Health System in Nepal:

Challenges and Strategic Options

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FOREWORD FROM THE MINISTRY OF HEALTH AND POPULATION, GOVERNMENT OF NEPAL

For the last several decades, the government has put all its efforts to ensure that policies, strategies and plans of action are in place for strengthening health services. The key policy principles include: equity in access to health; decentralized delivery of health care; community, private and NGO sectors' participation; greater socio-economic inclusion and improved health outcomes of the poor for, among others, poverty reduction; fair financing; and looking much forward for universal coverage of prioritized essential health care services. The Interim Constitution asserts availability for 'Free Basic Health Services to All'. Various interventions undertaken over the years have significantly improved health care provision and health outcomes.

However, there are almost always persisting problems and new challenges in a dynamic, multi-dimensional sector like health. Nepal, economically a least developed country having difficult, inaccessible terrains and ethnic and cultural diversity, is no exception. This paper presents an overview of the major challenges that need to be addressed more effectively with a view to accelerating the policies into action for improving health outcomes of all in rural as well as urban areas in an equitable and sustainable manner.

Health policies are, no doubt, well documented and are well articulated across the health sector. Review, reorientation and reform are necessary milestones of the sector's implementation process starting from policy making to people's health practice. I appreciate the challenges that have been identified and suggested strategic options which are critical for both short-term and long-term in striving for improving the health status of the people. We will mobilize efforts to operationalize these strategic options.

Dr Nirakar Man Shrestha
Secretary

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Health System in Nepal: Challenges and Strategic Options

Introduction

Nepal, a small country, lies in the central Himalayas, wedged between India and China. The flat Terai plains in the south, the central hills and the high Himalayas in the north define the country's three geographical areas. The three rivers, Koshi, Karnali and Gandaki traversing it from north to south, become uncross-able when swollen by monsoon rains and melting snows, which happens often during the year. The mountainous terrain and distinct geographic divisions isolate most of the rural population. Moreover, the country's topographical and sociological diversification helps to promote periodic epidemics of infectious diseases, epizootics and natural hazards like floods, forest fires, landslides and earthquakes. Millions of people are at risk of infection and thousands die every year due to communicable diseases, malnutrition and other health-related events which particularly affect the poor living in rural areas. Economic and demographic changes like new agro-industries, migration, deforestation, encroachment, unplanned urbanization with little or no provision for safe drinking water and sewerage systems and degradation of the environment further aggravate the epidemic situation.

Political and Economic Environment

Nepal's decade-old civil conflict has deepened since the ceasefire between government forces and the Maoists collapsed in August 2003. Around 12,000 Nepalese have been killed since 1996 with as many as 1,100 in the first six months of 2005. The insurgency, which had its origins in the poverty-stricken mid-western Development Region, now affects the whole country. Nepal's rural people are enduring the brunt of the civil conflict. Tens of thousands of Nepalese have been displaced from their homes due to this. There has been no formal registration of internally displaced persons (IDPs), and the long open border with India makes accurate assessment of the true numbers of IDPs a challenge; estimates suggest that up to 200,000 Nepalese have been internally displaced with up to two million having moved into India since the conflict started.

On 1 February 2005, King Gyanendra dismissed the appointed government of Sher Bahadur Deuba, assumed direct executive powers, and declared a State of Emergency. He suspended key constitutional provisions, placed senior political leaders under house arrest, imprisoned other politicians and civil society activists and used military personnel to censor the media. This was a temporary measure needed to restore order. A time frame of three years was set for the restoration of peace, security and multiparty democracy. The seven major political parties have formed an alliance to protest the move. Street demonstrations were supported by student movements, civil society groups, and the private press. The state of emergency was lifted on 29 April 2005. The Maoists declared a unilateral ceasefire on 3 September 2005. The Government response was that it saw no reason to be assured.

A Comprehensive Peace Agreement (CPA) was signed between the Communist Party of Nepal (Maoist) and the Seven-Party Alliance (SPA) on 21 November 2006. Together with the Maoists, a eight-party alliance government has been formed and is gradually moving towards a democratic, new Nepal. Constituent Assembly Polls had been planned for June 2007 and then for 22 November 2007. However, as per the recent decision of the eight parties, the election date has again been postponed.

Fundamental to the recovery process will be the election of a representative Constituent Assembly and subsequently, the inclusive and participatory development of a new Constitution. The UN Country Team worked to foster inclusive, meaningful participation in constitution building and the electoral process by advising on appropriate frameworks, and by enhancing capacity for diverse and representative inputs. On 16 November 2006 the Government of Nepal wrote to the UN requesting for peace building support in a number of key areas: human rights monitoring; monitoring the cantonment of Maoist combatants; management of arms and armed personnel; and technical assistance for the election of a Constituent Assembly. The UN has already established field presence throughout the country. Consolidating peace has also become the first strategic

agenda in the areas of developmental cooperation for the UNCT in formulating the UN Development Assistance Framework (UNDAF).

Economic growth slowed to an average of 2% during fiscal year 2004-5 from the annual average of 4.7% during the previous decade. Remittances continue to make a huge contribution to the economy, accounting for around 15% of GDP. Labour migration – to India, and increasingly the Gulf States and Malaysia – has greatly increased in recent years, but it is thought that the instability is deterring workers from remitting money home. Whilst there has been relative macro-economic stability, the budget deficit for 2005-2006 is estimated to be Nepali Rupees 45.1 billion (USD 650m). Of this, the Finance Ministry hopes to meet NR 33.2 billion through foreign loans and grants. The target is ambitious as the foreign component of the budget was poor during 2004 with only 50% of projected loan commitments achieved, with grants registering a 1% decline. The country's real GDP growth is 4.5% and the average inflation is 4.9%. Total expenditure increased by 26% with an expected revenue increase of 17% balanced with 65% foreign loan (NR 14.5B) and grant expecting 67% (Rs 18.7 B). Security spending will increase by 7.5%. The Ministry of Health and Population will receive 9% of the total foreign financing of NR 46.1 billion. The expected main donor partners are ADB, Japan, WB, KFW and DFID.

For this year's budget and planning, the country emphasis is on decentralization and localization of technologies. A change of attitude from landlocked country to land-linked has also been introduced, so as to put Nepal in an advantageous position for greater prosperity. As far as the health system is concerned, the current budget emphasis is to improve accessibility to health services, especially by the remote and vulnerable groups. The emphasis is also on health of children and pregnant mothers. The current budget is very much pro-poor oriented, effectively utilizing the foreign loans and grants, and ensuring that the community is reached.

Demographic Evolution

The estimated population in 2007 was 28,287,147 with an age structure of 0-14 years: 38.7%; 15-64 years: 57.6% and 65 years and over: 3.7%. The median age was 20.3 years (male 20.1 years and female 20.4 years). Population growth rate was 2.17%; birth rate 30.98 births per 1000 population; the death rate was 9.31 deaths /1000 population. Sex ratio at birth was 1.05M/F, under 15 years was 1.07M/F; 15-64:1.06M/F; total population 1.06M/F. Life expectancy at birth total population 60.18 yrs (M: 60.43 yrs, F 59.91 yrs). Source: World Fact Book 2007. From 1911 to 2001, the country's total population grew from an estimated 5.6 million to 23.2 million. The population growth rate averaged 2% annually from 1911 to 2001 but was often higher than 2% since the 1960s. From 1911 to 2001, the population density grew from 38.3 to 157.3 persons per square kilometre. Population size, density, and growth rates tend to be highest in districts bordering India and in districts around Kathmandu. In 2001, 84.1% of the population lived in rural areas and 14.2% in urban areas.

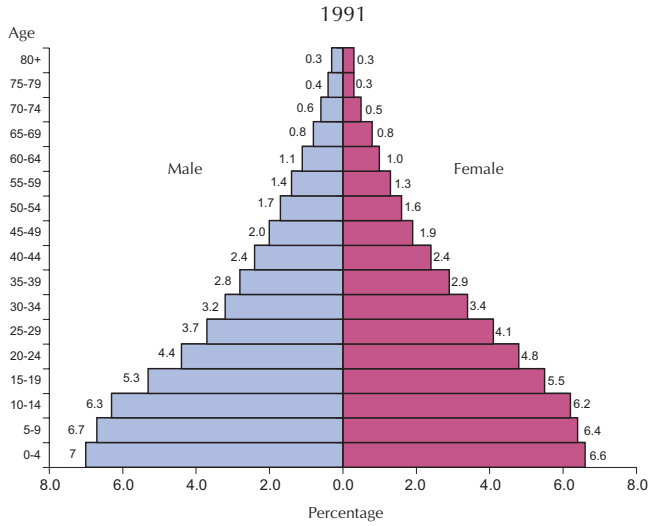
The Nepal Demographic and Health Survey was conducted in 2006; it was a nationally representative survey covering 10,793 women aged 15-49 yrs and 4,397 men aged 15-59 years. The 2006 NDHS was the third comprehensive survey conducted in Nepal as part of the worldwide Demographic and Health Surveys (DHS) project. Because of relatively high fertility in the past, a large proportion of Nepal's population (41%) is under 15 years of age, with 13% under age five. Persons aged 65 and over account for just 4% of the total population. There is a smaller proportion of children under age five in urban areas, suggesting that recent declines in fertility are more evident in urban than in rural areas and that the transition to lower fertility began with the urban population. A similar finding was observed in the 1996 NDHS and the 2001 NDHS surveys.

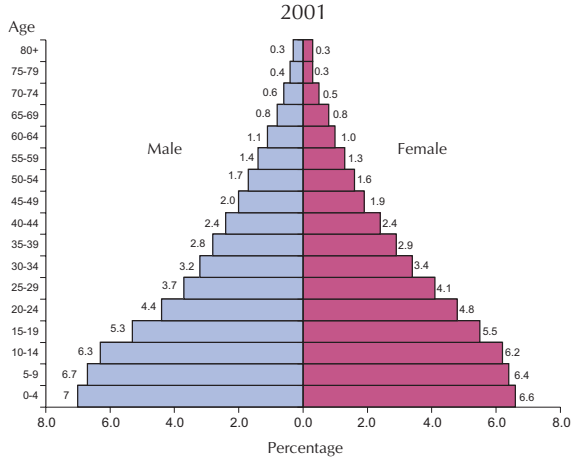
The Nepal Demographic and Health Survey indicates that there has been an unprecedented decline in fertility from 4.6 births per woman in 1996 to 3.1 births per woman in 2006, a drop of one and a half births per woman in the past ten years. The decline is more pronounced in the five years between 2001 and 2006 (a one child or 24% decline) than between 1996 and 2001, with declines observed in every age group over the past ten years, and larger declines seen in the older than younger age cohorts. Fertility is considerably higher in rural

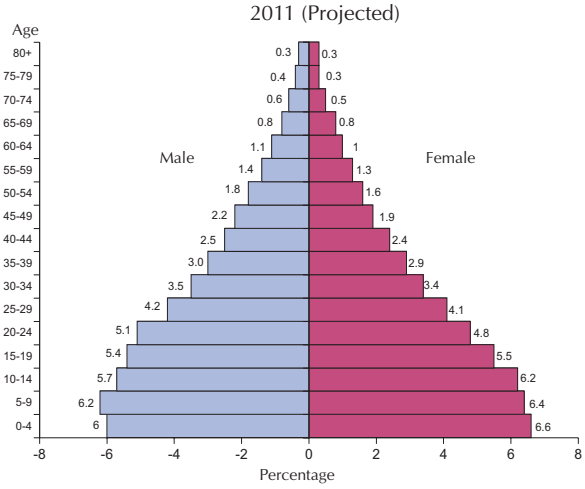
(3.3 births per woman) than in urban areas (2.1 births per woman). There are noticeable differentials in fertility among ecological zones and development regions, ranging from a low of 3.0 births per woman in the hills to a high of 4.1 births per woman in the mountains, and from a low of 3.0 births per woman in the Central region to a high of 3.5 births per woman in the mid- and far-western regions.

There is a strong evidence of demographic transition when comparing the previous census reports and that of the population projection. With demographic aging, it is expected that morbidity and mortality from age-related diseases such as ischaemic heart disease, cerebro-vascular disease, diabetes etc., will increase substantially. Recent research suggests a link between poor nutrition before birth and in infancy and higher rates of ischaemic heart disease and diabetes later in adult life (Barker 1992). If incomes were to rise substantially in Nepal in the coming decades and rates of malnutrition decrease, this may lead to very rapid increase in these two diseases, as many in current birth cohorts may experience malnutrition in their childhood but be able to command a relatively affluent lifestyle when they have reached their 30's-40's. The challenge posed by the demographic transition is therefore quite serious.

Fig 1: Population Pyramid 1991 – 2011







Source: Data from CBS, Population projections for Nepal 2001-2021

Health Policy and Planning

The 21st century calls for a new health system which is partnership-oriented, population based and which is proactive rather than reactive. The health sector must serve as a guide to and be a partner in these actions so that health concerns are represented appropriately at all stages of implementation. A much stronger partnership between the health sector and other sectors is required for reduction of health threats from poor environmental conditions. In line with this paradigm shift, tangible resources include not only personnel, facilities, equipment and supplies as such but also their quality, appropriateness, and suitability for implanting and accomplishing the objectives of a health-environment-development strategy. Intangible resources include valid knowledge, norms and standards, legislation and rules, operational communication networks, systematized information, access to relevant decision-making bodies, negotiated and open agreements with participating organizations, training capabilities, progressively increasing acceptance, and a capacity-building strategy itself.

In Nepal, a fairly comprehensive framework of health policies, strategies and plans have been in place. The main components of the framework are: the National Health Policy 1991; the Second Long-Term Health Plan (1997-2017); the Ninth Five Year Plan (1997-2002); the Strategic Analysis to operationalize the Second Long-Term Health Plan; the Medium-Term Expenditure Frame Work; Nepal Health Sector Program, Implementation Plan 2003-2007; The Tenth Plan (Poverty Reduction Strategy Paper) 2002-2007; and Health Sector Strategy – an Agenda for Reform 2004. Recently, together with the interim constitution, a Three Year Plan has been introduced.

The National Health Policy 1991 aims at extending the primary health care system to the rural population through health infrastructure development, community participation, multi-sectoral coordination, mobilizing local resources and decentralized planning and management. Reducing infant and child mortality has been a priority. The Second Long- Term Health Plan (1997-2017) has focused on improving the health status of women and children; the rural population; the

poor; the underprivileged; and the marginalized. The plan has spelled out the need for redirecting resources from high-cost, low-impact interventions to the low-cost high-impact essential health care services (EHCS), while improving effectiveness and efficiency. There are 20 elements of the EHCS package. The EHCS are priority public health measures and essential clinical and curative services for the appropriate treatment of common diseases. The EHCS, under Ayurveda and other traditional systems of medicine, are defined separately.

Following a strategic analysis to operationalize the second long-term health plan, a number of recommendations were made reflecting the pro-poor orientation including development of budgets linked to priority, performance and outcome, moving towards the sector-wide approach, and establishing a monitoring system that will assess the health status of the poor. The Medium Term Expenditure Framework has adjusted priorities, based upon disease burden, equity considerations and pro-poor orientation. It provides an increased budget for achieving the targets of prioritized health interventions in the first three years of the Tenth Plan. An increased allocation of Rs 9,945.2 million has been made for achieving the selected priority health targets and Rs 26,660.0 million for drinking water in the first three years of the Tenth Plan (2002-2007). The objectives of the plan are: reducing the magnitude of poverty; improving quality and access of health services to the poor, specifically access to reproductive health and family planning services in rural areas. The same objectives have been re-emphasized in the Nepal Health Sector Programme–Implementation Plan 2003-2007 (NHSP-IP).

