style-type: none"> <li>• Regular monitoring is essential</li> <li>• Feedback to the programme managers</li> <li>• Timely response</li> </ul>		Measures changes in behaviours and/or practices  Links provision of goods and services to outcome	Impact evaluation:  Measures whether interventions (goods and services delivered) , actually produced the intended effects  Efficiency evaluation (cost-benefit and cost-effectiveness): Provides a frame of reference for relating costs to programme results and is a means of judging the efficiency of the programme		Sustained effects resulting from the achievements of impacts, usually in combination with other factors. Might only be seen many years later.

## **CHAPTER 5**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1. INTRODUCTION**

The objective of this thesis was to formulate a framework for developing an integrated national nutrition policy for Lesotho. In addition the specific objectives were also to recommend implementation strategies, including monitoring and evaluation mechanisms. It is imperative that for the policy to be implemented, the process has to be fully participatory, where GOL will take the stewardship and other role players within the nutrition programme, such as training institutions, faith-based organisations, civil society and development partners are involved.

The objectives to be achieved by this thesis have been met. The level of nutrition and food insecurity caused by dimensions such as the burden of disease due to nutrition related diseases, stresses and shocks to the food supply systems and the capacity of the systems available in Lesotho to deliver and support nutrition services have been determined. This thesis has suggested the process for development of an integrated national nutrition policy for Lesotho, taking into consideration both the magnitude of diseases and the systemic capacity by defining a framework for nutrition policy development.

#### **5.2. BURDEN OF NUTRITION RELATED DISEASES**

From the information in Chapters 2 and 3 it is evident that available resources, systems and services in Lesotho are presently overwhelmed by the double burden of nutrition related diseases and food insecurity, which are compounded by the HIV/AIDS pandemic and the adverse climatic conditions currently facing the country. A window of hope is in the population aged between 5 to 14 years, where the burden of disease is relatively low, compared with other age groups. There is

a notably high occurrence of morbidity and mortality across all age groups, especially in the younger age groups that are mostly affected by communicable diseases. The males are more affected by illness and deaths than the females, with an exception among the 15 to 29 years age group, which could be attributable to maternal reproductive health and care issues. Micronutrient deficiencies are another public health concern, where surveys conducted earlier in the decade indicate iodine, vitamin A and iron deficiency anaemia amongst children and women of child-bearing age. Routine health facility information and other surveys also indicated higher than acceptable rates of acute and chronic malnutrition, such as wasting, underweight and stunting among children and non-communicable diseases are affecting both adult men and women in the rural and urban areas.

### **5.3. FOOD SECURITY**

The food security situation reflects that over 30% of the total population of Lesotho will experience food insecurity during the present harvest season (2004/2005). The picture depicts that the population in the mountains is highly vulnerable to the shocks and stresses due to prevailing climatic conditions. This is another predisposing risk that is likely to contribute to high population transition from the rural areas to more urbanised lifestyles, which introduces non-communicable nutritional diseases related to lifestyles. This situation is also compounded by the rapidly growing textile industry in the urban areas, which is an attraction to rural population dwellers that are unemployed, landless, subsistence farmers and households with low incomes. It is very important that the national nutrition programme should be responsive to this disturbing picture, by instituting realistic, relevant and sustainable strategic interventions.

### **5.4. AVAILABLE FOOD AND NUTRITION SYSTEMS IN LESOTHO**

The current public system, mandated with the responsibility on nutrition issues, is not cohesive enough. In Chapter 3, it is revealed that each sector is pursuing its own goals and agenda in a

fragmented manner, resulting in inadequate service delivery. This situation creates a lost opportunity to utilise optimally the available capacity and resources in providing services to ensure both food and nutrition security and consequently lessen the disease burden. The opportunity to utilise a more multi-sectoral approach in nutrition programming has been missed. There is no evidence of a cohesive human resource plan for nutrition. An integrated nutrition policy that is produced by all stakeholders would be able to overhaul the current system and to be responsive to the prevailing adverse situation. The recommendations below are made on the basis of disease burden, food and nutrition insecurity and existing systemic capacity within the country to manage the situation.

#### **5.5. RECOMMENDATIONS**

The FNCO should actively revive the policy advisory committee to be able to take the process forward in line with the commitments and desires that have been impressed by those in authority within the Government of Lesotho. The suggested policy framework in this thesis has taken into consideration the six steps that are engaged when analysing policy, but has concentrated more on the stakeholders' analysis and defining of strategic direction (see Figure 5.1). The stakeholders' analysis will involve an assessment of the major organisations and individuals involved and will also determine their main objectives. This analysis will show the explicit and underlying motives for key players involved in the nutrition policy and will also assess the extent to which each views the proposed policy as an end in itself or as a means to another end. The strategies for change will involve the analysis of potential strategies for influencing policy-making processes and outcomes. This specific step will identify specific actions, targets, problems and benefits associated with symbolic, positive and negative strategies, as mentioned in Chapter 4. The actions will be expected to change the consequences of the decisions and will inevitably affect the objectives of the stakeholders. The FNCO policy advisory committee can, therefore, use the framework and action plan suggested in this thesis for designing the national policy. It should

consider the recommended action points mentioned below and in Figure 5.1 as integral to the policy making process:

