

Establishing an Observatory on Human Resources for Health in Sudan

**A report for the World Health Organization (WHO) and the Federal Ministry of
Health (FMOH)**

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List of Abbreviations

ASR	Annual Statistical Report
CAHP	Council for Allied Health Professions
CPA	Comprehensive Peace Agreement
EMRO	Regional Office for the Eastern Mediterranean
EU	European Union
FMOH	Federal Ministry of Health
G-8	Group of Eight Major Industrial Countries
GAVI	Global Alliance for Vaccines and Immunization
GFATM	Global Fund to Fight Aids, TB, and Malaria
GHWA	Global Health Workforce Alliance
GOSS	Government of Southern Sudan
HLF	High Level Forum
HRD	Human Resource Development
HRH	Human Resources for Health
HRIS	Human Resources Information System
HSR	Health Sector Reform
IT	Information Technology
JLI	Joint Learning Initiative
MDGs	Millennium Development Goals
MOHE	Ministry of Higher Education
MOL	Ministry of Labor
NCHI	National Centre for Health Information
NCI	National Centre for Information
NCS	National Comprehensive Strategy
NHRHO	National Human Resources for Health Observatory
PAHO	Pan American Health Organization
SDU	Sudan Doctors Union
SHSPTU	Sudan Health and Social Professions Trade Union
SMC	Sudan Medical Council
SMOHs	States Ministries of Health
SMSB	Sudan Medical Specialization Board
SSWA	Secretariat for Sudanese Working Abroad
SWOT	Strengths, Weaknesses, Opportunities and Threats
US\$	United States Dollar
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

Health workforce is now widely recognized as having a critically fundamental role for the functioning of health systems. Following from that, inception of robust human resource information systems has recently attracted a lot of regional and global concern. The concept of human resources for health (HRH) observatories has been put forward to improve policy and decision making in the health sector.

This report is meant to explore the experience so far on HRH observatories and their contribution to evidence-based policy, planning and management of health workforce. The report also proposes national human resources for health observatory for Sudan together with its required steps and arrangements. The methodology of investigation is based on secondary sources including an extensive review of international literature in addition to records, reports and documents from relevant institutions in Sudan.

The observatory on human resources for health is defined as a cooperative initiative among relevant stakeholders aimed at producing information and knowledge in order to improve human resource policy decisions as well as contributing to human resources development within the health sector. Thus, the observatory is in essence a human resource information system characterized by dynamicity (hence the word observatory) and based on networking and stakeholder involvement and ownership. The main purpose of the HRH observatory is to monitor trends in patterns of the health workforce to provide reliable and instant data and information needed for evidence-based decision-making and policy development.

The Latin American and Caribbean experience on HRH observatory is in fact the leading initiative in this regards. The regional observatory, involving country branches, has shown apparent success in advocating for and promoting HRH issues in the region. Through the observatory, substantial improvements were achieved in aspects such as methods for HR data collection, analysis, assimilation and utilization in addition to enabling comparative analysis, studies of trends and forecasting purposes.

However, the Latin American experience of the observatory has also been associated with several challenges. Keeping the dynamic of the initiative, coping with political instability and maintaining stakeholder commitment have all proved to be challenging areas. The overall success of the initiative has motivated countries of the region to propose extending of the observatory role to deal with many of the emerging issues in the HRH domain.

Building on the Latin American initiative, a global tendency to establish national and regional HRH observatories has emerged. The rationale for this movement emanates from the fact that the basic information on the health workforce required to inform, plan and evaluate resources is in very short supply in virtually all countries. Systems for recording and updating health worker numbers often do not exist leading to severe limitation on the development of evidence-based policies on human resource development. Efforts are now underway to establish and operate national and regional observatories within the WHO regions of Africa and Eastern Mediterranean.

A model of an ideal observatory has emerged as a result of assimilating all previous and current experiences. The HRH observatory, in this model, is envisaged to be concerned with providing an up to date intelligence that is incorporated, through stakeholder participation, into a coordinated policy making process for the betterment of HRH within health systems. This could be achieved through functions such as maintaining comprehensive and dynamic databases on HRH, supporting research conduction and dissemination and advocating for evidence based policy and decision making. The structure of the observatory is proposed to be composed of a policy and operational levels with the full participation of stakeholders. The

ministry of health, academia, registration bodies, professional associations, corporate providers and multilateral agencies are identified as the principal partners to be involved in forming the observatory. Finally, the model calls for establishing national observatories at country level backed by regional networking to enable sharing of experience and sustainability of the initiative.

Sudan, as an extensive country with diversified numbers and skills of health workers, is apparently in need for the functions of the HRH observatory as envisaged. Many factors call for inception of a coordinated mechanism to deal with HRH issues in the country. Expansion of medical education, diversity of health services providers and decentralization reforms are only a few to mention. The urgency for establishing HRH observatory is clearly shown by the weak and fragmented nature of the health information system in the country including the health workforce intelligence. There is currently no discrete human resource information system in Sudan; the health workforce data is usually incomplete, limited in scope and parameters, fragmented and poorly assimilated and utilized.

The national human resources for health observatory (NHRHO) for Sudan is proposed to be based on full ownership and participation of over 15 stakeholders concerned with HRH issues in the country. The convergence of the current and potential roles of all these partners is seen as the prime foundation and the principal pillar of the observatory. The proposed structure for NHRHO is composed of three levels, the observatory board (composed of stakeholders), the secretariat and the states branches. This structure is to carry out functions ranging from policy and strategic roles to the operational and grass root activities. The structure will function on the basis of networking, dynamicity and integration within the setup of the national health information system.

Prospects for establishing a successful HRH observatory in Sudan are evidently felt. Political support and health sector commitment are potentially there. A completed health workforce mapping and an ongoing national HRH census can be seen as an excellent asset for the observatory. The renewed interest of the WHO in addition to the launched global initiatives to support HRH in developing countries could represent good opportunities to boost the observatory initiative in Sudan. However, the process is not without difficulties and challenges. One major challenge is the revival of health information system in terms of infrastructure and technical capacity. Other challenging areas include dealing with new constitutional arrangements in this country, introducing IT culture and expertise and ensuring sustainability and dynamicity of the observatory.

Finally, some operational steps are needed for the successful inauguration of the NHRHO in Sudan. These include advocacy, communication with stakeholders, formation of the observatory structure, preparing the premises and producing the work plan building on the available data and information. The Federal Ministry of Health should take the lead in initiating and coordinating these steps until the observatory is fully launched.

Introduction

Reliable and timely health information is an essential foundation of public health action and a critical pre-requisite for health planning. The importance of health information is therefore well recognized and appreciated for all countries. However, this issue takes a special importance for developing countries where the allocation of limited resources can determine the difference between life and death. The paradox however is that, these developing countries usually devote a minimum of investment in the development of a robust health information system. As a result, evidence is lacking where it is highly needed as re-iterated by the World Health Report 2006.

Health information systems in developing countries are usually described to be inefficient fragmented and lacking coordination. Scope of data is usually limited and precision and lack of updating are often quoted as persistent problems. This situation is usually compounded by an apparent lack of analysis, assimilation and utilization of health information for policy and decision-making.

However, some new developments in the international health arena have converged to render the push for strengthening health information systems more powerful at country and global levels. Monitoring of progress towards the internationally agreed Millennium Development Goals (MDGs) is one strong drive for strengthening health information system. Other factors include the demand from donors for evidence to document health problems and progress of programs and projects. Examples in this aspect include the Global Funds to Fight AIDS, TB, and Malaria (GFATM) and Global Alliance for Vaccines and Immunization (GAVI). Moreover there is generally an increased global and local demand for accountability and evidence-based decision making, factors that can hardly be achieved without functioning information systems.

