



Development  
Progress

## Case Study Report

*Health*

# NEPAL'S STORY: Understanding improvements in maternal health

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COVER IMAGE: Nineteen-year-old Maheshwori

Devi Bishwokarma is pregnant with her second child. Despite being three days past due, Maheshwori continues to work herding goats. Her husband, who lives and works in neighbouring India, comes home once a year. (Doti District, Nepal, 2009)

Photo: © Gates Foundation

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# Abbreviations

<b>ANM</b>	Auxiliary Nurse Midwife	<b>NGO</b>	Non-governmental Organisation
<b>AusAID</b>	Australian Agency for International Development	<b>NHSP</b>	Nepal Health Sector Plan
<b>CBO</b>	Community-based Organisation	<b>NMR</b>	Neonatal Mortality Rate
<b>DDC</b>	District Development Committee	<b>ODA</b>	Official Development Assistance
<b>DFID</b>	Department for International Development	<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>DPHO</b>	District Public Health Office	<b>PHCC</b>	Primary Health Care Centre
<b>EOC</b>	Emergency Obstetric Care	<b>PPP</b>	Purchasing Power Parity
<b>FCHV</b>	Female Community Health Volunteer	<b>SBA</b>	Skilled Birth Attendance
<b>GDP</b>	Gross Domestic Product	<b>SDIP</b>	Safe Delivery Incentive Programme
<b>GIZ</b>	German Agency for International Cooperation	<b>SHP</b>	Sub-Health Post
<b>GNI</b>	Gross National Income	<b>SMNF</b>	Safe Motherhood Network Federation
<b>HP</b>	Health Post	<b>SWAp</b>	Sector-wide Approach
<b>IHME</b>	Institute of Health Metrics and Evaluation	<b>TE</b>	Total Expenditure
<b>IMCI</b>	Integrated Management of Childhood Illnesses	<b>UK</b>	United Kingdom
<b>JFA</b>	Joint Financing Arrangement	<b>UN</b>	United Nations
<b>LTHP</b>	Long-Term Health Plan	<b>UNFPA</b>	UN Population Fund
<b>MDG</b>	Millennium Development Goal	<b>UNICEF</b>	UN Children’s Fund
<b>MMEIG</b>	Maternal Mortality Estimation Inter-agency Group	<b>US</b>	United States
<b>MMMS</b>	Maternal Mortality and Morbidity Survey	<b>USAID</b>	US Agency for International Development
<b>MMR</b>	Maternal Mortality Ratio	<b>VDC</b>	Village Development Council
<b>MoHP</b>	Ministry of Health and Population	<b>WDI</b>	World Development Indicators
<b>NDHS</b>	Nepal Demographic and Health Survey	<b>WHO</b>	World Health Organization

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# 1. Introduction

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## Key messages

- Nepal achieved a striking reduction in maternal mortality during the 1990s and early 2000s. According to data from Nepal Demographic and Health Surveys (NDHSs), the country's maternal mortality ratio (MMR) fell by 47% between 1996 and 2006. More recent survey data support this downward trend. Despite difficult terrain, conflict and political upheaval, it is one of the few countries likely to meet Millennium Development Goal 5 on maternal health.
- A consistent policy focus and sustained financial commitment by the government and donors throughout the past two decades, including substantial increases in funding for maternal health since the early 1990s, has allowed for widespread improvements in access to medical services, particularly in remote areas.
- MMR improvements have further been facilitated by behavioural and economic changes at the household level, driven by increased empowerment and education of women and greater awareness of how to mitigate pregnancy-related risks.
- Together with a sustained rise in incomes, these factors have combined to create what appears to be a virtuous cycle, with national policy and implementation reinforcing changes occurring at the household level. Nepal's experience can provide important lessons for other countries struggling to address high levels of maternal mortality and morbidity, especially within a context of difficult terrain and high poverty rates.
- Despite these improvements, numerous systemic challenges remain. These include addressing inequalities, increasing community mobilisation to improve accountability, building more effectively on inter-sectoral synergies and, most importantly, maintaining political and financial commitment to safer motherhood.