The NHSP-IP has three programme outputs and eight sector outputs. These are: prioritized EHCS; decentralized health management; private and NGO sector develop; sector management; financing and resource allocation; management of physical assets; human resource development; and integrated MIS and QA policy. The distinct features of the PRS (Tenth Plan) are shown below. The poverty reduction strategy paper (PRSP) 2002, while highlighting the critical importance of the health sector, has also identified the main weaknesses. These are as follows:

"The health sector is of critical importance for human development, improving living standards in rural areas and for mainstreaming marginalized groups and communities. Despite significant progress in recent years, service delivery in the health sector remains weak. Although an extensive network of primary health care centres has been constructed nationwide, it has not been functioning well in many rural areas due to lack of trained staff, drugs and medicines, etc. The sector's overall performance has suffered due to inadequate funding for essential recurrent expenditures, misallocation of resources and limited capacity for supervision and, for co-ordination of the activities of other agencies providing health care services".

Fig 2: Distinct Features of the PRS (Tenth Plan)

- The Tenth Plan is Nepal's Poverty Reduction Strategy Paper (PRSP).
- It recognizes the role of local bodies, community organizations and NGOs in development and reflects the government's commitment to decentralization and functional devolution.
- It uses modern planning tools and the logical framework to define institutional tasks and responsibilities, being done for the first time in the history of periodic planning in Nepal.
- It has clearly defined priorities: P1, P2 & P3 projects and clear-cut allocation/disbursement commitments.
- It has extensive M&E provisions, including a commitment for annual poverty monitoring, and – also for the first time in Nepal – process monitoring.

Source: PRSP 2002

The current Three Year plan has been introduced as a bridge between the Tenth and Eleventh five-year plans as the country is now heading towards building a new Nepal through a democratic process. It is also to maximize effort in achieving the MDGs. Apart from continuing the momentum of the Tenth Plan, the salient features of this plan are to initiate new programmes not included in the EHCS package and to address the existing weakness in overall manpower of the health system. The right to health will be the main strategic direction as per the interim Constitution, provision of free services to 22 low HDI districts and people below the poverty line. It will also take up measures to improve health services management and improve the partnership with the private sector, NGOs and other professional organizations. New initiatives include prevention and control of dengue, avian influenza, introduction of new vaccine – measles, mumps and rubella vaccine (MMR) and health of the elderly. The Three Year Plan targets are shown in table 1.

Table 1: Health Indicator Targets

S.N.	Health Indicators	Situation up to 2006	3 – year Target
1	Access to Essential Health Care Service (%)	78.83**	90
2	Availability of Essential drugs in Health Institution (%)	93.3**	95
3	Women making 4 antenatal care visit (%)	29.4*	40
4	15-49 age group women receiving TT injection	63*	75
5	Delivery from health worker (%)	19*	35
6	Current user of Contraceptive (%)	44.2*	53
7	Use of Condom (14-35 years) (%)	77*	85
8	Total Fertility Rate (15-49) year women) (%)	3.1*	3
9	Neonatal Mortality Rate (Per 1000 live birth)	33**	31
10	Infant Mortality Rate (Per 1000 live birth)	48*	44
11	Child Mortality Rate (Under-five) (Per 1000 live birth)	61*	55
12	Knowledge of Women (15-49) on ways to avoid AIDS (%)	65*	75

*Source: *DHS/MoHP **NDHS. 2006*

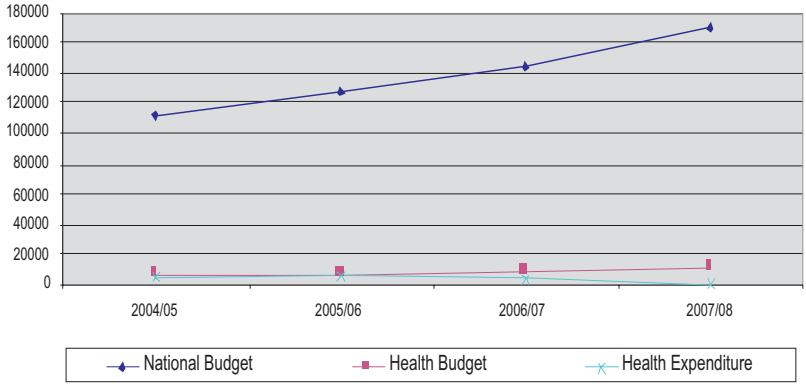
Health Financing

Of the total public financing for health, the share of the government has shown an increasing trend: 64.1% in 2001-02 and 63.5% in 2002-03 from 52.5% in 2000-01. The current per capita public spending on health is US$ 4.06, a small decline from previous years. The share of external development partners has been over 30%. It was 32.7 % in 2002-03 as against 35.0% in 2000-01. There is a declining trend in health spending by state owned enterprises as well as local governments. This is due to the decreasing number of state-owned enterprises and the growing internal conflict respectively.

The Ministry of Health and Population accounts for about two thirds (70%) of the total government spending on health. This is followed by the Ministry of Finance (14%) and Ministry of Education and Sport (10%). The rest is borne by other ministries. Of the government spending, about 45% was for the priority-I programmes (EHCS interventions) and 49 %percent for the priority-III programmes, while 91.5 % of donor support was to finance priority-I programmes. Nearly the same patterns of spending were observed in the case of rural-urban and disease groups. 44.5 percent of the government spending was for rural area as against 84% of the donors. Of financing by donors 93% was for communicable diseases while the government spending was 24%. (Source: Public Expenditure Review of the Health Sector, Ministry of Health, 2004).

The share of social sectors: education, health, drinking water and local development has grown from about 37% of actual development expenditure in 2001/2002 to 42% in 2002/2003 and to 47% in 2004/2005. Within this group the share of health has grown from 6% to 9.6%, drinking water from 5.6% to 7.6% and local development remained constant at about 13%. (Source: PRSP progress report IMF, 2005).

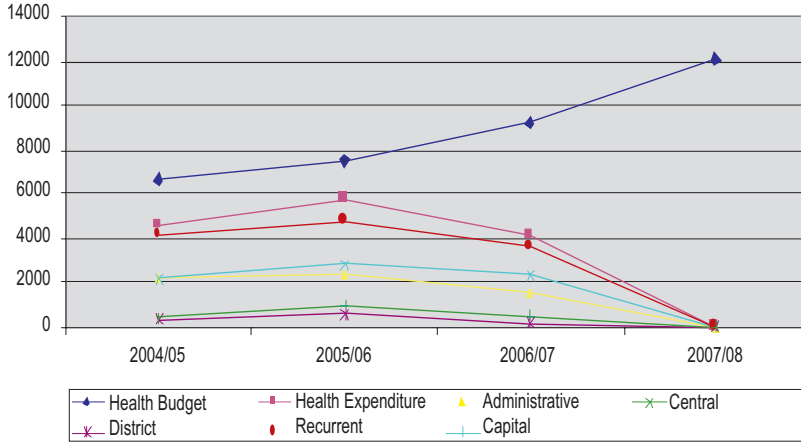
Fig 3: Health Sector Budget and Expenditure



Source: Data from NHA

Decentralized public expenditure: The budget allocated to districts has nearly doubled and the emphasis on capital spending in the districts is higher compared to central level projects. But the insurgency has affected the absorption capacity, therefore there is a need to design more activities for implementation by local bodies through people's participation in order to ensure against possible disruption, especially in the insurgency-affected areas. The increased efforts by the government to devolve activities and funds to communities is in response to the threats of the insurgency on development. Prior to the implementation of PRS, communities controlled less than 1.5% of the total expenditure. This increased to 4% in 2003/2004 and the allocation for 2004/2005 was raised further to 6% of the total budget. The amount of money controlled and spent by communities has surpassed the block grant spending by local bodies since 2003/2004.

Fig 4: Health Expenditure Distribution



Source: Data from NHA

One of the failings of health expenditure in Nepal has been the inability to reach the poor and the disadvantaged through affordable access to health services. The poor and the disadvantaged are less capable of accessing health services through private, out-of- pocket contributions and are predominantly reliant on public health services that are currently inadequately resourced to fulfill that demand. Approximately 14% of the total expenditure in Nepal is channeled through the MoHP and another 3% is spent by other ministries (e.g. Ministry of Defense, Ministry of Finance, Ministry of Education), autonomous bodies (e.g. universities) and local bodies (District Development Committee, Village Development Committee and municipalities). These estimates of total health expenditure suggest that Nepal spends approximately NRs 1,200 per capita (US$16.8 per capita) on health. But the statistics on per capita expenditure must be balanced against the fact that health spending is highly uneven across income groups with the majority of private expenditure coming largely from the few relatively well off and spent primarily on curative and tertiary care. Per capita public expenditure increased over the three years from NRs 230 (US3.5) in 1999/2000 to NRs 288, and NRs 343 (US $5.1) in 2000/2001 and 2001/2002 respectively.

Based on the Three Year Plan, compared to the recent financial year's budgetary provisions, the percentage of the health budget has considerably increased to 7.16% (without inflation rate adjustment). However, administrative, central and district programme-wise expenditures have not changed significantly, which also applies to output-wise expenditure.

In December 2006, the Ministry of Health and Population published the Nepal National Health Accounts- NNHA-(2001-2003). There is an increase of total health expenditure as the percentage of the GDP from 5.6% in the first year of NNHA to 5.7% in the base line year of NNHA (2002/2003). The growth rate of total health expenditure as per current prices decreased from 9.1% to 4.0% between 2000/01 to 2002/03 as compared to the growth rate of GDP, i.e., from 3.1% to 7.7% in the same period. If the inflation (6-7%) is adjusted there would be a negligible growth of total health expenditure in the review years. Despite the increase in the absolute figures in the reviewed years of NNHA, the share of government expenditure to total health expenditure increased slightly from 16% to 16.8% between 2000/01 to 20002/03. Similarly, the share of household out-of-pocket (OOP) expenditures also increased from 60 to 62.5% in the same period. The share of External Development Partners (EDPs) fluctuated in the review period. It decreased to 19.6 % from 24.7% between 2000/01-2001/02 followed by EDP increase to 20.7 in 2002/03. It then increased to 42% in 2004/05, with the inception of Nepal Health Sector Programme (NHSP) and the start of pooled funding, and has been 51% in the budgets of both 2006/07 and 2007/08. The per capita expenditure on health marginally increased to USD 13.4 in 2002/03 from USD 11.45 in 1994/95.

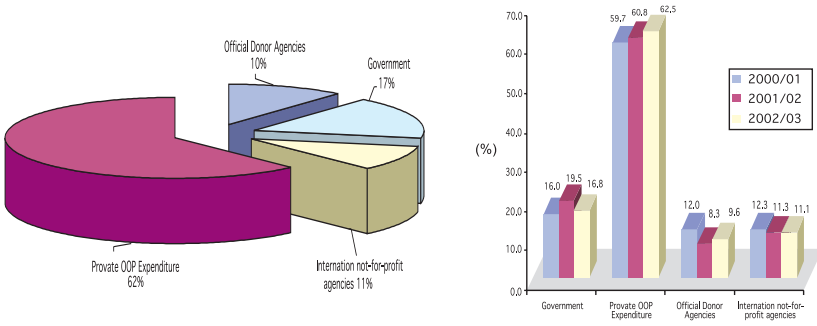
Household (out-of-pocket) expenditure for health is the biggest source of funding in Nepal; it accounts for 62% of the total health expenditure. The Government is the second biggest source of funding, accounting for 17%, followed by official donors (10%) and international not-for-profit agencies (11%).

Table 2: Health Expenditure Trend

Health Indicators	2000/01	2001/02	2002/03
Total health Expenditure (THE) (in million NRs)	21,953	23,960	24,913
National Health Expenditure (NHE) (in million NRs)	19,588	20,926	21,899
SHA THE (in million NRs.)	20,907	22,653	23,570
Total Health Expenditure (THE) (in million US$)	294.1	307.2	333.3
National Health Expenditure (NHE) (in million US$)	262.4	268.3	293.0
SHA THE (in million US$)	280.1	290.4	315.3
GDP (in million NRs.)	394,052	406,138	437,546
THE as Percent of GDP	5.6	5.9	5.7
The Growth Rate of GDP (%)		3.1	7.7
The Growth Rate of THE (%)		9.1	4.0
The Growth Rate of NHE (%)		6.8	4.6
The Growth Rate of SHA THE (%)		8.4	4.0
Share of Government to THE (%)	16	19.5	16.8
Share of HHs to THE (%)	59.7	60.8	62.5
Share of EDPs to THE (%)	24.3	19.6	20.7
Per capita expenditure on health in NRs	932	992	1004
Per capita expenditure on health in US $	12.5	12.7	13.4

Source: Nepal National Health Accounts, 2001-2003

Fig 5: Total Expenditure by Source of Funding



Source: Nepal National Health Accounts, 2001-2003

Figure 5 show the trend of health expenditures by source. It is evident that the share of both the government and the private sector increased marginally but the expenditures of both official donors and NGOs declined in the review period. Medical goods dispensed to out-patients are the largest component of health care. The share of this particular function of NNHA to total health expenditure remained almost the same from 43%, 42% to 43% in 2000/01, 2001/02 and 2002/03 respectively. The second largest component of NNHA function by expenditure is absorbed by curative care services, particularly by allopathic hospital in-patient care. It is about 19% of the total health expenditure that goes to allopathic hospital in-patient care. Health related functions have been found to be 12% of total health expenditure in the base year of NNHA, the share of this function increased from 11% to 12% in the review period.

Over the years, expenditures of all categories of providers have increased. Hospital expenditures increased from NRs 3874 million to NRs 5144 in the review period. The share of hospitals increased from 17.6% to 21.6% between 2000/01 to 2001/02 then it decreased to 20.6% in 2002/03. The major share of total health expenditure, among the providers, is from retail sale outlets and other providers of medical goods as the amount increased from NRs 9.5 billion to NRs 10.8 billion from 2000/01 to 2002/03 respectively. The share of this remained 42-43% in the review period.

Table 3 shows that OOP budget share increases with the increase of income indicating that the better-off individuals spend a larger fraction of their budget on health care. In Nepal the richest fifth individuals, on an average, spend 7.2% of the household budget on health care, while the poorest fifth spend only 2.6%. The richest spend 25 times more than the poorest spend on health care. In general, better-off individuals can respond to health problems with the purchase of medicines etc; while the poorest of the poor cannot afford to divert resources from their very constrained budgets.