The health workforce, increasingly recognized as critical factor for health systems functioning, is an area apparently in need of an information system capable of providing evidence for policy and development of this valuable resource. Responding to this concern, human resources for health observatories have been put forward to represent a dynamic human resource information system. This report is all about this issue of observatory. The aim of the report is to promote the use of evidence to support HRH policy and planning in Sudan through adoption of an observatory model. Specific objectives include the following:

1. To review international experience on HRH information and observatories
2. To propose a national human resources for health observatory (NHRHO) for Sudan
3. To define and describe the major steps needed to establish the NHRHO
4. To draw a plan of action for the inception of NHRHO

The methodology of this report relies mainly on secondary sources including an extensive review of international literature besides reports, records and documents obtained from relevant institutions in Sudan. The previously conducted HRH mapping in Sudan and the ongoing health workforce census (the author being involved in both) have provided good insight into HRH information problems. This report also benefits from the deliberations and the report of the regional meeting on establishing HRH observatories organized by WHO/EMRO in Muscat, December 2006 in which Sudan has participated.

This report is structured in two sections; the first section presents an international perspective on introduction and development of observatories starting with a review of the importance of human resources for health. The second section focuses on the case of Sudan, in term of its human resources and prospects for the establishment of national human resources for health observatory. The report concludes by proposing a plan of action to establish the observatory in Sudan.

Section I: HRH observatory: an international perspective

Who are the health workers?

Health workers are considered to be all people engaged in actions whose primary intent is to enhance health (*WHO, 2006*). This definition entails that mothers looking after their sick children and other unpaid carers are in the health workforce. However, reports and statistics usually refer to health workers engaged in paid activities. This category must be extended to include health managers, supportive staff and health personnel working outside the health sector in addition to those directly involved in health services provision. The WHO estimates the global health workforce stock to be around 59 million workers. Two thirds of these paid workers are service providers and one third constitutes health management and support workers. The same ratio applies to the distribution of health workforce between public and private sectors (*WHO, 2006*). This global resource is inequitably distributed among countries. Those countries with the lowest relative need (usually in the north) have the highest numbers of health workers. The African continent is known for its remarkable shortage of health workers.

Why are human resources for health (HRH) important?

The importance of HRH within health systems is widely recognized; this is because health is a labor intensive sector and the workforce absorbs a high proportion of health expenditure, reaching 60-80 percent of the total running costs (*Buchan, 2000*). Health workers glue together the different parts of the health system to spearhead the production of health (*Chen et al, 2004*). Thus the vehicle and object for change in health is primarily the human resource (*Adams and Hirschfield, 1998*). Evidence confirms that effective workforce strategies enhance the performance of health systems, even under difficult circumstances (*Chen et al, 2004*). Currently, HRH is widely recognized as the key element for achieving the Millennium Development Goals (MDGs) and scaling up health interventions (*WHO, 2006*).

During the past decades, the area of HRH was quite neglected. This was manifested in many aspects including weak data and information on health workforce, paucity of research in this area, poor human resource management function and the dichotomy between HR planning and the overall health planning (*Adams and Hirschfield, 1998*). Health sector reform (HSR) movement overwhelming many developing countries since 1980s has generally focused on changes in financing or organizational structure, often to the neglect of staff (*Martineau and Martinez, 1997*).

International initiatives on HRH

A recent focus on HRH has emerged taking the form of global initiatives to address the health workforce crisis especially in developing countries. Donors has started to consider direct support to top up health workers salaries (a previously excluded area) and more frequent international meetings were organized to address HRH issues. Examples of initiatives include the **Global Health Workforce Alliance (GHWA)**, a multi-actor partnership dedicated to identifying and implementing solutions to the health workforce crisis. Another example is the **Joint Learning Initiative** on Human Resources for Health and Development (JLI) launched in 2002 by the Global Health Trust in recognition of the importance of health workers for the functioning of health systems. The JLI has produced the strategy report: **Overcoming the Crisis** which has evoked a lot of international interest and debate on HRH issues. The European Union (EU) has also shown its interest in health workforce issues by producing in 2005 the **EU Strategy for Action on the Crisis in human resources for health** in developing countries together with its package of action oriented decisions. During the **G-8**

(Group of Eight major industrial countries) summit in April 2006, HRH was recognized as one of the main areas in need of support. **The Global Fund to Fight AIDS, TB and Malaria (GFATM)** has recently started to provide funding for HRH in recognition of the centrality of health workers in the fight against these diseases. In addition to the global initiatives, some forums focusing on developing countries started to move in the same direction; the **High Level Forum (HLF)** on the Health MDGs has released its report: *Addressing Africa's Health Workforce Crisis: An Avenue for Action* in recognition of the importance of HRH to achieve the MDGs.

To signal absolute importance and consideration for HRH domain, the WHO has devoted the **World Health Report 2006** for the health workforce issues. A movement to create **HRH observatories** has also started to spread building on the model adopted by the Latin American and Caribbean countries. The African and the Eastern Mediterranean regions of the WHO have started efforts to establish national and regional health workforce observatories.

What is the observatory on human resources for health?

Rigoli and Arteaga (2004) defined the HRH observatory for the region of the Latin America and the Caribbean as, "a cooperative initiative among the countries of the region aimed at producing information and knowledge in order to improve human resource policy decisions as well as contributing to human resources development within the health sector on the basis of sharing experiences among countries". Thus, the observatory is envisaged as a partnership based on networking and multiple stakeholder participation. The hallmark of the observatory is that it is a dynamic human resources information system (HRIS) based on stakeholder involvement and ownership. The main purpose of the HRH observatory is to monitor trends in patterns of the health workforce to provide reliable and instant data and information needed for evidence-based decision making and policy development (*Abubakr, 2006*).

Latin America and Caribbean experience on the observatory

Considering the inadequate focus on HRH issues within health sector reform initiatives, the Pan American Health Organization (PAHO/WHO) committed itself to increase emphasis on health workforce aspects in a move to materialize commitments made by Heads of States. This effort started in the early 1990s and it developed into establishment of the Regional Observatory of Human Resources in Health in 1998. The final objective of the regional observatory was to improve the use of knowledge and information on human resources by relevant stakeholders (*Rigoli and Arteaga, 2004*). The approach adopted by the observatory to achieve this objective was the promotion of a creative use of the available information. Instead of substituting the existent information systems, the observatory worked towards upgrading and supporting these systems in terms of gathering, analyzing and disseminating HRH information. A core data set was defined in order to systematize the existing sources and facilitate comparisons across the countries of the region.

The observatory started to practically function in 1999 with a membership of 9 countries. Following that, other countries started to join gradually and by 2004 there were 19 countries actively involved in the regional network (*Rigoli and Arteaga, 2004*). Within these countries, national observatories were created based on broad stakeholder representation involving ministries of health, academia, professional associations, corporate providers and user representatives. The HRH observatory for Latin America and Caribbean region has evoked a lot of work on improving the methodology and analysis of HRH studies and data. Several documents and guidelines have been produced in the different countries of the region. The data analyzed and compiled at the national and regional levels has enabled countries to better examine the impact of health sector reform programs on the area of HRH. However, the degree to which this effort is incorporated into policy and decision making within country

health systems is not yet clear. Keeping the dynamic of the observatory within these countries has shown heterogeneous results, with countries having a very dynamic observatory such as Brazil, and others confronted with problems of sustainability such as Chile. Political instability and lack of integration of relevant stakeholders have also proven to be an obstacle for the functioning of national observatories.

Overall, the establishment of the HRH observatory in the region of Americas has proved to be an effective way to maintain the theme of HRH within political agenda not least, due to the advocacy role played. The observatory has also made important contributions to strengthening the stewardship role of Ministries of Health through bringing together the multitude of stakeholders concerned and thus enabling better planning and management.