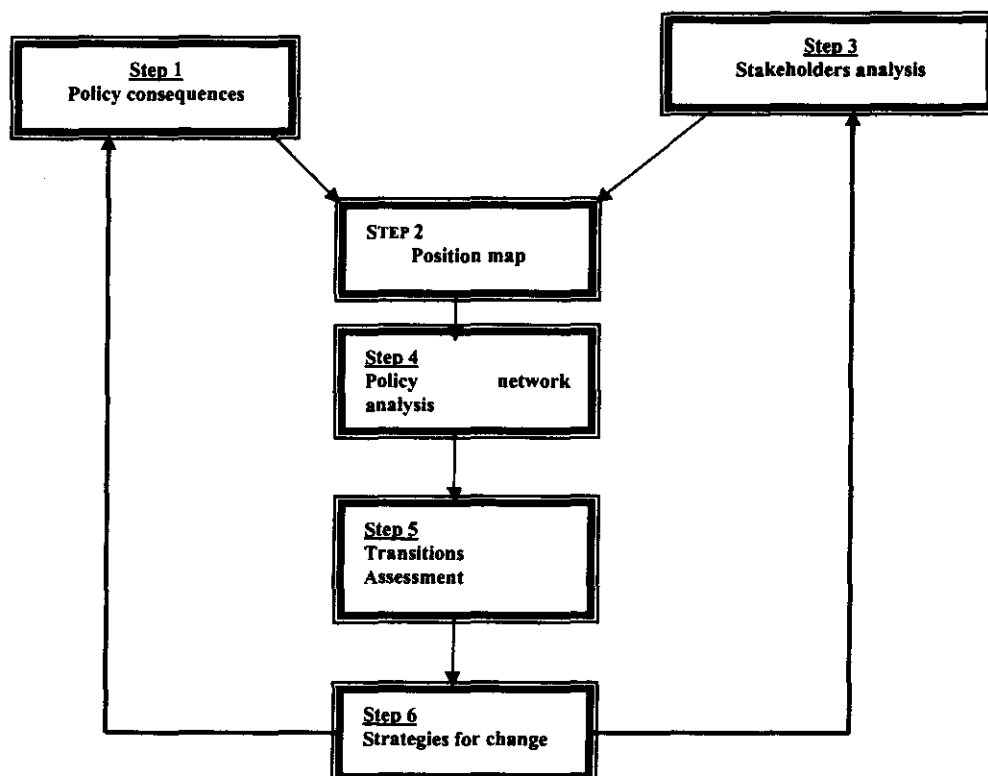


Figure 5.1. Procedures for policy mapping (Source: Reich, 1994)

- **Institutional recommendations**

- Coordinate and integrate the nutrition programme effectively and efficiently within the poverty reduction national priorities.
- Bring on board all the stakeholders, including the multi and bilateral agencies and community based organizations.
- Strengthen financial management within the nutrition programme to ensure budget allocation will be in accordance with priorities.
- Specify systems to be strengthened.
- Coordinate closely with regional and international initiatives.

- **Programme implementation**

- On the basis of available information, including the burden of disease and food security, address priority issues within the nutrition context, aligned with the government of Lesotho's priorities towards achievement of the millennium goals.
- Define realistic objectives in line with available resources and mobilise available and additional support to define and implement suitable strategies.
- Ensure stakeholders' involvement to ensure ownership and operationalising of the document.
- Define the beneficiaries and target groups according to the burden of disease and vulnerability to other shocks.
- Define strategies that will be implemented and consider the following:
  - \* take the opportunity that the population aged 5 to 14 are presenting a lower burden of disease and consider relevant behavioural change and empowerment strategies for this group;
  - \* for children below 5 years of age and the 15 to 59 years old engage a balanced approach on preventive and curative strategies;
  - \* formulate relevant reproductive health nutrition strategies to address maternal health issues;
  - \* promotion of prudent dietary intakes to address both under and overnutrition;
  - \* sustainable food security for the mountain and rural areas (especially the landless);
  - \* identify resources that will be required to operationalise and implement the strategies.

- **Mainstreaming of cross cutting issues**

Ensure that cross cutting issues such as HIV/AIDS, gender, governance and environment are integrated into the policy.

- **Monitoring and evaluation mechanisms**

- Define a clearly articulated monitoring and evaluation system of the policy, including all required resources. Both process, impact and or outcome evaluations, as well as cost-effective analyses are necessary to inform and adapt policies, strategies and programmes (see Chapter 4.7);
- Promote well developed research and development programmes;
- Ideally, effective development policies are those that are evaluated and reviewed every four years.

## **5.6. CONCLUSIONS**

The main aim of this thesis was to define a framework for the nutrition programme in Lesotho to design an integrated nutrition policy. The framework for designing a suitable policy for Lesotho has been defined herein. This framework is based on analysis of the burden of disease in Lesotho, the existing nutrition programmes, including their strengths, opportunities, threats and weakness. This thesis also drew on other countries' experiences in designing, implementing, monitoring and evaluating nutrition policies. Work done by other professionals on nutrition and social policies was also reviewed to feed into this policy framework.

The proposed framework, therefore, suggests that the Government of Lesotho should take a leading role in designing the policy and should demonstrate commitment by mobilizing the necessary resources for realizing policy formulation, implementation, monitoring and evaluation.

The FNCO as the coordinating body mandated with policy formulation in Lesotho should, therefore, use this suggested policy framework to design appropriate actions for the national nutrition programme. Some of the possible interventions are already suggested in this thesis. The proposed action for the FNCO to take the process forward is detailed in Table 5.1. The process towards implementing the suggested action plan for an integrated nutrition policy should lead to a relevant policy. The policy will address the nutrition-related health burden, ultimately leading to a healthier and more productive Basotho nation, consequently reducing the economic burden of the Government of Lesotho in managing the diseases, and will contribute directly to poverty reduction.

