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Federal Ministry of Health

Directorate General of Human Resources for Health Development

National Human Resources for Health Strategic Plan for Sudan, 2012-2016

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List of Abbreviations

AHS	Academy of Health Sciences
CME	Continuous Medical Education
CPD	Continuous Professional Development
CPDC	Continuous Professional Development Centre
CPDD	Continuous Professional Development Directorate
EMR	Eastern Mediterranean Region
EMRO	Eastern Mediterranean Region Office
FMOH	Federal Ministry of Health
GDP	Gross Domestic Product
HAC	Humanitarian Affaire Commission
HR	Human resources
HRD	Human Resources Development
HRH	Human Resources for Health
HRM	Human Resources Management
JICA	Japanese International Corporation Agency
MDGs	The Millennium Development Goals
NGO	Non Governmental Organization
NHRHO	National Human Resources for Health Observatory
OS	Organizational Structure
SMSB	Sudan Medical Specialization Board
SWOT	Strengths Weaknesses Opportunities and Threats
WHO	World Health Organization

Glossary:

Human resources for health (HRH - synonyms are health manpower, health personnel, or health workforce). HRH denotes persons engaged in any capacity in the production and delivery of health services. These persons may be paid or volunteers, with or without formal training for their functions, individuals engaged in the promotion, protection, or improvement of population health, including clinical and non-clinical workers.

Human Resource for Health Plan (HRH Plan) A HRH Plan is an overall mapping of at least 3-5 years that contains a detailed analysis of the human resources for health challenges and issues, strategies, objectives and activities likely to solve the identified priority issues and challenges during the given period (WHO 2004).

Human resources planning "...is the process of estimating the number of persons and the kinds of knowledge, skills, and attitudes they need to achieve predetermined health targets and ultimately health status objectives." (WHO, 1978) Over the years this function has been broadened to include that of formulating human resources policy, in which the word "policy" refers to statements made by relevant authorities that are intended to guide the allocation of resources and effort. Health services and human resources policies constitute key instruments for implementing decisions affecting the delivery of health care.

Human resources production refers to "all aspects related to the basic and post-basic education and training of the health labour force. Although it is one of the central aspects of the health manpower (development) process, it is not under the health system's sole control" (WHO, 1978). The production system includes all the health system's educational and training institutions, which are increasingly the joint responsibility of service and educational institutions.

Human resources development (HRD) HRD is the process of developing and improving the capacity, ability, skills and qualifications of an organization's staff to a level required by the organization to accomplish its goals. As applied to human resources for health (HRH), includes the planning, production, and post-service training and development health personnel.

Human resources management has been defined as the "mobilization, motivation, development, and fulfilment of human beings in and through work" (WHO, 1978). It "...covers all matters related to the employment, use, deployment and motivation of all categories of health workers, and largely determines the productivity, and therefore the

coverage, of the health services system and its capacity to retain staff." Typical HRM functions include recruitment, staff performance evaluation, work analysis and the development of position descriptions, remuneration policy and practice, and occupational health and safety policy and practice. Strategic HRM is the development and implementation of personnel policies and procedures that directly support the achievement of an organization's goals and objectives.

Labour market is an informal market where workers find paying work, employers find willing workers, and where wage rates are determined. Labour markets may be local or national (even international) in their scope and are made up of smaller, interacting labour markets for different qualifications, skills, and geographical locations. They depend on exchange of information between employers and job seekers about wage rates, conditions of employment, level of competition, and job location. (Business dictionary.com)

Operational planning: is related to the implementation of the strategies on a day-to-day Basis For example, if training more staff is the strategy selected for improving staffing in remote facilities; the operational planning would include the start date for training courses and the number of tutors needed. (Martineau and Caffrey, 2008)

Workforce plan: is an integral part of the strategic plan, it enables senior managers to scan and analyze human resources (HR) data routinely, determine relevant policy questions and institute policies to ensure that adequate numbers of staff with appropriate skills are available where and when they are needed. Workforce planning supports the overall HRH strategic plan within the constraints of available resources. This usually has significant implications for training and the planning for training institutions or recruitment campaigns if suitable prospective staff exists in the labour market. (King and Martineau, 2006)

Foreword:

It is with pleasure that I present the National Human Resources for Health Strategic Plan for Sudan (2012 – 2016) developed by the General Directorate of Human Resources for Health Development (GDHRD).

It is the first time for FMOH to develop such kind of a comprehensive strategic document shifting from the traditional concept of training and health workforce numbers to the wider spectrum of HRH development. The HRH strategic plan was developed based on a thorough situational analysis as well as using the HRH action framework as a guide for its development.

The development of the plan witnessed wider consultations with HRH stakeholders both at national and state levels in every stage of its development and this process took more than ten months. Although two international consultants assisted in the development of this plan, however most of the work was done by the national experts and dedicated staff in GDHRD.

The plan came out with five strategic objectives addressing most of the issues related to HRH development. Furthermore, it gave details to the guiding principles, the strategies to achieve each strategic objective, the monitoring and evaluation framework, the costing as well as the implementation plan.

It is worth to mention that this strategy will be synchronizing with national health strategy for 2012-16 as well as the state ministries of health HRH comprehensive plans.

My sincere gratitude is due to all staff in the GDHRD who devoted their time and efforts towards the development of this plan.

Dr. Isameldin Mohammed Abdalla

Undersecretary FMOH

Acknowledgement:

The present HRH national strategic plan is the result of a collaborative effort between the Federal Ministry of Health (the General Directorate for HRH Development) and the World Health Organization.

We would like to acknowledge a number of people whose contributions were essential to the preparation of this strategic document. We wish first to thank Dr Elsheikh Badr, the Deputy Director General of Human Resource Department, FMOH, and focal person for the National Human Resources for Health Observatory (NHRHO) who wrote the first technical draft of the strategy as well as supervising the whole process of developing this document. The acknowledgement is extended to the international experts Mr. Theo Vermeulen, Australian HRM Specialist and Mr. Tim Martineau from Liverpool School of Tropical Medicine who provided tremendous technical support and guidance to the national team. Thanks are extended to the national team members Dr Amel Abdalla, Dr Hatim Sidahmed, Dr Sara Mohamed Osman, Dr Fayrouz Mohamed Abdalla, Mr Alaeldin Ibrahim, Dr Mustafa Awadelkareem and Dr Fatima Abdelwahab who worked very hard in collecting the data, interpreting the results, writing the chapters as well as organizing several meetings and technical discussions with HRH partners and stakeholders.

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Executive Summary:

Human resources for health (HRH) are a very important asset for health systems worldwide. After a long period of neglect, HRH is increasingly recognized as a priority area for health system strengthening interventions. Therefore, human resource planning is regarded as an entry point to define and address health workforce issues.

This strategic plan for HRH in Sudan is introduced with the aim of guiding the efforts and further work in developing human resource plans at different levels of the health system in a comprehensive approach that considers all dimensions of HRH. The plan defines the priorities of HR issues; and accordingly recommends strategic goals and objectives to revive and improve HRH policies, planning, production and distribution and HR management systems to improve individual performance and training services.

The plan is based on a thorough situation analysis enriched by data and information from different sources including records, registries, and literature search. Some important documents like the Sudan human resources for health strategic planning framework 2009-2011, the national health policy, the 5 year strategy for health and the 2006 national HRH survey were used to guide and inform the development of this plan.

Sudan is an extensive African country with great potentials and natural resources. However, health system performance and health indicators are regarded to be poor with figures lagging behind the benchmarks of the Millennium Development Goals (MDGs). Health workforce training and practice were deeply rooted in Sudan which was regarded as a pioneering country in the continent. Educational and management work over years has culminated into a health workforce that is composed of more than 100 thousands health workers making over 20 different professions. The picture of Sudan health workforce of today shows slight dominance of females representing 51 percent but with increasing trends. The age structure points to a rather young health workforce probably due to the recent expansion of medical education and health training. The majority of health workers are employed by the civil service under the ministry of health in addition to lower numbers in the army, police, universities and health insurance fund. Exclusive private sector staff represents only 9 percent, taking into account that dual practice is very common. Geographical distribution of health workers shows very clear bias towards urban

setting especially Khartoum state where 62 percent of specialist doctors and 58 percent of technicians are found.

The stakeholders concerned with HRH issues in Sudan are various. The Federal Ministry of Health and the state ministries of health are the major employers responsible for human resource management and in service development. The Ministry of Higher Education is responsible for pre-service training and production of health workers through a total of 145 medical schools and health training institutes affiliated to different universities. The Sudan Medical Council is entrusted with registration and licensing of doctors, pharmacists and dentists while the Council for Allied Health Professions is dealing with the rest of the health workforce. The Army Medical Corps, the Police Health Services and the Health Insurance Fund in addition to the private sector are all health providers that employ a share of the country workforce. Professional associations for doctors and other categories of health workers are mainly playing roles in trade union activities and continuous professional Development, appraisal of the HRH systems in Sudan shows a record of some successes, shortcomings and challenging issues. In the domain of HR policy, a group of policies focusing on training, career pathways and staffing norms were developed and introduced over the last ten years. Despite problems in implementation of some policies; consensus over policy development and sound implementation mechanisms remain as two challenging areas.

As for HRH planning, the record is not satisfactory with poor focus and dichotomies between HR planning and overall health planning. When HR planning was attempted during the last five years, the plan produced has focused on staff projections to the neglect of other important HR dimensions. Institutionalization of HR planning at national, state and locality levels are a challenge that needs to be addressed. The capacity for HRH production has been extensively increased over the last two decades in particular for medical education. Despite the positive effects brought by educational expansion, the lack of coordination between health service and academia has resulted in many forms of skill mix imbalance, notably in numbers. The need to review, assess and strengthen capacity for HRH education is currently well recognized.

Human resource management systems were the least developed and emphasized among HRH systems. There are traditions for job descriptions, deployment, personnel

administration and performance appraisal, but all these need intensive work for revival, re-adjustment and implementation.

Main issues identified for the strategic work plan include among other aspects, developing capacity for HRH planning and policies, augmenting equitable distribution, improving individual performance management systems, improving health workforce production, education and training and strengthening HRH functions at the decentralized levels. Within the current context, opportunities are there for a productive work on addressing HRH issues. Political commitment and health system focus on health workforce front is an important potential to build on. Promising funding opportunities from national sources and donors are now materializing. In addition to that, the talent of the country workforce together with the huge potential of educational institutions and the willing Diaspora are factors positively counting towards human resource development. The country can also benefit from the global movement and international focus on HRH issues in particular for Africa.

The strategic plan thus comes with a vision of Sudan being a country with skilled, diversified, health workforce capable of delivering the right health interventions for the achievement of the MDGs and promotion of population health and proposes a mission for the health system of building and making operational adequate number and right mix of the skilled workforce through properly institutionalizing HRH functions and collaboration and coordination with partners.

The main goals of the plan are to improve coverage and accessibility to quality health services, achieve 3 health-related MDGs, promote healthy life styles and reduce the burden of non-communicable diseases, creation of an environment conducive to partnership and building and promotion of the role of the private sector.

The following strategic objectives were identified to be accomplished during the period of the plan:

1-Support health service needs through adequate HRH planning;

2-Develop policies/systems to ensure more equitable distribution of health workers - especially doctors and nurses;

3-Improve individual performance management systems;

4-Improve production and orientation of education and training towards health service needs;

5-Strengthen HRH functions at the decentralized levels

For each strategic objective a number of strategies and activities are identified together with indicators to monitor and evaluate the progress of the overall strategic plan.

Chapter 1

Introduction

Human resources for health (HRH) are a very important asset for the health system in any country. During the recent period, HRH issues have been receiving more and more focus and attention based on the appreciation of the centrality of health workforce to health system functioning and effectiveness. The global shortage and crisis in HRH has been increasingly recognized as a factor crippling health systems and jeopardizing health care in particular in developing countries where the effects are most profound. Health workforce is also known to absorb a great share of the health budget both the total and recurrent expenditures. This fact provides legitimacy for giving more focus and concern to HRH issues.

While planning is relevant for health as a discipline, it becomes even fundamental for a domain like HRH that is regarded to be of special importance within the health arena. Strategic as well as operation planning is an essential requirement for dealing with HRH issues within the context of a health system.

Strategic planning for HRH is of course fundamentally needed to decide direction and provide guidance for what is needed to be done to develop the valuable resource of health workforce. A strategic plan will also lay the foundation and framework for HRH plans that should be developed at all levels of the health system. However, strategic planning for HRH is mostly not well recognized and established at both national and global levels. Even when human resource planning is attempted, it usually addresses the projection of staff numbers leaving uncovered important areas like HRH policies and management systems. Harmonization of HRH planning with the overall health planning process is another problematic area and in many occasions, dichotomies between the two processes are the norm.

In Sudan, the situation is very much similar with the country passing through long periods of neglect for HRH planning. Records of the ministry of health and other health care organizations show no documentation for planning documents in the domain of the health workforce. Not uncommonly, expansion in health care infrastructure and facilities occurs without paying enough attention to the need for health workers both in terms of numbers and qualities. The consequences have usually been a situation where health facilities are poorly functioning or completely non-functioning. Even when HRH planning was attempted in the country following the recent focus on health system development, the HR plan came out again focusing on projection of staff numbers for different levels of health care.

This strategic plan document is the first of its kind in the country in terms of going beyond numbers to address the sector of HRH in a comprehensive manner. The plan comes at a time when there is increasing focus and concern for HRH issues in the country. This is typified by the public and professional concern about the sufficiency and performance of the health workforce together with the ongoing debate on medical education and health training. The political will and commitment shown for HR issues and the potentials available for HRH finance and support from the side of the government and donors together with the strongly emerging private sector are all factors conducive for the development and implementation of HRH plans.

The Purpose of this HRH Strategic plan:

The main purpose and focus of this strategic plan is to provide strategic directions and define the main issues that need to be addressed to achieve the strategic development of HRH in the country. The plan introduces the framework for further development of HRH operational plans at the national, state and local levels of the health system.

The structure of this plan document is composed of two main parts. The first part introduces the general country context and focuses on a thorough situation analysis of the human resource dimensions including health workforce characteristics, stakeholder institutions and appraisal of HRH functions. The analysis concludes by identifying the main issues and challenges in the domain of HRH in Sudan. The second part is concerned with the plan itself including the vision, mission and strategic objectives together with the

targets and indicators. The section concludes by detailed action plan including timeline and budget for the plan in addition to the monitoring and evaluation framework.

Process and methodology of developing the strategy:

To develop a comprehensive strategic work plan for human resource for health in Sudan for next 6-years that addresses all aspects of health human resource, i.e. planning, development, and management, the following steps have been conducted through series of meetings with the consultant, taskforce, workshops and meetings with representatives from Ministry directorates, disease control programmes and stakeholder's institutions representatives:

1. Update the existing situational analysis of the state of HRH in terms of their number, skill mix, distribution (regional and programmatic), and work conditions;

2. Appraise the current system for human resource planning, development (pre-service and in-service training and skill development), and management;

3. Evaluate (by rapid appraisal) the capacity of institutions engaged in human resource development (pre-service and in-service training and skill development);

4. Identify issues in human resource for health and devise a 6-year comprehensive plan with cost and timeline, covering policy, planning, production/development and management;

5. Present the plan in a workshop to seek consensus and feedback from stakeholders;

6. Incorporate the feedback of stakeholders and submit the final 5-year comprehensive plan.

The Task Force assisted by an international consultant, has gathered and reviewed relevant records and registries from different organizations including among others, the Ministry of Health, Ministry of Higher Education, Sudan Medical Council, Council for Allied

Health Professions and Sudan Medical Specialization Board. Reports and documents coming out of these institutions or prepared by consultants were also reviewed and consulted. The team has also focused on analyzing and reviewing the Sudan human resources for health strategic planning framework 2009-2011, the national health policy document, the 25 years strategy for health, the 5 years health strategic plan and the 10 years HRH projection plan for Sudan. The health workforce survey carried out in 2006 has provided essential baseline data on the parameters and characteristics of the health workforce and was used to support the situation analysis of the plan document plus updates from the national HRH observatory.