It is anticipated that the Latin American experience of the observatory will effect positive changes in the formulation of health policies through its participatory approach. The core data set approach adopted could be developed to constitute a common methodology that can be used for comparative analysis, studies of trends and forecasting purposes. Major strategies of the observatory include providing a comprehensive framework for human resources for health planning based on the best evidence available; formulating national and regional agendas that are flexible and relevant to the policy making context; and bringing together diverse institutional stakeholders in Member States for policy dialogues on issues important for human resources development (*PAHO, 2004*). Country based groups of stakeholders involved in observatories constitute a promising venue for continuously updating the health workforce agenda of interest in each country and to come up with cross cutting issues such as labor flexibility, inequitable distribution and migration for regional discussion. A likely prospect for the coming years would be the organization of regular regional or sub-regional health policy forums, meetings of advisory structures and other networking events. These activities can help foster collaborative partnerships and a sense of collective social responsibility among relevant stakeholders (*PAHO, 2004*). Finally, the scope of the observatory's activities can be expanded to deal with the emerging human resources challenges in the aspects of primary health care, essential public health services and emerging epidemics like HIV/AIDS. In 2006, the Toronto Call for Action has declared the coming decade (2006-2015) as a decade of human resources for health in the Latin American and Caribbean Region building on the successes and efforts of the regional observatory in HRH.

Rationale for observatories

It is now clear from the Latin American example that the hallmark of observatories is data and information management culminating in providing better evidence to inform policy and decision making regarding HRH issues. The rationale for observatories lies in the heart of this issue of HR data and information. The WHO has noted that the basic information on the health workforce required to inform, plan and evaluate resources is in very short supply in virtually all countries. Often, the health workforce information that is available to national decision-makers is extremely poor and it is common to find ministries of health not knowing how many health professionals there are in the country, let alone how they are distributed (*WHO, 2006*). Systems for recording and updating health worker numbers often do not exist leading to severe limitation on the development of evidence-based policies on human resource development. Thus, HRH observatories as proposed seem to be highly critical and needed for the health systems of all countries.

HRH data: problems and challenges

In addition to the global lack of data on HRH highlighted above, some methodological problems are also well known in this area. A framework that describes the boundaries and make-up of the health workforce is lacking (*WHO, 2006*). Other problem areas include:

- Classification of the health workforce: currently the focus on health providers such as doctors and nurses renders invisible a wide range of other service providers besides management and support staff. Moreover, categories of health workers are not homogenous across countries making comparisons more difficult.
- Harmonization of data collection mechanisms and tools: this also proved to be a problematic area because different countries use different approaches in deciding indicators and collecting data. With such a situation, cross-national and time-trend comparability would be difficult.
- Metrics for performance assessment: the task of assessing performance of the health workforce proved to be a difficult undertaking in several countries. This has often made policy-makers and donors sceptical about investing in HRH (*WHO, 2006*). Indicators based on health workforce performance parameters need to be developed as a base for the assessment of health personnel performance.
- Building and strengthening HRH analysis capacity: the use of existing data on HRH is mostly hampered by the lack of knowledge and skill in assimilation and analysis of data. It is fundamental to address this problem before embarking on improving the generation of new data.

Currently, the WHO is working on developing a common technical framework for HRH. Efforts in this regards has started in 2005 in collaboration with USAID (*WHO, 2006*). However, the area of data harmonization and methodology will remain as a challenge that should be systematically addressed in order to improve evidence base for HR policy and planning.

Objectives of observatories

The main objectives of HRH observatories could be as follows:

- To advocate for HRH issues and keep them up the political and health sector agenda
- To strengthen the governance and regulation capacity of the ministries of health
- To provide better evidence to support policy and decision making in the health sector
- To bring together different stakeholders and mobilize resources and technical support to provide information for policy decisions.
- To strengthen the knowledge base and promote research in the area of HRH

Functions of the HRH observatories

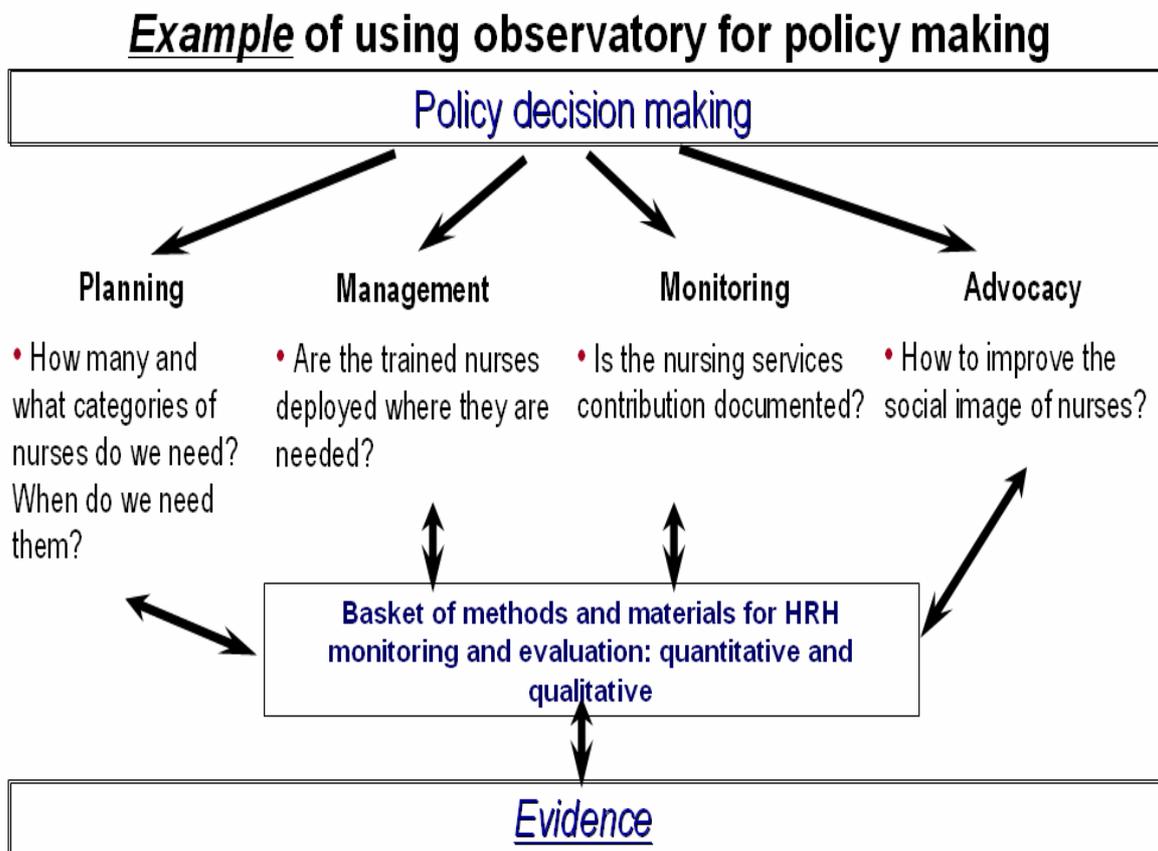
Building on the objectives outlined above, the observatories could perform the following functions:

- Developing and strengthening HRH information systems at regional, national and sub-national levels. This could be achieved by deciding a core data set, harmonizing tools for data collection, building and supporting analysis capacity and promoting in-depth HRH assessment in countries.
- Continuously observe and monitor the dynamics in the health workforce within regional and national settings
- Decide and prioritize research agenda on HRH issues and actively engage in guiding and conducting research in this area
- Create links between data producers and researchers on one side and the policy makers and health managers on the other side through policy platform and dialogue
- Dissemination and publication of databases and research on HRH for advocacy and policy purposes.

The ultimate benefit of the observatory for the country health system is typified by the provision of solid evidence made ready for use to reinforce, adjust or completely alter a policy

or practice within the health sector. Figure (1) shows how the observatory can be used for policy making.

Figure 1: Observatory Model



Source: Dal Poz, M. Evidence for health workforce policy and development, presentation to Oman meeting on HRH observatories, 2006.

HRH observatories: national or regional?