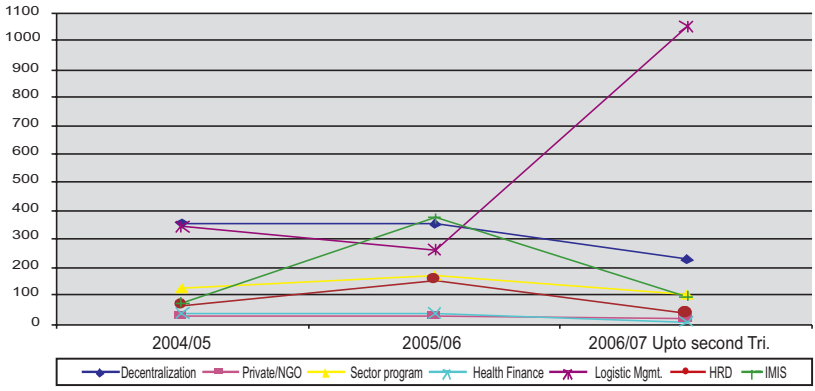
Table 3: Mean Expenditure Per Person by Income

Quintiles	Mean Expenditure per Person NRs	Share of Household Budget Spent on Health (%)
Poorest quintile	10.75	2.63
2nd quintile	20.56	3.35
3rd quintile	35.34	4.21
4th quintile	64.2	5.26
Richest quintile	255.54	7.26

Source: DHS/MoHP

As per the NNHA findings, the private sector plays a key role in Nepal's health care system – 62.5% of Nepalese health care is directly financed by the private sector. So, regulating the health care system has been a major challenge in recent years. Regulating, facilitating and coordinating the private sector yields good results. In other words, improving the robust stewardship in the total health care system needs to formalize to ensure accountability. Equity and fairness of health financing are key concerns of policy makers. Out-of-pocket (OOP) expenditure is seen as inequitable and an unfair source of financing. The share of OOP was as high as 62.5% of the total health expenditure in 2003, with public expenditure as a percentage of total health expenditure remaining as low as 16.8%. Therefore, the share of public expenditure on health should be increased and alternative financing schemes should be developed to reduce the share of household expenditure. In a poor resource setting, support from EDPs helps to reduce the resource gap in the health sector. However, this is not a suitable source of financing. Therefore, in the short run, efforts should be made to harmonize the donors and, in the long run, the share of EDPs should be reduced by increasing the government funding, especially in the most important areas of health care. At the same time, it is essential to improve the efficiency of the entire health care management on the perspectives of resource outcomes orientation through affordable approaches. The perspectives of resource outcomes orientation through affordable approaches. Actual spending by the Ministry of Health and Population (MoPH) in most years falls significantly short of budget, with the outrun typically less than 80% of the

Fig 6: Output wise Expenditure



Source: Data from NHA

sums allocated. Most of this appears to reflect problems in spending donor money, although GON financed expenditure has also been less than 80% of the budget. The implementation rate has improved consistently since 2004/05, and is expected to have exceeded 90% in 2006/07.

A very recent development has been the abolition of user charges. As per the people's aspirations, the interim Constitution directed free basic health care to all. To initiate the provision, the government approved abolition of user charges in October 2007, as a first stage, at the Sub-Health Posts, Health Posts throughout the country. These health posts provide out-patient care. This will be a challenge to the health system not only to harmonize the new culture of the community and clients but also to evolve mechanisms especially on the financial side, in terms of sustainability.

This has drawn the health system to a cross-road. All partners welcome the motion of abolition of user fees. However it is a challenge for the system to overcome this strategic issue. Covering up the income from user fee alone may not solve the whole process. Sustainability depends very much on the acceptability and a changed attitude towards the process by the local providers – health personnel. The enabling environment and appropriate incentive scheme are also essential components need established. It is also important to note that intent of the abolition of user fees is for the benefit of the poor. There is no doubt that the present situation reflected that non-poor will get better benefit as they are using or accessing more to the services. Some of these soft corners of the process are critical in truly success of the abolition of user fees.

Health Service Provision

Following the adoption of the national health policy in 1991, Nepal's health care sector has made significant progress in both the public and private sectors. The increase in the establishment of health care facilities during the past two decades has reflected the government's commitment to improve access of the rural poor population to modern basic health care. Primary health care services are provided at district level through sub-health posts (SHPs), health posts (HPs), primary health care centers (PHCs) and district hospitals (DHs). Secondary and tertiary care is provided by zonal/regional hospitals and specialized tertiary facilities. There was a rapid, nearly twelve fold growth in health facilities during 1992-1996 and approximately 23% of the total population received OPD services from SHPs, HPs and PHCs at that time. According to the Nepal living standard survey (NLSS II) 2004, access to health posts and hospitals within 30 minutes of travel increased significantly to 62% households from 45% in 1996. Tables 4 and 5 show the distribution of physical health care facilities by population as of 2003/ 2004; and types/ service delivery level and number of public level and number of public sector health facilities.

Table 4: Distribution of health care facilities by population 2003/2004

No	Type of institution	Mountain		Hill		Terai		National Total	
		No. of health institution	population/ institution	No. of health institution	Population/ institution	No. of health institution	population/ institution	No. of health institution	population/ institution
1	Government Hospital	16	112,893	43	257,153	25	488,804	84	317,519
	No. of beds	250		2,660		2,115		5,025	
	bed/1,000 pop	7.23		4.16		5.78		4.99	
2	PHCC/HC	18	100,349	91	121,512	78	156,668	187	134,139
3	Health Post	152	11,883	377	29,330	169	72,308	698	35,937
4	Sub-Health Post	384	4,704	1,600	6,911	1,145	10,673	3,129	8,017
	Total population		**1,806,288**		**11,057,588**		**12,220,112**		**25,083,988**

Source: DHS/MoHP

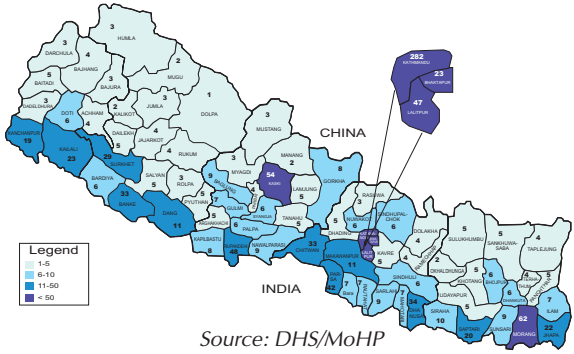
Table 5: Types/Service Delivery Level and Number of Public Sector Health Facilities

Service Delivery Level	Type of Facility	Number
Specialized	Hospital	3
Capital	Hospital	5
Region (5)	Hospital	2
Sub Region	Hospital	1
District (75)	PHOs/DHOs/ Hospitals	15/60/65
Electoral Constituency (205)	PHCs/HPs	186/689
Village Development Committee	SHPs	3,129
Ward (Community)	Female Community Health Volunteers (FCHV)	48,352
	TBAs	15,257
	PHC Outreach Clinics	14,512
	EPI Outreach Clinics	16,219

Source: DHS/MoHP

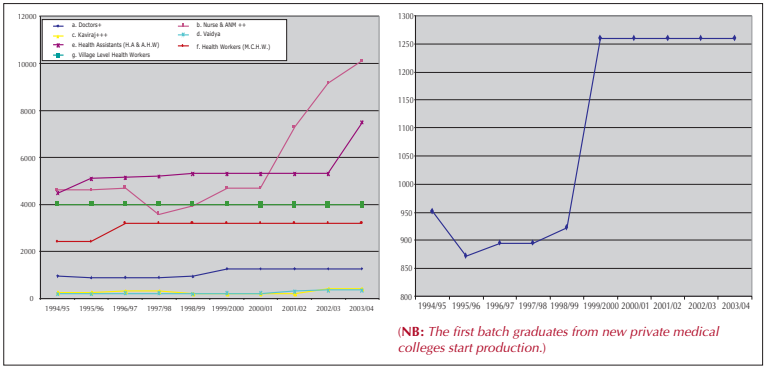
However, at the end of financial year 2005-2006, the health facilities statistics show the same: basic health services were provided by 89 hospitals, 187 PHCs, 698 HPs, and 3,129 SHPs. Primary health care was also provided by 14,512 Primary Health Care Outreach Clinic (PHC/ORC) sites. These services were supported by 48,352 female community health volunteers (FCHVs). Out of the 25,377 staff in the Department of Health Services, over 60% work in rural areas. A total of 1,000 doctors and 4,199 public health staff are employed in different regions. Nursing personnel comprise 20% of the total health personnel. So, as far as service facilities are concerned, there was no expansion in 2005-2006.

Fig 7: Health Workforce Distribution - Medical Officers



Source: DHS/MoHP

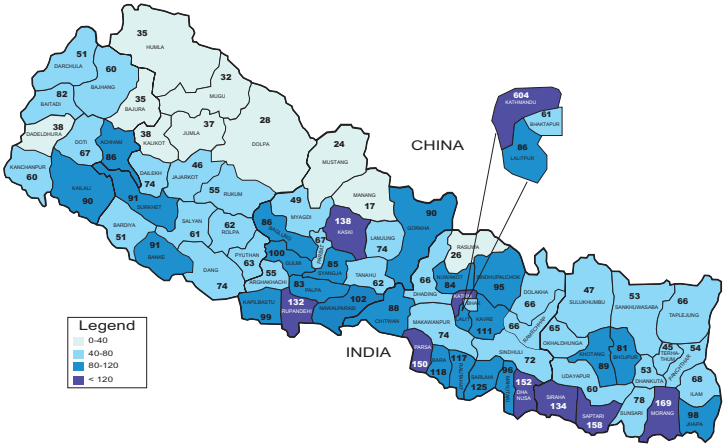
Fig 8: Skilled Manpower Distribution and Number of Doctors 1994-2004



(**NB:** *The first batch graduates from new private medical colleges start production.*)

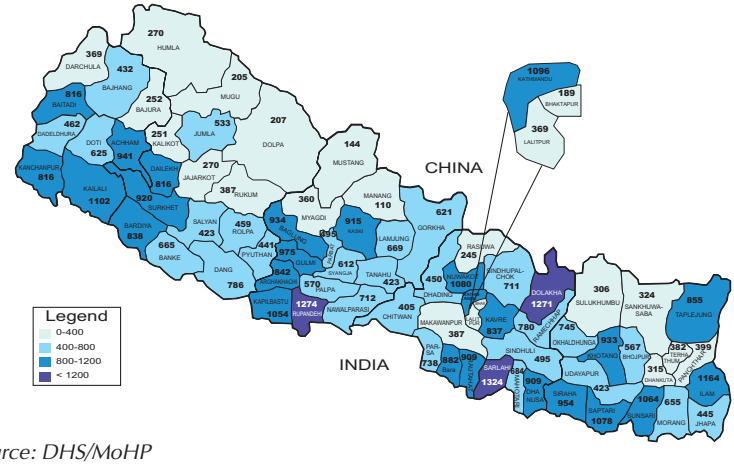
Source: DHS/MoHP

Fig 9: Health Manpower Distribution and Number of Doctors 1994-2004



Source: DHS/MoHP

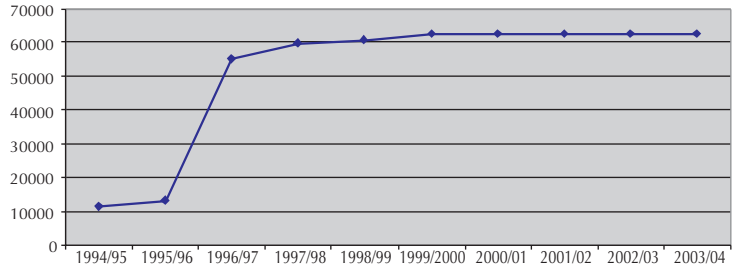
Fig 10: Health Workforce Distribution - FCHVs



Source: DHS/MoHP

The private health care sector in the rural areas of Nepal is dominated by traditional practitioners who provide ambulatory care services. Although the urban scenario is somewhat different, these changes have occurred only during the last two decades. The first private nursing home was established in 1970. In 1997 there were 74 (bed capacity 1,655) private clinics and nursing homes in the country. However, facility-based private initiatives are focused in the urban areas, almost 47 percent of them being based in the district of Kathmandu. The overwhelming majority of doctors are employed by the public sector. A study estimated that 90% of the doctors were involved in private practice. In addition to being involved in their own private practices, public sector doctors are also providing services in private health care facilities. Traditionally, the majority of NGOs are involved in health education, family planning, maternal and child health, nutrition and prevention of major infectious diseases.

Fig 11: Other Health Workers (Trained Student, Women Health Volunteers)



Source: DHS/MoHP

The Social Welfare Council (SWC) registered / affiliated a total of 19,944 NGOs from 1978 to July 2006. However, there is no information on how many of them are functioning at present. Recently, all NGOs were asked to renew their registration/affiliation with the SWC on a yearly basis. In addition, they were required to get separate approval from the SWC for any new project. This will facilitate maintaining proper information on the implementation of various programmes in the country by NGOs. The present record shows that in the last three years, SWC approved 1,610 different health-related activities by 719 NGOs in the country.

Health Sector Strategy and Nepal Health Sector Programme

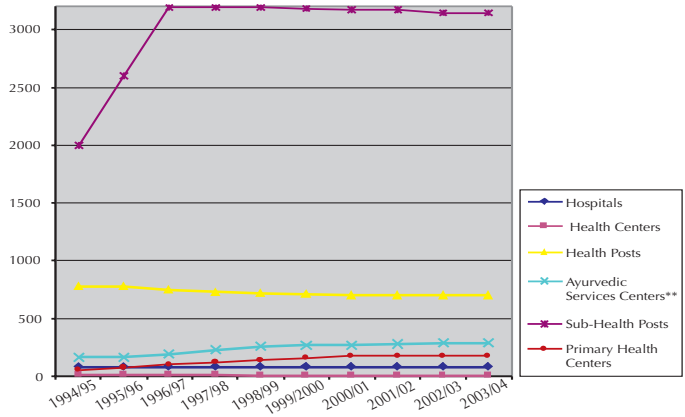
The Health Sector Strategy is the outcome of the considerable work that has been carried out by the government, NGOs and the private sectors and external partners (EDPs) over the last four years. The medium-term expenditure framework, policy documents for Department of Health Services and PRSP of the government were the main inputs to the health sector programme. The programme extended a considerable commitment to poverty reduction and delivering the Millennium Development Goals. Its output focuses on the first five years of the Long-Term Health Plan but its strategic aims are those of the plan as a whole. The priority elements of Essential Health Care Services are safe motherhood and family planning, child health, control of communicable diseases and strengthening out patient care. Systems will be placed to ensure that the poor and vulnerable have priority for access. One salient feature is to ensure that two third budget is allocated to essential care services (Table 6).

Table 6: Health Sector Expenditure and Resource Estimation for Business Plan Period

Sub-sectors	Average of 1999-2002	Average PRS Period	Budget for 2005/06	Budget for 2006/07	Budget for 2007/08	Budget for 2008/09
Essential Health Care Services	55.26	70.63	61.65	62.5	64	66
Beyond EHCS	4.79	10.98	5.57	6	6.5	7
Private/NGO Sector Devt	11.07	0.28	1.97	2.5	2.5	2.5
Sector Program Management	2.87	2.43	3.63	3	2.5	2.5
Health Financing Resource Mgmt	11.25	4.78	6.56	7	6	5
Logistic Management	10.05	7.31	15.49	14	13.5	12
HR Development	1.49	1.71	3.3	3	3	3
Integrated MIS	3.21	1.87	1.82	2	2	2
Total	100	100	100	100	100	100
Budget Estimation (Rs. In bn)			7.65	8.42	9.68	10.85

Source: DHS/MoHP

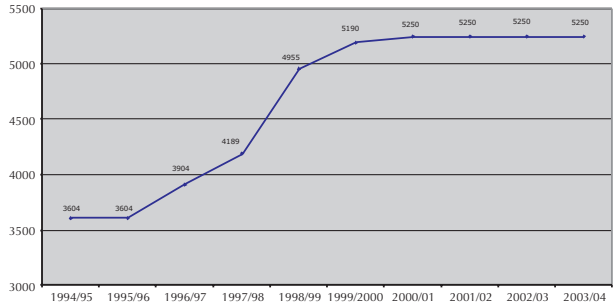
Fig 12: Extension of Health Services



Source: DHS/MoHP

Nepal's Health Sector Programme – Implementation Plan (NHSP-IP) covering the period 2004-2009 was launched in 2004 with support of pooled funding from DFID and WB, on a sector-wide approach. The plan will guide the national health system in achieving the health component of the 10th Five Year Plan, which has focussed on the policy objectives like (a) making essential health care services available to all people, (b) establishing decentralized health systems to encourage peoples' participation, (c) establishing public-private-NGO partnership in the delivery of health care services, and (d) improving the quality of health care through total quality management of human, financial and physical resources.