International literature was reviewed including the world health report 2006, other relevant documents included frameworks and guidelines for HRH in addition to reports and papers analyzing the situation of health workforce sector especially in African countries. Some of the HRH plans for countries such as South Africa, Malawi, Rwanda and Kenya were also consulted.

The whole document was revised by the ministry of health through meetings arranged by the HRH Directorate and undersecretary council including all ministry directorates and programmes directors in a number of meetings and mini workshops that have been called for this reason, their inputs and their directions including programmes specific policies were also included.

All stakeholder institutions have been consulted in the development of this strategic plan and have contributed suggestions and valuable comments**.**

Chapter 2

Policy Context

Health Sector policies

Health workers are the cornerstone of health care delivery system, influencing access, quality and costs of health care, and effective delivery of interventions for improved health outcomes, including progress towards the achievement of the health related Millennium Development Goals and Health For All.

This HRH Strategic Plan does not stand in isolation but derives from a number of key documents including the Interim Constitution, the Twenty-Five Year Health Strategy (2007-2031), the 10 Year HRH projections Plan, the National Health Policy 2007, the Health Policy South Sudan and the Five Year Health Sector Strategy (2007-2011).

The purpose of this HRH Strategic Plan, which covers all parts of the health sector, is to support the implementation of these health policies and strategies.

The Sudan 25 Year Health Strategy (2007-2031)

This strategy was produced in response to the national government initiative of developing a 25 year strategic plan for all sectors in Sudan. The major priorities were to embark on an effective health system reform based on fair financing options, to reduce the burden of diseases, to promote healthy life styles, to develop and retain human resources and introduce advanced technology while assuring equity, quality and accessibility.

The strategic directions for the coming 25 years stressed on a clear and effective policy for human resources based on situation analysis and taking into account the surrounding changes and health policies. This should be compiled in plans that ensure balance between demand and supply. These policies should consider the need for educated trained health workforce who are able to meet the challenges of society need as well as new technologies. Training should be community-based, with structured continuing education programs. Redistribution of the health personnel to address imbalances, development of retention policies to resolve rural-urban migration and brain drain and setting of appropriate regulations and rules for employment and ethics, feature as well in the document.

Emphasis will be on health financing and pro-poor system reforms aiming to increase allocations and investing on health and especially targeting the poor and the disadvantaged groups. Health services and goods with public health importance will be the responsibility of the government. (Section 7, Future strategic directions, Page 23)

National Health Policy, 2007

The primary concern in terms of human resources for health is to match the needs of the country's health system as it is being rehabilitated, reconstructed and reformed. The

declaration of the Government to upgrade nursing and allied health personnel training to post-secondary diplomas and BSc Programs will continue to be pursued by authorities at relevant levels to match these needs.

This policy calls for the institutionalization of a coordinating mechanism between partners involved in human resources for health to satisfy the needs of the country and with the FMOH/SMOH as a major employer. In this regard, while a system for the accreditation and standardization of medical and paramedical training will be institutionalized in collaboration with health academies in states, the role of community health workers and family doctors will be considered in health care reform in Sudan.

Furthermore, as the capacity of the existing workforce in health is weak, particularly in health planning and management, and given the increasing demand as a result of federalism, decentralization and the ongoing efforts of reviving and improving the health system, continuing in-service training programs will be instituted at all levels of government.

Also, as a result of the lack of attention paid to the existence of conflicting curricula for different disciplines, the FMOH will work with the appropriate authorities to update curricula and incorporate new developments to ensure that curricula is community-orientated, promotes professional values and ethics and emphasizes continuous professional and leadership development (National Health Policy 2007, Par. 8.1.5, Page 11)

The 10-year projection plan for human resources (2004 -2013)

This strategic projection plan aims to increase the availability of human resources for health to meet health needs, revitalize primary health care and reduce inequity in the distribution and imbalance of the composition of health teams.

The overall objective of the plan is the provision of qualified and adequately trained health staff as a response to the real need for coverage of health services in an equitable, balanced way for the period from 2004-2013.

The plan was prepared by an advisory group who was guided by set of indicators, standards and guidelines. Although the information used in the methodology was based on all relevant scientific studies and statistics related to human resources available in the health sector until the year 2002, this plan is not being used currently in planning for HRH and did not inform the development of this strategic plan.

Five-Year Health Sector Strategy (2007-2011)

The Five-Year Health Sector Strategy also has a number of critical strategies directed towards HRH which need to be considered in this plan; One of these strategies is strengthening the governance and institutional capacity of the decentralized health system at all levels (Strategic objective 1, Page 46). Key features of this strategy include strengthening the role of the federal and state ministries of health in policy development and systems/services management.

Decentralization should carry an important implication to this HRH strategy. The devolved health system of Sudan now gives more emphasis on the role of state and locality levels with important HRH functions such as employment, deployment and management transferred to states in all service grades. With this come all challenges of resources and capacity needed for the decentralized institutions to play their roles.

Another strategy is ensuring adequate production, equitable distribution and retention of skilled human health personnel based on the health system needs (Strategic objective 4). Key features of this strategy involve strengthening basic, graduate and continuing education for all categories of health workers based on the evidence as to country needs, establishing and sustaining a package to deploy and retain health workers in states and underserved areas and enhancing capacity for health professions regulation.

This issue carries important implications for this HR strategy that seeks to respond to health care needs through ensuring adequate and capable health workforce to run the health system of the country. The strategy is to follow on with this comprehensive approach of strengthening educational system in its three facets (basic, graduate and in-service). Retention strategies are then to be clearly devised along the lines stated in the national health sector strategy. Quality measures in terms of strengthening professional registration and practice are also to be considered in this strategy document.

Health Policy South Sudan 2006

A health policy for southern Sudan came into effect on October 1, 1998 and was updated in 2006. The policy emphasizes health as a central development issue and states that “Human resource development will include reorientation of old and new health workers and communities in the concept of primary health care”.

A national HRH strategy for the whole country should pay due attention to issues of harmonization of HR policies, systems especially as pertinent to health worker education and accreditation. The strategy should be comprehensive and flexible in nature to accommodate the various developmental needs of different parts of Sudan.

Chapter 3

HRH Current Situation

A Comprehensive situational analysis of the general country context, current health situation, and the state of HRH systems in Sudan has been conducted by a national HRH expert in the General Directorate of HRH Development, FMOH, 2005. This section provides a summary of the analysis.

The critical role of HRH

After a long period of neglect, HRH is increasingly recognized as a priority area for health system strengthening interventions given the centrality of the health workforce to the effective operation of the health system. Moreover, the global shortage of HRH has been increasingly recognized as a factor crippling health systems and jeopardizing health care in particular in developing countries where the effects are most profound. In addition, HRH consume a significant share of the health budget. For these reasons it is critical to focus on HRH issues.

Within a decentralized health system such as in Sudan, strategic as well as operational planning is an essential requirement for dealing with HRH issues in an effective manner. Strategic planning for HRH, in particular, is needed to decide direction and provide guidance for what is needed to be done to develop the valuable resource of health workforce. A strategic framework will also provide a sound foundation developing subsequent HRH plans at all levels of the health system.

However, strategic planning for HRH is mostly not well recognized and established at both national and global levels. Even when human resource planning is attempted, it mainly addresses the projection of staff numbers leaving uncovered important areas like HR policies and management systems. Harmonization of HRH planning with the overall health planning process is another problematic area and in many occasions, dichotomies between the two processes are the norm.

This HRH Strategic plan, in contrast, seeks to go beyond numbers to address HRH in a more comprehensive manner by addressing underlying structural and HRM issues affecting HRH.

In Sudan, the situation is very much similar with the country passing through long periods of neglect for HRH planning. Records of the Ministry of Health and other health care organizations show no documentation for planning documents in the domain of the health workforce. Not uncommonly, expansion in health care infrastructure and facilities occurs without paying enough attention to the need for health workers both in terms of numbers and qualities. The consequences have usually been a situation where health facilities are poorly functioning or completely non-functioning.

The plan comes at a time when there is increasing focus and concern for HRH issues in the country. This is typified by the public and professional concern about the sufficiency and performance of the health workforce together with the ongoing debate on medical education and health training. The political will and commitment shown for HR issues and the potentials available for HRH finance and support from the side of government and donors together with the strongly emerging private sector are all factors conducive for the development and implementation of HRH plans.

Overall HRH situation in Sudan

Sudan is the second largest country in Africa with great potential and many natural resources. However, health system performance and health indicators are regarded to be poor with figures lagging behind the benchmarks of the Millennium Development Goals (MDGs). Health care in Sudan is generally underfinanced. Public per capita health care spending is in the order of US$ 13 according to 2006 figures. The total health care expenditure as percent of GDP is estimated to be 4.5% in 2006 of which only 1.5% is public. Although the health care budget has been increased considerably over the last 5 years due to oil, the general spending on health as percent of total government spending is still low scoring 5.1% and falling short of the 15% target of Abuja Declaration to which Sudan is committed.

Health workforce training and practice were deeply rooted in Sudan which was regarded as a pioneering country in the continent. Educational and management work over years has culminated into a health workforce that is composed of nearly 100,000 health workers consisting of 20 different medical professions or cadres. The picture of Sudan health workforce of today shows slight majority of females representing 51 percent of the health workforce.

The age structure points to a rather young health workforce probably due to the recent expansion of medical education and health training. The majority of health workers are employed by the civil service under the ministry of health in addition to lower numbers in the army, police, universities and health insurance fund. Only 9% of health personnel work exclusively in the private sector; however, dual practice in both private and public institutions is very common. Geographical distribution of health workers shows very clear bias towards urban setting especially Khartoum state where 62 percent of specialist doctors and 58 percent of technicians are found.

Key health sector stakeholders and partners

The stakeholders concerned with HRH issues in Sudan are various. The Federal Ministry of Health and the state ministries of health are the major employers responsible for human resource management and in service development. The Ministry of Higher Education is responsible for pre-service training and production of health workers through a total of 145 medical schools and health training institutes affiliated to different universities. The Sudan Medical Council is entrusted with registration and licensing of doctors, pharmacists and dentists while the Council for Allied Health Professions is dealing with the rest of the health workforce. The Army Medical Corps, the Police Health Services and the Health Insurance Fund in addition to the private sector are all health providers that employ a share of the country workforce. Professional associations for doctors and other categories of health workers are mainly playing roles in trade union activities and continuous professional development.

The state of HRH systems in Sudan

Appraisal of the HRH systems in Sudan shows a record of some successes, shortcomings and challenging issues. In the domain of HR policy, a group of policies focusing on training, career pathways and staffing norms were developed and introduced over the last five years. They produced positive effects despite problems in implementation of some policies. Consensus over policy development and sound implementation mechanisms remain as two challenging areas.

As for HR planning, the record is not satisfactory with poor focus and dichotomies between HR planning and overall health planning. When HR planning was attempted during the last five years, the plan produced has focused on staff projections to the neglect of other

important HR dimensions. Institutionalization of HR planning at national, state and locality levels are a challenge that needs to be addressed. The capacity for HRH production has been extensively increased over the last two decades in particular for medical education.
However, despite the positive effects brought by educational expansion, the lack of coordination between health service and academia has resulted in many forms of skill mix imbalance in the range and number of medical cadres produced and required by the health sector. The need to review, assess and strengthen capacity for HRH education is currently well recognized.
As the appraisal of HRH systems below indicates, human resource management systems were the least developed and emphasized among HRH systems. There are policies and practices for job descriptions, deployment, personnel administration and performance appraisal, but all these need intensive work for revival, re-adjustment and implementation.

Current situation of HRH in Sudan

This section presents the health workers in the ministry of health and other employers e.g. (private sector, formal forces, universities etc.) in the country and their trends during the last years. Main data sources were from 2006 HRH National survey, National HRH Observatory (NHRHO) reports based on the 2006 HRH National survey and updated with data on the public sector health workers from the annual statistical reports from the National Health Information centre, FMOH.

Health workers stock and trends

The World Health Organization's 2006 report, Working Together for Health, notes that 57 countries are considered to have a critical shortage of health care workers and an estimated 2.4 million physicians and nurses are needed to meet the Millennium Development Goals. The bulk of the shortfalls occur in Southeast Asia and sub-Saharan Africa.

The total number of health workers in Sudan is estimated according to NHRHO 2008 to be 101,453. They are distributed all over the country and the employment sectors include several employers beside the FMOH which is the main employer.

The last years witnessed an increase number of medical doctors as a result of increasing medical training schools both on the public and private sectors. In contrast, there is a huge shortage in the paramedic workers with special regard to the nursing and midwifery staff, and medical assistants. This has resulted in skill mix mismatch and the doctors to nurses' ratio is high (1:1.7) in 2006 and it was 6:1 in education pipeline, and is estimated to be 4:1 in 2010 given the previous production rates. This result of training imbalance seems to be similar to data reported from Ghana Ministry of health which show that two medical schools produce about 200 doctors a year, whilst the single school for medical assistants produces an average of only 30 medical assistants a year. (Dovlo, 2004)

The health workforce of Sudan includes 20 different professions providing the health services in the different states. The number and type of health workers differ from state to another.

With a density of medical doctors, nurses and midwives of 1.23 per 1000 population the country is still within the critical shortage zone according to the WHO criteria of 2.28 health care professionals per 1000 population (WHO report, 2006). More positively the administrative and support staff represent 26% of the total number of the health workforce which is consistent with EMRO-WHO figure (25%).

The following table will show the different categories in number and density per 100.000 people.

Table 3.1: Health worker (whole sector) Population ratios at national level

Health Occupational categories /Cadres	Year 2008	
	Number	HW/100.000 Population
Total physicians	12,140	0.31
• Physicians (specialists)	1,910	0.04
• Registrars	2,288	0.05
• Physicians (generalists)	3,641	0.10
• Housemen	4,301	0.11
Dentists	944	0.02
Pharmacists	1,591	0.04
Nurses (enrolled and registered)	18,651	0.47
Enrolled Midwives	14,754	0.37
Medical Assistants	2,982	0.07
Total Assistants (lab, pharmacy, radiographic, …)	4,953	0.12
Total Technicians	6,693	0.17

Health Occupational categories /Cadres	Year 2008	
	Number	HW/100.000 Population
Other health workforce	10,077	0.25
Environment & public Heath workers	2,897	0.07
Health management workers/Skilled administrative staff.	25,771	0.65
TOTAL	**101,453**	

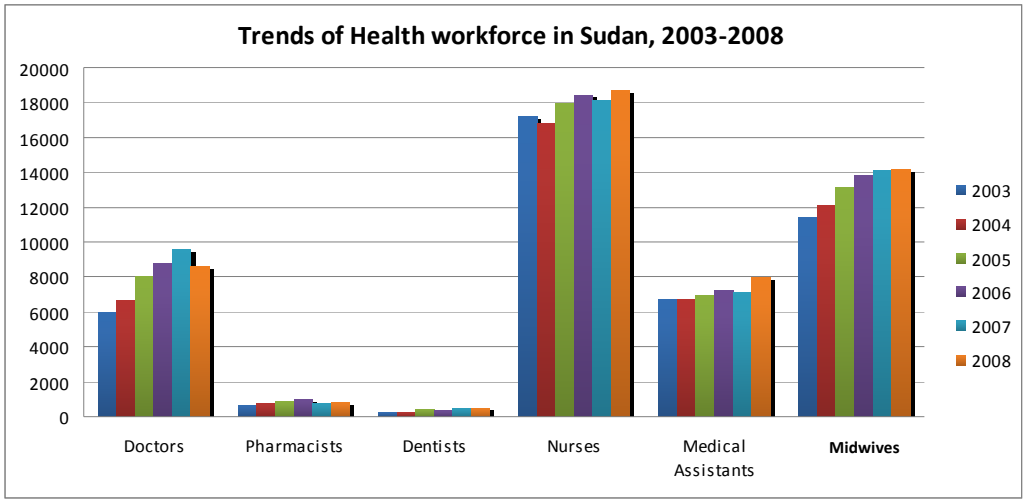
Source: National Human Resources for Health observatory-Sudan.