Now, the case for a national observatory on HRH is quite clear. Within country health systems, the gaps in health workforce information and the weak evidence base call for the urgent inception and functioning of the observatory in every country. On the other hand, establishment of regional observatories to coordinate efforts of the national ones has also been proposed for consideration. This paper strongly supports the idea of creating observatories beyond the national level, preferably on WHO regional basis. Considering what has been presented about the global situation of HRH data and information, the creation of regional and global networks becomes almost mandatory. The following specific points could be proposed to justify the presence of regional observatories:

- The lack of tools and frameworks, absence of shared standards and the limited amount of evidence on what works are all factors calling for regional and international collaboration
- The scarcity of technical expertise and the paucity of research in HRH area also call for communication and networking beyond country level.
- HRH problems and issues within countries of a specified region mostly carry a lot of similarities, hence networking and exchange of experience could help countries to adopt proven strategies and avoid repetition and resource wasting.
- A regional network could keep the momentum of national observatories through means such as meetings, technical support and competition between countries.

The regional consultative meeting on taking the HRH agenda forward organized by WHO/AFRO in Brazzaville 18-20 July 2005 has described four phases to establish an HRH observatory. These constitute the start-up activities of defining the concept and context, mapping of and communicating with key stakeholders and partners, starting national observatories, and active networking with regional coordination.

The structure of a national HRH observatory

The observatory should be composed of the major stakeholders concerned led by the ministry of health. Possible stakeholders at the national level, in addition to the MOH could include the following:

- Ministry of higher education, universities and academia
- Professional associations representing health workers
- Registration bodies responsible for licensing and monitoring of health professionals
- Corporate providers of health services including insurance funds and the uniform forces
- Representatives of bilateral agencies, NGOs and private for profit sector

A board representing all these partners could be created and entrusted with the role of guidance, deciding policy directions, in addition to facilitating access to data and information across institutions represented by these stakeholders. The board can also agree/advise on the priorities, approve annual plans and allocations, monitor the work of the secretariat, participate in, and support fund-raising. An executive body (secretariat) is needed to deal with operational issues and implementation of the functions and activities of the observatory. A focal point is proposed to facilitate link and communication and to coordinate meetings and activities. The secretariat and the focal point should be based preferably at the ministry of health or otherwise at the premises of any of the main stakeholders.

Section II: HRH observatory in Sudan: taking the agenda forwards

Background on HRH in Sudan

The history of comprehensive and organized health services in Sudan properly begins in 1899 with the inauguration of Anglo-Egyptian Condominium (*Bayoumi, 1979*). Health personnel were exclusively non-Sudanese with the British doctors leading the service. It was not until the First World War, when recruitment of expatriate staff became difficult, that Sudanese element was introduced. Until 1924 the health workforce consisted of 16 British doctors, 30 Syrian doctors and 20 Sudanese medical assistants who were the first batch of the medical assistants school established in Port Sudan in 1918 (*Bayoumi, 1979*).

The year 1924 marked the inauguration of Kitchener School of Medicine-later Faculty of Medicine, University of Khartoum- as the first medical school in tropical Africa. Its first batch of Sudanese doctors joined the service in 1928 (*Bayoumi, 1979*).

The period up to the country's independence in 1956 witnessed establishment of several health personnel training schools including besides doctors and medical assistants; nursing, midwifery, laboratory, public health and other cadres. In 1969 the total health workforce reached 11,049 including over 12 different professions (*FMOH, 1969*). Doctors were then 874, exclusively Sudanese.

During the following 20 years, the number of health personnel increased considerably following expansion of training and opening of new schools for several cadres. Table 1 presents a comparison for selected professions.

Table 1: Increase in numbers of selected five medical professions in Sudan for the years 1969, 1979, and 1989

Category	Total Numbers		
	1969	1979	1989
Doctors	874	2177	2499
Medical Assistants	782	2280	4947
Nurses (enrolled)	7281	12871	16954
Sister Nurses (university degree)	53	252	450
Midwives	1572	3697	5308

Source: Annual statistical reports, FMOH 1969, 1979, 1989.

The year 1990 marked a beginning of what came to be known as the "Revolution of Higher Education--RHE". About 10 new universities were opened and a great expansion of intake ensued. Over the coming years, the number of medical schools rose from 4 to reach 28 in 2006 including 5 private schools. By the year 2000, the number of annually graduated doctors jumped from 400 to 1400 (FMOH, 2004). The following table reflects the situation following RHE.

Table 2: Trend in numbers for five medical professions in Sudan for the period 1997-2005

Category	Total numbers								
	1997	1998	1999	2000	2001	2002	2003	2004	2005
Doctors	3423	4462	4424	4992	5561	5765	6193	6604	8008
Medical assistants	5742	5685	6052	6193	6610	6748	6730	6746	6932
Nurses (enrolled)	16509	17591	18292	17526	16199	16531	17174	16900	17923
Midwives	7506	7601	8047	9290	10045	10415	11360	12159	13109
Sister Nurses	472	560	527	548	626	676	698	781	961

Source: Annual statistical reports, FMOH 1997-2005.

Despite the educational expansion, the health personnel to population ratios in Sudan are still high compared to standards and to other countries. Doctor to population ratio is 1:6,000, lagging behind the WHO health for all standards of 1: 5,000 and far behind the 1: 1,400 ratios in all developing countries and 1: 300 ratios in industrial countries (USAID, 2003). Likewise, the nurse to population ratio in Sudan is 1: 2,000 in comparison to 1: 1,700 and 1: 170 in developing countries and industrialized world respectively (FMOH, 2003).

Geographical maldistribution further distorts this picture. While ratios for generalist and specialist doctors are 1: 2,000 and 1: 10,000 in Khartoum (the capital), they are 1: 100,000 and 1: 500,000 respectively in the southern state of Bahr Alghazal (FMOH, 2003). However, this expansion of the health workforce in the country poses several challenges that will be outlined in the following sections.

Human resource development (HRD)

HRD situation, encompassing HRH planning, training and management (Hall and Goubarev, 2000), is rather weak in Sudan.

The department of human resource in the FMOH which is supposed to lead planning was, until recently, subordinated, understaffed and largely geared to personnel administration function (Elabassi, 2003). States human resource departments were rudimentary and confined to training events administration.

This situation, coupled by the lack of data on HRH, resulted in poorly developed and largely unrealistic health workforce projections in the National Comprehensive Strategy (NCS) for the period 1992-2002 (Elabassi, 2003).

As for training, the traditionally known two types of health personnel education (university training and professional enrolment) were both deeply rooted. In the first category training started as early as 1924 with the establishment of the medical school in Khartoum. In 1937

Sudanese doctors started to be sent for postgraduate training in Britain (*Bayoumi, 1979*). Later, local postgraduate studies were established and in 1995 the Sudan Medical Specialization Board (SMSB) was introduced. In 1956, Khartoum Nursing College-later School of Nursing, University of Khartoum-was opened. Its graduates were female sister nurses. Recently 10 new nursing schools were added and admission was offered for male candidates as well (*FMOH, 2004*). As for the second category, training was quite old dating back to 1918 (medical assistants' school). Qualification is usually professional and of a local value. However, a recently adopted policy (Sudan Declaration for Development of Nursing and Paramedical Professions) envisioned upgrading of nursing and midwifery education to a university degree. Implementation of this new policy is now ongoing. Continuing education and professional development in Sudan is not systematic and largely missing (*FMOH, 2005*). In the management aspect, the majority of health staff in Sudan is employed by the government under the umbrella of the civil service. Salary structures are weak and promotional differences are negligible. Entry monthly salary for doctors is 50,000 SD (US\$ 250). This compares to US\$ 430 in Zimbabwe a similar African country (*USAID, 2003*). Following on the weak capacity and planning function of the human resource department, management functions including recruitment, deployment and retention were extremely weak. However, during the past few years and following a change of leadership in FMOH, human resource function was given attention and new policies and plans started to appear. Examples include doctors' pathway policy (career structure), training policies and the 10 year HRH projection plan for the period 2003-2013.

HRH information in Sudan

The health information system in Sudan is organized and led by the ministry of health through the National Centre for Health Information (NCHI). The system collects data and information from the lower PHC levels and runs through to the national level. Health workforce information forms part of that system. However, as will be explained later, the system has several shortcomings not least of them is its limitation to public sector information. Therefore it is difficult to say that there is a sort of consistent human resource information system (HRIS) in Sudan.