**Table 5.1. Process 1 Consultative meetings with stakeholders at national/central level**

Main activity	Resources required	Output indicator	Time frame	Assumptions	Responsible person/offices
1.1 Debriefing meeting for FNCO	The thesis document detailing the policy formulation framework; The concept paper for the policy framework; Costed plan of action for developing the policy.	Concept paper on framework for the national nutrition policy formulation available	Week 1 to 4	The principal Secretary responsible will also be officially briefed	Researcher/Student
1.2 Debriefing meeting with Policy Advisory group		Policy development framework refined and agreed on with a clearly articulated time line and resources required for developing the policy document.	Week 2 to 4	All members of the Advisory group will be available	Researcher and FNCO
1.3 Proposal for policy development and budget presented to relevant stakeholders for financial and technical support*		Written permission to proceed with the thesis	Week 5 to 6	GOL and the development partners have earmarked budget line for nutrition policy development	FNCO

\* The multi-national agencies, other partners, and ACC-SCN can be approached to provide support.

**Process 2 Sensitisation of stakeholders at lower levels and the Food and Nutrition Council**

2.1 Hold regional meetings with nutrition stakeholders, including extension service providers, CSOs and representatives of the communities.	Concept paper more simplified for the respective levels	Reports emanating from these meetings	Week 8 to 12	Budget allocation available for the consultative meetings and the regional FNCO will have adequately organised for the meetings	Regional FNCO
2.2 Debriefing meeting with the Food and Nutrition Council (FNC)	Report from the consultative sessions, and the proposed policy framework	Permission to proceed with the policy drafting process	Week 13	FNC available	Director FNCO and Principal Secretary – Cabinet

**Process 3 Drafting of the Policy**

3.1 Prepare an inception paper on the basis of the outcome of the consultative process	Report from the consultative sessions, and the inception paper	Draft policy document	Week 14	No competing activities	FNCO Planning Officer, with technical support from other partners
3.2 A consultative meeting with stakeholders to discuss the draft	Venue for the Stakeholders meeting	Final integrated national nutrition policy	Week 15	Resources and participants are available	FNCO
3.3. Policy document submitted to FNC for approval	Meeting with FNC	Officially approved policy document	Week 19	FNC will recognize the policy as priority	Director FNCO and Principal Secretary – Cabinet
3.4. Policy translated into strategic plans				Can be done concurrently with drafting of policy	

## 6. REFERENCES

1. ACC/SCN (ADMINISTRATIVE COMMITTEE ON COORDINATION/SUB-COMMITTEE ON NUTRITION). 2000. Ending malnutrition by 2020: An agenda for change in the millennium. Final report to the ACC/CAN by the commission on the challenges of the 21<sup>st</sup> century. (In Food and nutrition library 2.1) [CD-ROM.]
2. ALLIANCE FOR HEALTH POLICY AND SYSTEMS RESEARCH. 2003. Health policy and systems research priority setting and utilisation. [web:]<http://www2.alliance-hpsr.org/jahia/Jahia>. [Date of access:24. May. 2003].
3. ANON. 2004. Lessons learned from mainstreaming HIV into the poverty eradication action plan in Uganda. *Southern African journal of HIV medicine*, 15:30-37. May.
4. BABU, S.C. & CHAPASUKA, E. 1997. Mitigating the effects of drought through food security and nutrition monitoring: Lessons from Malawi. *Food and nutrition bulletin*, 18 (1):71-83.
5. BOSSERT, T.J. & BEAUVAIS, J.C. 2002. Decentralization of health systems in Ghana, Zambia, Uganda and the Philippines: a comparative analysis of decision space. *Health Policy and Planning*, 17(1):14-31.
6. CARE (Cooperation and Relief Everywhere). July 2001. Livelihoods in Lesotho.
7. CASSELS, A. 1997. A guide to sector-wide approaches for health development. WHO (World health Organisation ). Geneva. p.ix - xx.

8. COLLINS, C. 1994. Management and organisation of developing health systems. Oxford: Oxford University Press. p.116 – 149.
9. FAO (Food and Agriculture Organisation) & WHO (World Health Organisation). 1992. International conference on nutrition: Final report of the conference. FAO & WHO. Italy.
10. FAO (Food and Agriculture Organisation). 1997. Agriculture, food and nutrition for Africa: A resource book for Africa.
11. FAO (Food and Agriculture Organisation). 2004. FAO/WFP crop and food supply assessment mission to Lesotho. [Web:] <http://www.fao.org/DOCRREP/007/J2748E/J2748E00.HTM>. [Date of access:21 Sep.2004].
12. FRENK, J. 1994. Dimensions of health systems reform. *Health Policy*, 27:19-34.
13. GRINDLE, M.S. 1980. Policy content and context in implementation. Politics and policy implementation in the third world. Princeton: Princeton University press
14. HANNEY, S.R., GONZALEZ BLOCK, M.A., BUXTON, M.J. & KOGAN, M. 2002. The utilisation of health research in policy-making: Concepts, examples and methods of assessment. Forthcoming, Journal of Research on Health Systems.