*For the other technicians & health cadres no standard ratios available.

Regarding health workforce trends there is a remarkable increase in production of medical doctors and other allied health professionals mainly nurses and midwives and this was probably due to the expansion in medical education and establishment of the Academy of Health Sciences.

For most cadres there has been a gradual increase in numbers between 2003 and 2008 as shown in Figure 1. The most rapid increases are for doctors and midwives, is increase of approximately 42% and 23% respectively.

Figure 1: Trends of health workforce in the country, 2003- 2008.



Source: FMOH, Statistical annual report 2008.

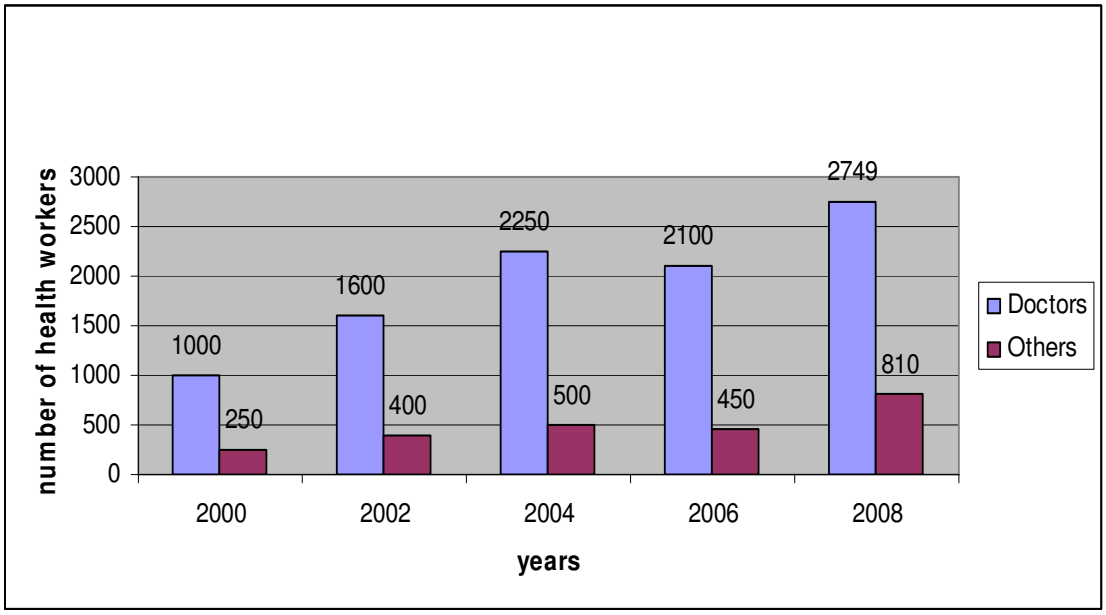
Health worker migration

Sudan is one of the developing countries affected by the phenomenon of brain drain of health professionals. Emigration in Sudan is dominated by physicians and some specific

categories such as pharmacists and dentists. One study showed that Sudan has lost 60 percent of its doctors and 25 percent of its pharmacists to out-migration between 200x and 200y (Badr, 2005). Common destinations for Sudanese migrating professionals include Saudi Arabia, United Kingdom, Republic of Ireland and the Gulf States in order of intensity. Traditional push and pull factors are contributing to this brain drain with financial and educational reasons ranking high among the causes of migration (Badr, 2005).

With the advent of peace, there were some expectations that trends of migration may lessen; however, proxy indicators such as the number of health workers requesting experience certificates, show that trends are still considerable. The following figure depicts the size and trend of health worker migration over the last years.

Figure 2: Number of doctors and other health workers obtaining experience certificates from FMOH over the period (2000-2008).



Source: Experience and documentation Directorate-FMOH

Note: Doctors category includes medical doctors, dentists and pharmacists and the other category as shown in the graph below includes all other medical professions mainly nurses, medical technicians and medical assistants.

On the other hand, Sudanese health professionals working abroad are regarded to be a true asset for the country health system. Sudanese Diaspora in countries like UK and Saudi Arabia has shown interest and willingness to contribute to health services and medical education in the country; in fact there are already models for such a contribution e.g. the visiting program of Mr. Kamal Abosin who is a famous Sudanese nephritic

surgeon. The program started at the January 2001, with the frequency of one visit per three month. The total no. of operations done by him and his team in collaboration with the Sudanese staff was more than (40) operations between 2001 to2004. This experience shows that although expatriate health professionals in the Sudanese Diaspora do provide some service to the country, but this benefit is greatly outweighed by the losses to the country.

Distribution profile of health workers by category/cadre

The information about the health workforce distribution is a bit deficient. Based on the regular monthly reports from the states it was easy to tell the numeric distribution of the health workforce in the country. The other important parameters like gender, age, and educational qualifications are completely missed from these reports.

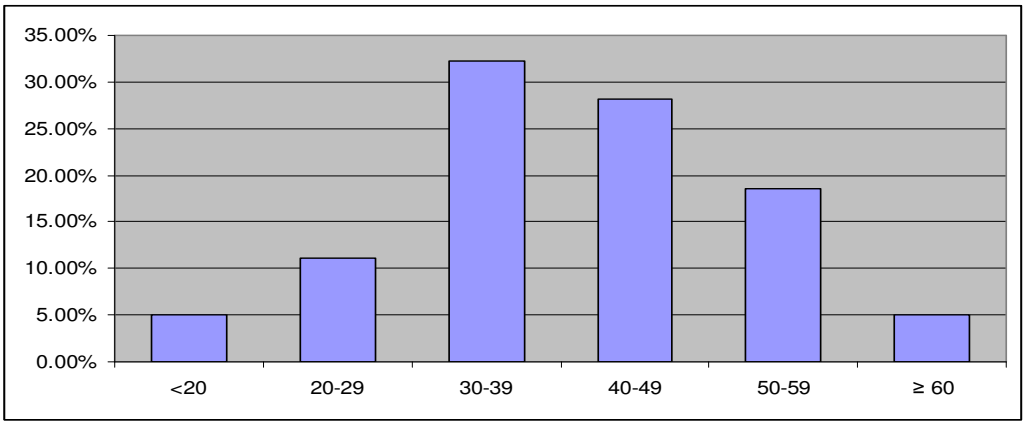
Gender distribution by health occupation/cadre:

As mentioned above there are not enough data about the gender distribution of the health workforce; but the 2006 HRH Survey revealed that the percentage of the female among the total health workers is 51%. This could be a result of the increasing female intake to the health training institutes, especially the medical and nursing schools.
As an observation, some medical disciplines are dominated by female health workers e. g. paediatrics ophthalmology; others are male dominated e. g. surgery and orthopaedics although, at the paramedics level we noticed that the majority of nursing staff are female, but not in the case of medical assistants.

Age distribution by health occupation/cadre:

According to the Civil Service regulation the age of retirement of the all workers in Sudan is 60 yrs. Age distribution of the health workers is a missing part of the overall picture I. e. there are no data of the age of health workers in the different categories. The 2006 HRH survey highlighted this area and showed that, more than 56% of the health workers are less than 40 yrs and around 15% are more than 50 yrs of age. This reflects a rather young health workforce.

Figure 3: Age distribution of the health workforce, Sudan-2009 estimation based on 2006 chart.



Source: NHRHO Sudan 2009.

Geographical distribution by health occupation:

Based on 2006 HRH survey, nearly 70 % of health personnel work in urban settings serving about 30% of the total country population. More than third of the overall health workforce (38%) in Sudan is located in Khartoum state (the capital) as opposed to the other 24 states of North and South Sudan. The case is most illustrative among physicians where 62% of specialists are currently practising in Khartoum. Thus the rural-urban imbalance is further distorted by the high concentration of the health workforce in

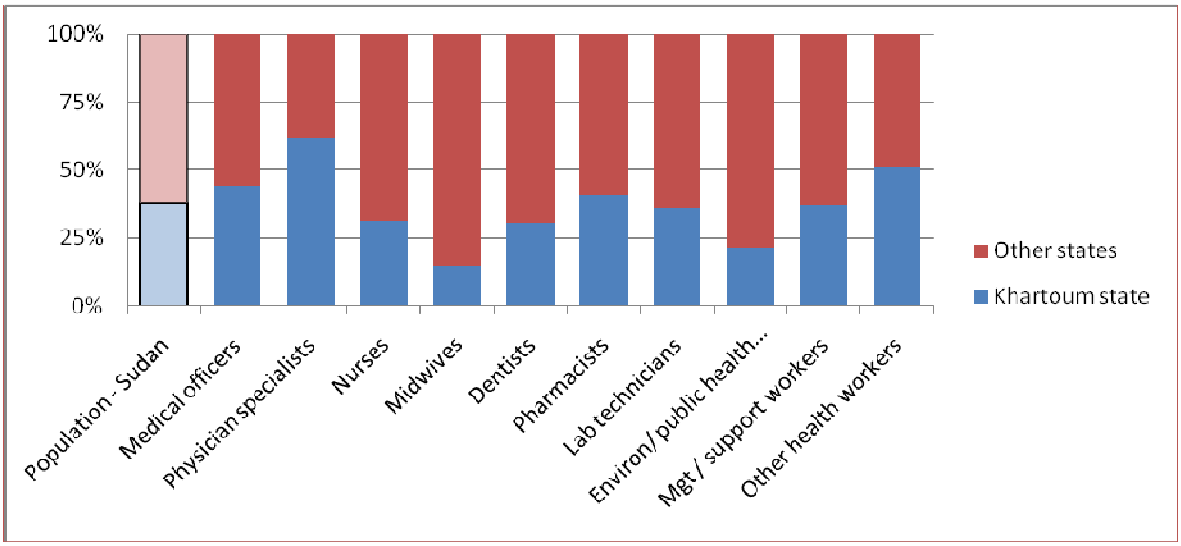
Khartoum. For example there are 21 specialists for every 100.000 people in Khartoum compared to a ratio of only 0.5 per 100.000 in South Darfur state.

Distribution by level of facility:

Following on the geographical pattern of health services distribution, around 67 percent of health workers staff the secondary and tertiary facilities as opposed to only 33 percent in PHC settings.

Figure 4: The health workers distribution / health facilities

Figure 5: Regional/geographical (Khartoum state compared to other states) distribution of health workers, 2008:



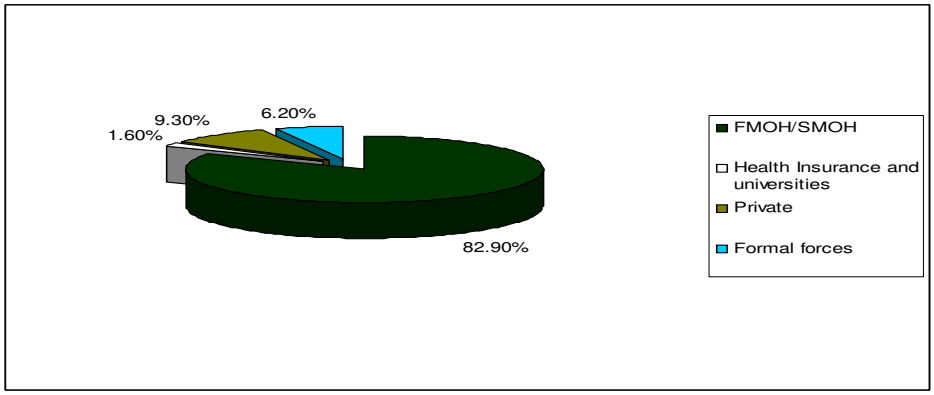
Source: National Human Resources for Health observatory-Sudan.

Distribution of Health Workforce by employment sector:

The public sector (mainly the Federal Ministry of Health and the states ministries of health) and the governmental bodies (the military corpus, police corpus, health insurance … etc)

are the main employers for the health workforce in Sudan (see Figure 6). As mentioned before private health sector is growing in the last years and the private health workers constitute only 9.3% according to 2006 HRH Survey. However, dual practice is very common among health professionals which may affect counting and information accuracy. There was no clear information about health workforce in NGOs in 2006, but according to the Humanitarian Affaire Commission (HAC) 2009 report, there was about 1,000 heath workers working for 69 international agencies. The NGO health workers are not included in Figure 6.

Figure 6: Distribution of health workforce in Sudan by sector, 2006:



Source: 2006 HRH Survey Report, FMOH.

Appraisal of HRH systems and Governance in Sudan

This section contains a detailed appraisal of HRH systems in Sudan.

Human Resource for Health Planning

Many factors play roles in the poor HRH planning with its consequences on production, development and absorption of health workforce into the system and management. Among which and the most important are the lack of accurate, continuous flow of HRH data, and the dichotomy between health and HRH planning.

In spite of this situation, the recent years witnessed an accepted wisdom to develop strategic and operational HRH plans. At the higher levels, the FMOH took several steps towards developing strategic HRH plans among which are HRH survey, situation analysis, and developing the 10 years projection plan. Accordingly, the human resources for health general directorate developed its annual and bi-annual plans to achieve the targets of this projection plan.

Implementation plans, and monitoring and evaluating mechanisms and strategies for the different stages' implementation are weak areas. Also the diversity in capacity at state level is another constraint to the implementation process. All these factors plus the lack of advocacy for the plans play major roles in the poor implementation of the plans.

The HRH policy domain has witnessed a huge movement starting at the 2001 with the evolving HRH strategic framework that included as part of the National Health Policy which advocate for HRH importance and focused on HRH policies. The framework addressed issues like coordination between the different stakeholders and continuous professional development (CPD). Also the 5 years Strategic Health Plan emphasis on the importance of health workers to a completion and achieve the MDGs. The most recent work was on developing this 5-year HRH strategic plan 2011-2016. This was prepared as draft document and a consultation work through investigating the stakeholders' opinions during the process of developing the HRH Strategic framework 2007.

During the last years several HRH policies have been launched by the FMOH including:

- Doctors, Technical and allied personnel career pathway policies.
- Health workforce training policy.
- Continuous professional development policy.
- Sudan declaration for promotion of nursing, midwifery and allied health professions.
- Policy on standardisation of staffing norms for health units related job descriptions

The main collective goal of these policies is to improve the health workforce in the country and consequently the overall health services provided and ultimately the health indicators and the community health.

Health workforce requirements

A 10-year HRH projection plan described in chapter 2 was based on the service target approach that aims at provision of a basic health unit for every 5,000 population and a health centre for every 20,000 population in rural area and 50,000 in urban area and provision of a health facility for population in an area of 5 KM and provision of one rural hospital for every 150,000-250,000 of population by the end of 2027 and maintaining that ratio. Most of HRH plans concentrate on only one aspect of HRH planning-that is production and projection of numbers.

Human resource for health production and development

The health workforce is the main asset for the efficiency and effectiveness of the health system. Production of the different categories and types of health workers is a joint issue between the Ministry of Higher Education and the Federal Ministry of Health. The standards, regulations, pre-requisites and requirements that followed and applied in all the health workforce training institutes; even that affiliated to the Ministry of Health, are those authenticated by the Ministry of Higher Education.