Following the recent revival of the FMOH and HRH department, some vital ingredients for a proper HRIS has been successfully introduced. One is the HRH mapping which has been conducted nationwide in collaboration with the WHO during the year 2005 (*Bushara and Badr, 2005*). This mapping has generated useful foundations for health professions definitions and categorization besides providing vital data on the numbers, mix and distribution of the health workforce in the country. The other ingredient is the national HRH census in Sudan which has also been successful inaugurated in 2006 in collaboration with the WHO and planned to be finished in March 2007. the census is expected to generate a comprehensive data set on HRH in the country that could be used as a solid base for the human resources for health observatory.

HRH stakeholders and their role

The list of possible stakeholders for the observatory in Sudan is really extensive (Box 1). Several institutions have and can play some roles regarding HRH data and information in addition to other functions touching on policy, management and development. The following is an account of these stakeholders together with their current and potential roles in HRH data and information.

Box 1: List of stakeholders with potential contribution to HRH observatory in Sudan

List of HRH observatory stakeholders in Sudan

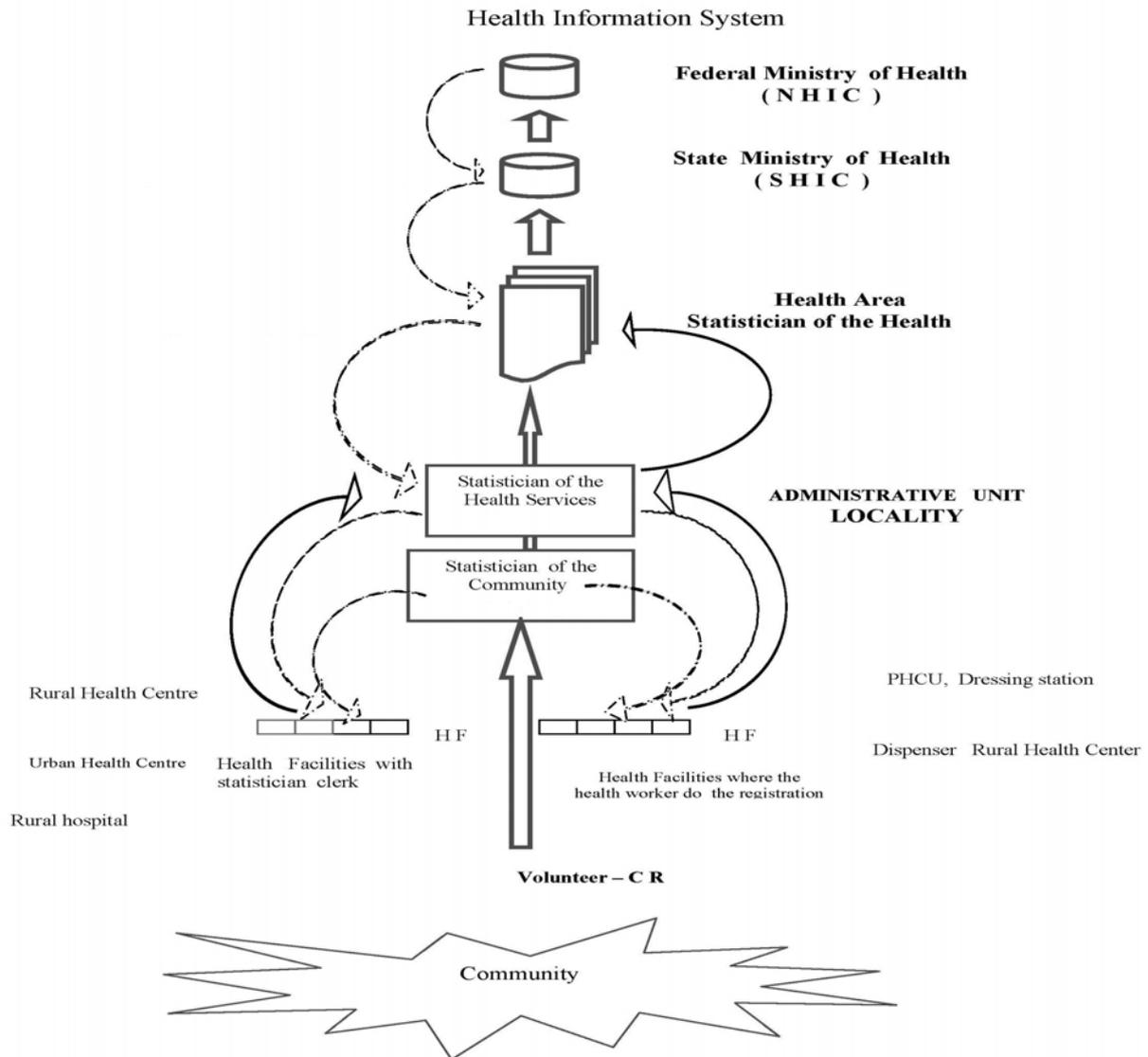
Federal Ministry of Health (FMOH)
Ministry of Higher Education (MOHE)
Ministry of Labor (MOL)
Sudan Medical council (SMC)
Council for allied Health Professions (CAHP)
Sudan Medical Specialization Board (SMSB)
Sudan Health Professions Trade Union (SHPTU)
Sudan Doctors Union (SDU)
Army Medical Corps
Police Health Services Department
Secretariat for Sudanese Working Abroad (SSWA)
Health Insurance Fund
National Center of Information
Ministry of Health- Government of Southern Sudan
WHO Office/Sudan

Source: Author

1. **The Federal Ministry of Health.** The FMOH is regarded to be the principal stakeholder due to its responsibility for policy, planning and management of the health workforce in the country together with the States Ministries of Health (SMOHs). The ministry (national and state level) is the biggest employer of health personnel in the country. The FMOH will be the main beneficiary and user institution of the intelligence generated by the observatory. In relation to data and information on HRH, the ministry use to compile data on the health workforce through its annual statistical report that is published by the National Centre for Health Information (NCHI) hosted within the FMOH. In addition to that, the Department of human Resource Development keeps the registry of health personnel on training scholarships in different disciplines. The parameters of data on HRH compiled by the FMOH are limited both in scope and coverage of all health workers in the country. Although the NCHI uses a health information system that runs from the bottom up to the national level (Figure 2), the quality of data is adversely affected by lack of training and motivation among the staff (*Habbani et al, 2006*). Coming to the scope of data, the annual statistical report doesn't usually cover staff parameters like age, gender, marital status and qualifications. Data on health workers employed by the private sector and corporate institutions is totally not included in the report. The FMOH also carries occasionally some mapping and surveys related to health services infrastructure including health workforce. Prominent examples in this regards include the health system survey conducted in 2004, the mapping of HRH carried out in 2005 and the national HRH census which is currently under implementation. A worth-noting observation is that, data generated out of these surveys doesn't usually feed into the annual statistical reports produced by the ministry. There is a great potential for the FMOH and the SMOHs to generate a comprehensive, current and precise database and information on HRH in the country. This could be done through a focus on strengthening the existing information system infrastructure, redefining and organizing the role of HR departments in compiling and updating health workforce data, and a system to integrate the data generated by surveys into the HRIS. Enhancing collaboration between FMOH and SMOHs in addition to provision of electronic setup and capacity could be instrumental in this aspect. Following the signing of peace agreement in the southern part of Sudan in 2005, a constitutional level (Government of Southern Sudan-GOSS) has emerged as dictated by

the comprehensive peace agreement (CPA). The ministry of health- GOSS is created to supervise the 10 ministries of health in the southern states. Therefore, the role of the ministry of health-GOSS is instrumental for the functioning of the observatory and this ministry should be among the principal stakeholders.