Fig 13: Number of Hospital Beds



Source: DHS/MoHP

An internal review process for the programme has been established which includes programme review, policy dialogue and programme agreement known as Joint Annual Review (JAR). The first JAR was held in February 2005 covering the period 2004-2005 and the most recent one was in June/July 2007. The most striking issue constantly coming up in these review meetings was the inability, due to many reasons, to accomplish programme implementation on time, both in financial and programme terms. External developmental partners are very much concerned about the matter and encouraging and supporting the government to facilitate the timely implementation of programmes. Table 7 highlights the outcome indicators of the last five years.

Table 7

Highlights of last 5 years			
Indicators	2001	2006	Remarks
Contraceptive Prevalence rate	39%	48%	
DPT3	72%	85%	
Anaemia in pregnancy		36%	
Stunting in under 5 children	58%	48%	
Wasting	8%	12%	
Maternal mortality ratio		281	per 100,000 live births
Infant mortality rate	64	48	
Child mortality rate	79	61	per 1,000 live births
Life expectancy		62.5	years
Total fertility rate	4.1	3.1	
Gender equality indicator for women		0.58	
Poverty Rate		31%	
National health budget	3.5%	7.4%	
School enrollment rate		88%	
Population utilizing the EHCS		80%	

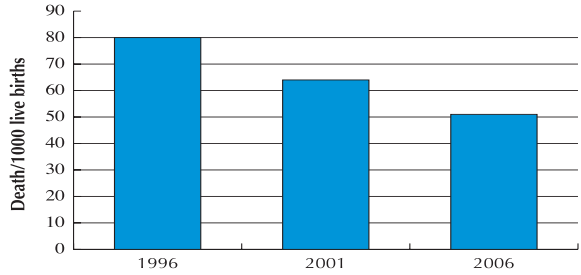
Source: DHS/MoHP

However, while the recent NHSP mid-term review findings support the above findings, the review also identified several challenges: low and stagnating coverage of OPD (0.38 per person); low skilled birth attendance at delivery (18%); high out-of-pocket costs for perceived low quality services not available where and when needed; and a critical shortage (half of the doctors posts unfilled), frequent staff absence, lack of some relevant skills (e.g., too few skilled birth attendance), maintaining quality and availability of drugs and location of standard physical facilities in some areas.

Health Status and Trends

A comparison of mortality data from the three DHS surveys conducted in Nepal confirms a declining trend in mortality. For example, infant mortality declined from 79 per 1,000 live births during 1991 -1995 to 64 per 1,000 live births during 1996-2000 and to 51 per 1,000 live births in the most recent five-year period (2001-2005).

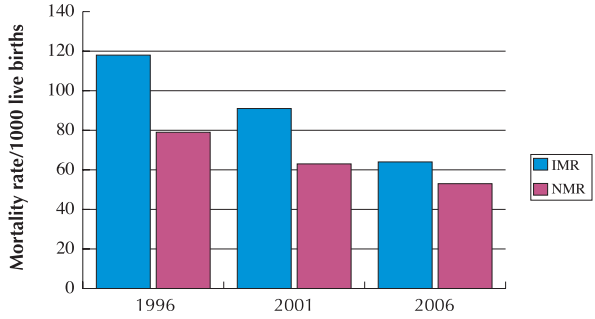
Fig 14: Infant Mortality Rates, Nepal 1996-2006



Source: NDHS 2006

During the same period, neonatal mortality declined from 50 per 1,000 live births to 39 per 1,000 and to 34 per 1,000 live births respectively. The next figure shows that the neonatal component proportionally increases as the infant mortality decreases.

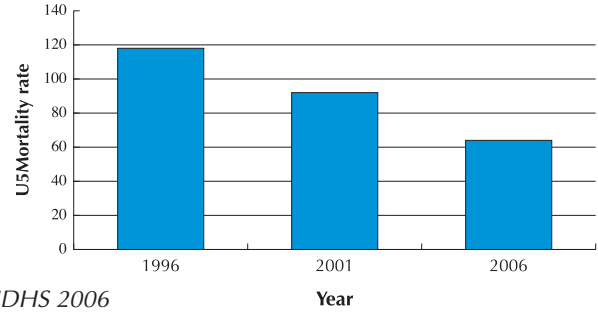
Fig 15: Infant Mortality Rate and Neonatal Mortality Rate 1996-2006



Source: NDHS 2006

Under-five mortality for the most recent period (0-4 years before the survey or 2001 - 2005) is 65 per 1,000 live births. This means that one in 15 children born in Nepal dies before the fifth birthday. Seventy-eight percent of deaths among children under five occur during the first year of life: infant mortality is 51 deaths per 1,000 live births.

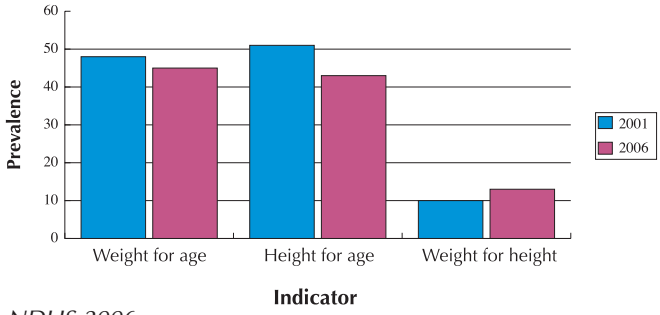
Fig 16: Under-five mortality rate, Nepal 1996-2006



Source: NDHS 2006

In general, the nutritional status of children has improved over the last five years. Forty-eight percent of children under five were underweight in 2001 compared to 45% in 2006. Similarly, 51% of children were stunted in 2001 compared to 43% in 2006; however, there was a small increase over the last five years in the percentage of children under five who are wasted, from 10% in 2001 to 12% in 2006.

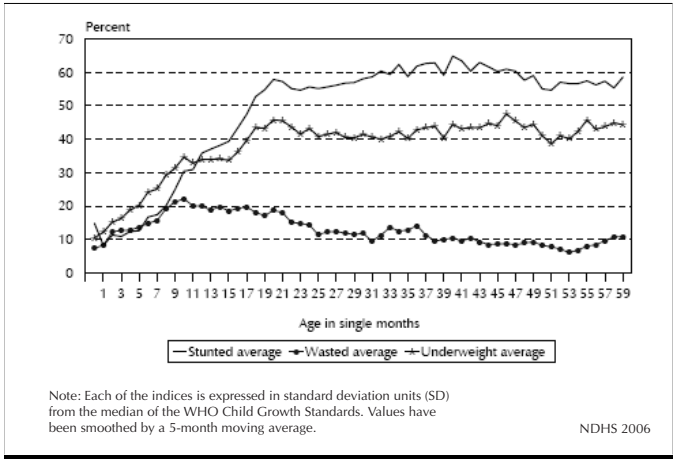
Fig 17: Malnutrition among children under five years, Nepal 2001-2006



Source: NDHS 2006

Figure 17 shows that the percentage of children who are underweight in creases sharply from 16% among those under 6 months to 28% among children aged 6-8

Fig 18: Nutritional status among children under five years



Source: NDHS 2006

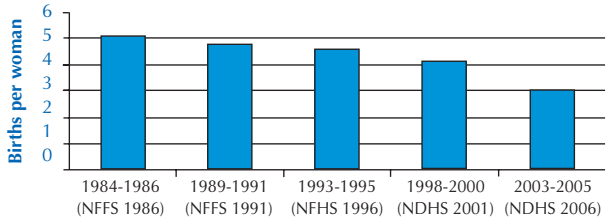
months; it doubles among children aged between 9-11 months, and is above 40% among children age 18 months and above. This may be due to inappropriate and/or inadequate feeding practices, because the increasing levels of children who are underweight for their age coincides with the age at which normal complementary feeding starts. The percentages of underweight children in the midwestern (43%) and far-western (44%) sub-regions are above the national average. Children of mothers with higher education levels and those living in households in the highest wealth quintile are least likely to be underweight.

According to the results of the 2006 NDHS, the total fertility rate (TFR) calculated for the three years preceding the survey is 3.1 births per woman aged 15-49.

Urban-rural differentials in Nepal are obvious with rural women having an average of over one child more than urban women.

The TFR from the 2006 NDHS can be compared to the TFR estimate from earlier surveys. A comparison of the three-year rate shows that fertility has declined over the last two decades from 5.1 children per woman during the period 1984-1986 (Ministry of Health, 1993) to 4.1 children per woman during the period 1998-2000 (MOH, New ERA and ORC Macro, 2002) and further to 3.1 during the period 2003-2005. Over the last three years (2003-2005), rural fertility declined by just over one child, while urban fertility showed no change.

Fig 19: Trends in Total Fertility Rate 1984-2006



Source: NDHS 2006

System Challenges

A road map outlined in the government policies and strategies is in place for strengthening health services. As mentioned earlier, the key policy principles include: equity in access to health; decentralized delivery of health care; community, private and NGO sectors' participation; greater socio-economic inclusion and improved health outcomes of the poor for, among others, poverty reduction; fair financing; and universal coverage of prioritized essential health care services. The Interim Constitution asserts availability of 'Free Basic Health Services to All'. Various interventions undertaken over the years have significantly improved health care provision and health outcomes. However, there are almost always persisting problems and new challenges in a dynamic, multi-dimensional sector like health. Nepal, economically a least developed country having difficult, inaccessible terrains and ethnic and cultural diversity, is no exception. This section presents an overview of the major challenges that need to be addressed more effectively with a view to accelerating the policies into action for improving health outcomes of all in rural as well as urban areas in an equitable, sustained manner.

Health policies are, no doubt, well documented but they are not so well articulated across the health sector. As a result, there is inadequate conceptual understanding of the implications for functions and behavior of health workforce at sub-national levels. This 'software' kind of management deficiency, distinct from rules, regulations and procedures, is an issue that has not received due attention. It is through addressing this issue we can expect to generate commitment to engagement in tasks, work motivation and responsiveness to people's need- all these so crucial to realizing the policy objectives.

Review, reorientation and reform are necessary milestones of the sector's implementation process starting from policy making to people's health practice. Policy analysis, strategy review, program evaluation, outcome assessment, workforce reorientation and performance review are important tasks that need to be carried out periodically at different levels of the system as integral part of

implementation. Present efforts in this regard are generally isolated, fragmented and lacking in objective analysis and program partnership, resulting in low usability and rare use of their findings for bringing desired improvements in performance. The challenge is to address these issues with a view to enhancing, among others, multi-sectoral coordination, system's accountability and responsiveness, program effectiveness, efficiency in resource allocation and use, and people's empowerment.

Given the multi-sectoral nature of health determinants, the roles of health system managers need to be redefined, giving more emphasis on inter-sectoral coordination and partnership building. This requires improving managerial competencies and skills in addition to orienting management procedures to ensure that health concerns are addressed effectively in policies and programs of other sectors and partners. At the same time, it is important for the health sector to support other sectors with technical guidance, orientation and resource sharing, whenever possible and necessary, to ensure optimal health outcomes. The challenge is to operationalize these strategic principles and tasks in a viable manner as part of the implementation process.

Accountability is another issue crucial to ensuring progressive improvement. The main components of accountability are: performance in terms of quantity and quality; responsiveness that essentially means addressing the issue or concern with appropriate measure and in time; effectiveness – the extent of the objective attainment; and resource-use efficiency. All these components are cross-cutting along the different levels of the system ranging from the center to the community, but differing in task and performance of functionaries from one level to another. These are not adequately integrated in the management practices.

People's empowerment is of crucial importance to effective implementation of programs. The state health interventions presently undertaken are limited mostly to defusing messages on disease prevention and health promotion as part of health education, raising community volunteers, handing over management of peripheral health facilities to community committees, community drug program

and health insurance schemes in a few cases. These are necessary but not enough and have mixed results. The issue of people's empowerment is too challenging to be left to the state health sector alone. Evidence from Nepal and other countries strongly suggests that NGOs have greater comparative advantages in this regard. It is imperative that the health sector develops a strategic approach on how to support and use of community and NGO resources in collaboration with other sectors.

It is in the context of the above mentioned system issues that challenges specific to the strategic areas of effective decentralizing of health services, focussing on local health authority and facility level, strengthening the health workforce, improving the health information system and working with private sector are briefly outlined in the following pages.

Effective Decentralizing Health Services

Health status is influenced by a wide variety of factors, only some of which relate to the organization of a health care system. Ascertaining the impact of health reforms thus requires both a conceptual framework that highlights what changes might be expected, and the existence of appropriate comparison cases that are otherwise similar but have not undergone the particular reforms. Not surprisingly, these requirements are rarely met. Decentralized management makes things more difficult than in other sectors as the nature of the products depends on several factors outside the health sector. A holistic political and economic decentralization is desired, there remains a major role for central guidance, standards and evaluation in an accountable manner for better functioning of the peripheral health system. Moreover, together with the health sector reform process and decentralization, behaviour of health care professionals and users, programme performance and approaches to monitor the health outcomes need appropriate changes.

Contrary to the official goals of decentralization, the resources spent on specialized medical units have actually increased steadily, mainly in central hospitals.

Cuts have occurred in primary health care units for the higher level care providers. Secondary and tertiary care hospitals have been the winners in resource allocation. It seems that the impact of sector reform in clinical terms was much stronger than that of primary and public health services.

The other critical component in Nepal's health system is to re-look the relationship of decentralization and the equity dimensions of health system. The holistic framework of overall public policies on decentralization has a stronger influence on equity issues in the health sector. Deriving from the egalitarian principle, equity measures needs to ensure that access to health care is based on need, rather than geographical area or capacity to pay and that quality of care does not differ between population groups, health conditions or geographical areas. It is important to note that ethics and redistribution of commitment in health care are both set of principles that need to be readdressed. There is no doubt that such a reconstructive arrangement will encounter pressures from both the political and market system. While decentralization is generally expected to increase equity, there is not much evidence yet. It may be useful to separate aspects that may increase geographical inequities: horizontal aspects of same problem receive same treatment and vertical aspects of greater needs receive greater attention. The theme that Nepal may adhere is to streamline the health system in a way that ensures Equity in provision, Equality in health outcomes.

Nepal is fully committed to the Millennium Development Goals (MDGs). The Poverty Reduction Strategy Paper (PRSP) which highlights the Tenth Plan (2002-2007) in this regard has already helped initiate national efforts towards attaining the MDGs. It is most important to make a better alignment between the MDGs and PRSPs. At the same time, a concerted effort on all eight goals is needed to address through concerted joint efforts so that a meaningful scenario could be attained by 2015. Specifically to health related goals 4, 5, 6, a recent review revealed that though there is evidence of improvement, it is essential to scale up the system efforts especially with regard to goals 5 and 6.