The 10-year HRH projection strategy is mainly addressed the issue of production and projection of numbers. Though not based on strong data and solid information, it did highlight the huge gap between currently available health workers and the need to satisfy the health system and improvement of health services provision.

The private sector has a growing share in the health sector; and the recent years witnessed an increase number of private health human resources training facilitates. About 45% of medical and health training institutes are owned by the private sector.

As a result of the Sudan Declaration (2001) for up-grading the paramedics, the Ministry of Health established the Academy of Health Sciences (AHS) in 2005. Accordingly, all the old training schools and institutes that were affiliated to the FMOH are now under the umbrella of the AHS, including all the nursing schools, midwifery schools, paramedics training institutes. Now the AHS has 15 main branches, one in each state with some states having some other training sites at main cities. The states have the authority to start training programmes according to their identified needs, following the AHS systems. This would hopefully contribute to staff retention in those states.

The academies now enrolled about 15,300 students, 80% of them are nurses and graduated about 1,727 cadres from different programmes e.g. nursing (diploma) and upgrading (BSc.) according to AHS statistics 2010. The annual enrolment capacity of academy is about 5,000.

This section details the strategies, requirements, mechanisms and capacities for HRH production and maintenance. Broad categories for this section:

- Pre-service education of health workforce,
- Post graduate training, and
- In -service and continuing education.

Pre-service education of health workforce:

Following the revolution of the higher education, the number of health training institutes has increased remarkably, especially the medical schools. The health training institutes are under the umbrella of the Ministry of Higher Education, though the FMOH was catering for the production of the paramedics through the training schools affiliated to the ministry and nowadays through the Academy of Health Sciences (AHS).

The FMOH is represented in the Medical Education Committee which coordinates for the medical education issues for all health related professions, including the policies, plans and standards for the quantity and quality of training in the medical/health training institutes.

The following table shows the number and types of Health Training Institutions in the country, graduates in the academic year 2007-2008.

Table 3.2: Health training institutions by ownership in the country and graduates from the different medical/health training institutes for the academic year 2007-2008 from the MOHE institutes, need and gaps:

Type of training	Public	Private for profit	Total	2007-2008 Annual training output
Medical school	21	10	31	2485
School of dentistry	4	6	10	86
School of pharmacy	5	7	12	673
Nursing school	7	3	10	394
Midwifery School	40	0	40	-
Health sciences	1	3	4	394

training schools (Dental technician, physiotherapist and immunization technicians)				
Medical laboratory sciences	9	8	17	899
Medical radiology (radiographer technicians)	2	3	5	402
Optic sciences	1	0	1	66
Physiotherapy	1	3	4	-
Anaesthesia	2	1	3	-
Environment and public health	7	1	8	-
Total	100	45	145	5399

Source: Statistical report- Ministry of Higher Education 2007-2008,

The recent years witnessed a higher education revolution that resulted in remarkable increase in the number of medical/health training institutes therefore; the number of enrolled students is in increase. It was difficult together an accurate data about the actual number enrolled because those institutes are located in the different states, the drop-out rate is variable and some of these institutes did apply the private intake as well as the public intake through the Higher Ministry of Education.

The output of these training institutes is based on the capacity of these institutes more than on the demands of the market. Although the FMOH is the main employer still its role in controlling production is weak, it is the responsibility of MOHE.

There is no solid data about percentages of graduates entering the health workforce pool, but the unemployment among health officers and laboratory technicians is estimated to be as high as 60% and this gives a clue about the big picture.

Postgraduate training:

Postgraduate training for doctors is long-established in Sudan, dating back to the 1930s when Sudanese physicians were sent to UK for specialty qualifications. During the 1970s, the postgraduate medical board was developed in the University of Khartoum and started to provide specialization programs for doctors. Over the following years some other

medical schools such as Gezira and Juba faculties of medicine have also contributed to postgraduate medical training.

In 1995, the Sudan Medical Specialization Board (SMSB) was established with the aim of expanding the narrow capacity of postgraduate training for doctors. The board has taken completely the role of universities in specialization training in the majority of medical disciplines. In fact, the SMSB Act of 1999 and the Presidential Decree no. 338/2001 has delegated the board to monopolize internal training and approve any sending of doctors for overseas training in areas that are not available internally. The following is a concise account and rapid appraisal of the capacity of SMSB using the educational funnel criteria.

The pool of applicants for medical specialization has increased substantially as a consequence of expansion in basic medical education in the country. Governmental support for candidates applying for the board and the tightening of training chances abroad has always helped to maintain a reasonable flow of applicants for the SMSB training. However, nowadays a diminishing number of applicants are leading to reduced training output of the board (SMSB, 2006). Interviews among doctors, policy makers and leaders of doctors union have blamed the tough and 'unfair' assessment and examination criteria as a factor discouraging doctors to apply for the board. Consequent up on the fact that young doctors started to seek alternatives for postgraduate training, a new trend towards joining Egyptian specialization programs was established. Currently there are nearly 271 Sudanese doctors enrolled in medical specialization programs under the Egyptian board and universities.

The capacity of the SMSB is also likely affected by the limited number of accredited hospitals for clinical training. The requirement of certain years of experience for a specialist doctor to be designated as trainer and the minimum standards for equipment has disadvantaged many hospitals in states in becoming training centres for the board. In 2006, around 93% of registrar doctors were placed in Khartoum state in less than 10 hospitals (SMSB, 2006). In some specialties such as orthopaedics, radiology and neurosurgery, the capacity of the SMSB is greatly jeopardized due to the limited number of trainers in these disciplines.

Concerning other allied health professionals post graduate education there is no structured body responsible for postgraduate training and most of their academic training for higher diploma, master and PhD is through internal scholarships sponsored by the directorate of training in FMOH in local universities both public and private mainly for the following professions: professional nursing, public health, nutrition, psychology, sociology,

health economics, optics, laboratory sciences, radiology, and disease control. Most of external training programs are short refreshment courses sponsored by WHO and some other international agencies e.g. JICA arranged by the ministry of health through hospital nomination of candidates. Still there are outside country chances for master degree at Malaysia and the Netherlands for the allied health professions.

Recently with the introduction of the Health System Development Council, the Federal Ministry of Health has established the Public Health Institute for postgraduate training in public health, health system planning and management and other related disciplines .

In-service and continuing education:

The importance of in- service and continuing education for health care delivery cannot be over-emphasized. In Sudan, CPD concept is not adequately emphasized and as a result there is no nation-wide provision and management of in-service training and CPD. The latest HRH national survey conducted in 2006 has shown that three quarters of the country health workforce (74%) did not receive any form of in-service structured training during the past 5 years. The few staff that had the chance to attend CPD programs is mostly confined to urban areas and predominantly belongs to the medical profession. In rural areas, it is common to find health workers who have not been refreshed for periods of 15 years or more.

The current institutions providing CPD activities include the SMSB, medical schools professional associations, MOH through CPD centre, WHO, UNICEF and some other agencies and NGOs. Again, the first three providers are completely geared to providing CPD for doctors through conferences, workshops and structured programs. The ministry of health, WHO and other providers however, provide CPD for the health workers at large with a bias towards staff involved in disease programs and health services management.

The mission and outcome of CPD is not clearly defined and publicized and wide stakeholder involvement is not a feature. Learning methods tend to focus on integrating theory and practice where relevant and evidence is considered in designing and providing CPD activities in general terms. However, important dimensions such as description of candidates' expectations and inculcation of self-directed learning are not adequately emphasized. Also, CPD is not well related and integrated into service provision and practice and thus not reflected in the allocation of health care budgets. Planning and documentation of CPD activities is not usually emphasized in a systematic manner impeding the possibility of establish and generalize well recognized programs for different health cadres. It is not at all clear whether the desire to improve service provision is the

major driving force for the individual health professional to pursuit CPD activities. Those who join in-service training programs do not often have the chance to discuss their learning needs or gain tools for self-assessment.

There is currently no comprehensive policy or system to recognize CPD providers according to any criteria and thus there exists no such agency that gives feedback to providers about recognition and continuous improvement. Medical schools and health training institutions usually focus on basic and qualification programs. Their role in CPD is not clear and there is hardly any emphasis in the curricula that inculcate a culture of lifelong learning that enables the student to appreciate in the future the importance of CPD for his practice and career. Even those medical schools with CME centres, tend to emphasize issues of curriculum and staff development at the expense of playing a wider role in providing CPD for health workers practicing in the health system. The SMSB, mandated by its law to provide CPD for doctors is not far from what is said about medical schools.

Due to absence of a comprehensive national policy and legal framework, there is no system to support or recognize participation of health workers in CPD activities whether inside or outside the country. Certificates and credits gained from these activities do not usually count towards the promotion of individual health worker or inform, in a systematic manner, the integration of relevant expertise into the workplace. The setting in health services and educational facilities is not well prepared and adapted to running training activities. No clear system to delineate protected time for CPD during the working career of health staff and access to IT and a literature resource across institutions is in jeopardy. The current educational system in the country and CPD activities do not usually provide for joint learning and interaction among different health professions.

CPD in Sudan - Ministry of Health:

The Sudan Federal Ministry of Health (FMH), in consultation with other partners, has commissioned several working groups including various stakeholders to analyze the situation and propose a road map for full implementation of CPD system that is achievable and sustainable for all health categories.

The Sudan FMOH recognizes the CPD as the cornerstone for health system reform and perceives it as a joint responsibility of the health workers and their employers. This is to improve job performance, quality and safety of health care and to reduce the costs of running health services through ongoing audit in CPD.

Learning from the previous experience of other countries, the MOH has set up a unit for continuing professional development. Then in 2006 continuing professional development center established as a national center working all over the Sudan.

Since 2009 the CPD center has been part of CPD Directorate (CPDD) and 15 similar centers were established in 15 different states, more 25 centers at hospitals.

CPDD board membership has been appointed from health professionals representing Teaching Institutions, Senior Consultants, Academics, Allied Health Personnel and Council, Sudan Medical Council, Sudan Medical Specialization Board, State Ministries of Health and Patient's Representatives.

CPDD National policy and related plans have been developed and endorsed; and
priority courses for different categories have been designed. The Sudan FMOH, in cooperation with the Medical Professionals Associations, has a few courses organized and run.

The Sudan Medical Council has approved the CPDD regulation for the specialist; this will create a huge demand for the CPDD.

During last four years about 674 training courses in different disciplines were held in addition to training of 32,902 trainees.

Human Resource for Health Utilization and Management

This section will describe the issues related to recruitment, deployment and distribution mechanisms of HRH in Sudan and how they responded to labour-market dynamics.

Recruitment:

The public sector health workforce in Sudan falls under the remit of civil service and abides by its rules and regulations. Based on that, hiring and recruitment of health personnel is a function that is administered by the civil service with no role given for health authorities. The public sector selection committee, affiliated to the Ministry of Labour, usually selects employees for the health and other sectors based on fulfilling the criteria of

civil service. Jobs for employees are permanent for the life-time until the age of retirement of 60.

After selection of a candidate through the mechanism just described, the ministry of health usually gets the individual appointed and deployed for work.

Deployment and Distribution Mechanisms:

The deployment and distribution of health workers is done in different ways for different cadres. Lower level cadres such as nurses, medical assistants and midwives are better deployed, distributed and retained in states and rural areas. The fact that these cadres enjoy lower level qualifications and are mostly selected from local communities plays important role in their retention for long periods. Most of these categories and other PHC staff are selected and appointed locally and promoted within the state.

The tradition with doctors and other high level cadres is different from what is just described. These cadres are mostly centralized in terms of deployment, placement and promotion. The FMOH thus, used to be immensely involved in the management of deployment and retention of these professions. Owing to this fact and to the recognized level of qualifications of doctors, dentists and pharmacists, the situation of their distribution and retention is not at all satisfactory compared to nurses and other cadres.

Historically, Sudan has a good record of systems of deployment and retention of doctors in different parts of the country. Distribution of generalist and specialist doctors used to be based on both motivation and robust administrative discipline. Procedures were described to be fair and equitable and the system offers for motivation in form of training chances following a rotation in states and rural areas. Old doctors describe that system as being punctual, predictable and highly credible especially in guaranteeing overseas postgraduate training chances. However, over time this system was eroded and deployment and retention of doctors to states and rural areas becomes a serious concern over the past two decades. And this was probably due to lack of update and revision of the old system which was dated back to British colonialism.

The problem of turnover and instability is clear in the peripheries and remote areas due to lack of motivations, but there is not any hard data available support this claim. There is a similar problem with the data about attrition and absenteeism.

Currently, doctors are highly concentrated in Khartoum and prefer to wait for vacancies within this state for months rather than getting a job in other states. Many factors are thought to be responsible for this imbalance including poor developmental status in many

states, concentration of services and private sector chances in Khartoum, lack of motivation and incentives and the rather weak management of HRH.

Remuneration:

Wages of health workers are decided by civil service rules as part of all public sector workforces. However, some categories such as judges and oil engineers enjoy an exceptionally high wages comparing to more than two folds of doctors salaries. Inside the health sector, doctors in addition to dentists and pharmacists are better remunerated compared to nurses, technicians and other allied health personnel. The gradient difference in salary between public and private sector for health workers is wide to the favour of those employed by the private sector institutions.

Another problem is that non-wage benefits for health workers such as fringes, rural allowances and housing subsidies are never systematically applied in Sudan. Despite the fact that the health workforce is subject to a range of financial incentives, indirect monetary subsidies are largely missing. Rural placement subsidies that proved to be effective in retaining health workers are only adopted in limited examples like Health insurance which provides a non financial incentive package including car ownership and some local and overseas training chances.

Overall, wages of health workers in Sudan appear evidently poor when compared with some countries in the region and the African continent. The entry salary for medical doctors for instance is 600 SG (USD 250) comparing to a figure of USD 850 in Zambia (McCoy et al, 2008).

Table 3.3: Comparison between health workers entry salary in Sudan and Zambia:

Health profession	Entry Salary for health workers/ USD	
	Sudan	Zambia
Medical doctor	250	850
Lab Scientist	160	600
Nurse	120	250
Midwife	100	250

Source: Sudan civil service regulation and McCoy et al, 2008)

Performance management:

Probably this is one of the weakest areas in HRM in Sudan. Performance appraisal and productivity measures for the health workforce are not practised at most levels. The performance assessment for promotion in the civil service, of which health sector is a part, is crude. Based on civil service rules, annual reports about performance of employees are to be submitted by line managers. These reports are based on subjective assessment of the employee line manager using a prescribed sheet that is sent to the personal file of the employee and used for promotion. In practice, these forms are actually filled by the employee him or herself and presented to the line manager to just sign it as a routine.

Given such situation, real appraisal of performance and productivity of health workers is far from being objectively assessed. This has adverse implications on the quality and efficiency of the health workforce besides its consequences on equity and fairness in judging and rewarding performance of individuals.

Performance related pay was tried in some institutions but could not be adopted because of factors such as chain reactions, mechanisms for monitoring and implementation, prevalent culture of looseness and compassion, and lack of supervision.

Supervision systems and practices are always there in the Sudan health system. However, there are some problems in the area of supervising health workforce. One issue is the lack of frequent supervisory visits in particular to states and rural areas. One study found that only 33 percent of outreach health workers are adequately supervised (FMOH, 2004). Another shortcoming is the fact that supervisory visits are more like inspecting than supporting the health workforce.

Employee relations:

Recent industrial action by health personnel has exposed the lack of employee relations structures and systems in place and expertise available to minimise the risk of such actions.

Health workforce data:

Data and information about health workers are usually pooled from health facilities from peripheral to the centre in a bottom up approach and incorporated within the annual statistical report of the FMOH. However, there are several shortcomings in this report regarding coverage and scope of data. The system focuses mainly on public sector statistics and some important parameters such as gender, age and educational levels of the health workforce are completely ignored.