Figure 2: Health information flow chart in Sudan



Source: The National Center of Health Information, FMOH, 2006

2. **Ministry of Higher Education (MOHE):** this ministry is responsible of universities and higher institutes including medical schools and health training institutions. The research department of the MOHE compiles data and information related to the number of training institutes, their student intake and enrollment, staff and some other parameters in a form of annual report. This information includes both public and private training institutions. However, this data seems to be not widely disseminated and utilized by the universities and related institutions. Moreover, the data is not communicated to the FMOH to be used for planning purposes. In view of the great expansion of medical education in Sudan, data and information compiled by the MOHE deserves a special importance and consideration. There is a room to improve HRH data and information coming out of the MOHE. Expanding the scope of data to include all parameters relevant for the educational process is a vital step to enrich the database. Improving the format and contents of the annual

report and building capacity for analysis, presentation and communication of the data could also be beneficial. The critical final step is to link this database to the HRIS in the FMOH and ultimately the national observatory.

3. **Ministry of Labor (MOL):** this ministry has two important bodies dealing with workforce issues. One is the Chamber of Civil Service which is concerned with recruitment, appointment and promotion of public sector staff including health personnel. This chamber holds the records of jobs both, filled and vacant across the country. The other body is the national department for training, hitherto the National Council for Training. This council is responsible for funding and managing local and outside training for public service employees. Thus it holds the registry of scholarships and training opportunities provided in each sector including data pertinent to the health workforce. Currently, the MOL provides no regular reports or databases on the issues mentioned above; information can only be retrieved from records and files kept within the Civil Service Chamber and the National Centre for Training. The potential is there for this ministry to provide a source of regular and extremely valuable data and information for use of HR policy and management. A setup could be instituted to collect and compile data from the two institutions and then be linked to the HRIS under the umbrella of the observatory.
4. **Sudan Medical Council (SMC):** this independent body keeps the registries of doctors, dentists and pharmacists. According to its law, the SMC holds three types of registries: the first is the temporary registry for intern doctors (house officers) and doctors coming from outside the country for temporary practice, the second is the permanent registry for medical officers, dentists and pharmacists and the third is the registry for specialists. The SMC keeps these registries in a manual format of records that is not usually published or disseminated. However, one vital point worthy of mentioning is that these records are not updated because the council operates no policy of re-licensing; thus those who died or left the country or the profession are not usually deleted from the records. If a policy of re-licensing is adopted, the SMC can provide a valuable source of precise and current data about doctors, dentists and pharmacists.
5. **Council for Allied Health Professions (CAHP):** this council is affiliated to the FMOH (although it is heading now to be an independent body). It operates under the Public Health Act of 1975 and is responsible for licensing and registering nurses, paramedical and technical staff other than doctors, dentists and pharmacists. The CAHP holds the temporary and permanent registries of these health personnel. Similarly to the SMC, there is no policy of re licensing and eventually the registry is not updated. Since the practice of all health professions is tied to registration, the CAHP has a great potential to provide a useful database regarding a wide range of health workers, especially if re-licensing is adopted. The information system in this council should be consciously developed to provide for this aspect.
6. **Sudan Medical Specialization Board (SMSB):** the board is responsible for the postgraduate training of doctors in Sudan. After its establishment in 1995, it eventually became the sole body for doctors' specialization in the country. This fact enabled it to hold a database of the overwhelming majority of doctors enrolled for postgraduate training in different medical disciplines (registrar doctors). The SMSB keeps a manual record of registrar doctors, together with their distribution and issues annually the number of doctors awarded specialization in different branches. The board could be a good source of data and information on doctors enrolled for postgraduate training and the newly graduated specialists.
7. **Sudan Health and Social Professions Trade Union (SHSPTU):** this trade union joins together all categories of health workers besides those working in social professions. Such

a comprehensive organization came to be known in the trade union movement in Sudan during the 1990s and there use to be since then some scepticism about its role and effectiveness. Although the membership of the SHSPTU covers all categories of health workers, its role in HRH data and information is not apparent. This organization has no records or database of health professionals although the potential in this respect is promising. A comprehensive database about health workers could be established within the SHSPTU through registries of membership dues. This process, revised on monthly bases can also provide for excellent up-dating of HRH information and can be used for triangulation with the data from FMOH to check completeness and precision.

8. **Sudan Doctors Union (SDU):** this is a deeply rooted body that used to be the trade union representative of doctors. During 1990s, its role was re-defined to be a function of professional development of doctors. Regarding data and information, the SDU holds no records or database for doctors although there is a potential for developing such records through contact and services provided to doctors. This could provide for a current data that could supplement and check the relevance of SMC database. Also, the SDU is better suited to provide some data about medical doctors working abroad through the branches that it can create in destination countries where considerable numbers of Sudanese doctors work. Besides the SDU, there are other professional associations for dentists, pharmacists and medical technicians. All these associations can have an important role in HRH information provided they consciously give concern to this dimension.
9. **Army Medical Corps:** the armed forces of the country have a medical service department mastered by the central medical corps in Khartoum. Army health personnel are distributed in health centres and hospitals affiliated to the medical corps across different states. The medical corps headquarters holds the records and data related to their health workforce. These data do not usually feed into the records of the FMOH and there is generally some difficulty in accessing HRH information within the medical corps. Since the recruitment, training and other issues concerning military health personnel are operated outside the remits of civil service, it is extremely important that a database be established within the central medical corps with all inputs and setup necessary for relevance and updating. This can then feed into the national observatory.
10. **Police Health Services:** similarly to the army, data pertinent to police health personnel is not available for the FMOH records; rather, the police health service administration retains its autonomy with regards to information and management of its health workforce. It is not clear whether the police operate a comprehensive database of health workers. However, what is said about the database for army health workers is equally relevant for the police health workforce.
11. **Health Insurance Fund:** health insurance is introduced in Sudan in 1994 through the creation of the national health insurance fund. Since then, this fund is involved in the management and provision of some aspects of health services. Although the staff is mostly seconded from the MOH, health insurance has its own exclusive staff especially within the categories of administrative and supportive professions. The fund holds records related to its health workforce although these are not computerized and not usually published and disseminated. The health insurance fund could be a source of useful data about some categories of health workers, especially those new categories that are introduced to carry specific functions related to the work of the fund. The branches of the national health insurance fund across the states can provide for an updated data on the numbers and distribution of health staff involved with this organization.
12. **Secretariat for Sudanese Working Abroad (SSWA):** this is a government agency concerned with the affairs of the Sudanese who are employed abroad in different labor sectors. The SSWA holds a registry of Sudanese expatriates including health

professionals. This record is described to be limited in scope and data richness, besides it is passive in the sense that it covers only those expatriates who come through the official channel to clear their situations (*Badr, 2005*). However, there is a great potential to improve this system to provide a comprehensive database of migrant Sudanese health personnel. The secretariat use to organize regular visits and meetings to the groups of Sudanese working abroad; these meetings could represent excellent chance to collect and update information for different types of workers. Another potential is to make use of the links between SSWA and the professional and social networks of Migrant Sudanese to supplement and enrich the database. Given these steps are taken, the forms and data sheets could be redesigned to provide for a comprehensive picture about migrant personnel. In view of the great loss of Sudanese health professionals to out-migration, the registry of SSWA acquires special importance for the policy and management of HRH in the country.

13. **National Centre for Information (NCI):** this is a newly established body affiliated to the Council of Ministers. It has no specific role in keeping records or data about health workforce; however, it can have an important role in providing access and coordination between stakeholders concerned with HRH data and information. Its legitimacy and power can be utilized to facilitate access to data and records of different governmental authorities. Moreover, the NCI can provide some technical and logistical support to facilitate data collection through routine means or mappings and surveys.
14. **Private sector institutions:** the private sector in Sudan has witnessed considerable expansion during the last decade; this holds true for the health sector with the appearance of several hospitals and medical schools affiliated to the private sector. Although most of the private sector facilities depend on the public health workforce, it is increasingly noticed that these private institutions are moving towards hiring full-time staff. There is currently no reliable and comprehensive source or database of private health professionals due to the absence of a body that represents or coordinates these private health institutions. As mentioned earlier, the private sector data does not feed into the annual statistical report produced by the FMOH. Building on the expected results of the national HRH census, the FMOH and The MOHE should establish a system to monitor and update health workforce data for private institutions both in service and education sectors.
15. **World Health Organization (WHO):** the WHO is much concerned with the HRH data and information through its technical support for the country health system. This is manifested by several initiatives and the involvement of WHO/Sudan in the national HRH census currently under implementation. The organization can facilitate the work of the observatory through mobilization of resources and technical support in the area of database and systems for sustainability, updating and monitoring. Staff training and help in the information technology (IT) setup are fundamental roles that WHO can also play. Moreover, the WHO can help in enriching and updating HRH information through its sub-offices in the south and some other states of the country. Other related UN agencies and NGOs can also afford to provide similar support to the functioning of the HRH observatory.