15. HANSON, P. & SEBOTSA, M. 2002. Rapid assessment on nutritional status of under-fives. Drought relief programme. Ministry of Health and Social Welfare & WHO - Lesotho.
16. HEALTH SYSTEMS TRUST. 2000. South African Health Review. 471p.
17. HUTUBESSY, R .C., BALTUSSEN, R.M., TORRES-EDEJER, T.T. & EVANS, D.B. 2002. Generalized cost-effectiveness analysis: an aid to decision making in health. *Applied health economics policy*, 202(2):89-95.
18. JENKINS, W.I. 1978. Policy analysis: A political and Organisational perspective. London : Martin Robertson.
19. JOHNS, B., BALTUSSEN, R. & HUTUBESSY, R. 2003. Program costs in the economic evaluation of health interventions. [Web:] <http://www.resource-allocation.com/content/1/1/1>.
20. LESOTHO. Bureau of Statistics & United Nations Children Fund. 2002. 2000 End decade multiple cluster survey (MICS).
21. LESOTHO. Bureau of Statistics & United Nations Population Fund. 2003. 2002 Lesotho reproductive health survey: Analytical report, Volume 1.
22. LESOTHO. Food and Nutrition Coordinating Office. 1978-80. Annual report "The first Two years".

23. LESOTHO. Food and Nutrition Coordinating Office. 1978-79. Bridging the Gaps: Phase I, Phase II and Phase III.
24. LESOTHO. Food and Nutrition Coordinating Office. 1997. Food and Nutrition Coordinating Office Annual plan of work.
25. LESOTHO. Food and Nutrition Coordinating Office, Food and Agriculture Organisation, World Health Organisation & United Nations Children's Fund. 1998. Lesotho national plan of action for nutrition.
26. LESOTHO. Food and Nutrition Coordinating Office & United Nations Children's Fund. 1994. National Survey on iodine, vitamin A, and iron status of women and children in Lesotho.
27. LESOTHO. Food and Nutrition Coordinating Office & United Nations Children's Fund. 2002. The nutrition theme working group: Lesotho nutrition and poverty program.
28. LESOTHO. 1993. The constitution of Lesotho Government.
29. LESOTHO. 2004a. Poverty reduction strategy paper.
30. LESOTHO. 2004b. Draft 2020 national vision for Lesotho.
31. LESOTHO. Ministry of Health and Social Welfare & United Nations Children's Fund. 1993. National guidelines for the nutrition and household food security programme management, 1<sup>st</sup> ed.

32. LESOTHO. Ministry of Health and Social Welfare. 1993. Report of the evaluation on the nutrition and household food security program.
33. LESOTHO. Ministry of Health and Social Welfare. November to December 2001. Rapid assessment on nutritional status of under-fives: Drought relief programme.
34. LESOTHO. Ministry of Health and Social Welfare. 2002. Ministry of health and social welfare health statistical tables (2002).
35. LESOTHO. Ministry of Health and Social Welfare & Food and Nutrition Coordinating Office. 2002. National nutrition and EPI cluster survey.
36. LESOTHO. Ministry of Health and Social Welfare. 2003a. HIV epidemiology in Lesotho.
37. LESOTHO. Ministry of Health and Social Welfare. 2003b. Lesotho health sector reform: National health policy and strategic plan inception report.
38. LESOTHO. Ministry of Industry, Trade & Marketing. 1997. Project proposal document on Assistance to establish food control system (Phase II). GOL/FAO TCP/LES/6711 (A).
39. LESOTHO. Ministry of Industry, Trade & Marketing. 2003. Project proposal document on a national food composition table to promote local/indigenous foods. GOL/FAO TCP/LES/2903(A).

40. LESOTHO. Ministry of Industry, Trade & Marketing. 2003. Strategic plan for the Ministry of Industry , Trade and Marketing.
41. LESOTHO & SADC. Vulnerability Assessment Committee. 2003: Lesotho livelihoods-based vulnerability assessment. 14 –16 p.
42. LESOTHO & United Nations Children’s Fund. October 2002. Lesotho nutrition and poverty program.
43. LETSIE, M. & NKONYANA, J. 2002. Survey on prevalence of diabetes and hypertension in Lesotho.
44. LOCK, K., GABRIJEICIC-BLENKUS, M., MARTUZZI, M., OTOREPEC, P., WALLACE, P., DORA C., ROBERTSON, A. & ZAKOTNIC, J. M. 2003. Health impact assessment of agriculture and food policies: lessons learnt from the Republic of Slovenia. *Bulletin of the World Health Organization*. 81(6):391-9.
45. LOPEZ, A.D. 2000. Investigating Australia’s burden of disease. *The medical journal of Australia*, 172:572-573. [Web:] <http://www.mja.com.au/> [Date of access: 12.01.2005].
46. MANNAN, M.A. 2003. An evaluation of the national food and nutrition policy of Bangladesh. *Food and nutrition bulletin*, 24(2):183-192, June.
47. MDF. 2003. Objective oriented project planning syllabus.