In order to better inform policy and planning, some efforts were exerted recently to obtain sensible HRH data and information. In 2006, the FMOH completed in collaboration with the WHO a nation-wide survey on health workforce. The results of the survey are currently stored in a database that has provided a clearer picture on HRH and informed some reports and documents including this HRH strategy. The survey has also laid the foundation for establishing the National Human Resources for Health Observatory (NHRHO) which is going to function as a dynamic human resource information system (HRIS) for the country.

An important part of the role of the observatory is carry out HRH research – so far neglected in Sudan – to inform policy development and decision-making in the sector of HRH.

Financing of HRH

An under-stressed policy area that is critical to HRH finance including mobilization, budgeting and allocation issues. Due to its utmost importance, this section is devoted to discussing HRH finance focusing on situation review and gaps to be addressed.

Coming to status of HRH finance, figures in Sudan are generally consistent with patterns of spending in developing countries and world averages with the health workforce absorbing a considerable share of health care budget. However, when it comes to absolute figures and the size of funding, it becomes clear that HRH is underfinanced as a consequence of the generally very low share of health care in the total government expenditure.

The total spending on HRH as percent of the general government health expenditure (GGHE) is estimated to be 49 percent in 2006. This is comparable to EMRO average of 50.8 percent and much higher than the figure of 29.5 percent of AFRO. Total spending on the health workforce as percent of the recurrent health budget is in the order of 69 percent (this includes salaries and incentive packages) falling within the 60-80 percent range for developing countries (Buchan, 2000).

Key partners and stakeholders in HRH

The main key governmental stakeholders in the health sector are the Federal Ministry of health (FMOH) and states ministries of health (SMOHs). However, while these are the key players in the health sector in terms of health policy, planning and health service delivery, the effective functioning of the health sector relies on the active contribution of a range of key stakeholders.

For this reason one of the most critical elements in the renewal of the health sector will be the development of strong and effective partnership between these health agencies and key stakeholders. This has been a very weak element in the health sector, with overall poor co-ordination between different stakeholders. In 2008, the Council for Co-ordination was been established with Ministerial and senior level representation from all key stakeholders in the health sector to address this issue. It is intended that the Council will have a number of technical working groups to address particular health sector issues, including HRH.

The following table sets out a brief summary of the responsibilities and roles of the main institutions (stakeholders) employing health workers or holding responsibilities and decisions concerning the HRH in the country[1].

Table 3.4: Summary of the roles and capacities of HRH stakeholders in Sudan:

Stakeholder	Current role in HRH
Federal ministry of Health (FMOH)	- HRH policy and planning - HRH mass training and funding - training paramedics - HRH management - HRH data and information
State ministries of Health (SMOHs)	- HRH policy and planning at the State level and within the framework of National policy - HRH training (availability varies from State to State) - (training paramedics) - HRH management down to the locality of staff, including the deployment of staff to locality health facilities - HRH data and information collection and storage
Ministry of Higher Education (MOHE)	- policies on production of HRH - licensing, monitoring and supervision of medical and health

Stakeholder	Current role in HRH
	training institutions - teaching staff development and training - data and information on admissions, enrolment, graduates and staff
Ministry of Labour (MOL) **Chamber of Civil Service (CCS)** **National Council For Training (NCT)**	- employment and condition of service for health staff - salary structure and promotion of health workers - approval and funding of health workforce training
Ministry of Finance (MOF)	- provision of salaries for public sector staff - regulating the range of incentives for health staff - funding the allowances and incentive packages for staff placement
Sudan Medical Council (SMC)	- licensing and registration of physicians, dentists and pharmacists - accreditation of medical, dental and pharmacy schools - ensuring safety of practice by doctors and dealing with related public complaints
Council for Allied Health Professions (CAHP)	- licensing and registration of nurses, technicians and paramedical staff
Sudan Medical Specialization Board (SMSB)	- postgraduate training for doctors, dentists and pharmacists - CPD for doctors
Army Medical Corps (AMC)	- employment of HRH on military terms - planning, distribution, management and training of affiliated staff
Police Health Services	- employment of HRH on Police forces terms - planning, distribution, management and training of affiliated staff - provision of basic medical and health cadre education
Health Insurance Fund	- top-ups for health staff providing insurance services - employment and management of some staff categories
Sudan Doctors Union (SDU)	- Professional development for doctors (conferences, etc…) - support for doctors in condition of work and some general services
Sudan Health and Social Professions Trade Union (SHSPTU)	- condition of services and trade union activities for all health workers (with a focus on nursing and paramedics)
Sudanese Technicians Association (STA)	- professional development of technical staff - condition of work and scope of practice for technicians
Private sector	- production of HRH (basic and postgraduate training) - employment and management of staff - toppings for public sector staff working on part-time basis

Stakeholder	Current role in HRH
International agencies and donors	- technical support in HRH policy and management - training and CPD chances - toppings for public sector staff

Source: Observatory, 2009HRH profile

Main challenges and issues

Based on the HRH situation analysis, the main issues identified for the Strategic Planning Framework include, amongst others, scaling-up of production in particular for nursing and paramedics, establishing a robust human resource information system, effecting and maintaining stakeholder coordination and capacity development for policy, leadership and management.

In particular, several challenges and issues pertaining to HRH in Sudan can be identified. These include the following:

Production and pre-service training

- Scaling-up of production and retention of allied health professionals mainly nurses and midwifes to achieve a better coverage for the health services in the country.
- Optimizing production of HRH through educational review and reform involving production policies, curricular reform and capacity building for educational institutions.
- Addressing the skill mix imbalance that has resulted from poor HRH planning and coordination. The typical example is the huge gap in nurses and paramedics compared to doctors e.g. doctor nurse ratio 1:1.7 which is considered low and points to skill imbalance compared to the generally accepted standard of 1 physician for every 4 nurses.

In-service training

- Addressing the area of in-service training and CPD through setting the system and institutionalizing CPD to enhance careers for all categories of health workers.

HR Management and coordination

- Establishing an effective and comprehensive human resource information system (HRIS) whereby timely relevant data and information is there to support policy and decision making.
- Introducing and operating robust HRH management systems including job descriptions, supervision, performance appraisal and personnel administration.
- Instituting and maintaining an effective stakeholder platform to improve policy, planning and coordination on HRH issues.

- Capacity building for human resource management both at the federal and state levels, including the necessity to enhance leadership capabilities.
- Addressing HRH issues within the context of health system decentralization in the country. Problems of inequitable staff distribution and retention of health workers within states and rural areas are among the main challenges in this aspect.

HRH research

- Addressing the area of HRH research in the aspects of both quantitative and qualitative studies after setting the agenda and research priorities.

Opportunities

Within the current context, there are a number of opportunities for a productive work in addressing the above HRH issues. For example, the following positive factors provide a range of opportunities to support future efforts to address health workforce issues in Sudan:

- Political and health system focus on issues related to HRH. This includes the political commitment expressed in many occasions.
- Potential sources of finance available for HRD based on improving governmental health spending and donor funds already approved.
- Promising education capacity as shown by the good number of medical schools and health training institutions.
- Talented willing Diaspora of Sudanese physicians and health professionals.
- Emergence of private sector which has already demonstrated ability to contribute to HRD.
- Global focus on HRH brought by the multitude of movements and initiatives introduced during the past five years.

Chapter 4

Health Workforce Projections and Gaps

In 2003, the FMOH had successfully launched the strategic 10 year HRH projection plan (2003-2012) for the first time in the country with the help of the WHO. That plan was prepared through a wide consultation involving relevant stakeholders and health professionals; this was regarded to be fundamental because HRH is a concern of a wide network of stakeholders as emphasized earlier.

The plan adopts the service target approach for health workforce projections building on the new organization of health facilities in the country and the staffing norm policy. Based on the strategic plan, the human resource department issued annual and biannual plans for the national health workforce projections.

Achievements in the aspect of comprehensive HRH planning have led to identification and consideration of many gaps and problems in the sector of HRH in Sudan. Table 3.2 for example presents the composition of the health workforce in the country (selected categories) together with the gaps in each category.

However, the 10 years HRH projection plan has a main shortcoming that new figures will be needed for 2013 onwards in addition most of the assumptions made in 2003 on which the projection plan has been calculated is no longer valid. Accordingly a new HRH workforce plan (projection plan) will be part of these strategic plan activities which will be one of the activities in the first year of this plan.

Chapter 5

Strategic Directions

Sudan health system is one of the oldest systems in the continent; and the management system for the health workforce is mainly guided by the Civil Services Regulations. Recently with the international concern about the human resources for health issues, each an individual country started to bring up the health workforce matters into the agenda of the policy makers and the planners in the health sector.

The Federal Ministry of Health through the HRD Directorate has developed the first HRH Strategic plan. This strategy should guide and provide the directions for the different HRH bodies, directorates and institutes at the federal and state level.

The first step in developing this national strategy was conducting a situation analysis by a national task force from different HRD departments at the national level with the guidance of an international expertise from LAHTH group; then a prioritized list of problems and main issues was developed.

Current HRH Strengths, Weaknesses, Opportunities and Threats (SWOT):

A thorough analysis of the current situation of the human resources for health was conducted and the following table shows the findings of the SWOT analysis done.

Table 5.5: SWOT analysis results of the current HRH situation:

Strengthens:	Weaknesses:
• Hard and skilled workers (potential). • Adequate numbers of health workers. • Momentum in HRH (AHS, PHI, Observatory, GF, HSS). • Academy of Health Sciences (paramedics' institute). • Accreditation system and some carrier pathways. • Availability of training institutes (could be also an opportunity). • Increasing number of medical and health sciences schools	• Migration of doctors and nurses. • Maldistribution of the health workforce. • Shortage of government –funded posts (financial constraints). • Unsatisfactory salaries, incentives and wages. • Poor HRH decision making and actions including the poor HRH management systems. • Skill imbalance (high production and low employment rate). • Poor linkage between health and HR

• Existence of HRH policies. • Increasing number of the supporting staff. • Young workers.	planning. • Quality assurance of training is weak. • Lack of documentation follow-up of policies and systems. • No enough post-graduate training and low success rate. • Lack of accurate and up to date HR data and information. • Weak HR functions at the decentralized levels. • No CPD policy for the health cadre. • No clear mechanisms for implementation and M & E framework for policies and plans. • Deterioration of civil services (not revised or up-dated). • Lack of performance management system.
Opportunities:	**Threats:**
• Recent political commitments. • Decentralization leading to better HRH decisions and actions. • External funding opportunities (WHO, GHWA, GF, GAVI, TAF, MDTF, JICA). • Partnerships with international institutes and universities e. g. Leeds, Malaya (training opportunities). • Increase economic growth.	• Increased international recruitment from Sudan. • Uncontrolled growth of private sector. • Industrial action of workforce • International economic crisis affecting the budgeting for HRH issues. • Political turmoil (Darfur, South Sudan) and outcome of 2011 referendum. • Changing epidemiological and demographic profile of the country.

Regarding the stakeholders analysis the primary beneficiaries are the following:

1. State Ministries of Health.
2. Health programs-FMOH.
3. Non-health governmental sectors (Police Corpus, Military Corpus, Health insurance …).
4. Non-governmental providers (UN agencies, NGOs, Private sector).

And the ultimate beneficiaries are the health services users, the general population.

The main problems and concerns

When looking at the HRM cycle and the related functions and taking into account the scarce resources, we found that there are several problems that could be summarized into the following:

1. Leadership.
2. Finance and budgeting.
3. Education and training policies and standards.
4. Lack of management systems.
5. Environment and labor market problems.
6. Partnerships with the other HRH bodies.

When doing individual analysis of each problem, the following areas in regards to the HRH in Sudan were identified as weak:

- HRH planning and the link with the health system planning process.
- Equitable distribution of the health workforce at the country level.
- Poor performance management system at all levels.
- Poor education and training policies and lack of continuous professional training.
- Weak HRH functions at the decentralized levels including leadership, management systems, planning and policy making capacities

Strategic Objectives

This Strategic plan presents a vision for developing Sudan as a country with talented diversified workforce and proposes a mission for the health system of building this talented workforce capable of delivering the required health interventions. The goal of the plan is to develop a stable and equitably distributed workforce with an appropriate mix of skills to meet agreed on health sector needs.

Building on a detailed situation analysis and literature search, the following five strategic objectives, focusing on all levels of the decentralized health system, have been developed:

- **Strategic objective 1:** Support health service needs through adequate HRH planning;
- **Strategic objective 2:** Develop policies/systems to ensure more equitable distribution of health workers - especially doctors and nurses;
- **Strategic objective 3:** Improve individual performance management systems;
- **Strategic objective 4:** Improve production and orientation of education and training towards health service needs; and
- **Strategic objective 5:** Strengthen HRH functions at the decentralized levels.

A number of key activities were extracted and identified with their indicators to monitor and evaluate the progress of these strategic objectives and plan in general. These have been further refined into a series of key strategic actions to address the most pressing HRH issues.

Guiding Principles:

Formulation of this HRH strategic plan was guided by a number of fundamental principles. These guiding principles are shown in Table 5.6 below:

Table 5.6: Guiding principles for the formulation of the HRH strategic plan

Guiding principle	Explanation
Equity	Equitable delivery of health services in all regions through the deployment of adequate numbers of competent, well motivated and managed health staff.
Professionalism	The plan was an outcome of a dedicated professional work by the national taskforce and the consultant. The plan assumed professionalism in health field which starts with a strong work ethic and a commitment to a standard of performance far above the ordinary.
Strong leadership and accountability	The plan emphasized on supporting leadership skills and assumed accountability at all levels to support HRH strengthening.
Partnership and collaboration	Strong partnerships with development partners, private sector and the community need to be built to strengthen the health workforce.
Transparency	Throughout the different stages of preparing this document transparency has been adopted in regards to reflection of current situation, the process and the methodology and targets selected.
Consultative	Consultation strategy will be assumed and the opinions and inputs of different HRH stakeholders will be asked and considered.
Evidence-based practice	Evidence base practice which is an international initiative; that is now being implemented and supported by the FMOH, was adopted throughout the whole process of planning including priority setting, objectives and outcomes.

Guiding principle	Explanation
Recognition of good practice	Under the umbrella of performance management which covers organization and individual levels, this plan introduces and elaborates the concept of good practice and better performance of the Health workforce at all levels.
Being realistic about the starting point of the plan	In order to fulfill and achieve the targeted objectives when they are needed the most, realistic measures have been followed to develop a time frame considering availability of resources and the country context.
Responsive to current and projected health care needs	Guided by the thorough situation analysis and health care needs; the plan characterized by being responsive to both current and projected health needs

Vision:

Sudan is to be a country with skilled, diversified, health workforce capable of delivering the right health interventions for the achievement of the MDGs and promotion of population health

Mission:

To build and make operational, adequate number and right mix of the skilled workforce through properly institutionalizing HRH functions (including policy, planning, education and management) and collaboration and coordination with partners.

The Strategy Goals:

Improve coverage and accessibility to quality health services, achieve 3 health-related MDGs, promote healthy life styles and reduce the burden of non-communicable diseases, creation of an environment conducive to partnership and building and promotion of the role of the private sector.

The Strategy Aim:

TO develop a well-performing, stable and equitably distributed workforce with an appropriate mix of skills to meet agreed health sector needs.