Public health sector investment in health is grossly inadequate compared to the requirements necessary to meet the MDGs. A significant part of health care costs is currently borne by the households themselves. Since most of the household expenses are usually devoted to the curative or tertiary level health care, the preventive and essential health care services suffer due to lack of sufficient public investment. The health system model includes packages for enhancing the management capacity of the health sector. The sector is constantly suffering from the issue of absorptive capacity. Effective rectification of this issue will dramatically improve the aid-utilization and aid-effectiveness. One of the underlying urgent needs is the availability of disaggregate data, not only health but also related enabling data for an effective decision making process. In an endeavour to achieve the set of MDG in time, it will be useful to revisit and sharpen the strategies and emphasize the most effective and efficient modalities especially in areas of skilled health attendance in child delivery. Stewardship and constant monitoring of the process and progress is an area that the health sector needs to focus at this time. Considering all these operational realities, and looking forward to a sustained development of the health system it may be necessary to revisit several perspectives of the system as a whole. It is not a question of having effective and affordable interventions to prevent or cure much of the burden of diseases but overcoming the critical constraints in delivering them. Those most in need of care are often not getting it, because drugs, money, information and even health workers are not available or are ineffectively deployed. These are the issues that are always brought up at review meetings. The system is now being challenged to define clearly what can be done to make it more efficient. It may be necessary to look into it in a comprehensive manner as, unlike other systems, its complexity demands effective actions beyond the pyramid of health facilities and, at the same time, the public sector plays a limited role in Nepal. Improving the way health systems perform in the country is both a technical and a political question. It involves a combination of vision, technical knowledge and ability to change. Basically the country needs to re-define a core technical framework for critical elements of health systems to guide investment, agree on a core set of health system metrics that can be used to track the process and a coordinated mechanism to foster synergies across diverse initiatives that aim to strengthen discrete elements of the health system.

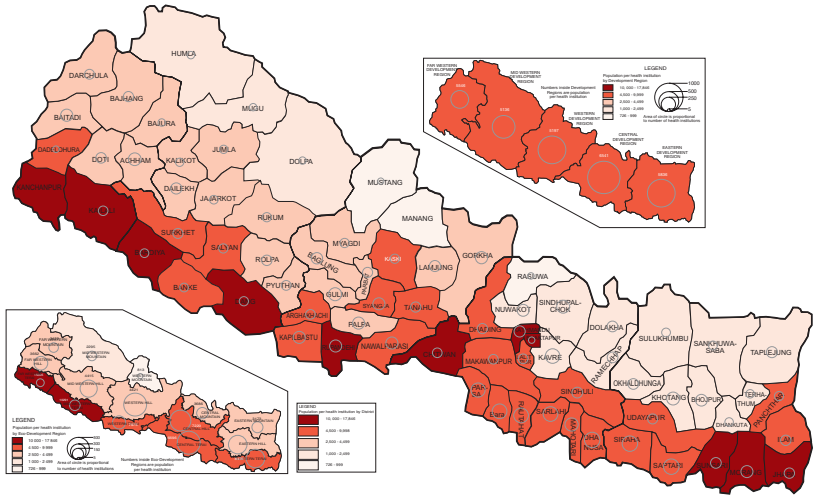
Focussing on Local Health Authority and Facility Level

In Nepal, in line with the spirit and guidelines of the Local Self Government Act 1999, 1424 health facilities have been handed over to local bodies in 28 districts and 14 districts now have a block budget grant. Decentralization has created higher standards for managerial competencies to manage the decentralized health services organizations.

A strong national health system, particularly at the PHC level is a necessary condition for successful implementation of health programmes. Improving service delivery depends on having some key resources. It is also depends to a larger degree on the ways those resources and services are managed. The deficiency in managerial capacity at the local level is increasingly cited as a binding constraint to scaling up services and achieving the MDGs.

Decentralized health services management systems are meant to improve the resource outcomes in an equitable manner and, as such, quite a skill in management and time is needed for an effective managerial exercise. It involves the whole health system management cycle: levels of attention, policy and planning, performance agreement, global referral, clinical governance, facilitating the political and local administrative pressures and community demand. At the same time to strengthen decentralization, 'close –to-client' management of health service organization, facilitating innovation and ensuring the reach of services is essential especially in resource–poor settings. To summarize, in a real life situation, service managers and their teams attempting to scale up services are struggling with some very basic problems: limited skills in basic accounting; in managing drug stocks and stores; in basic personnel management. Weak management support systems compound the problem as can their working environment – the rules, procedures, reporting lines which frame their freedom for manoeuvre. The main bottleneck is lack of competent health service managers.

Fig 20: Population per Health Institution



Source: GON/Survey Department & CBS

Finally, management issues that the doctors are facing at the local level are highly complex especially in times of conflict followed with political turbulence. There is also an increasing number of players and all are buying–in the same services from the same source making for severe infrastructure and resource constraints. It is time to do something to rectify these 'binding constraints' in health service management. It needs policy level directives on deployment policy to secure competent managers at the local level and institute effective competency-based regular training programmes. It is also necessary to map the gaps related to facilitative environment; support in terms of personal development, knowledge, job description, SOP; information to manage; and finally, incentives. It is also essential to note that the principles of decentralization cannot be achieved only by sound technical and administrative means but the key element is the changed behaviour and readiness of both the professional providers and the recipient community as a whole.

Strengthening the Health Workforce

In 2003, Nepal developed a strategic human resources in health plan (HRH) based on 1996 HRH master plan, the tenth health plan and a draft strategic HRH plan produced in 2000 by a working group representing a cross-section of relevant interests in the public and private health sectors as well as those responsible for the education of health sector staff. This plan provided both direction and a pathway to the development of HRH through the year 2017. It was intended to specify the growth of development of HR, to outline HR objectives for the medium term which would provide a framework for short- term plan development and to identify short-term actions which will pave the way for the future medium term. The targets of all categories of health workforce were based on the population projection for 2017.

One of the main binding constraints in health system management is issues related to human resources. Human resources development and deployment should act together. At the same time, health services are delivered through a team approach and each community has specific needs. Nepal's health system is facing imbalances in the skill mix of staff at the district level and also practical problems in geographic distribution with, many a time, 40% of the sanctioned posts unmanned. Issues of role definition and well defined job description have yet to be improved and a formal supervision and monitoring process is yet to be fully implemented. HRH information system, a component of HMIS, should be utilized for proactive comprehensive management rather than confining only on personnel administration.

The health workforce of a country is composed of a broad spectrum of individuals engaged in promoting, protecting or improving health – in both the public and the sizeable private sector. This also includes the health workforce engaged in non-personal public health interventions, disease prevention, health promotion services, research, management and support services. To formulate an enabling working environment with an appropriate mix of effective skills is a complex undertaking. The team should not only possess a creative culture but also it is important for it to have a conscious proactive behaviour.

The main challenge in Nepal is the retention issue that has resulted in shortages in health infrastructure. Overall shortages are commonly aggravated by skewed distribution and a movement of health workers from rural to urban areas, from public to private, or to jobs outside the health sector. Contributing factors include insufficient investment in pre-service training, migration, work overload, unattractive remuneration and work environment issues (infrastructure, basic technical facilities, safety and community support). The public sector work setting can now be characterized by vacant posts, high turnover and loss to the private sector or overseas. Paradoxically, the country has significant levels of health worker unemployment. The country has a sufficient level of production both quantitatively and qualitatively. However, local and global labour market dynamics that reflect economic, socio-demographic, political and scientific developments in addition to health needs influence both the demand and supply of health workers. The health professional market forces are well beyond the issue of training and the health system. As such, the complexity of the question may not be able to be addressed only by the health and education ministries and rest in the overall developmental policy of the country.

However, to mitigate the problems there are many issues that can be addressed by the sector itself with help from the community. To simplify the complex dynamics of the workforce, it has three primary entry points for managing the workforce: the inflows, the outflows, and the performance of the health worker stock.

The inflow function is very crucial for the performance of the health system. There are a number of critical policy issues related to 'pre-service' training that include types of professionals or allied professionals to be trained. These issues are mostly directly linked to institutional settings. However, the link of producer and consumer is an important determinant for a country like Nepal so as to maximize the response to health system needs. Government policy on health workers' training must broker across multiple ministries, such as education, health, finance, public service commission, as well as external partners in health in determining public recruitment ceilings and provide the latitude for training

institutions to be responsive to health workforce needs. On top of that for an effective inflow, the recruitment mechanism and capacity needs to improve.

In managing the outflows, in some instances, after joining the services, though they never get off the payroll, workers rarely turn up in the work sites. This is happening in places, especially in remote settings. The management of 'ghost workers' through close monitoring and periodic technical auditing needs to be formalized. Unsafe working condition is another critical issue that the country has faced with its decade-long conflict followed with turbulent political climate especially in remote areas. So also availability of appropriate accommodation is another factor to be considered. It is an opportune time that the policy makers should look into it as the living conditions should not be undermined. The global reality of the international labour markets for health workers makes out migration from resource poor countries a significant and growing 'outflow'. Nepal is not an exception. Management of migration is challenged by the need to recognize the rights of individuals. Mandatory service to pay-off training prior to permitting outflow is another option which the government has just introduced. Finally a policy on retirement that is linked to workforce needs could have a major implication on the size of the health workforce. In Nepal a special provision has already been provided to health professionals but there is always a room in case the need becomes indispensable.

Related to the issue of managing the stock of health workforce is the question of enabling them to contribute maximally to health outcomes and health system performance. It includes coverage, motivation and competence. Health outcomes depend on the workforce coverage involving physical or geographical distribution as well as the workforce's understanding and responsive to the community needs. Motivation objectives relate to the set of financial and non-financial incentives system support for health workers. There are a myriad set of options: pay increase, dedicated financial incentives like on call duty, personnel management capacity, delegating authority and providing incentives for problem solving, provision of in-service training, strengthening supervision, freedom in horizontal collaboration among the districts, and ensuring essential infrastructure and equipment for health

workers to do their job. There are also several examples in neighbouring countries. An incentive package is a good example, where award schemes are instituted: best hospital, best health promotion, best dedicated services to people etc. Another example is providing an opportunity to go for PG training or fellowship training outside the country after serving for a number of years. It is noteworthy that micro incentives work in macro health governance which is true for every facility in all sectors. Competence relates to the requisite on-the-job problem-solving skills including leadership. The ministry may take a quick action in arranging CME programmes both for further maintain their knowledge and skill and also as a part of incentive scheme. The Department of Health Services has a training unit – National Health Training Centre (NHTC). The role and function of this unit needs to be redefined for further improvement in its function and facility. It may also be appropriate to reconsider in programme priority level as the NHTC is now at P2 level instead of P1. The quality of resource outcomes depends on the tangible skills of the health team. They need new skill and regular re-orientation. It is strongly recommended that the national health authorities may re-visit and take measures to improve the NHTC effective functioning of the regional training centres.

Improving Health Information System

Public health decision-making is critically dependent on the timely availability of sound data. In theory, the health information system should generate, analyse and disseminate data to enable evidence-based decision-making. In practice, health information systems in many developing countries are weak and fragmented and unable to meet the needs of decision-makers. In Nepal, the comprehensive and integrated management information system for the health sector has been designed and is functional at all levels of quality assurance mechanism is also in place for the public and private sectors. Currently, HMIS is being established in a phased manner to cover the entire country. This includes financial, personnel, logistics, facilities, maintenance, performance, and impact data accessed to all levels. The system will also define service indicators and provide health mapping services. The key principle is to ensure that managers at all levels can execute

informed decisions in a timely manner. In 2005, the country adopted a health sector strategy: an agenda for change (HSS). The strategy recommends the framework and action required to make sure that all those who need health information get the information they need and are in a position to use it competently, confidently and effectively. It is also noted that the strategy was developed through a consensus technical framework among all stakeholders. Several issues and challenges are being faced by the unit in reaching the peripheral levels appropriately. It is also necessary to improve the sensitivity of surveillance information through the established HMIS system. Moreover, comprehensive disaggregated data are not yet available in the timely manner. This information will be very critical for equitable access to health care and also for effective allocation of resources. Especially in the endeavour to achieve the MDGs in the set time frame, disaggregate data is indispensable.

It is also an opportune time to start exploring the hospital information management system as this will answer many of the human and financial resource constraints at all levels. Retention issues of manpower, shortage of essential drugs and equipment in terms of seasonal disease trends are critical in health management especially in strengthening the peripheral health care system.

For an effective way of motivating data procedures and continuous growth of the system, a pro-active feedback mechanism should be built-in and thereby encourage use of information both at the decision-making and operational levels. It may further need to identify different modes of data dissemination based on the need and availability of resources. A periodic assessment of the system in terms of human, material and financial resources is essential to clear all impediments, side by side with degree of utilization and updating the mapping of target audience.

One of the major challenges for the country health information system is to develop a coherent system with other relevant sectors for comprehensive mortality statistics. A study showed that the number of reported total deaths in hospitals in 2005 was 4418, but that of total deaths for community was 73,592. Percentage of death

occurring in the different level of hospitals among the total death in the community is only 6%. At the same time, the crude death rate of the country is 9.6 per 1000 population and projected death rate for 2005 was 8.96%, where the estimated death would be 227,070 on the basis of projected population of the year: 25,342,638. As the reported death was only 73,592 it can be computed that the completeness of death registration of the country is 32%, in other words the completeness of death registration of the country is 3.2 per 1000 population. However, in 2000, the completeness of the vital registration system of the country was 59%, i.e., 5.9 per 1000 population (Source: Annual Report 2003, CBS). In Nepal death reporting is influenced by several traditional value systems. However, a robust coherent approach among sectors is becoming highly important. The main issue is reliability of data in terms of number and that of the cause of death as this will be crucial in an evidence-based decision making process in terms of policy and planning in favour for framing an effective health system. National policy and the legal system of the country and enforcement may play a leading role in this issue.

International statistical classification of disease (ICD-10) has been introduced in the HMIS quite for some time. BP Koirala Institute of Health Sciences (BPKIHS), Dharan provides training course on ICD-10 every year for medical records keeper. Currently most of the specialized hospitals have started to report the inpatients discharged with ICD-10 coding. Among the zonal and district level hospitals only 31% of public hospitals send the inpatient morbidity report using ICD-10 coding. Most of the private hospitals do not send reports using ICD-10 coding. Although public hospitals that send inpatient reports with ICD-10 coding, none of these hospitals send the mortality data using ICD-10 coding as per cause of death. This is also a major challenge for the health system to streamline an effective information system.

In terms of demand, the domains that the health information system should also address include health determinants and the contextual and legal environments within which the health system operates. The resource outcome indicators, health inequities in determinants, coverage of use of services including key stratifiers

such as sex, economic status, ethnic groups, geographic location, etc. are essential, especially when the country is now moving forward to a new Nepal.

In conclusion, the issue is not lack of evidence-based decisions in health due to paucity of reliable information, it is also important that decision makers at all levels need to improve the culture effectively using the gathered information in the decision making process. The system-generated information should be trusted and made use of so that the information system at all levels gets improved both in terms of timely and reliability. Duplication, fragmentation and parallel engagement in collection and dissemination of information may be detrimental, especially in resource constrained settings.

Working with the Private Sector

In Nepal, the private sector in health care is rapidly growing and is getting to play a significant role in the delivery of health services and in the provision of health and health related commodities. Even the poor make use of private health providers. People often perceive private providers to be more responsive to consumer preferences in terms of privacy, hotel characteristics and speed of service and they are more accessible than the public sector providers.

Roughly half of all outpatient visits for acute illness among both children and adults are to private providers. This includes private pharmacies, which provide diagnostic services as well as drugs. About one-quarter of facility based deliveries are in NGO or private hospitals. Since 2004, four district hospitals of total bed capacity have been added to the public system but in the same period more than 600 additional beds have been added in urban area based private hospitals. Private providers are more in urban areas and the terai, In rural hills and especially mountains public providers are more popular.

In the private sector there are both profit-making and non-profit types of health care institutions. Both types of private health care share the burden of health care provisions to the State. However, the government is responsible in terms of accountability of the quality of services that the clients are receiving. In other

words, stewardship of health care of the country is becoming a growing task and a sizable challenge for the Ministry of Health and Population.