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Despite greatly improved knowledge on how to prevent maternal deaths, approximately 350,000 women die each year as a result of pregnancy and childbirth (Hogan et al., 2010). Maternal mortality remains the main contributor to excess female mortality in the reproductive years (World Bank, 2011). Millennium Development Goal (MDG) 5, which includes as a target reducing the maternal mortality ratio (MMR) by 75% between 1990 and 2015, is considered one of the most off-track MDGs, with only very few countries likely to reach it.

Within this context, the decline seen in maternal mortality in Nepal, one of the poorest countries in South Asia, during the 1990s and 2000s is striking. The country's MMR dropped by 47% between the 1996 Nepal Demographic and Health Survey (NDHS) (MoHP et al., 1997) and the 2006 NDHS (MoHP et al., 2007), from 539 deaths per 100,000 live births (during the 1990–1995 reference period) to 281 (2000–2005). This trend is supported by data in the eight-district Maternal Mortality and Morbidity Survey (MMMS) (Suvedi et al., 2009), which estimates an MMR of 229 deaths per 100,000 live births for 2008/09. While this rate is still far higher than the rates achieved in industrialised countries, the decline represents a substantial improvement over a short time period in a country that contains some of the most challenging terrain in the world for the delivery of essential health services.<sup>1</sup> Much of the progress was achieved in the midst of a protracted insurgency and during a period when household incomes for the majority did not increase substantially.

This case study aims to explain how the country succeeded in significantly reducing maternal mortality between the early 1990s and the late 2000s, as reflected in the two NDHS estimates and the 2008/09 MMMS. It argues that MMR improvements were made possible because of a consistent policy focus and sustained financial commitment by the Nepali government and donors throughout the past two decades. This included substantial increases in funding for maternal health from the early 1990s, and allowed for widespread improvements in access to medical services, particularly in the more remote areas of the country. This in turn contributed to an increase in the utilisation of antenatal and postnatal care, skilled birth attendance and access to essential medicines and contraceptives.

Progress was further facilitated and reinforced by **behavioural changes at the household level**. Most striking was a reduction in unwanted pregnancies: the total fertility rate dropped from over six children per woman in 1976, and 4.1 in 1996, to 2.6 in the most recent NDHS (2011) (MoHP et al., 2012). Improvements in women's education and empowerment, substantial outward migration by men, recent increases in household incomes and awareness and information campaigns, as well as improved access to education, are likely to have further contributed to these changes.

The available evidence does not allow for the construction of a hierarchy of significance for these factors; most informants also favoured multicausal explanation (see Box 1 overleaf). This suggests a relatively complicated answer to what – at first

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1. It took Bangladesh – generally considered a high performer among low-income countries (Rodriguez-Pose and Samuels, 2011) – almost 30 years to achieve the same reduction in MMR as Nepal achieved between 1996 and 2006 (Hussein et al., 2011a).

## The strategies used to achieve Nepal's improved outcomes can provide important lessons for other countries struggling to address high MMRs.

glance – may seem like a rather simple question. There was no ‘magic bullet’ that caused the MMR reduction – rather, it was the outcome of a complex combination of factors that interacted in a largely synergistic manner. This virtuous circle in many ways persists to the present, providing some support towards the most recent MMR estimate modelled by the Maternal Mortality Estimation Inter-agency Group (MMEIG), which suggests a further decline to 170 deaths per 100,000 live births in 2011.

A research team consisting of UK- and Nepal-based researchers worked over the course of several months on developing a detailed understanding of the nature of the improved maternal health outcomes, as well as their causes. Data collection methods included the analysis of key quantitative and qualitative primary sources, an extensive review of the literature on the subject, numerous interviews with experts, site visits to three districts in Nepal (Dolakha, Lalitpur and Rupandehi) and a workshop of stakeholders to validate findings.<sup>2</sup> Through this process, researchers attempted to establish a chain of events that was likely to have enabled improved maternal mortality outcomes.

The report examines evidence on the changes over the past two decades – focusing on three overarching factors: political commitment and resourcing, improvements in access to affordable health services for women, and greater awareness and agency among women leading to changes in their behaviour towards health risks – and explores the confluence of strategies and decisions, as well as structural conditions and circumstances that are likely to have enabled these. The strategies used to achieve Nepal's improved outcomes can provide important lessons for other countries struggling to address high MMRs. As Hussein et al. (2011a: 9) argue, Nepal's improvements in maternal health are likely to provide a ‘greater understanding of why and how maternal mortality reduction can be achieved in settings where terrain, poverty and remoteness remain very real challenges’.