The following table summarizes the roles of different stakeholders concerned with HRH data and information in Sudan.

Table 3: Main stakeholders related to HRH and their role in support of the observatory

No	Stakeholder	Current role	Potential role
1	Federal Ministry of Health	-annual statistical report (ASR) -records of HRH dep. - mappings and surveys on the health workforce	-improving scope and quality of ASR -periodical reports from HRH dep. - maintaining a database on HRH
2	Ministry of Higher Education	-annual report on medical schools (staff and students)	-inclusion of other health training institutions -improving scope and quality of the report
3	Ministry of Labor	No obvious role	-records and reports on health related jobs -records of scholarships for health personnel
4	Sudan Medical Council	Registry of doctors, dentists and pharmacists	Periodically updated registry (relicensing)
5	Council for Allied Health Professions	Registry of nurses and paramedical staff	Periodically updated registry (relicensing)
6	Sudan Medical Specialization Board	Records of registrar doctors enrolled for training	Annual report on intake and graduation
7	Sudan Health Professions Trade Union	No role	Records of membership (regularly updated)
8	Sudan Doctors Union	No role	-Records of membership -Records of doctors abroad
9	Army Medical Corps	No obvious role	Records and reports on health workers affiliated to the Armed forces
10	Police health services department	No obvious role	Records and reports on health workers affiliated to police
11	Secretariat for Sudanese Working Abroad	Records of some categories of migrant Sudanese health personnel	-records of all categories of migrant health workers -annual report analyzing health workers abroad
12	Health Insurance Fund	No obvious role	-records of health workers affiliated to Insurance Fund -annual report on characteristics of health workers
13	National Centre for Information	No role	-Facilitation of access to data and information -support for analysis and technical aspects
14	Ministry of Health/ Government of Southern Sudan	Records of health workers in the south	-comprehensive records on all health workers -annual report on characteristics of health workers
15	WHO/Sudan	Technical support for FMOH	- support for health workforce survey -IT support and technical assistance - regional networking and exchange of experience

Source: Author

Prospects for the HRH observatory in Sudan

Given the contemporary context, the inception of an HRH observatory stands a good chance for success. The revival of the ministry of health and the renewed focus on public health in the country are among the principal ingredients for that. The following is a SOWT analysis

for the establishment of human resources for health observatory in Sudan based on the analysis of the country context

Table 4. SWOT analysis for the inception of NHRHO in Sudan

Strengths	Weaknesses
<ul style="list-style-type: none"> ➤ Upgrading of HRH department in the FMOH ➤ A completed mapping of health workforce in the country ➤ Ongoing HRH census ➤ Signing with the WHO to establish HRH observatory in Sudan ➤ Ever-improving telecommunications infrastructure in the country 	<ul style="list-style-type: none"> ➤ Lack of a functioning HRIS ➤ Fragmentation of HRH data and information ➤ Rather weak stewardship role of the health system (FMOH) ➤ Weak IT expertise and culture ➤ Limitations of the existing health information system (lack of comprehensive data on HRH)
Opportunities	Threats
<ul style="list-style-type: none"> ➤ Interest and resources of the potential national stakeholders ➤ Improved governmental spending on health ➤ Renewed interest of the WHO in HRH issues and observatories ➤ Global initiatives created in response to HRH crisis in developing countries 	<ul style="list-style-type: none"> ➤ Lack of coordination between stakeholders and barriers for information access ➤ Political/administrative turnover ➤ Financial threats ➤ New workforce arrangements within decentralization (Adverse effects on national memory)

Source: Author

However, there remain some major challenges that need to be addressed in order to prepare the environment for the success of the observatory. One major challenge is the revival of health information system in terms of infrastructure and technical capacity. This could be the prime asset for the success and continuity of the observatory. Another challenging area is how to deal with the new workforce arraignments brought about by the recent constitutional changes in the country. Within the interim constitution, the responsibility of recruitment and management of all grades of civil service employees has been transferred to states. Without making relevant precautions this could have a deleterious effect on the national memory regarding HRH information. Updating of databases and sustainability of the observatory remain as important challenges that need to be catered for. A suitable IT support and expertise are fundamental in helping to secure relevance and sustainability. Finally, the most important challenging issue is definitely how to incorporate evidence generated through HRH observatory into the decision making process. Without achieving this, the observatory will remain largely theoretical without any substantial impact on the health services and ultimately population health.

Establishing the observatory in Sudan

Appreciating the need to refocus on the issues of HRH in the country, national human resources for health observatory (NHRHO) should be set up with the mission of promoting generation, assimilation and use of HRH intelligence to inform health policy, planning and decision making in the country. The main goal of the NHRHO should be to bring together all partners concerned to work systematically towards streamlining HRH information and integrating it into a coordinated decision-making process. The observatory could pursue the following objectives:

1. to strengthen coordination and links between stakeholders concerned with the issues of HRH in the country
2. to raise awareness about the importance of HRH to health care and to advocate for a better consideration for health workforce within political and health system agenda

3. to establish an effective human resources for health information system (HRIS) based on the functioning health information system of the country
4. to promote HRH research and support the incorporation of knowledge generated into policy and decision-making
5. to mobilize resources and commitment to ensure effectiveness and sustainability of the observatory

Structure and functions of the NHRHO in Sudan

Building on the experiences presented, the NHRHO should be composed of an observatory board, a secretariat and observatory branches within the partner institutions and in the states. The following is an account of the composition and roles of each level of the observatory:

The Observatory Board

This board should be formed through high level representation of different stakeholders mentioned earlier. The board will act as the supreme power and the highest level of the NHRHO therefore; its composition should guarantee commitment, effectiveness and ability to convene on regular basis. The responsibilities of the observatory board could include the following:

1. decide policy directions and oversee the work of the NHRHO
2. advise and agree on the priorities regarding the scope of work and steps needed
3. establish and monitor the secretariat and the branches of the observatory
4. review and approve the annual plans and the strategies of the NHRHO
5. mobilize funds and support needed to maintain and upgrade the functioning of the observatory
6. meet on regular basis (quarterly) to oversee the work and ensure cooperation and commitment of stakeholders

The Observatory Secretariat

An executive secretariat for the NHRHO should be created at the national level to deal with the operational role necessary for the functioning of the observatory. The secretariat is to be led by an executive secretary (focal point) and should include other staff such as IT personnel and other support staff. The secretariat can be regarded as the dynamo of the NHRHO with the following possible roles and functions:

1. prepare the agenda and plan of work for the observatory to be approved by the board
2. prepare for and coordinate the meetings of the observatory board
3. responsible for implementation of the plan and different functions of the NHRHO
4. establish, support and monitor the observatory branches in the states and within the stakeholder institutions
5. establish and manage the national database of HRH with all the steps needed to ensure its effectiveness and updating
6. commission and support implementation and dissemination of HRH research within the priorities decided by the board
7. produce HRH intelligence and reports needed to support policy and decision-making concerning HR issues