48. MAYHEM, S. H. 2000. Integration of STI services into FP/MCH services: Health services and social context in rural Ghana. *Reproductive health matters*, 8(16):112-124, November.
49. MURRAY, C.J.L. & LOPEZ, A.D. 1996. The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020. Global burden of disease and injury series, vol. 1. Cambridge: Harvard University Press.
50. MURRAY, C.J.L. & LOPEZ, A.D. 2000. Progress in refining the global burden of disease approach: A response to Williams. Geneva, World Health Organisation. Global programme on evidence for health policy. *Health economics*, 9 (1):69-82, Jan.
51. MURRAY, C.J., EVANS D.B., ACHARAY, A. & BALTUSSEN, R.M. 2002. Development of WHO guidelines on generalized cost-effectiveness analysis. *Health Economics*, 9(3): 235-251. April.
52. MURRAY, C.J.L., LOPEZ, A.D. & STEIN, C. 2001. The global burden of disease 2000 project: aims, methods and data sources. Geneva, World Health Organisation (GPE Discussion Paper No.36).
53. NUTRIVIEW. 2003/1. Micronutrients and health.
54. OALD (OXFORD Advanced Learner's Dictionary). 1995. Oxford, N.Y.: Oxford University Press. 893p

55. REICH, M.R. 1994. Political mapping of health policy. A guide for managing the political dimensions of health policy. Boston. Massachusetts: Harvard school of Public Health. 32p.
56. ROETTEN, U. & KRAWINKEL, M. B. 2000. Food accessibility, nutrition and environment. SCN news: Nutrition and the environment, 21, Dec.
57. SADC (Southern Africa Development Community). 2003. Lesotho livelihoods-based vulnerability assessment (April-May 2003).
58. SADC (Southern Africa Development Community). 2003. SADC food security situation for 2003-2004 marketing season. [Web:] <http://www.sadc.int/index.php?lang?lang=english&path=fanr/food/foodcrisis&page=index>. [Date of access: 21 Sep. 2003].
59. SADC (Southern Africa Development Community). January 2003. Common Humanitarian Action Plan. (<http://www.reliefweb.int>).
60. SCHUFTAN, C. 1979. The challenges of feeding the people: Chile under Allende and Tanzania under Nyerere. (In Food and nutrition library 2.1) [CD-ROM.].
61. SEMBA, R.D. & TANG, A.M. 1999. Micronutrients and the pathogenesis of human immunodeficiency virus infection. *British journal of nutrition*, 81:181-189.

62. SHAFER, E. L. 2003. Public health aspects of the EU common agricultural policy: Developments and recommendations for change in four sectors: fruit and vegetables, dairy, wine and tobacco.
63. SOUTH AFRICA. Department of Health. 2004. Integrated nutrition Programme: A foundation for life.
64. TOLBOOM, J. M. 1986. Aspects of infant and child nutrition in Lesotho.
65. UNICEF (United Nations International Children's Fund). 2003. AIDS, drought and child malnutrition in Southern Africa
66. UNICEF (United Nations International Children's Fund). 1997. Conceptual framework.  
<http://www.UNICEF.org/>
67. UNDP (United Nations Development Programme). 1993. World development report 1993: Investing in health. p. 1-16.
68. UNDP (United Nations Development Programme). 2003. Lesotho chapter of the consolidated appeal in response to the humanitarian crisis in Southern Africa (July 2003 – June 2004).
69. UN (United Nations). 2003. Southern Africa regional consolidated appeal. P. 19-27.
70. VORSTER, H.H. 2002. The emergence of cardiovascular disease during urbanization of Africans. *Public Health Nutrition*, 5(1A) 239-243.

71. WENZTEL-VILJOEN, E. 2003. Development of a model for the monitoring and evaluation of nutrition and nutrition-related programmes in South Africa. Potchefstroom:PUvCHO. (Thesis – Ph. D.) p.403-422.
72. WHO (World Health Organisation). 2001a. The first action plan for food and nutrition policy: WHO European region 2000 – 2005. WHO Regional office for Europe.
73. WHO (World Health Organisation). 2001b. Macroeconomics and Health: Investing in Health for economic development.
74. WHO (World Health Organisation). 2001c. National burden of disease studies: A practical guide.
75. WHO (World Health Organisation). 2002a. Address to members of parliament. [Web:] <http://www.who.int/dg/speeches/2002/Lesothoen/>. [Date of access: 24 April. 2003].
76. WHO (World Health Organisation). 2002b. The world health report 2002: reducing risks, promoting healthy life.
77. WHO. (World Health Organisation) 2004. Nutrition mandate and vision. [Web:] <http://www.who.int/nut/mandate.htm> [Date of access: 07. July. 2003].



LESOTHO

May 9, 2003

HPROJ38

MRS. PHINY HANSON  
P.O. BOX 10292  
MASERU  
LESOTHO

Dear Madam,

**RE: PERMISSION TO PUBLISH THE STUDIES**

Thank you for your letter dated 22 April, 2003 on the above subject. Permission is granted to publish the two studies you co-researched on

- Effects of drought on nutritional status of under-fives (Nov-Dec, 2001)
- Interagency humanitarian crisis in Lesotho - the Health and Nutrition component (May 2002).

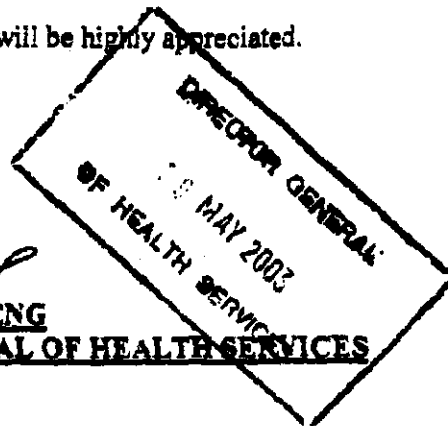
The Ministry of Health and Social Welfare is currently involved in the development of a comprehensive health policy. It would be beneficial to the Ministry if your research would provide the necessary data relevant to the Nutrition Chapter of its policy. We therefore welcome your offer to assist us in this undertaking.