Firstly, it is essential to strengthen the empirical information base on effective intervention to promote access through the private sector, or raise quality in the private sector. New initiatives promoting interventions, particularly evaluative elements need to be introduced and gradually it would become an obligatory undertaking. Secondly, it is time to strengthen the basic regulatory functions through advocating their functions and clear understanding of a greater consensus on consumer protection, licensing and drug prescribing regulations. Thirdly, it is also essential to support the private sector in terms of building their institutional capacity in an organized manner and imparting essential technical skill especially in dealing with new emerging diseases and also improving their behaviour towards the overall accepted norms of the national health policy and practices.

Programme Challenges

Among the programmes, challenges of few programme areas will be presented: making pregnancy safer, making medicines available, integrating disease surveillance, promoting prevention of noncommunicable diseases, responding to crisis and disaster, and adapting to climatic changes.

Making Pregnancy Safer

According to NDHS 2006, infant mortality decreased to 48 from 64.4 per 1000 live births in 2001. In the same manner, the maternal mortality rate also declined from 539 to 281 per 100,000 live births. Though both rates declined significantly it is still at the higher spectrum compared to similar neighbouring countries. On an average, maternal deaths during delivery account for about 4000 annually. Similarly the issue of maternal mortality in Nepal was highlighted in the recent World Disaster Report as being a neglected crisis. Reducing the high burden of unnecessary deaths due to pregnancy and childbirth calls for a combination of social, economic and health interventions, as well as changes in individual and family behaviour. However, the key factor for success is the availability of skilled attendants at the community level with a referral back-up, providing emergency obstetric care and special care for newborns with problems, in a functioning health system.

According to the 1998 Maternal Mortality and Morbidity Study, the major direct causes of maternal death in Nepal are postpartum haemorrhage (46%), obstructed labour (16%), pre/eclampsia (14%), sepsis (12%), abortion (5%), and antepartum haemorrhage (5%). It was found that 62% of the deaths occurred during the postpartum period. Hospital data suggest that the major causes of neonatal death in the country are birth asphyxia/trauma (most common), sepsis, low birth weight and premature birth, and hypothermia. The recent Nepal Demographic and Health Survey (2006) shows that 81% of deliveries take place at home. 18% of births take place in a health facility; 13% are delivered in a public health facility, 4% in a nongovernment health facility and less than 1% in a private facility. These national figures vary according to geographical location and the socio-economic

status of the woman. For example, 48% of the children in urban areas are born in health facilities, compared with 14% in rural areas. Furthermore, delivery in a health facility also varies according to ecological regions, where mountain areas report the lowest of 6% and the terai and hill areas reporting 17% an 21% respectively. Analysis of this data indicates a strong association between health facility delivery, mothers' education and wealth quintile. Such disparities are visible in other indicators as well, such as a rural neonatal mortality ratio of 48.5 per 1,000 live births, compared with an urban ratio of 36.6 per 1,000 live births. In the 1990s, Nepal invested in two types of health workers to be responsible for providing maternal/child health services and obstetric first aid at the village level- the maternal and child health workers (MCHW) and auxiliary nurse midwives (ANM). Neither category of worker has successfully functioned as an SBA due to a number of factors, including: inadequate length of the midwifery component of the training; the training not being competency based; a lack of adequate clinical training and experience; professional and social isolation at post; and lack of support from the health system to enable MCHWs and ANMs to provide quality emergency obstetric and neonatal care, especially during life-threatening complications. In Nepal, less than 19% of births take place with the assistance of a SBA. The targets for SBAs set for the country are: 40% of all births to be assisted by an SBA by 2005, 50% by 2010, and 60% by 2015. This is an enormous challenge as currently, as per the internationally accepted definition, only a limited number of health workers qualify as, SBAs. Furthermore, the inequity in access of SBAs depending on the area one lives in and the economic status, are barriers to achieve the MDG indicators in this regard. In urban areas 52% of deliveries are attended by a SBA, compared to 14% of births in rural areas.

Broadly, the issues relating to SBAs include supply-and-demand related challenges as well as the poor enabling environment. While the supply of SBAs is crucial to ensure that necessary services are provided for safe delivery and newborn care, demand for SBAs needs to be encouraged to ensure that these services are accessed actively. The mechanism of ensuring a good supply and demand for SBAs requires a conducive and enabling environment.

Common to other categories of manpower, sanctioned posts of ANM and staff nurses are vacant in several districts. The issue of a retention is a major challenge. The system is facing difficulties in retaining ANMs in the community settings. Besides health sector related issues many societal factors contribute to high maternal mortality and morbidity. A multi-sectoral approach is therefore a very important aspect in the area safe motherhood.

In conclusion, the country has adopted the SBA Policy in 2005. The policy has identified the deficiencies in the production of ANMs. Though most essential 22 skills out of 27 skills required for a competent SBA, the current production of ANMs imparted only 6-7 skill. The policy has outlined the phase out process of imparting the remaining skill to the present in-service ANMs; modifying the curriculum of the training programme; and finally to produce fully SBA competent trained midwifery programme taking a longer duration of training period. The implementation of SBA policy is yet to be taken. A concerted effort of all partners need to come forward collectively in this endeavour, both at policy and operational level.

Making Medicines Accessible

The National Drug Policy was promulgated by the government in 1995 to complement the National Health Policy 1991. This policy has far positive impact on the development of the pharmaceutical industry and gradual improvement in the pharmaceutical sector of the country. However, it was updated in 2007 in line with Nepal's Health Sector Reform Programme, which is still awaiting endorsement from the Parliament. National Drug Policy 2007 has included all the relevant elements of the 1995 version and incorporates changes and developments to meet the current needs of the country. The National Drug Policy 2007 has been formulated to ensure that the common people have access to the safe, effective and quality medicines at an affordable price for proper health care with the principle of social equity by establishing coordination among governmental, non-governmental, private organization and consumer representatives involved in the pharmaceutical sector for better health outcomes.

The updated policy has addressed issues for strengthening aspects like medicine management, rational use of medicine, quality assurance and regulatory control, pharmacy manpower, traditional medicine and monitoring and implementation. The updated medicine policy emphasizes periodic revision of the National Essential Drug List (EDL) for different levels of healthcare facilities, institutional procurement based on EDL, system for evaluation of supplier's performance and rational prescribing and use of essential medicines. In line with the improvement in regulatory and quality assurance of pharmaceutical products, measures like implementation and benchmarking of the regulatory standards for Good Manufacturing Practice, Good Laboratory Practice and Good Pharmacy Practice and Pharmacovigilance programme for effective post-marketing surveillance has been incorporated. It also ensures the production of quality human resources for the pharmaceutical sector with strengthening of the surveillance system and effective use of different levels of pharmacy manpower in different health care institutions. Presently, the country has so far produced 451 B. Pharm. graduates of which 111 are working abroad; and out of 108 I. Pharm., 43 are missing. However, as of 2006, there were 4,957 pharmacy retail outlets and 855 wholesale outlets, of which 1,159 retail pharmacy outlets and 287 wholesale pharmacy outlets are in the Kathmandu valley. This is a critical challenge for the country in terms of the strength of manpower and the distribution of pharmacy outlets throughout the country.

Rationalization of drug use by developing programmes on promotion of rational use of drugs, drug and therapeutic committee, quality assurance, strengthening of medicine information system, constitution of an advisory subcommittee and development of treatment protocols for prudent use of antibiotics and implementation of a code on ethical promotion of medicines has been included. The policy has also spelt out traditional medicine perspectives in terms of dosage form, modernized and scientific evaluation for safety, efficacy and quality to promote traditional medicine and strengthening quality control by providing appropriate quality control services. This is a new addition to the drug policy. It has been proposed that the implementation plan should be prepared and revised every five years on the basis of current situation analysis.

The country also has a Community Drug Programme (CDP) which aims to increase the utilization and efficiency of health facilities so that its own financing, together with the government contribution, can meet the total resources needed. The programme ensures availability of essential drugs at SHPs, HPs and PHCCs throughout the year, promotes community participation in management of the health system and standardizes the prescription pattern. Since introduction of the programme, availability of essential drugs in the PHC outlets has improved. However, quality of care in terms of rational use of drugs, availability of the right drugs and trained health workers and auditing mechanism need further strengthening. The programme has been implemented in 32 out of 75 districts and is planned to be extended up to 48 districts. While extending to more districts, mechanisms should be put in place for the underprivileged groups of people. Local bodies may also encourage and monitor the functioning of a CDP management committee.

Other critical challenges in this area are rational use of drugs and quantification. The programme needs to make more efforts in promoting rational use of drugs both in public and private sectors. The quantification method of drug requisition has not been practiced yet. Incremental method of requisition is still the practice. Both rational use of drugs and quantification are important activities that will address the total health expenditure. It is critical to note that Nepal's National Health Account findings revealed that about 43% of total health expenditure is for medical goods, which accounts for the biggest share of the total health expenditure.

Logistics, is the main chronic issue that the country is facing in terms of making medicines accessible to the people, especially to the community in the periphery. In the recently in-depth review of TB control programme conducted in collaboration with the international partners, deficiencies in logistics was brought up as the main impediments, though the DOTPlus programme was found to be the most successful one in the Region. A systematic approach of rectifying the country overall health system logistics need to be taken up in an urgent manner so as to enable the system effectively functioning and promoting the equitable access of health services.

Integrating Disease Surveillance

In November 1997, 10 concerned divisions within the Department of Health Services jointly revised and adapted the surveillance system based on the WHO recommended surveillance standards. In February 2002, In February 2002, national recommended case definitions and surveillance standards were translated into Nepali for its use by district staff. Again in August 2002 an appropriate section was translated the health workers below the district level. In 2003, national surveillance guidelines were revised to impart the new findings of disease control and surveillance methods and approaches.

Throughout this period, Nepal's surveillance system was progressing very well. The disease surveillance system in Nepal has been integrated with the health management information system (HMIS) which conducts routine surveillance activities. The early warning reporting system (EWARS) is activated at sentinel surveillance. Rapid response teams (RRT) report daily when there is an outbreak of disease under surveillance. Reporting is carried out through health workers, NGOs/INGOs, media and through ad-hoc reporting. Malaria, kala-azar, Japanese encephalitis, lymphatic filariasis, leprosy, HIV/AIDS, STDs, human rabies, snake-bites, ARI, diarrhoeal diseases, EPI diseases, meningitis, dengue, typhoid fever, viral hepatitis, UTI, influenza are under routine surveillance system and case definitions and standards are available. Contingency plans for prevention and control of Avian influenza and pandemic influenza; and dengue fever and dengue haemorrhagic fever have been prepared and institutionalized in 2007. IHR 2005 has also been launched during this year and a focal point assigned in the Epidemiology and Disease Control Division (EDCD).

All the clinically suspected cases are reported to the intermediate level by peripheral level health workers with available information and with supportive laboratory data, if available. Clinical samples are sent to regional and central laboratories for confirmation. All these cases are reported to HMIS routinely. Annual performance reviews are conducted regularly and anti microbial resistance monitoring system and protocol has been setup. Anti-microbial resistance

surveillance includes vibrio, shigella, pneumococci, streptococci, pneumonia, haemophilus influenzae and neisseria gonorrhoeae.

The system is fully committed to surveillance of priority diseases. Routine system is in place and is strengthened by the supportive reporting systems. However, the system is suffering a shortage of technical manpower resulting in deficiencies in data management analysis, interpretation and decision making. Due to insufficiently concerned health workers at the local level, there is low sensitivity in relation to outbreaks and also implementation plans need to be much sharpened. Frequently, feedback from community-level health workers and volunteers is missing. It is important to have regular re-orientation training on technical know-how and to identify modalities for increasing their motivation through appropriate incentive schemes. Strengthening of the district-level laboratory system is essential for rapid diagnosis and effective supervision.

Nepal has a concentrated epidemic where most at-risk populations presented HIV prevalence above 5%. Data generated through the systematic, ongoing collection of data through national HIV surveillance systems is necessary to understand the dynamics of the epidemic and enable appropriate responses. Surveillance activities need to be adapted as the HIV epidemic evolves. Based on these facts and the principles of HIV, second generation surveillance has been recommended for introduction by the review team. There is already a significant amount of information and what the system needs is to have a regular comprehensive review and analysis of data. However, on the other hand STI routine data collection is needed to revive in parallel with the revitalization of the STI programme on the basis of syndromic approach. Together with this approach, information on syphilis screening among pregnant mothers and blood donors is also a vital part of the surveillance network.

The country was free from polio between 2000 and 2004. In 2005, four wild poliovirus cases were reported. There have been five importations of poliomyelitis of wild P1 type in 2006. Four cases were identified in the terai districts that

border India. JE is also endemic along the southern part of the country. It is also necessary to be alert with reference to avian influenza as it has been expected in neighbouring countries. Considering these situations, it is a challenge for Nepal to always be alert. Therefore, the integrated surveillance system needs to be very sensitive and active.

Promoting Prevention of Noncommunicable Diseases

Degenerative and noncommunicable diseases accounted for 42% of all deaths and contributed 23% to the loss of all Disability Adjusted Life Years (DALYs). It has also been estimated that within 15 years, degenerative and all other NCDs would account for almost 30% of the total DALYs lost. The Nepal World Health Survey (2002) data revealed that the noncommunicable disease death toll was 41.96% of all deaths. Data in World Health Report 2003 estimated that NCD deaths accounted for 48.9% of the total deaths and a death rate of 4.7 deaths /1000 population; Nepal is categorized as a country in South-East Asia with high child and high adult mortality stratum. According to the annual report of the Department of Health Services 2002, NCD deaths accounted for 8.17% of the total inpatient and 24.84% of total hospital deaths. Of the hospital recorded NCD deaths, cardiovascular deaths accounted for 44.38% and deaths due to COPD were 37.38%.

The STEPwise NCD survey in Kathmandu metropolitan city (2003), carried out among 2030 individuals in the 25-64 years population group, revealed that 33% of the total respondents consumed tobacco (smoke and smokeless). In total, about half of the surveyed population (48%) had ever consumed alcohol in their life time. Of total consumers, 63% were male and 33% were female. Respondents had low fruit and vegetable intake. Only 0.4% of the male respondents had consumed five or more than five servings per day. The study showed that 74% of male respondents and 91% of female respondents were physically inactive. Similarly, 27% of the males and 42% of females were overweight. Among the surveyed people, 20% of males and 17% of the females were hypertensive.

Information on distribution and determinants of risk factors especially for NCDs in the population provide a basis for selecting strategies for effective prevention and control. Such strategies aim to promote healthy behaviours and helps to lower risk in the entire population. Thus, it is essential to quantify and know the distribution of risk factors in the community. So, the STEPwise Survey was carried out in three additional districts, namely Lalitpur, Ilam and Tanahu in 2004/5.

The study was done to establish a continuous surveillance mechanism (surveillance system) of noncommunicable diseases in Nepal with reference to the major risk factors for noncommunicable diseases recognized world wide. It was a pilot study expanded to three districts after the NCD risk factor study in 2003 which was carried out in urban settings of one district.

The study found an abundant evidence of prevalence of risk factors. Alarming facts of prevalence of secondary risk factors were detected. Many of the hypertensive respondents did not know their blood pressure status and many of them were physically inactive. Around 7 % of the respondents had a history of hypertension and almost 42% were identified to be hypertensive during the study. Consumption of tobacco and alcohol was common among the respondents and older people tended to drink more heavily than the younger one. A significant proportion of the respondents were either over weight or under weight. Similarly, 22% of the respondents who had visited a physician in last 12 months were diagnosed as diabetic, which was almost 2% of the total sample.