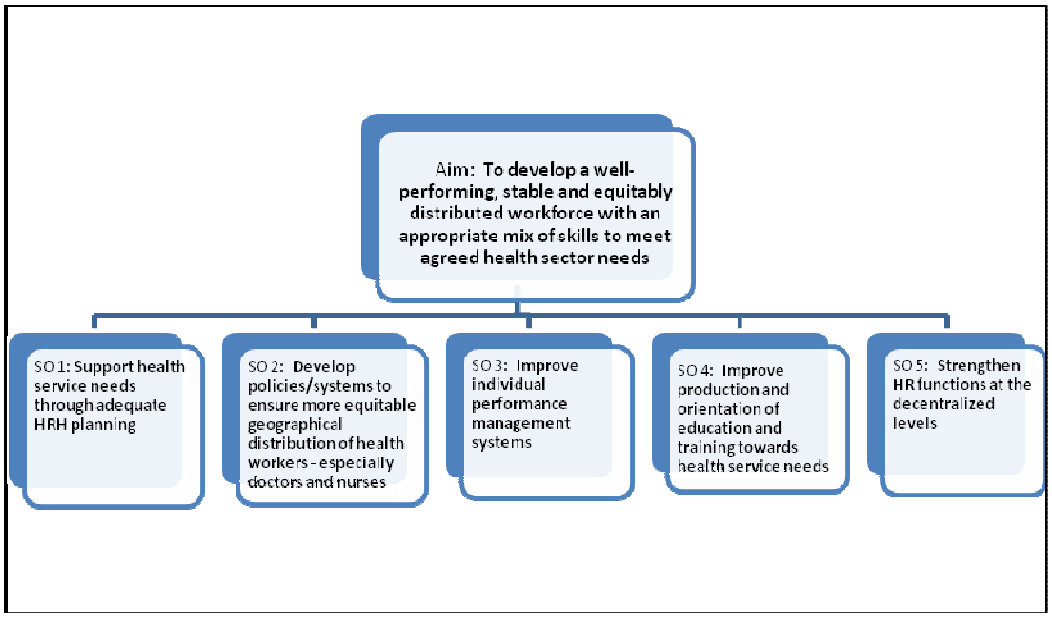
Strategic planning framework:

Guiding this strategic direction is the HRH strategic planning framework shown in Figure 7. This framework advocates for a comprehensive approach to national HRH planning and implementation. The framework addresses key HRH priority areas: policy, availability and distribution, education and training, performance and quality and HRH functions at decentralized levels. These issues in turn informed the projected strategic objectives proposed by this strategic plan.

The HRH strategic planning framework provides a coherent framework for developing the different but interrelated domains of the health sector in a co-ordinated and balanced manner to work towards achieving the goals and objectives of the National Health Strategy 2007 and Five Year Health Sector Strategy 2007-2011.

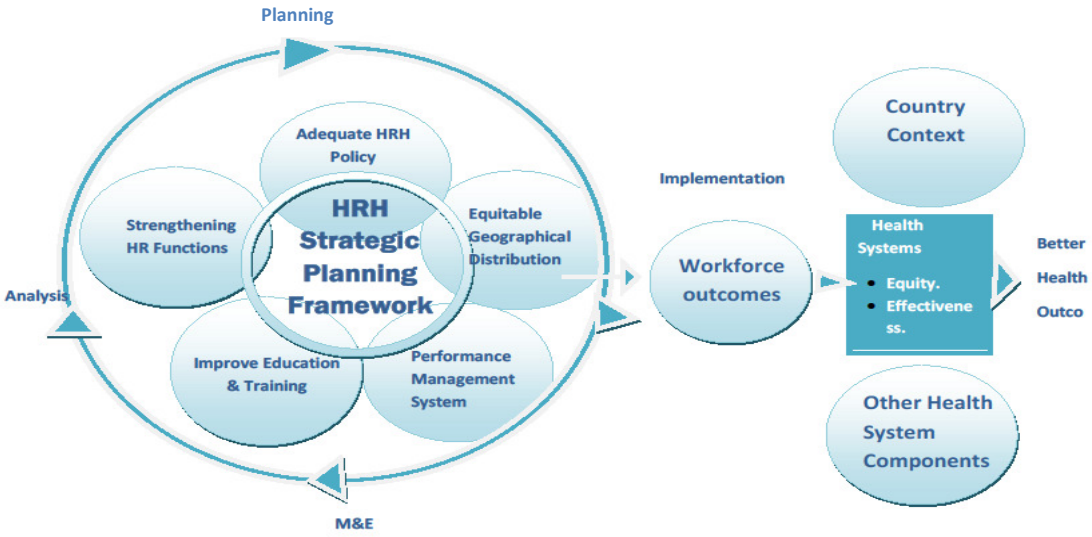
In order to contribute to the goals of this strategic plan, strategic objectives are formulated around the following five projected outcomes:

Figure 7: Contribution of strategic objectives to aim of strategic plan



It is essential that a detailed action plan including annual HRH plans will be developed to support the implementation of this strategic plan. The operational plan and annual HRH plans will be derived from the strategic plan.

Figure 8: The HRH Strategic Planning Framework:



Strategic Objective 1: HRH planning adequately supports health service needs

This HRH plan is designed to support health service needs adequately. In order to accomplish this, a scientific approach to workforce planning is needed.

To achieve this strategic objective the following strategies are recommended:

1.1: Developing 10-year workforce plan

Developing the ten years workforce (projection plan) is a pressing need that cannot be postponed until all the needed information is collected and processed. That is why a prototyping approach was adopted to build up this plan based on the available data

This strategy will be implemented by:

Carry out preliminary staffing projections for one or two cadres high priority planning needs"

- Carrying out HRH survey for whole health sector
- Identifying the data needed for the plan to be built
- Developing planning assumptions
- Making projections of supply
- Develop costing for the projected increases in the workforce

1.2: Strengthening planning and data analysis systems

Lack of data and information on HRH was incriminated as a jeopardizing factor on a robust human resource planning.
The following activities are proposed to implement this strategy:

- Strengthening data collection system
- Developing data analysis procedures
- Building up the HRH plan
- Developing costing procedures

1.3: Improving access to data (HRH observatory)

To improve data accessibility, strengthening the National HRH Observatory which is the main source HRH related information and research may be an important strategy.
The following strategies are proposed to support this strategic activity:

- Strengthening M&E system (HRH observatory)
- Improving capacity at state level
- Strengthening HRH research

1.4: Strengthening and supporting HRH committee of the National Coordinating Council for Health

To improve the health status in Sudan all stakeholders should be considered as partners in the health sector, guided by HRH committee of the national coordination under leadership of the Federal Ministry of Health.

This strategy will be accomplished through the following activity:

- Create a regulatory framework for coordination.

Strategic Objective 2: More equitable distribution of health workforce especially doctors and nurses.

Misdistribution of human resources for health is a worldwide phenomenon and may appear in different dimensions. The first and greatest concern is the inequitable distribution, particularly of high level professionals like doctors, both among countries in the world and within each country. In Sudan the majority of specialized health workforce is located in big cities; more than 70% of the specialized doctors are located in Khartoum state.

The problem is multi-factorial, ranging from general social and economic inequity, medical education system, payment incentives, public/private health system development, and social elements and beliefs.

The plan is aiming for more equitable distribution of the health workforce with special concentration on doctors, specialists and nurses. To achieve this targeted strategic objective the following strategies and activities are suggested:

2.1: Conducting situation analysis of the health workforce distribution in Sudan:

The first step to achieve our objective is to analyze the current situation through the following activities:

- Conducting a survey on health workforce distribution
- Defining the challenges and the opportunities and draw a road map for more equitable distribution of health workforce.

2.2: Developing effective deployment policy and guidelines:

One of the critical issues is the deployment procedures applied for the HRH; therefore; we need to make it effective through the following activities:

- Revising the current status of deployment and the stages of the process including the parties involved.
- Identifying the challenges and opportunities and the problems facing the deployment process for the different health workforce. .
- Finalizing the policy and the guidelines and present them for the higher authorities for approval.

- Disseminating the approved deployment policy and guidelines for all the HRH stakeholders' institutes and bodies.

2.3: Developing appropriate and flexible incentive package (financial and non-financial):

Retaining staff represents a major challenge to health system in the country; to tackle this issue the following activities are proposed:

- Revising the currently used means and methods to motivate the staff to work in underserved areas and the incentive packages available if any.
- Identify ways of improving working conditions for staff in underserved areas
- Defining opportunities and the obstacles for improving the incentives for staff to work in underserved areas.
- Defining the appropriate financial and non-financial incentives and the sources could be used and maintained.
- Develop a proposal and advocate for the proposed incentive package and improved working conditions.
- Setting a timely implementation plan with the responsible stakeholders.

2.4: Advocate for placement of new training institutes in rural areas:

Being attached to a training institute/university play a significant role in keeping and motivating the health workforce specially at the rural areas; so in order to advocate for establishing new institutes in rural areas, the followings are recommended activities:

- Revising the standards of establishing the training institute in collaboration with the Ministry of Higher Education.
- Making use of the opportunities and negotiating gains for establishing the training institutes in rural areas in terms of retaining the staff and improving the services provided.

2.5: Developing a female-friendly policy for jobs in the underserved areas:

In our case the plan will consider the dominance of females in health workforce and accordingly its strategies will be directed towards attracting them to work and cover the rural and remote areas as well as male workers through the following activities:

- Revising the situation and the current numbers of female health cadre and the vacancies available per location and the stakeholders involved.
- Defining the challenges, opportunities and the obstacles for employing the females in general and in the underserved areas specifically.
- Finalizing the strategy/guidelines and approving them from the higher authorities.
- Disseminating the documents to the HRH stakeholders and related bodies.

Strategic objective 3: Improve individual performance management systems.

Performance appraisal is a mean of evaluation and assessment of job performance of the employee in terms of quality, quantity, cost and time. It is a part of guiding and managing career development and the process of obtaining, analyzing and recording information about relative worth of an employee to the organization. Generally performance appraisal and productivity measures are ones the weakest areas in HRM in Sudan. The following strategies are expected to achieve this strategic objective:

3.1 : Developing systems for reducing staff absence

Staff absence is one of the main obstacles to work in health institutions, and costs the government huge sums of money annually; the following activities are suggested to fulfil the above strategy:

- Identify extent of the problem and reasons
- Developing a system for reducing staff absence.
- Implementing staff absence reducing system.

3.2 : Increasing usage of effective job descriptions

Effective use of job description is the foundation of proper recruitment and selection processes and salary structure; the followings are proposed activities, possibly in phases by cadre:

- Carrying out job analysis
- Revising job descriptions
- Disseminating and raising the orientation about the document.

3.3 : Developing system for performance-based rewards and sanctions

The following activities are proposed:

- Investigating the current available incentives.
- Developing a system for performance rewards and sanctions.

- Disseminating and raising the orientation about the document

3.4 :Developing revalidation system and assessment of health workers

Here the following activities are proposed:

- Revising and updating the revalidation and assessment system
- Implementing the system

Strategic objective 4: Improved production and orientation of education and training towards health service needs.

In order to meet the growing health workforce needs and equitable distribution the following strategies are proposed:

4.1. Adequate capacity for pre-service training

The following activities are planned:

- Exploring opportunities for upgrading and expanding training facilities for cadres in shortage.
- Developing and enforcing quality assurance system for courses and teaching.

4.2. Increasing output and quality of CPD system.

The following activities are recommended:

- Updating policy and systems to support CPD.
- Development and implementation of accreditation system.
- Implementation of the policy of the integration of the national training activities.
- Approval of the updated policy document and systems to support CPD.
- Implementation of the licensing and relicensing policy for the CPD of the specialist.
- Explore linking CPD to job promotion

4.3. Expanding access to CPD to non-medical and public health cadres

This strategy will be accomplished through the following activities:

- Conducting training need assessment for paramedical and public health professionals.
- Development legislative policy for paramedical and public health professional.
- Developing and designing training curricula for paramedical and public health professionals.
- Setting standards for admitting candidates to CPD programmes.
- Training of Tutors.

4.4. Expanding geographic access to CPD

The following activity is proposed to expand CPD accessibility:

- Establishing (30) hospitals CPD centres in (15) states.
- Strengthening (15) states CPD branches.
- Strengthening facilities for e-learning e.g. video-conference facilities.

4.5. Ensuring adequate capacity for Postgraduate education and professional training

The following activities are expected to achieve this strategy:

- Reforming training policies of Sudan Medical Specialist Board.
- Increasing postgraduate opportunities for non-medical staff.
- Developing external QA system for courses and teaching for postgraduate education and professional training by Sudan Medical Council.
- Providing opportunities- both externally and internally - for postgraduate education and professional training to cover specialities in shortage.

Strategic Objective 5: Strengthening HRH Functions at the Decentralized Levels

The capacity to undertake sound human resources development is weak and needs improvement. It lacks the institutional capacity and experience to deal with HR projection, production, utilization and management, and to establish links and partnerships.

Another aspect is that, we need to distinguish between the role and mandate of the HRD departments and the Personnel department. This could be done through change the image of the HRD department and revising its roles and responsibilities; transform the central focus of human resources daily procedural personnel-related activities to the main duties and strategic functions of HRH; evidence-based policy making; and long term planning.

So the plan aims at strengthening the existing HRD departments through the following strategies:

5.1: Developing terms of reference for all the HR functions:

This could be achieved by the following activities:

- Strengthening and revising the HRH functions required at all levels.
- Developing TORs for the functions defined.
- Approval and consensus built about the TORs developed.

5.2: Developing appropriate organizational structure (OS) for HRH functions:

The proposed tasks to implement this strategy include:

- Revising and developing appropriate organizational structure for the HRD department to support the HR functions, including employee relations.
- Building an organizational structure to satisfy the required functions.
- Approval of the organizational structure and modification of the current available setups.

5.3: Developing job description and proper person specifications for HRH functions:

To achieve this strategy certain activities should be done:

- Revision of the situation and developing/updating the job descriptions of HRH posts.
- Revisiting the organizational structure and listing of the HRH functions defined.
- Developing job description and person specifications for the targeted functions and needed staff.
- Approval and dissemination of the job description and the person specifications.

5.4: Developing appropriate strategies to attract and retain the HRH staff:

The activity components under this activity include:

- Carrying out a vacancy and turnover analysis and identifying the causes and the obstacles for retaining and attracting HRH staff.
- Developing and drafting appropriate strategies for attracting and retaining HRH staff at the decentralized level.
- Building consensus around the proposed and developed strategies.
- Approval and endorsement of these strategies by higher authorities (FMOH and SMOH).

5.5: Recruitment and transference of HRH staff:

The following activities are proposed to be done to accomplish this strategy:

- Assigning a committee for selecting, transferring and recruiting the staff.
- Developing the selection criteria based on the job description and person specifications.
- Recruiting and transferring the needed and selected staff.

5.6: provision of Training for HRH staff:

The following activities are proposed:

- Conducting training needs assessment for the recruited staff based on the finding of the above committee.
- Deciding on the priorities for training.
- Developing the training materials-programs as per the priorities defined.
- Developing a scheduled training plan for the training activities.

5.7: Developing and strengthening appropriate HRH systems:

Several HRH systems will be developed during the life span of the plan following certain and specific steps:

- Revision of the situation analysis of the current HRH systems available at all levels.
- Defining the challenges, opportunities and the problems.
- Defining gaps and prioritizing the needed HRH systems accordingly.
- Developing and drafting the appropriate HRH systems for all levels as per the priority list.
- Building consensus on, and approval of the proposed developed HRH systems.
- Disseminating of the approved HRH systems for all the HRH stakeholders' institutes and bodies.
- Developing sessions for orientation about and advocacy for the HRH system.
- Designing a monitoring process for the implementation and impact of the newly adopted HRH systems.

5.8: Enforcement and advocacy for the HRH policies, guidelines and standards:

It is very important to enforce and advocate for the HRH issues, and to achieve this, the following activities have to be done:

- Establishing a policy department within the HRH Directorate as a coordinator body.

- Conducting a situation analysis for the available HRH policies, guidelines and standards.
- Availing the already approved documents by the federal authorities and disseminating them to the departments and HRH related bodies.
- Setting an advocacy plan for the HRH issues to increase awareness.
- Implementing the planed activities.