Your usual assistance will be highly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Ramatlapeng'.

**DR. T. RAMATLAPENG**  
**DIRECTOR GENERAL OF HEALTH SERVICES**



.....

APPENDIX 2



LESOTHO



Telephone: 323716

Food and Nutrition Co-ordinating Office  
Private Bag. A 78,  
MASERU 100, Lesotho

Ref. No.

FNCO/PR/66

13 May 2003

Mrs P. Hanson  
Ireland Aid  
MASERU

Dear Madam

**RE: DEVELOPMENT OF THE NATIONAL NUTRITION POLICY  
FOR LESOTHO**

Reference is made to your letter dated 22 April 2003 on the above mentioned issue. One of the goals of FNCO is to assist in the formulation of nutrition laws and regulations. Therefore FNCO is grateful that you have planned to develop the national policy which will benefit the country. We will work in collaboration with you and support you to ensure that the work is completed effectively.

Yours sincerely

  
M. SEBETSA (MRS)  
DIRECTOR - FNCO a.i.

## APPENDIX 3

WORLD HEALTH ORGANIZATION

AFRICAN REGION



ORGANISATION MONDIALE DE LA SANTE

REGION DE L'AFRIQUE

OFFICE OF THE WHO REPRESENTATIVE FOR LESOTHO

Tel.: (266) 31 21 22

In reply please refer to:

Préire de rappeler la référence: G2/61/9

23<sup>rd</sup> April 2003

Dear Mrs Hanson,

**Re: Request to Publish Two Studies**

We acknowledge receipt of a copy of your letter sent to DGHS requesting authorization for publishing of the two studies funded by WHO.

In our side, we have no objection although the final decision lies with the Ministry of Health and Social Welfare.

Thank you.

Yours sincerely

A handwritten signature in black ink, appearing to be 'M. Kiasekoka', written over a horizontal line.

Dr. M. Kiasekoka  
WHO Representative

Mrs Phiny Hanson  
P. O. Box 10292  
Maseru 100  
Lesotho

cc: Dr. M. Ramatlapeng, DGHS, MOHSW  
Head Family Health Division  
Manager Nutrition Programme  
Emergency Preparedness and Response Officer – Environmental Health  
FNCO  
Nutrition and Health Programme Officer – WHO  
Emergency Preparedness and Response Officer – WHO

**APPENDIX 4**

**WHO GLOBAL BURDEN OF DISEASE (GBD) 2000 CAUSE CATEGORIES**

GBD CAUSE NAME	
<b>I. Communicable, maternal, perinatal and nutritional conditions</b>	<b>II. Non-communicable diseases</b>
<b>A. Infectious and parasitic diseases</b> <ol style="list-style-type: none"> <li>1. Tuberculosis</li> <li>2. Sexually transmitted diseases (STD) excluding HIV               <ol style="list-style-type: none"> <li>a. Syphilis</li> <li>b. Chlamydia</li> <li>c. Gonorrhoea</li> <li>d. Other STD</li> </ol> </li> <li>3. HIV/AIDS</li> <li>4. Diarrhoeal disease</li> <li>5. Childhood-cluster diseases               <ol style="list-style-type: none"> <li>a. Pertussis</li> <li>b. Poliomyelitis</li> <li>c. Diphtheria</li> <li>d. Measles</li> <li>e. Tetanus</li> </ol> </li> <li>6. Meningitis</li> <li>7. Hepatitis B Hepatitis C</li> <li>8. Malaria</li> <li>9. Tropical-cluster diseases               <ol style="list-style-type: none"> <li>a. Trypanosomiasis</li> <li>b. Chagas Disease</li> <li>c. Schistosomiasis</li> <li>d. Leishmaniasis</li> <li>e. Lymphatic filariasis</li> <li>f. Onchocerciasis</li> </ol> </li> <li>10. Leprosy</li> <li>11. Dengue</li> <li>12. Japanese encephalitis</li> <li>13. Trachoma</li> <li>14. Intestinal nematode infections               <ol style="list-style-type: none"> <li>a. Ascariasis</li> <li>b. Trichuriasis</li> <li>c. Hookworm disease (Ancylostomiasis and necatoriasis)</li> <li>d. Other intestinal infections</li> <li>e. Other infectious diseases</li> </ol> </li> </ol>	<b>A. Malignant neoplasms</b> <ol style="list-style-type: none"> <li>1. Mouth and oropharynx cancers</li> <li>2. Oesophagus cancer</li> <li>3. Stomach cancer</li> <li>4. Colon and rectum cancers</li> <li>5. Liver cancer</li> <li>6. Pancreas cancer</li> <li>7. Trachea, bronchus and lung cancers</li> <li>8. Melanoma and other skin cancers</li> <li>9. Breast cancer</li> <li>10. Cervix uteri cancer</li> <li>11. Corpus uteri cancer</li> <li>12. Ovary cancer</li> <li>13. Prostate cancer</li> <li>14. Bladder cancer</li> <li>15. Lymphomas and multiple myeloma</li> <li>16. Leukemia</li> </ol>
	<b>B. Other neoplasms</b>
	<b>C. Diabetes mellitus</b>
	<b>D. Endocrine disorders</b>
	<b>E. Neuropsychiatric disorders</b> <ol style="list-style-type: none"> <li>1. Unipolar depressive disorders</li> <li>2. Bipolar affective disorders</li> <li>3. Schizophrenia</li> <li>4. Epilepsy</li> <li>5. Alcohol use disorders</li> <li>6. Alzheimer and other dementias</li> <li>7. Parkinson disease</li> <li>8. Multiple sclerosis</li> <li>9. Drug use disorder</li> <li>10. Post-traumatic stress disorder</li> <li>11. Obsessive-compulsive disorder</li> <li>12. Panic disorder</li> <li>13. Insomnia (primary)</li> <li>14. Migraine</li> <li>15. Mental retardation attributable to lead exposure</li> <li>16. Other neuropsychiatric disorders</li> <li>17. Other malignant neoplasm</li> </ol>