It is clearly seen that the risk factors for noncommunicable and chronic diseases are common in society. Regular scrutiny of such factors in the general population is necessary to track out the extent of the problems and achievement in control of non- communicable diseases. The challenge on this issue is a need for well planned, need- based and effective programmes to address the lifestyle changes in the general population.

Extensive awareness and intervention programmes should be launched on behavioural change interventions addressing the issues related to both smoking and use of smokeless tobacco with a special focus on females, youth and adults for quitting consumption as well as demand reduction, of harmful effects of alcohol consumption. The importance of more vegetables and fruits in the daily diet and healthy habits, like use of vegetable oil for cooking and to promote physical activities both in urban and rural settings should be promoted.

The government should make a strong commitment to implement existing policy initiatives and take new initiatives to discourage the marketing and promotion of cigarettes and liquor and restrict buying/ selling tobacco products and liquor so that the young people (minors) would be discouraged from consuming tobacco and liquor at an early age.

Responding to Crisis and Disaster

Nepal, a landlocked Himalayan country, faces a variety of hazards. Among 200 countries, Nepal ranks 11th and 30th, respectively, with regard to relative vulnerability to earthquake and flood (UNDP/BCPR, 2004). According to the Global Earthquake Safety Initiative, Kathmandu is exposed to the greatest earthquake risk per capita among 21 megacities around the world, largely due to building collapse and insufficient preparedness and medical care (GHI/UNCRD, 2001). If an earthquake of the 1934 magnitude is reported at this point of time, an estimated 40,000 deaths, 90,000 injured and 600,000–900,000 homeless can be expected (GHI/NSET, 1999). Such numbers pose a tremendous challenge to the health system of the country, which is highly vulnerable to any seismic event. From 1996 to 2006, an armed insurgency spread all over the country causing more than 13,000 deaths. Following a countrywide democratic movement in April 2006 leading to a Peace Agreement in November 2006 and the setting up of an interim government in April 2007, the country appears to be in transition towards peace of stability.

In terms of disaster statistics, Figure 21 shows the extent of mortality and injuries due to natural disasters during the last seven years (2001-2007) (2007 figure is estimated). Likewise, Figures 22 and 23 show deaths and injured due to specific hazards during the period 2002-2006 (MOHA, 2007). In terms of floods and landslides, six maps Figure 24 indicates the scale of displacement during the period 2002-2007.

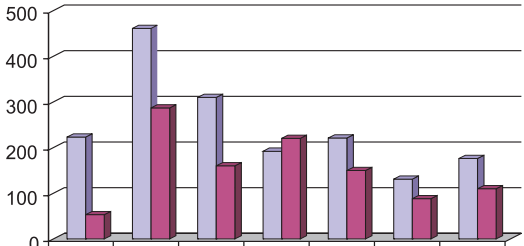
Emergency preparedness and disaster risk management are relatively new concepts being applied in the Nepalese context, and have traditionally been given low priority due to many competing and pressing issues in the health sector. Thus, the disaster risk management component has not been reflected in the health sector long-term plan and strategy. The institutional set-up of disaster management in the health sector revolves around a disaster management unit in the Epidemiology and Disease Control Division (EDCD)/Department of Health Services (DHS)/ Ministry of Health and Population (MoHP). This unit houses the Emergency and Humanitarian Action (EHA) programme but suffers from a deficiency of human resources and training. In the ministry itself there is no disaster management unit or cell but a focal point with no programme budget or allocated staff. The response capacity at the national, regional and district level is still far from adequate to deal with a major emergency such as a large earthquake. Especially at the district level, resources and capacity needs to be further developed. The Department of Health Service needs to establish a core unit on health emergencies with an effective composition of positions and competent staff members.

Due to the insurgency and security situation, the focus has been diverted from preparedness and risk management to security issues and national response capacity for e.g. search and rescue has diminished compared to previous years due to lack of human and material resources. Although a number of essential hospitals have been assessed for their earthquake vulnerability and guidelines for assessment and non-structural mitigation have been published, no substantial

risk mitigation has taken place. A project for phase–wise implementation of retrofitting and non-structural mitigation has been prepared but so far donors and implementing partners have not been found despite the expressed interest of national health authorities and hospital directors to initiate such a programme.

For the last six years, the collaborative programme between the Ministry of Health and Population has been committed to address the needs of strengthening the emergency preparedness and response capabilities of the health sector in close coordination and collaboration with the other stakeholders involved in and concerned with disaster management in Nepal. In addition, the Emergency & Humanitarian Action programme has recently received substantial volunteer contributions from Sweden and South Korea, which has helped the organization establish response capacity and provide emergency supplies to the Ministry of Health in times of crisis.

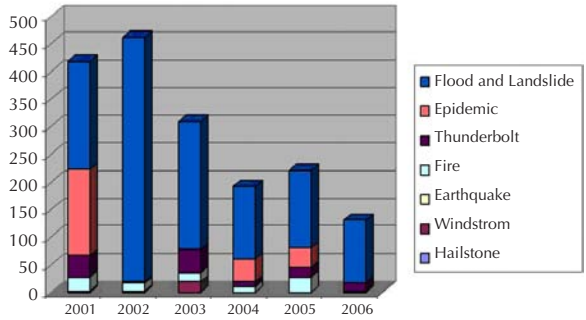
Fig 21: Mortality and Injuries Due to Natural Disaster, 2001-2007



	2001	2002	2003	2004	2005	2006	2007
Death	223	461	310	192	221	131	176
Injured	53	287	160	220	150	88	110

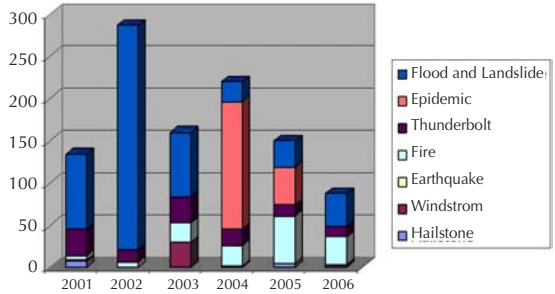
Source: DHS/MoHP

Fig 22: Deaths Due to Natural Disaster, 2001-2006



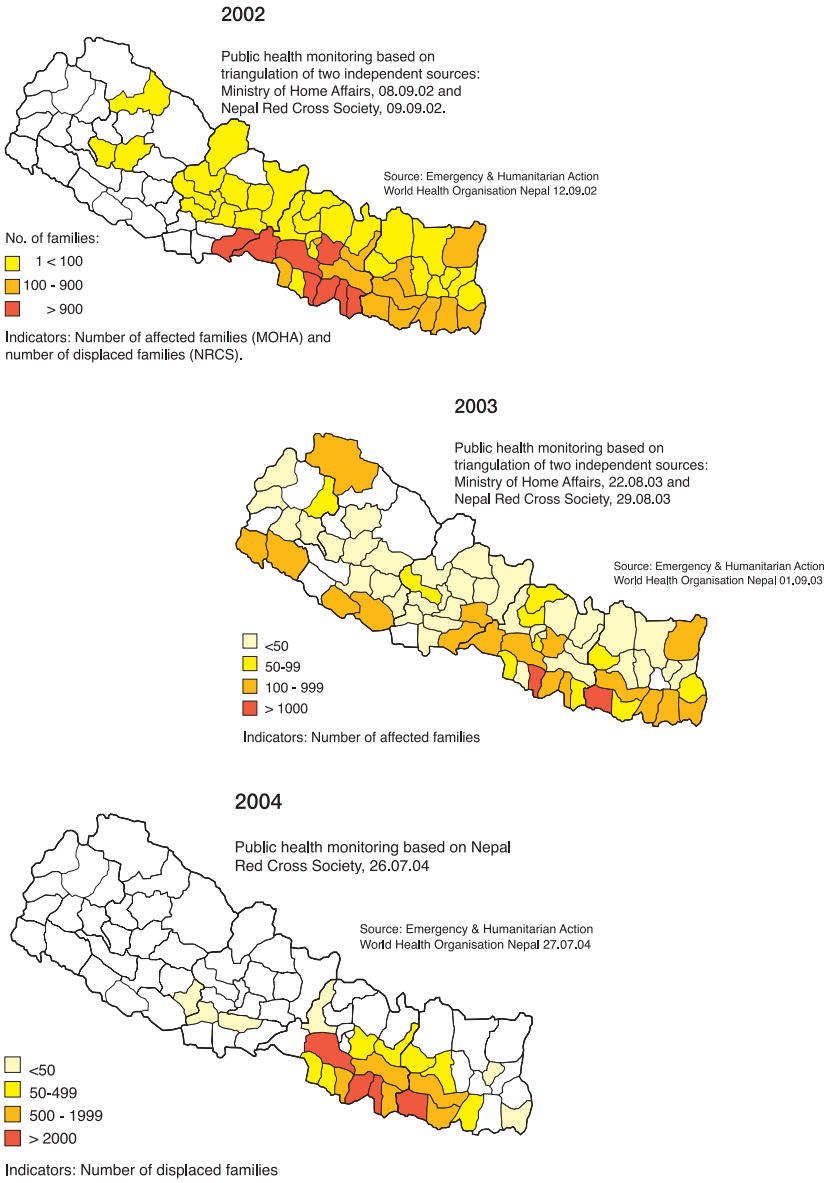
Source: DHS/MoHP

Fig 23: Injuries Due to Natural Disaster, 2001-2006

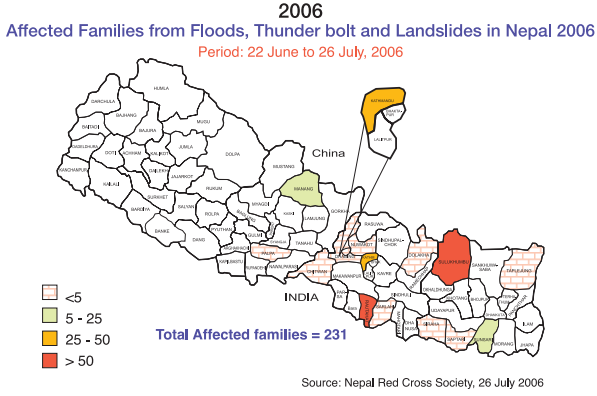


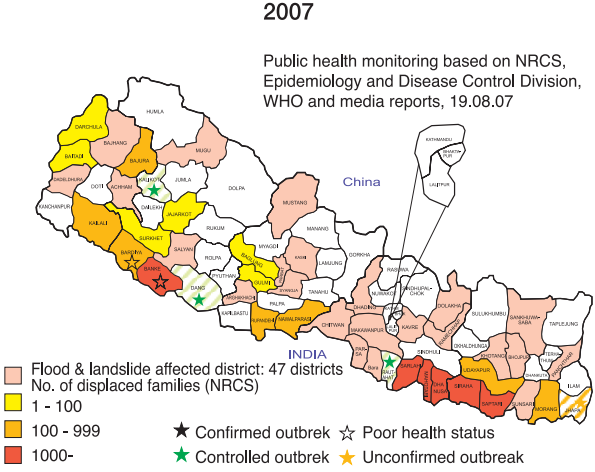
Source: DHS/MoHP

Fig 24: Flood and Landslides Trends, 2002-2007



Indicators: Number of affected families (NRCS)



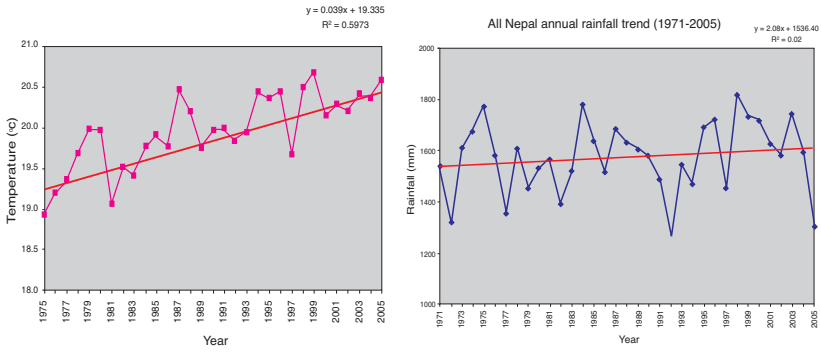


Source: DHS/MoHP

Adapting to Climatic Changes

A wide range of climatic conditions from subtropical in the southern plains to polar and arctic in the high Himalayas are found in Nepal. The terai is the hottest part where the summer temperature may rise above 40°C whereas in winter the temperature is above 5°C. In the mountains the mild summer exists with sub-zero to 12°C in winter. Himalayas is the coldest part with snow all year round. The temperature in Nepal is increasing steadily with an increment of 1.7°C between 1975 and 2005. Rainfall is also showing a slightly increasing trend.

Fig 25: Temperature (1975-2005) and Rainfall Trend (1971-2005)



Source: DHS/MoHP

In Nepal, historical information reveals that droughts and floods have triggered disasters, famines and disease outbreaks. From 1954 to 2002, floods have affected over a million people. As shown in Table 7, in 2002, floods killed 5,003 people (24% of deaths from all disasters), left almost 70,000 homeless (45%), and caused damages amounting to US$ 990,613 (75%). Floods, and other climate-related disasters such as drought, extreme temperatures, and windstorms, may occur with greater frequency or intensity in the future. Heavy rains often trigger devastating landslides, which are another cause of huge concern. Disasters severely disrupt livelihoods and community development, whether they are flashfloods or slower onset events, such as drought. In fact, droughts can affect a

greater number of people, and often the event does not bring assistance until it is very late.

Table 7: Casualties by Climate-Related Events in Nepal, 2002

Events	Killed	Injured	Homeless	Affected	Damage US $
All disasters	20,927	7,794	153,550	7,053,754	1,316,413
Floods	5,003	725	69,350	1,531,125	990,613
Drought	0	0	0	4,400,000	1,000
Extreme Temp.	60	210		210	
Windstorms	97	19	0	184	3,600
Climate related	5,160	954	69,350	5,931,519	1,004,213
As % of all disasters	24.7%	12.2%	45.2%	84.1%	76.3%

Source: MoHP (2002) Disaster Reviews, Department of Narcotics Control and Disaster Management

The impact of a rise in temperature on health has not been well studied yet. The health data of Nepal reveal that diarrhoea, dysentery, malaria, kala-azar and encephalitis are the top five diseases in the country. Moreover, Japanese encephalitis, malaria and kala-azar (visceral leishmaniasis) have lately become grave public health concerns. More than 5.5 million people are believed to be at risk from kala-azar.

Indoor air pollution (IAP) through burning biomass fuel is a major environmental health issue. It is estimated that nearly 80% of the households in Nepal use biomass fuels for cooking (GoN/CBS/. 2001). Since women are primarily responsible for cooking, they and their young children often suffer the most from IAP. Acute respiratory infection, chronic obstructive pulmonary disease and tuberculosis are the three most common diseases associated with IAP in Nepal. Since rural people are more dependent on biomass for cooking, they are more exposed to IAP than the richer people living in the urban areas where alternate fuels are available. In Nepal more than 80% of the population depends on agriculture for livelihood. It has been projected that crop yield will decline due to climate change. Rain-fed agriculture will be more severely affected. Decreasing crop yield may aggravate the existing widespread malnutrition, cause hunger and trigger other nutrition-related health problems, for undernutrition is a

fundamental cause of stunted physical and intellectual development in children, of low productivity in adults, and of susceptibility to infectious disease in everyone. The climate-related diseases include vector-borne (malaria and leishmaniasis) and non--vector borne like typhoid. The rate of development of the pathogen in the vector or in the environment also depends on the temperature. ARI is the reason for 12% of total out-patient visits (OPD) for the country as a whole (DOHS 2001). The direct impact of climatic change is seen in vector borne diseases and indirectly on water-borne diseases.