5.9: Developing good links on HRH between federal and state levels:

The proposed activities include:

- Establishing a forum for co-ordination and collaboration between the federal and state levels.
- Establishing means of regular contact.
- Developing means of co-ordination between the HRH related bodies within the states.

5.10: Enforcement and building-up the Leadership capacity at the decentralized levels:

Leadership is considered to be the back bone tool for strengthening HRD departments; we need to build up the capacity in this area through the following activities:

- Defining gabs and needs through extensive situation analysis of the main HRH domains (planning, management and development).
- Deciding on the priorities as per defined needs and categories of staff.
- Developing selection criteria for the candidates.
- Deciding on the training programs and training institutes both national and international

Planning assumptions

The strategies given above have been developed to address current or future challenges in order to achieve the objectives set out in this document. However well-designed the strategies might be, there are factors outside the control of the human resources department, and indeed some beyond the control of the employers and the ministries of health at different levels which may hinder the achievement of the stated objectives. Some of these risks may be managed within the HRH Strategic Plan to

reduce the negative impact. Others should be acknowledged and monitored. In the planning process the risks were restated as assumptions which support the link between the strategies and their respective objectives as shown in table 5.7. As part of managing the HR strategy it will be necessary to regularly check whether the assumptions remain true. If not, some redesign of the strategies may be required.

Table 5.7: Planning assumptions by strategic objective:

Strategic objective	**Planning assumptions**
Strategic objective 1: Support health service needs through adequate HRH planning;	- assured flow of data from employers - continued support from NCCH members - workforce plan followed
Strategic objective 2: Develop policies/systems to ensure more equitable distribution of health workers - especially doctors and nurses;	- well equipped and supplied health facilities - incentives provided by NGOs don't increase significantly - sufficient number of qualified applicants for training from rural areas - targeted recruitment policies not undermined by 'game-playing'
Strategic objective 3: Improve individual performance management systems;	- managers able and willing to use performance management systems - pay for performance does not becomes to be seen as a 'right'
Strategic objective 4: Improve production and orientation of education and training towards health service needs; and	- retention of sufficient numbers of qualified graduates in Sudan - continued effectiveness of coordination mechanisms
Strategic objective 5: Strengthen HRH functions at the decentralized levels	- commitment of leadership at all levels - effective coordination between other stakeholders (e.g. finance, personnel management)

Chapter 6

Implementation Plan

Execution and follow up of the implementation of this strategic plan for human resources for health will be a joint responsibility between the concerned partners through the HRH Stake holder committee including the following actors:

- Federal Ministry of Health (FMOH)
- State Ministries of Health(SMOHs)
- Ministry of Higher Education (MOHE)
- Ministry of Labour (MOL)
- Sudan Medical council (SMC)
- Council for allied Health Professions (CAHP)
- Sudan Medical Specialization Board (SMSB)
- Army Medical Corps
- Police Health Services Department
- Secretariat for Sudanese Working Abroad (SSWA)
- Health Insurance Fund
- National Centre of Information
- National HRH Observatory
- WHO Office/Sudan

The HRH directorates at both federal and state levels will play a crucial role in implementation of the plan and will be acting in this as the secretariat for the committee.
Guided by the overall aim and goal of this plan the implementation process will be directed by the strategic objectives of this plan, the action plan that proposes activities and timelines, and annual HRH plans that will be developed.

Clear terms of reference will be developed to guide the work of the HRH Stakeholder's Committee. It is expected that for the public sector, the relevant HRH plans will be integrated in the annual plan.

Chapter 7:

Monitoring and Evaluation

Two M&E frameworks for the national HRH strategic plan were develop to lay the foundation of a sound empirical evidence for informed policy decision-making and monitor the progress of HRH development interventions (both at strategic and operational levels) towards achieving the desired national HRH strategic objectives and the health system outcomes.

The developed HRH M&E frameworks were designed to monitor the overall implementation of the national strategic plan as well as the annual operational HRH plans. Thus, they will serve as powerful and effective monitoring tools that will be used by HRH managers at different levels of the health system to gather, analyze, generate timely information, submitting reports and getting feedback to solve problems related to human resources on timely manner and explore new solutions to overcome chronic HRH issues. They will also assist in capturing lessons learned, identify and document the best practices to be shared in-country and globally.

While most of the indicators are very domain/strategic objective specific and denotes to certain projects or activities, a sensitive set of CORE HRH indicators were identified out of the total. These indicators are SMART indicators defined with yearly targets that will be used to undertake an overall assessment to the plan (both objectives and strategies) by the end of each year in particular and the HRH situation at national level.

Functions of the HRH M&E frameworks:

- Provide systematic mechanism for monitoring HRH in health sector
- Inform evidence based HRH policy and planning & decision making based on best available documented HRH experience
- Reinforce HRH accountability within the health sector
- Better understand the trends in HRH
- Measure and monitors impact of HRH interventions
- Enhance sub-national comparability
- Harmonization and alignment with other M&E frameworks and information systems

Salient features of the M&E frameworks:

- The framework managed to link the identified national HRH strategic objectives with the HRH action framework domains (leadership, policy, finance, education, partnership, HRH management).
- The six components of the HRH action framework were defined and the key sub-components were identified (Table 7.8).
- A set of indicators were identified for each strategic objective and then each indicator was put under the relevant domain of the HRH action framework based on its relevance (Table 7.9). This aim of this strategic M&E frame is to assist in monitoring the overall implementation of the national strategic plan at national level in relation to the above domains and help to identify any gaps in the plan that could emerge.
- Another operational M&E frame (Z) was developed to monitor the progress of implementation of the HRH annual operational plans by measuring each indicator, its baseline, target, data source, periodicity and who is responsible to collect it. This frame will be used at all levels and it will feed the strategic M&E frame (Y).

Table 7.8. The six components of the HRH Framework, the definition and the key sub-components

Component	Definition	Sub-components
Policy	Rules, regulations &, legislation for conditions of employment, work standards, and development of the health workforce.	• Professional standards, licensing, accreditation • Authorized scopes of practice for health cadres • Political, social & financial decisions and choices that impact HRH • Employment, law and rules for civil service
HRH Management Systems	Integrated use of data, policy and practice to plan for necessary staff, recruit, hire, deploy, develop and support health workers.	• Personnel systems: workforce planning, recruitment, hiring, deployment. • Work environment & conditions: employee relations, workplace safety, job satisfaction, career development. • HRH information system • Performance management: performance appraisal, supervision, productivity. • Staff retention: financial & non-financial incentives.
Finance	Obtaining, allocating and disbursing adequate funding for human resources.	• Salaries and allowances • Budget for HRH • National health accounts with HRH information • Mobilizing financial resources (e.g, government, national and international agencies, regulatory bodies and professional syndicates , private sector,

		donors, etc)
Education	Production and maintenance of a skilled workforce.	• Pre-service education oriented to health care needs • In-service training (e.g. continuing professional development) • Capacity of training institutions • Training of community health workers and non-formal care providers
Partnerships	Formal and informal linkages aligning key stakeholders (e.g. health service providers, education sector, regulatory bodies and professional syndicates, donors, priority disease programs, other related sectors, communities, etc) to maximize use of resources and coordinate efforts for HRH development.	• Community mobilization: supporting care and treatment, providing input into governance of health services. • Public-private sector agreements • Mechanisms and processes for multi stakeholder cooperation (national coordination council, state committees, HRH advisory boards, donor coordination forums).
Leadership	Capacity to provide direction, to align people, to mobilize resources and to reach goals.	• Identify, select & support HRH champions and advocates • Leadership development for HRH managers at all levels • Capacity for multi-sector & sector-wide collaboration • Modernizing & strengthening professional associations

Table 7.9: Monitoring and evaluation strategic framework:

HRH Strategic Objectives	HRH action framework domains					
	Leadership	Policy	Finance	Education	Partnership	HRH management system
1. Support health service needs through adequate HRH planning	1. Evidence based decision according to HRH information and projection	2. HRH policy gaps analysis to be identified and addressed 3. Updating existing HRH policies 4. Number of New HRH strategic plans developed 5. Completion of HRH projection exercise at national level 6. Number of states who completed HRH projection plans	7. Development of HRH strategic plan costing and sub-account 8. Percentage of HRH expenditure out of the total health expenditure 9. Mobilisation of resources to cover HRH cost as stated in HRH strategic plan (to implement HRH strategic plan)	10. Informing training (undergraduate & postgraduate in the National Training Institutes) intake by HRH projections 11. number of new training institute developed 12. Total number of yearly graduation from health training school	13. Existence of an HRH advisory & coordinating bodies 14. Proportion of HRD partnerships developed 15. Number of newly developed HRH comprehensive stakeholders plans derived from national HRH strategic plan	16. Percentage of HRH managers at all levels (national, state or locality levels) trained in HRH planning and management 17. Existence of functional HRH information system 18. Number of HRH reporting sites linked to NHRHO

2. Develop policies/systems to ensure more equitable distribution of health workers - especially doctors and nurses	19. HRH strategies based on retention policy taken at state levels	20. Proportion of health workforce in urban Vs rural 21. Proportion of health workface in PHC Vs referral level 22. Ratio of health workers working abroad to health workers working inside 23. Existence of HRH retention policies 24. Existence of HRH distribution policies	25. Developing and implementing targeted incentive packages 26. Total spending on the health workforce as percent of the recurrent health budget (Range for States)	27. Training schools population ratio (e.g. Number of medical schools per 100,000 population) 28. Ratio of training schools in urban VS rural areas	29. Ratio of HRH working in public (ministry of health and other sectors) Vs private 30. total number of each category of Sudanese health workers working abroad 31. Developing of new partnerships to operationalize retention policies	32. Proportion of the health workers working in ministry of health 33. The absolute number of registered health workers within professional bodies 34. Percentage of professionals that leave ministry of health each year (turnover rates) 35. Absenteeism rate in all ministries of health affiliated institutes (ministries , 1ry , 2ry and 3ry levels)

3. Improve individual performance management systems	36. Existence of an HRH accountability framework in FMOH	37. Updating HRH management policies (deployment , employment)	38. Adoption of Performance-based reward	39. Percent of people who have ever been trained in management systems and leadership and who are still at work in the past 5 years	40. Conduction of Labor market survey	41. Absenteeism rate in all ministries of health affiliated institutes (ministries , 1ry , 2ry and 3ry levels) 42. Establishment of Performance management (appraisal) system 43. Development of personal and managerial documents in FMOH (job descriptions , TORs , organizational structures...etc)
4. Improve production and orientation of education and training towards	44. Informing training (undergraduate & postgraduate	45. Percentage of Health workers who received certified CPD per year	47. Percent of budget allocated for each training category	48. Total number of yearly graduation from health	51. The absolute number of registered health workers within	53. Establishment of Quality Assurance system (CPD , AHS , Training ,

health service needs	in the National Training Institutes) intake by HRH projections	46. Number of training and production policies developed /updated based on HRH projections	(fellowships , CPD , allied undergraduate training)	training school 49. Ratio of total health workforce: 1000 population 50. Ration of doctors : nurses	professional bodies 52. Number and percentage of health training institutions meeting accreditation standards	PHI ...etc) 54. Number and percentage of health workers(medical/paramedical) granted professional development required certificate 55. Undertaking Training need assessment (TNA) exercise for FMOH staff

5. Strengthen HR functions at the decentralized levels	56. Number of states with dedicated HRH directorates to support HR functions	57. Percentage of positions in HRH directorates filled with appropriately qualified staff	58. % of Total health expenditure allocated for HRH at state & locality levels	59. Percentage of HRH managers at all levels (national, state or locality levels) trained in HRH planning and management	60. Existence of an advisory Body (Stake holders forum) (NHRHO) to monitor implementation of the HRH information and monitoring system in accordance with the national strategy in federal and state levels.	61. Appropriate structure to support HR functions developed for all levels by the end of 2016. 62. HRH high-level managers turnover rate

Table 7.10. M&E operational framework

NO.	Core performance indicators	Baseline	Target	Data source	Periodicity	Responsibility	Disaggregation
1.1	Evidence based decision according to HRH information , projections and workforce plan	HRH 5 year strategic plan is developed with no projections	Projection updated and used (to inform existing policy review and develop new ones , to inform state and stakeholders plans)	• FMOH reports • policy forum reports • State plans • Stakeholders' plans	Mid-annually	NHRHO satellites	N/A
1.2	HRH policy gaps analysis to be identified and addressed	Only 12 % of HRH policy gaps are identified (one directorate N&M)	All HRD directorate identified relevant policy gaps and addressed at least 50 % of them	• Policy forum reports • Directorates policy and plans documents	Mid-annually	PPM&E	By HRD directorates
1.3	Updating existing HRH policies	Less than 30 % of All existing HRH policies are revised (2 directorate)	All existing HRH policies revised , updated and activated	• Policy forum reports	Quarterly	PPM&E	N/A
1.4	Number of New HRH strategic plans developed	Less than 10 % of needed HRH strategic plans are developed	All HRD directorates/ institute developed their strategic plans based on the HRH strategic plan	Directorates strategic plans documents	Annually	All directorates / institutes	N/A
1.5	Completion of HRH projection exercise at national level	HRH projections are not available	HRH projection exercise is completed and transformed into workforce plan	Projection document / software	--------	NHRHO	N/A

1.6	Number of states who completed HRH projection plans	No state underwent projection exercise	HRH projection exercise is completed in all states	• Projection documents / software • NHRHO satellites reports	Annually	HRD state directorates	N/A
1.7	Development of HRH strategic plan costing and sub-account	HRH strategic plan costing and sub-account not available	HRH strategic plan costing and sub-account and incorporated into HRH strategic plan	• HRH strategic plan • FMOH HEs research report	--------	PPM&E + FMOH Health Economics	N/A
1.8	Percentage of HRH expenditure out of the total health expenditure	49 %	70 %	• Surveys • Financial reports	Annually	HRD GD AFAs GD	N/A
1.9	Mobilisation of resources to cover HRH cost as stated in HRH strategic plan (to implement HRH strategic plan)	0	100 % of resources are mobilised to implement HRH strategic plan	• Surveys • Financial reports	Annually	HRD GD AFM/ HRD	N/A
1.10 **4.44**	Informing training (undergraduate & postgraduate in the National Training Institutes) intake by HRH projections	HRH projections is not developed	HRH projections developed, distributed to training institutes affiliated to FMOH and used in annual operational planning	• Institutes strategic and annual plans • Institutes reports	Annually	CPD PHI AHS BNI	By cadre and speciality , public/private, location
1.11	Number of new training institutes developed	Awaiting for educational pipeline survey results	Awaiting for HRH projections	• Surveys • Institutes yearly reports	Mid-annually	NHRHO AHS	By cadre and speciality , public/private, location

1.12 4.48	Total number of yearly graduation from health training school	Awaiting for educational pipeline survey results	Awaiting for HRH projections	Annual reports	Annually	NHRHO satellite in MoHE and FMOH institutes	By cadre and speciality , public/private, location
1.13	Existence of an HRH advisory & coordinating bodies	Only HRH stakeholder forum	At least 5 HRH advisory bodies (National training committee , stakeholder forum , national CPD council)	Annual reports	Annually	PPM&E	By HRH action framework domains
1.14	Number of HRD partnerships developed at national level	16 partnerships	Awaiting for HRH projections to be determined	Reports	Annually	NHRHO DG HRD	By HRD directorates
1.15	Number of newly developed HRH comprehensive stakeholders plans derived from national HRH strategic plan	0	16 plans for the already identified 16 partners at national level	Reports	Mid-annually	PPM&E	N/A
1.16 5.59	Percentage of HRH managers at all levels (national, state or locality levels) trained in HRH planning and management	Less than 10%	90 %	Quarterly reports	Quarterly	National training institutes (CPD, PHI)	At state and locality levels, By cadre , speciality , state, age and gender
1.17	Existence of functional HRH information system	Not available	Activated HRH satellites in at least all states and 50 % of stakeholders	Reports Facility surveys	Quarterly	NHRHO	N/A