<p><b>B. Respiratory infections</b></p> <ol style="list-style-type: none"> <li>1. Lower respiratory infections</li> <li>2. Upper respiratory infections</li> <li>3. Otitis media</li> </ol>	<p><b>F. Sense organ diseases</b></p> <ol style="list-style-type: none"> <li>15. Glaucoma</li> <li>16. Cataracts</li> <li>17. Vision disorders, age-related</li> <li>18. Hearing loss, adult onset</li> <li>19. Other sense organ disorders</li> </ol>
<p><b>C. Maternal conditions</b></p> <ol style="list-style-type: none"> <li>1. Maternal haemorrhage</li> <li>2. Maternal sepsis</li> <li>3. Hypertensive disorders of pregnancy</li> <li>4. Obstructive labour</li> <li>5. Abortion</li> <li>6. Other maternal conditions</li> </ol>	<p><b>G. Cardiovascular diseases</b></p> <ol style="list-style-type: none"> <li>1. Rheumatoid heart disease</li> <li>2. Hypertensive heart disease</li> <li>3. Ischaemic heart disease</li> <li>4. Cerebrovascular disease</li> <li>5. Inflammatory heart disease</li> <li>6. Other cardiovascular disease</li> </ol>
	<p><b>H. Respiratory diseases</b></p> <ol style="list-style-type: none"> <li>7. Chronic obstructive pulmonary disease</li> <li>8. Asthma</li> <li>9. Other respiratory diseases</li> </ol>
	<p><b>I. Digestive diseases</b></p> <ol style="list-style-type: none"> <li>1. Peptic ulcer diseases</li> <li>2. Cirrhosis of the liver</li> <li>3. Appendicitis</li> <li>Other digestive disease</li> </ol>
<p><b>D. Conditions arising during the perinatal period</b></p> <ol style="list-style-type: none"> <li>1. Low birth weight</li> <li>2. Birth asphyxia and birth trauma</li> <li>3. Other perinatal conditions</li> </ol>	<p><b>J. Genito-urinary diseases</b></p> <ol style="list-style-type: none"> <li>4. Nephritis and nephrosis</li> <li>5. Benign prostatic hypertrophy</li> <li>3. Other genitourinary system diseases</li> </ol>
<p><b>E. Nutritional deficiencies</b></p> <ol style="list-style-type: none"> <li>1. Protein-energy malnutrition</li> <li>2. Iodine deficiency</li> <li>3. Vitamin A deficiency</li> <li>4. Iron deficiency anaemia</li> <li>5. Other nutritional disorders</li> </ol>	<p><b>K. Skin diseases</b></p>
	<p><b>L. Musculoskeletal diseases</b></p> <ol style="list-style-type: none"> <li>1. Rheumatoid arthritis</li> <li>2. Osteoarthritis</li> <li>3. Gout</li> <li>4. Low back pain</li> <li>5. Other musculoskeletal disorders</li> </ol>
	<p><b>M. Congenital anomalies</b></p> <ol style="list-style-type: none"> <li>1. Abdominal wall defect</li> <li>2. Anencephaly</li> <li>3. Anorectal atresia</li> <li>4. Cleft lip</li> <li>5. Cleft palate</li> <li>6. Oesophagus atresia</li> <li>7. renal agenesis</li> <li>8. Down syndrome</li> <li>9. Congenital heart anomalies</li> <li>10. Spina bifida</li> <li>11. Other congenital anomalies</li> </ol>

	<p><b>N. Oral conditions</b></p> <ol style="list-style-type: none"> <li>1. Dental caries</li> <li>2. Periodontal disease</li> <li>3. Endentulism</li> </ol> <p>Other oral diseases</p>
	<p><b>III. Injuries</b></p> <p><b>A. Unintentional injuries</b></p> <ol style="list-style-type: none"> <li>1. Road traffic accidents</li> <li>2. Poisonings</li> <li>3. Falls</li> <li>4. Fires</li> <li>5. Drownings</li> <li>6. Other unintentional injuries</li> </ol>
	<p><b>B. Intentional injuries</b></p> <ol style="list-style-type: none"> <li>1. Self- inflicted injuries</li> <li>2. Violence</li> <li>3. War</li> <li>4. Other injuries</li> </ol>