The current deficient in comprehensive coverage of primary health care for a significant percentage of the population will contribute to their vulnerability due to climate change. The vulnerable are the poor and rural cattle keepers. In Nepal, flash floods are generally triggered by extreme rainfall or sometimes glacial lake outbursts (GLOFs). As a result, they cause severe physical injuries, sometimes death. The poor, women, and children are the vulnerable groups and are often hit hardest. It is estimated that 28,000 people, mainly children under 5 suffer annually from diarrhoea, subsequent dehydration, and eventually death. The people living in the wetland/slum areas are particularly vulnerable from vector and water-borne diseases. Once temperatures increase beyond the comfort range of human tolerance, thermal stress will result in discomfort, physiological stress, ill health, or even death. The poor people, farmers, and labourers working in the sun, are greatly influenced by heat waves. People living in slums or near river banks may be more affected by seasonal floods and the occasional flash flood. Similarly, the poor and disadvantaged are often forced to live in areas where safe and sufficient water is not available. The consequence of climate change may well be that their problems worsen, leading to a deterioration in health and economic prospects.

The Department of Hydrology and Meteorology (DHM), Kathmandu, is the focal point of IPCC and is conducting many research activities on climate change and its impact. However, limited information has been published on the possible health impact of climate change in Nepal. There is an urgent need to study the impact of climate change on people's health. For this purpose, the country needs

to set up networks or strengthen existing organizations. The Ministry of Health and Population, Home Ministry and the Ministry of Environment, Science and Technology should record reliable, long term-data on the potential impact of climate change.

Since three diseases (malaria, kala-azar and Japanese encephalitis) occur mainly in the terai regions, they spread through mosquitoes that flourish well in hot (up to 40°C) and polluted stagnant wetlands. The cleanliness of the area is the most important requirement for adaptation. DDT has been used effectively in Nepal to control these diseases. However, serious consideration must be given to the potential side effects of such adaptation measures as the use of chemicals to control mosquitoes. Nepal has already experienced the emergence of chemical-resistant mosquitoes. Hence, research and development of alternative approaches to cure and eliminate these diseases are needed. The surveillance programme needs to be strengthened, and effective mechanisms on disease control programmes should be given more emphasis. In this regard, ethno-botanical information may be useful to prevent or control these diseases. The promotion of health education for creating community awareness to diseases may be an effective adaptive measure to prevent the occurrence of these diseases. Inclusion of rainwater harvesting and storage near the home, may prove a useful adaptation to help protect both the health and economy of households as it affords a higher degree of water security at home.

The implications for human health from the impact of climate change need reviewing. The existing network of data collection systems is not sufficient. There is a need for reliable population-based disease data in Nepal to better understand the attributes of climate change in disease prevalence, such as water-borne diseases.

Strategic Options

Harmonizing Global Health Partnership

Several developments have been taken place in support of global health during the last two decades. Health has been attracted by many partners and the amount of fund flows into the sector is unprecedented. Nepal is also very much benefited with this forward movement and it has become more important form Partners side to have a unified engagement and from the health sector side to have the capacity to coordinate and cope the available funding so that it can efficiently sustain the health system in longer perspective. It is also important to what extent the state sector could promote the capacity of non-state sector, civil societies and private sector in support of further development in health. Currently there are several partnerships arrangements effectively taken place in Nepal. All three diseases in GFATM, GAVI, STOP TB and a number of donors are engaging in the country health interventions with substantial level of financing.

Recently, the International Community initiated by UK has just recently introduced the new health initiatives called International Health Partnership (IHP). International Health Partnership has selected Nepal as one of the eight countries to implement the first round of the programme. The objective of the initiative is to reduce child and maternal mortality, and to reduce the impact of the killer diseases AIDS, TB and malaria as part of the global effort to meet the MDGs 4, 5, 6. This will be achieved by increasing the number of people who have access to a health service that can deal with their major health problems. Given that infectious diseases, nutritional disorders and maternal and perinatal problems dominate the overall pattern of morbidity in Nepal, a proactive participation in this partnership is quite pertinent and a new challenge for Nepal. The initiative moves forward for a robust core health system that can sustain the contribution towards the maintenance of a high level of health.

In this endeavour the government and partners will work together efficiently to improve health care and health outcomes adopting innovative process mechanisms with minimum change to the existing policies. The government will

lead the process and all partners will assist to tackle the challenges facing the country's health systems, particularly to have a sufficient trained and motivated health workforce, equipped with the necessary tools and medicines, appropriately placed and equitably distributed to carry out their duties. This initiative will build on and use the existing systems at country level for planning, coordination and management of the health sector. In this perspective, the national health policies and plans will be the basis for providing funding and thereby avoid introducing new plans or projects that are inconsistent with the national health plans.

The Government of Nepal and EDPs are mutually committed to the equity, quality, accessibility and efficiency of the health care system of the country. Keeping in line with the existing coordination mechanism, the government takes the lead with effective cooperation from all the EDPs, in executing this initiative. The strength of each of these respective partners will contribute to shape and enhance the strategies and approaches to address the shortages, bottlenecks, imbalances and inequities in the existing health care skills. The established code of conduct will help to build trust among all stakeholders which will allow action to be taken together in a transparent manner, maximizing the accountability. This process will thereby ensure aid-effectiveness and speedy aid-utilization through a flexible and efficient behaviour.

The question of reaching to the people now or establishing a sustain health system is also becoming a less important dilemma. In Nepal, the initial support of GFATM, GAVI and STOP TB has already reached to the people and interventions on target health problems have already being undertaken efficiently. Now that both GFATM and GAVI are opening up window of HSS investment opportunities for assisting more in sustaining the health system and Nepal will also have the privilege to receive the financial assistance, it is extremely crucial that the health system should create an enabling environment with this new engagement. In a broader term, the financial support should not be confined within the health sector as the majority of the health determinants are scattered in many of other sectors. It is also important to align and harmonize the partners on one hand and empowers the community ownership and leadership on the other hand, providing most

appropriate, effective and efficient technical support to non-state sector. Investment, in a significant proportion, in the form of technical assistant and institutions to meet the donor requirements could facilitate better in successfully translating problems into opportunities. This will provide a sustain effect in the poverty reduction strategy, which is the principal binding constraint for reaching the health goals, MDGs 4, 5 and 6. Adoption and execution of coherent poverty reduction are imperatives policy directions for action plans of the health system. WHO may also face increasing demands for it to increase the normative functions and technical support for the country in respond to rapidly increasing global health partnership financing. The country may have issues of absorptive capacity and also hurdles in co-ordinations of multiple partnerships and initiatives to avoid duplication and high transaction cost, long term predictability, ability to use the national plans as the basis for action and better information flow to and from partnerships. WHO may need more intensive engagement in sector policy processes and investment strategies; and help building the national capacity in policy analysis and management.

Promoting Primary Health Care

Nepal is one of the countries in the Regional proactively institutionalized the PHC as basic principle in formulating the national health policies, strategies and plans since its inception. Till now, female community health workers, village health workers and EPI workers are still engaging in the out reach services of the health system and they are playing a critical role in improving the national health outcomes.

Current international move towards renewing or reviving the PHC approaches will also be an extremely promising window opportunity for Nepal in striving for an optimal health outcomes. Like in other countries, to achieve the MDGs, it is now being realized that not only the financial inputs to health care that matters but more important initiatives that urgently in need is how the developing countries can take up an effective leadership in harmonizing and aligning with nationally

defined priorities and policies. In that perspective community empowerment is the main hub of the whole process and quite a broad decision space should be enabled to the community. The ideology of PHC may now need to find a synergy with the vertical programme approach through which new financing inputs are flowing in an unprecedented manner. Ownership of the MDG targets need to be addressed not only by governments but also by civil society and health care providers, in other words, community as a whole. As mentioned above, preventable health risks or social determinants of health are beyond the health care itself. To achieve and sustain the MDGs, a system-wide approaches are needed in attaining the universal, integrated and comprehensive care.

It is an opportune time for Nepal to revisit the PHC, both at policy and operational level, so as to ensure that the basic health system is fully responsive with quality in orientation, accountability and sustainability. The health system may also then 70promote in developing intersectorial actions to address the other determinants of health and equity.

Building a Stronger Health System

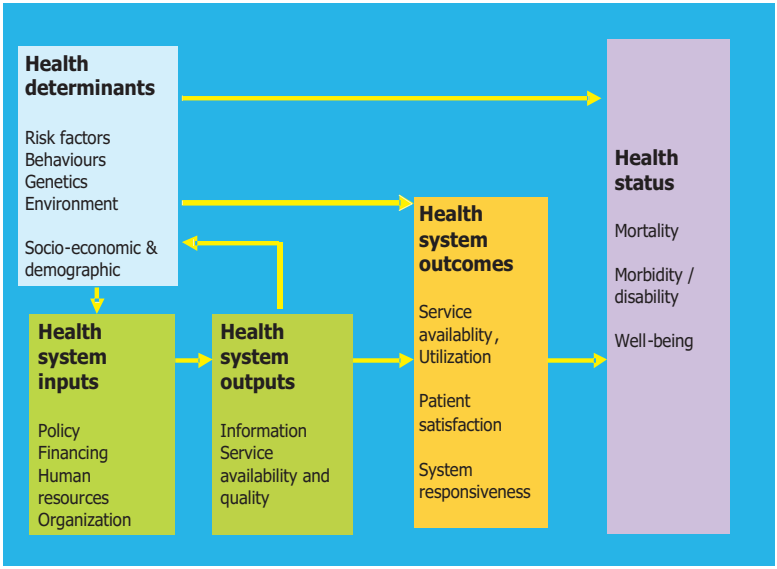
In building a stronger health system, national health authorities are critical actors in efforts to realize the potentials and link the health concerns and actions with the requirements of the environment and economic development policies, as have mentioned above. Health system may be considered as a subset of the holistic approach of the community. To sustain and further development of the health status of the community, it is necessary to address concurrently to those determinants localize in other sectors. In improving the health status, the health sector can intervene in only some of the factors in terms of health system inputs and health system outputs. But a majority of health system outcomes and that of the health status of the people are contributed by many of the health determinants and that of the socio-demographic factors which are being influenced by other

Source: WHO, Geneva

sectors. It is more important to engage in influential partnership in the overall and sector policy making process of other related sectors.

Within the health sector, the general role of the health authorities is to serve as the community's guardian of, and advocate for, its people's health through monitoring the health status; estimating the contributions of environmental and social factors to health problems; analyzing health needs; formulating specific public health policies, legislation and standards; advocating, facilitating and enabling the health issues to be addressed by competent agencies; providing technical support and guidance in policy and planning and evaluation and capacity development. It is quite a diverse function and there is a need to act in a very coherent manner. It is necessary to have an effective and transparent operational environment. In this perspective, it will need to undertake a planned, deliberate effort in capacity-building. Such an effort may be regarded as one of resource development, so long as resources are defined as including both tangible and intangible factors.

Fig 26: Health System Framework - Determinants, Inputs and Health Status



In a resource-constrained setting like Nepal coming across with a progressive planned implementation for the last several decades and considering the current challenges facing the system, it is an opportune time to emphasize resource outcomes than resource inputs and outputs. It involves need-based planning rather than an incremental one starting from the district, an operational unit, right to the central level, undertaking effective evidence-based decision making process. Quantification in planning and quality assurance in implementation will be the hub of the whole engagement.

To address these issues the Ministry of Health and Population may consider a Resource-Outcomes Planning Unit. Currently, MoHP has a Policy Planning and International Cooperation Division. It is felt that the resource outcomes element should be dominant in order that more emphasis is given to epidemiological and economic principles in health development strategies and priorities and to ensure that objectives such as equity and safeguarding the poor as well as cost efficiency are applied in the national vision and values of the health of the country. The Unit may also constantly monitor the hospital unit cost as this accounts for a major share in the health budget and burden of diseases for directing an effective investment in specific components. Throughout the process, 'quality" becomes a critical issue. The second unit that needs to be established is the 'Quality Unit' which would be involved in determining appropriate norms for the public and private sector. This unit would deal with quality not only with regard to the effectiveness of medical services but also overall, including issues that come under responsiveness. It will be important both in facilitating the setting up of new units, creating an environment conducive for the prioritization of quality, and for implementing decisions within the public sector, and for determining methods of improving quality within public sector facilities.

Conclusion

In conclusion, the country's health development is being scaled up through effective strengthening of the health system and its enabling environment. However, it is crucial to maintain the sustained growth of the system. The strength of the health care infrastructure and geographical distribution of well-functioning primary health care services in rural and urban areas serves as a strong basis for success in the smooth implementation of the health care system. The availability of a qualified and appropriate mix of human resources for health at district health facilities is also a key factor enabling the capacity of the health care system to provide essential health care services to the whole population, and cope with the increasing demand for health care. Rectifying the retention issue deserves urgent attention. The magnet of urban life depletes the workforce in rural areas. This demands an effective advocacy on other sectors' policy, such as, policy on urbanization to be considered side by side with rural development.

Equitable access to health is an issue in many developing countries in the Region. Nepal is not an exception. Emphasizing public health programmes is the preferred paradigm shift; as such programmes are community based and reach all at an affordable cost. Promoting of public health initiatives jointly between institutions and health services will build up an effective workforce, both in numbers and in skill.

Linking research and policy at the national and local levels can also contribute to a realistic planning and need-based resource allocation. It is also important to have meaningful linkages between health, health research and research systems and the broader macro-environment, especially in figuring out fair financing in a resource constrained setting. Not only that system research can translate public opinion into policy but it can also be a powerful tool for an effective stewardship function in health system management and make the system work better.

Health sector performance is critically dependent on worker motivation with service quality, efficiency and equity, all directly mediated by workers willingness to apply themselves to their tasks. Resources availability and worker competence are essential but not sufficient to ensure desired worker performance. Retention issue of human resources for health that the country is currently facing, needs urgent attention.

Financial feasibility of a country influences the long-term growth of the health system. At this juncture, it is critical to initiate a paradigm shift from external fund dependency to maximize the domestic funding, using optimal efficiency and accountability principles. Nepal National Health Account, 2001-2003 provides crucial information on health financing for informed policy decision. To meet the health system challenges, it is important to find ways to routinely obtain information on key financing parameters, if possible, in a disaggregate manner, to enable the system to ensure equitable accessibility.

To improve the health status of the population, the role of the health sector will be vital, but the holistic approach of the country's developmental policy, plans and action will have a compounding impact on the health system.

Finally, in spite of Nepal facing with internal conflict and political disturbances throughout the country, generally health actions are on way forward and a remarkable achievement has taken place in terms of health sector reform. However the system seems to be overstretched with a consistent increase of financial resource inputs. Time has come for all the stakeholders to consider seriously moving more into building capacity of the system instead of consistently confining buying into the existing capacity; this should include not only technical but also administrative and regulatory elements as well. In the context of political instability, policy makers are working within a complex political framework which makes not only in policy formulation difficult but also creates impediments at operation level for effective implementation as they are engaging with the constant changing environment and thereby reducing the predictability response. Approaches need to be flexible enough to move along the humanitarian-development continuum. It is essential, within the prevailing context of spatial nature of conflict, to explore strategic ways of working in hybrid approaches and develop acceptable modalities, inclusive of non-state sector in social protection, to maximize the reach to the communities especially the vulnerable ones. At this crucial moment, WHO, at the country level, should continue to maintain as prominent technical pillar, providing reliable, consistent technical support within its sensitized cultural context.

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