1.18	Number of HRH reporting sites linked to NHRHO		Awaiting for HRH projections to be determined	• Reports • Facility surveys	Quarterly	NHRHO	N/A
2.19	HRH strategies based on retention policy taken at state levels	HRH Retention strategies are few and inactivated	HRH Retention strategies based on retention policy developed / updated and used	• Policy Forums • State strategic plan • Reports • Surveys	Mid-annually	NHRHO state satellites and HRH planning units	N/A PHI AHS
2.20	Proportion of health workforce in urban Vs rural	70 in urban /30 in rural	50/50	HRH surveys	Annually	NHRHO satellites	By cadre and state
2.21	Proportion of health workface in PHC Vs referral level	33/67	50/50	HRH surveys Health facilities surveys	--------	PPM&E DG PP&R	By cadre , age and gender
2.22	Ratio of health workers working abroad to health workers working inside	60 /40	25/75	HRH surveys Certificates accreditation reports	---------	NHRHO Experience unit (HRD)	By cadre , speciality , state , age and gender
2.23	Existence of HRH retention policies	HRH retention policies not available	HRH retention policies developed	• Policy document • Policy forum reports	---------	PPM&E PHI	N/A
2.24	Existence of HRH distribution policies	HRH distribution policies not available	HRH distribution policies developed	• Policy document • Policy forum reports	----------	PPM&E PHI	N/A
2.25	Developing and implementing targeted incentive packages	Incentive packages few not updated or inactivated	Incentive packages updated / developed and implemented in at least 50 % of states	• Annual reports	Annually	PHI States NHRHO	By cadre , speciality and gender

						Satellites	
2.26	Total spending on the health workforce as percent of the recurrent health budget	69 %	80 %	• SHHS • Facility level surveys • Financial MOH reports	----------	HRD GD AFAs GD	(Range for States)
2.27	Training schools population ratio (e.g. Number of medical schools per 100,000 population)	Awaiting for educational pipeline survey results	Awaiting for HRH projections	Educational pipeline survey	----------	NHRHO	By cadre and speciality
2.28	Ratio of training schools in urban VS rural areas	Awaiting for educational pipeline survey results	Awaiting for HRH projections	• HRH surveys • Educational pipelines surveys	---------	NHRHO	By cadre and state
2.29	Ratio of HRH working in public (ministry of health and other sectors) Vs private	91/9	Awaiting for HRH projections and HRH subaccount	• HRH surveys • Facility based surveys	----------	NHRHO	By cadre , speciality , state , age and gender
2.30	Total number of each category of Sudanese health workers working abroad	Awaiting for 2011 HRH survey results	Awaiting for HRH projections and HRH subaccount	Reports HRH surveys	----------	NHRHO satellites	By cadre , speciality , age and gender
2.31	Developing new partnerships to operationalize retention policies	None	New partnerships developed	• Reports , • MOU and other agreement documents	Annually	HRD DG (PPM&E)	N/A

2.32	Proportion of the health workers working in ministry of health	80 %	Awaiting for HRH projections and HRH subaccount	• HRH survey • Facility level survey	Annually	NHRHO HRD GD AFAs GD	By cadre , speciality , age and gender
2.33 **4.51**	The absolute number of registered health workers within professional bodies	Awaiting for 2011 HRH survey results	Awaiting for HRH projections	Reports from NHRHO satellites in professional bodies	Annually	NHRHO satellites in SMC SHMPC	By cadre , speciality , state , age and gender
2.34	Percentage of professionals that leave ministry of health each year (turnover rates)	Awaiting for 2011 HRH survey results	Awaiting for HRH projections	• Annual reports	Annually	HRD GD AFAs GD	By cadre , speciality , state , age and gender
2.35 **3.41**	Absenteeism rate in all ministries of health affiliated institutes (ministries , 1ry , 2ry and 3ry levels)	N/A	20-10% less absence rate in rural areas	• Annual reports	Annually	HRD GD AFAs GD	By cadre , speciality , state (urban/rural), age and gender
3.36	Existence of an HRH accountability framework in FMOH	Accountability framework not available	Accountability framework developed & functional	Documents of accountability framework	----------	Employee affairs directorate	N/A
3.37	Updating HRH management policies (deployment, employment)	HRH management policies scattered and non functional	HRH management policies (deployment , employment) updated and functional	• Policy forum • Policies documents	----------	Employee affairs directorate + PPM&E	N/A
3.38	Adoption of Performance-based rewards	Performance-based reward approaches not developed	Performance-based reward approaches developed and used	Reports	----------	Employee affairs directorate	N/A
3.39	Percent of people who	N/A	50 %	Annual Reports	Annually	CPD	N/A

	have ever been trained in management systems and leadership and who are still at work in the past 5 years			Training reports		PHI PPM&E	
3.40	Conduction of Labor market survey	Labor market survey never conducted	Labor market survey conducted with different partners (MOL, MOF, CBS)	Labor market survey	----------	NHRHO	N/A
3.42	Establishment of Performance management (appraisal) system (PMS)	Performance management (appraisal) system not updated and non functional	Performance management (appraisal) system is updated, established and functional (50 % of public health facilities apply the updated performance management (appraisal) system)	PMS documents	----------	Employee affairs directorate PPM&E	N/A
3.43	Development of personal and managerial documents in FMOH (job descriptions, TORs, organizational structures...etc)	Personal and managerial documents are few , scattered and not relevant to positions needs	Personal and managerial documents are updated / developed based on the system needs and in relevance to career pathways	Documents	----------	Employee affairs directorate PPM&E	N/A
4.46	Number of training and production policies developed /updated based on HRH projections	None	All training and production policies developed /updated are based on HRH projections	Annual reports	Annually	PPM&E	----------

4.47	Percentage of budget allocated for each training category (fellowships , CPD , allied undergraduate training)	Awaiting for HRH subaccount report	Awaiting for HRH projections and HRH subaccount	Financial MOH reports	Mid-annually	National Training institutes	By cadre , speciality ,
4.49	Ratio of total health workforce: 1000 population (Ratio of doctor , nurses and midwives per 1000 population)	2.8 per 1000 population (1.23 per 1000 population)	Awaiting for HRH projections and HRH subaccount > 2.3 per 1000 population by the end of 2016	HRH surveys	----------	NHRHO	By cadre, speciality, state, age and gender (Ratio of doctors: 1000 population Ratio of nurses: 1000 population)
4.50	Ration of doctors : nurses	1:1.7	1: 4-6	HRH surveys	----------	NHRHO	----------
4.52	Number\percentage of health training institutions meeting accreditation standards	Awaiting for educational pipeline survey results	80 % of all available training institutes are accredited	Annual reports	Annually	SMC	----------
4.53	Establishment of Quality Assurance system (short & long Training in FMOH institutions or abroad)	None	Quality Assurance system is established , functional and reporting Quarterly	Quarterly reports	Quarterly	Training directorate	----------
4.54	Number and percentage of health workers(medical/para medical) granted professional	N/A	70 %	Quarterly reports	Quarterly reports	CPD	By cadre, speciality, state, age and gender

	development required certificates						
4.55	Undertaking Training need assessment (TNA) exercise for FMOH staff	TNA never done	TNA exercise for FMOH staff done and used to inform training plans	Annual plans	Annually	CPD PPM&E	By cadre, speciality, state, age and gender
5.56	Number of states with dedicated HRH directorates to support HR functions	Only 4 states have dedicated HRH directorates	Dedicated HRH directorates to support HR functions developed in all states by the end of 2016	Annual state reports	Annually	PPM&E	----------
5.57	Percentage of positions in HRH directorates filled with appropriately qualified staff	N/A	80% of positions in HRH directorates filled with appropriately qualified staff by the end of 2016	Mid-annual reports	Mid-annually	NHRHO state satellites	At federal, state and locality levels
5.58	Percentage of total health expenditure allocated for HRH at state & locality levels	N/A	Increased by 50 %	Annual financial reports	Annually	NHRHO state satellites	At state and locality levels
5.60	Existence of an advisory Body (Stake holders forum) (NHRHO) to monitor implementation of the HRH information and monitoring system in accordance with the national strategy in federal and state levels	None	An advisory Body (Stake holders forum) in federal and state levels established and functional	Quarterly reports	Quarterly	NHRHO	----------

5.61	Development of appropriate directorates structures to support HR functions developed for all levels by the end of 2016.	Current directorate's structures cannot support needed HR functions	Appropriate directorates' structures to support HR functions developed for all levels by the end of 2016.	Structure documents	----------	HRD state directorates	At state and locality levels
5.62	HRH high-level managers turnover rate	N/A	To reduce by 50 %	Quarterly reports	Quarterly	State ministries	At state and locality levels

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Estimated *t*otal cost of HRH strategic plan 2011-2016

The total cost of the five strategic objectives activities and sub activities estimated as (**1,690,790 USD**), (**4,226,975 SDG**) that exchange rate used was 2.5 according to Central Bank of Sudan. (See table 1 below).

The cost of the First year action plan was estimated as 442,604 $ that mean all the SOs will start in the first year and most of the activities will be executed in the second year with estimated cost **666,234**.

This five years HRH strategic plan for Sudan will be financed by multi sources (government, donors fund, private sector …)

Strategic objective (1) is highest cost while strategic objective (2) was the lowest one.

Table 1 : estimated total cost of HRH strategic plan

Strategic objective	**Cost $**	**Cost SDG**
Strategic Objective 1: HRH planning adequately supports health service needs	575,792	1,439,480.00
Strategic Objective 2: More equitable geographical distribution of health workforce especially doctors and nurses.	131,174	327,935.00
Strategic objective 3: Improve individual performance management systems	270,190	675,475.00
Strategic objective 4: Improved production and orientation of education and training towards health service needs	367,708	919,270.00
Strategic Objective 5: Strengthening HR Functions at the Decentralized Levels	345,926	864,815.00
TOTAL	**1,690,790**	**4,226,975**

Table 2: estimated total cost of human resource for health strategy from 2011 up to 2016

Strategic objective	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**Total** $
SO 1: HRH planning adequately supports health service needs	177,314	272,850	84,740	12,000	16,888	12,000	575,792
SO 2: More equitable distribution of health workforce especially doctors and nurses.	90,322	40,852	0	0	0	0	131,174
SO 3: Improve individual performance management systems	53,166	117,798	62,476	12,250	12,250	12,250	270,190
SO 4: Improved production and orientation of education and training towards health service needs	45,938	149,402	58,484	46,942	46,942	20,000	367,708
SO 5: Strengthening HRH functions at the decentralized levels	75,864	85,332	143,202	28,424	6,552	6,552	345,926
Total	**442,604**	**666,234**	**348,902**	**99,616**	**65,744**	**38,802**	**1,690,790**

Table 3: estimated cost for SO 1

Activity	**Cost $**	**Cost SDG**
1.1. Develop a service needs projection plan	290,962	727,405.00
1.2 Strengthening planning and data analysis system	54,964	137,410.00
1.3 Improve access to data (HRH observatory)	217,690	544,225.00
1.4 Strengthening and support HR committee of	12,176	30,440.00
Total	**575,792.00**	**1,439,480.00**

The total cost of the first strategic objective estimated as 575,792 $ (1,439,480SDG) for the four main activities and sub activities.

Table 4 : the cost of objective 1 (2011 – 2016)

2011	2012	2013	2014	2015	2016	Total
177,314	272,850	84,740	12,000	16,888	12,000	$ 575,792

This objective is a highest estimated cost because the projection plan is a pressing need that we have to carry out HRH survey for whole health sector to collect data needed.

Table 5: estimated cost for SO 2

Activity	Cost $	Cost SDG
2.1 Situation analysis on the health workforce distribution Sudan	52,784	131,960
2.2 Develop effective Deployment policy and guidelines	26,784	66,960
2.3 Develop appropriate and flexible incentive package (financial and non-financial).	22,984	57,460
2.4 Advocate for placement new training institutes in functions	10,464	26,160
2.5 Develop female-friendly policy for jobs in the underserved areas.	18,158	45,395
Total	**131,174**	**327,935**

The total cost of SO2 was estimated as 131,174 $ it is a lowest cost estimated , the activities and sub- activities of this SO2 was based on meetings and desk review and a little survey on health work distribution as well as revising current situation of deployment and set a policy and guidelines for deployment. This objective will implement in 2 years.

Table 6 : the cost of objective 2 from 2011 up to 2016

2011	2012	2013	2014	2015	2016	Total
90,322	40,852	-	-	-		$ 131,174

Table 7: estimated cost for SO 3

Activity	Cost $	Cost SDG
3.1 Develop systems for reducing staff absence	132,678	331,695
3.2 Increase usage of effective job description	48,296	120,740
3.3 Develop systems for performance- based rewards and sanctions	38,990	97,475
3.4 Develop revalidation system and assessment of health workers	30,240	75,600
assessment and evaluate application	19,986	49,965
Total	**270,190.00**	**675,475**

This SO 3 total cost estimated as (270,190 $) to carry out the activities and sub activities.

Table 8: the cost of objective3 from 2011 up to 2016:

2011	2012	2013	2014	2015	2016	Total
53,166	117,798	62,476	12,250	12,250	12,250	$ 270,190

Table 9: estimated cost for SO 4

Activity	Cost $	Cost SDG
4.1 Ensure adequate (number and quality) capacity for pre- service training	19,650	49,125
4.2 Increase output and quality of CPD System	19,650	49,125
4.3 Expand access to CPD to non-medical and public health cadres	157,140	392,850
4.5 Ensure adequate (number and quality) capacity for postgraduate education	107,488	268,720
4.4 Expand geographical access to CPD	63,780	159,450
Total	**367,708**	**919,270**

To achieve this SO4 it needs 367,708 $ as total estimated cost for activities and sub – activities, this cost look high for those activities see table 5 , but those activities includes establishing of CPD centers in 15 states during 2011-2016 .

Table 10: the cost of objective 4 from 2011 up to 2016:

2011	2012	2013	2014	2015	2016	Total
45,938	149,402	58,484	46,942	46,942	20,000	$ 367,708

Table 12: estimated cost for SO 5

Activity	Cost $	Cost SDG
5.1 Develop OR of all HRH functions.	51,722	129,305
5.2 Develop appropriate organizational structure (OS) for HRH function	41,948	104,870
1.3 Develop job description and proper person specifications for HRH function	22,930	57,325
5.4 Develop appropriate strategies to attract and retain the HRH staff.	24,826	62,065
5.5 Recruit and transfer staff	24,390	60,975
5.6 Provide training if needed	25,026	62,565
5.7 Develop and strengthen appropriate HRH systems	58,180	145,450
5.8 Enforce and advocate for the HRH policies, guidelines and standards.	44,040	110,100
5.9 Develop good links between the federal and state levels.	25,072	62,680
5.10 Enforce and build-up the Leadership capacity in HRH issues at the decentralized levels.	27,792	69,480
Total	**345,926**	**864,815**

To implement this SO5 the total cost estimated as 345,926 $ for all activities and sub activities. The cost of strategic 5.7 (Develop and strengthen appropriate HRH systems) estimated as 58,180 $ which include very important activities (defining gaps and prioritizing the needs HRH accordingly, designing monitoring process for implementation and impact of the adopted HRH system

Table 113: the cost of objective 5 from 2011 up to 2016:

2011	2012	2013	2014	2015	2016	Total
75,864	85,332	143,202	28,424	6,552	6,552	$ 345,926

Appendix: Detailed action plan