## APPENDIX 5

### CLASSIFICATION OF DISEASES ACCORDING TO THE LESOTHO HEALTH MANAGEMENT INFORMATION SYSTEM

CATEGORY	CLASSIFICATION	DISEASES
A	Quarantinable disease	Louse-Borne Typhus; Cholera; Plague
B	Notifiable diseases	Rabies exposure; Meningococcal meningitis; Typhoid; Anthrax; Hepatitis; Rubella
C	Expanded Programme of Immunization target diseases	Tuberculosis; Diphtheria; Whooping cough; Tetanus; Poliomyelitis; Measles
D	Respiratory tract diseases	Bronchitis; Pneumonia; coughs/colds; Other diseases
E	Cardiovascular diseases	Hypertension; Other diseases of the circulatory system
F	Diseases of the digestive system	Diarrhoea with dehydration; Diarrhoea without dehydration; Intestinal parasites; Other diseases
G	Endocrine and nutritional disorders	Marasmus/Kwashiokor; Pellagra; Diabetes mellitus; Other diseases
H	Genitourinary diseases	Gonorrhoea; Syphilis; Urinary tract infection; Pelvic inflammatory disease; Other sexually transmitted diseases/genitourinary diseases
I	Other morbidity	Chicken pox; Dental; Eye; Otitis media, tonsillitis, other ear, nose and throat diseases; Neoplasms/Tumors; Epilepsy; Other nervous system diseases; Mental disorders; Mumps; Diseases of skin and subcutaneous tissue; diseases of musklesystems and connective tissue; Injuries, fractures and dislocation; Symptoms and ill defined conditions; Other conditions not listed
J	Maternal	Normal pregnancy; Pre-Eclampsia Toxemia (PET); Other complications of child birth and puerperium

Source: Lesotho, MOHSW, 2002

## APPENDIX 6

### MORTALITY GRAPHS FROM WHO 2002 DATA BASE

Selected results as at 02 Nov 2002

**Mortality graphs**



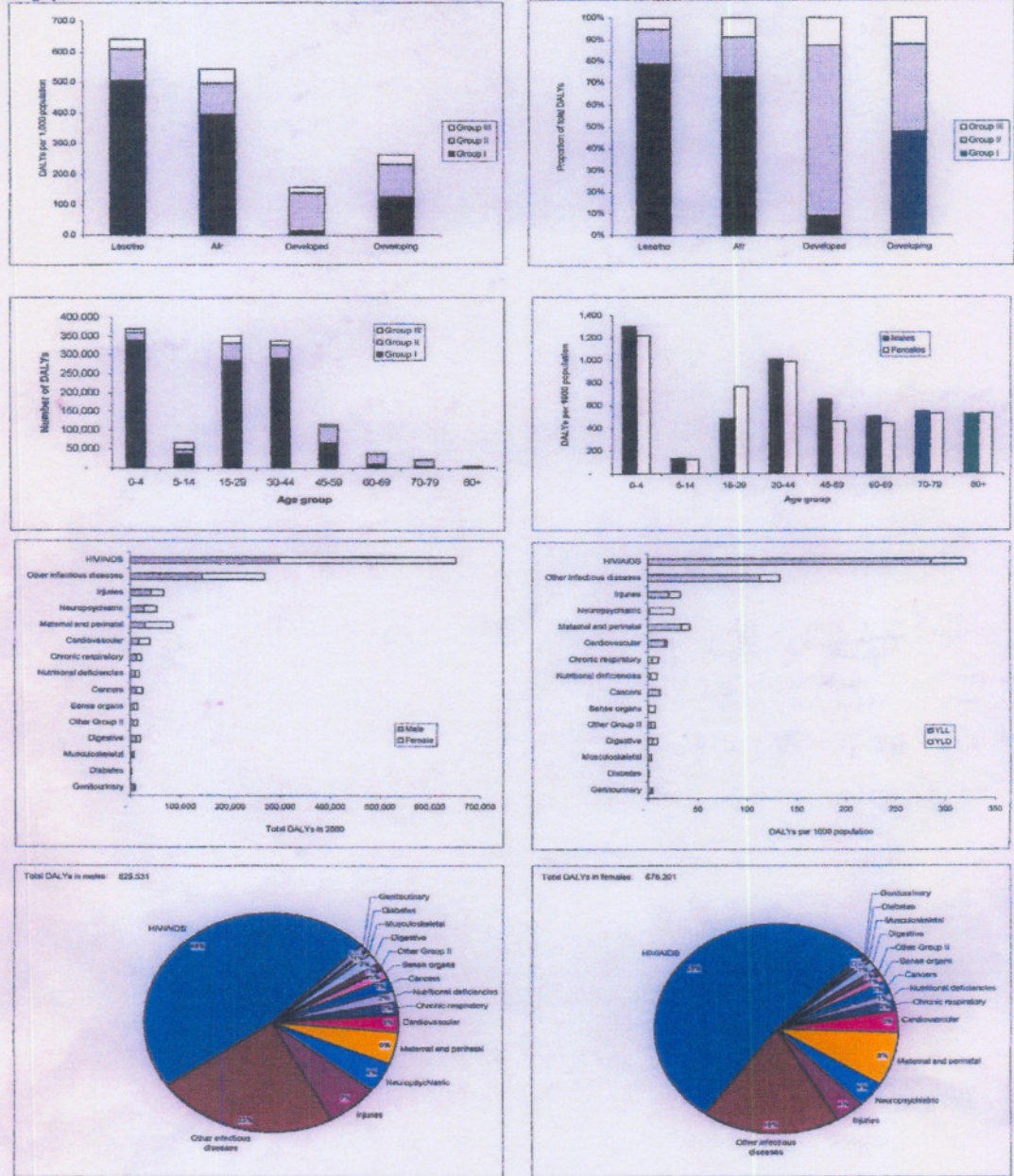
3/22/04 +

Source: WHO Burden of disease database [CD-Rom]

## APPENDIX 7

### MORBIDITY AND MORTALITY (DALYs) GRAPHS FROM WHO 2002 DATABASE

**DALY graphs**



3/2/04 +

Source: WHO burden of disease database [CD-Rom].