The Observatory Branches

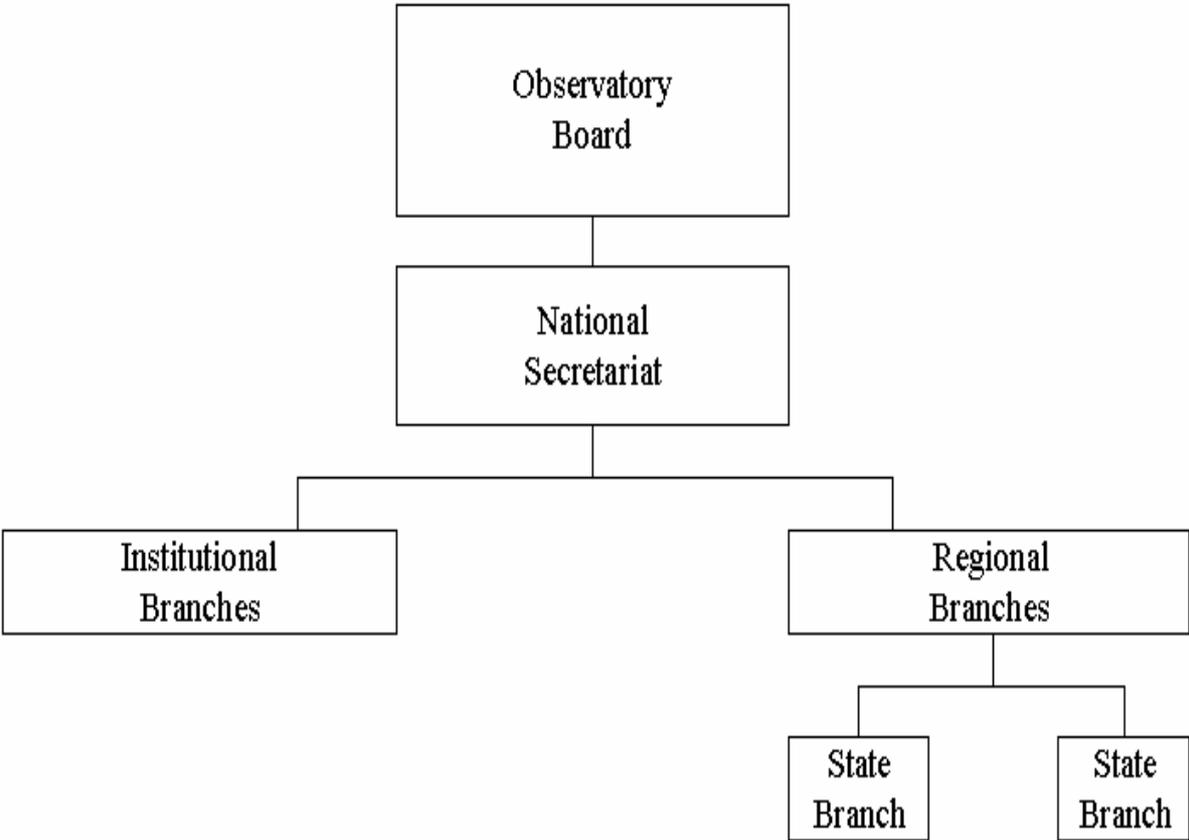
Given the extensive size of the country and the multitude of stakeholders concerned, it is proposed here to establish branches for the observatory within different partner organizations and across states. The decentralized system adopted in the country renders the state branches mandatory especially in view of the recent steps taken within the interim constitution to delegate more power and autonomy to states. The process of establishing observatory branches could be gradual, starting with the member stakeholders and extending to regional (combining a number of states) branches before culminating into a comprehensive structure

within all states. The first stage of branches formation could involve nominating a focal point in each state (HR person in the SMOH) to facilitate the work of the regional branches and act as a nucleus for the future development of the state level branch of the national observatory. To guard for efficiency and harmony, the institutional and state level branches should be based within the HR information departments within those organizations; in fact they should make use of the existing system of data collection and management. The branches could be entrusted with the following functions:

1. establish and maintain databases of HRH from the stakeholder institutions and the state and local level of the health system
2. mobilize support and advocate for HRH issues within the states and localities
3. promote the local utilization of HR information for management and decision-making
4. link and network with the national secretariat of the observatory

The structure of the NHRHO should observe coordination and integration within the setup of health information system in the country. The observatory functioning and relationships should be based on networking and dynamicity, and measures to avoid bureaucracy and lengthy processes have to be put in place. One fundamental job of the observatory board is to secure and ensure the access of the secretariat to HR data from relevant institutions. The proposed structure of the NHRHO is diagrammatically presented in Figure 3.

Figure 3: a proposed structure for NHRHO in Sudan



Source: Author

Next steps needed

For the NHRHO to be established and properly function, the following steps are to be undertaken:

1. Secure the needed political and leadership support to inaugurate the NHRHO building on the progress achieved with WHO/EMRO in this regards

2. Prepare a comprehensive material and presentation on the need to establish the observatory, its objectives, functions and structure. (can be derived from this report)
3. identify, communicate with, and convene the relevant stakeholders together to discuss the projected observatory and agree on the formation of the observatory board
4. agree on the formation of the secretariat and nominate the executive secretary (focal point)
5. decide on premises (2-3 offices) to host the secretariat of the observatory and secure the furniture and equipment needed.
6. communicate with the states/partner institutions to disseminate the idea and start the formation of focal points and branches for the observatory
7. conduct national advocacy/awareness workshop under political patronage with wide stakeholder participation
8. define technical assistance and programming needs to be requested from WHO/EMRO and HQ including software to establish the database.
9. finish with the ongoing HRH national census (the remaining states) and produce the census report
10. prepare both the strategic and annual plans for the NHRHO through wide national and regional consultation

The initial efforts needed to establish the NHRHO including the above mentioned 10 steps should be initiated and guided by the FMOH as a prime stakeholder and beneficiary institution. The ministry in coordination with the WHO is expected to work towards securing political patronage and technical capabilities to enable a successful inauguration of the NHRHO in Sudan. Table 5 summarizes the plan of action for the establishment phase of the observatory.

Table 5: Plan of action for the establishment phase of the NHRHO in Sudan

Activity	Actions	Time-frame	Responsibility	Indicator
1. Finalize and disseminate the report on establishing observatory	- Completion of the report	18 Feb. 2007	Dr Elsheikh	Report submitted
	- Sending copies to the main stakeholders	20 Feb. 2007	FMOH/WHO	15 copies sent out to stakeholders
	- Presentation to FMOH (Undersecretary Council)	21 Feb. 2007	Dr Elsheikh, Dr Ismael, Dr Walid	Presentation done
2. Stakeholder involvement	- Communicate the idea to relevant stockholders	18-20 Feb.	FMOH/WHO	Stakeholders fully aware about the issue
	- Stakeholders meeting (formation of the observatory board)	25 Feb.	FMOH/WHO	Observatory board formed
	- Approval of the Secretariat and focal point	25 Feb.	Observatory board	Focal point approved
3. Establishment of NHRHO	- Deciding the Premises (offices)	25 Feb.	Observatory board	Offices established and secretariat fully staffed and operational
	- Purchasing equipment and furniture	2 March	Secretariat FMOH/WHO	
	- Appointment of staff	2 March	focal point	
	- Opening ceremony	7 March	observatory board	
4. Preparation of the NHRHO plan	- Finalization of the national HRH census	1 March	Dr Elsheikh Dr Ismael Dr Walid	HRH census report submitted to FMOH and WHO
	- Production of census report	15 March		
	-production and endorsement of the NHRHO plan	21 March	Secretariat Observatory Board	NHRHO plan printed and disseminated

Finally, the successful inception of human resources for health observatory in Sudan could present a good opportunity for the health system in the country. The observatory, in addition to addressing vital HRH issues, could show a model for revival of the health information system in the country. Systematically gathering HRH data, processing and analyzing it, making it available where needed and using it for policy is an excellent pathway to be followed for the other functions and actions of the health system. The networking and stakeholder representation and coordination brought about by the observatory could also provide for a better stewardship role and an asset for health policy dialogue and consensus. However, the observatory on human resources for health, although fundamental, should only be viewed as one positive step within the machinery of the whole health system of the country. Similarly to HRH, other domains of the health system are in need of the same systematic generation and utilization of intelligence for policy making; there for the NHRHO is to be started, strengthened and further developed as part of a comprehensive health system observatory to be established for Sudan in the near future.

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