This case study aims to add value to existing studies by synthesising the detailed analytical work carried out to explain Nepal's MMR decline (see, e.g., Hussein et al., 2011a; Pant et al., 2008) and contextualising this within the broader national

and sectoral political economy of health policy and financing. It further aims to elucidate the complex interplay between high-level policy-making, supply-side changes and responses at the household level. Finally, the study aims to build on existing case studies examining substantial reductions in the MMR of other countries (see, e.g., Chowdhury et al., 2007; Danel and Rivera, 2003; Koblinsky and Kureshy, 2009; Pathmanathan et al., 2003) and to inform efforts by the World Health Organization (WHO) (2012: 17) to ‘learn from country successes’ and provide ‘better guidance for governments and their partners’.<sup>3</sup>

The following section details the data for key indicators of improved maternal mortality outcomes. Section 3 analyses the most plausible factors behind Nepal's progress. Section 4 concludes with a discussion of policy lessons drawn from Nepal's experience and further avenues for research.

### Box 1: Popular perceptions of progress

‘I am not aware of any maternal deaths in the community in the past two to three years. I think this is because medicines are available, services are free and we have a 24-hour delivery service.’

– **Medic at rural health post in the Terai**

‘Previously, we conducted only 40 or 50 deliveries in one year, but last year we had 190. I think there are several reasons for this: the MDGs, more doctors, awareness raising by female community health volunteers and radio and newspaper advertisements.’

– **Medical superintendent in the mountain region**

‘When I gave birth several years ago I was not taken to a health facility, but recently my in-laws decided to take my sister-in-law. I'm not sure why – it may have been the [cash] incentive, or because the facility now offered 24-hour delivery.’

– **Young woman in the Terai**

2. See Annex 1 for a complete list of interviewees

3. This case study is part of the Development Progress project, which aims to deepen understanding of how progress in different development contexts has been achieved.



A female community health volunteer learning to suction the mouth of baby born at home without medically trained attendant. Photo: © Save the Children

# 2. What progress has been achieved?

## 2.1 Nepal's maternal mortality ratio

The MMR is a modelled indicator that measures the risk of dying of pregnancy-related causes. It is expressed as the number of maternal deaths per 100,000 live births. Given the relatively rare occurrence of maternal deaths and the difficulty in determining whether deaths have resulted from obstetric causes, MMRs come with high levels of uncertainty, except in countries where comprehensive registration of death and causes of death exists. In most developing countries, censuses, household surveys or models are used to estimate maternal mortality.

Prior to 1996 there were no robust national estimates of maternal mortality in Nepal,<sup>4</sup> but it seems plausible – given what we know of life expectancy and child mortality in that period – that substantial improvements in maternal mortality began significantly earlier than 1990 (Thapa, 2011).<sup>5</sup> For example, child mortality rates have declined steadily over the past 50 years, although rates of improvement have increased in the past two decades. Similarly, fertility rates – which tend to be correlated closely with maternal mortality – have been declining steadily over recent decades.

In Nepal, the first nationwide effort to determine a reasonably robust MMR was carried out as part of the 1996 NDHS. This was repeated in 2006, using a largely similar methodology. Based on data from this survey, Nepal's MMR is estimated to have declined from 539 per 100,000 live births in 1996 to 281 in 2006 (MoHP et al., 2007). Each NDHS has a reference period covering the preceding five to six years. The decline is supported by data in the MMMS (Suvedi et al., 2009), which placed the MMR at 229 for 2008/09 (see Table 1).<sup>6</sup>

The confidence interval for the two surveys is large enough to suggest that the decline could have been as large as 74% and as low as 2%. However, even including confidence intervals, the evidence seems relatively clear that a substantial decline occurred (see Figure 1 overleaf).

Given the relatively low number of maternal deaths, the NDHS does not disaggregate by region, income group or ethnicity/caste, but the 2008/09 MMMS does show significant variation between the eight districts. For example, Rasuwa (in the mountain region) had an MMR of 301, compared with Sunsari (Terai) and Baglung (hill region), which both had an MMR of 181. The MMMS results also show variation according to age, with

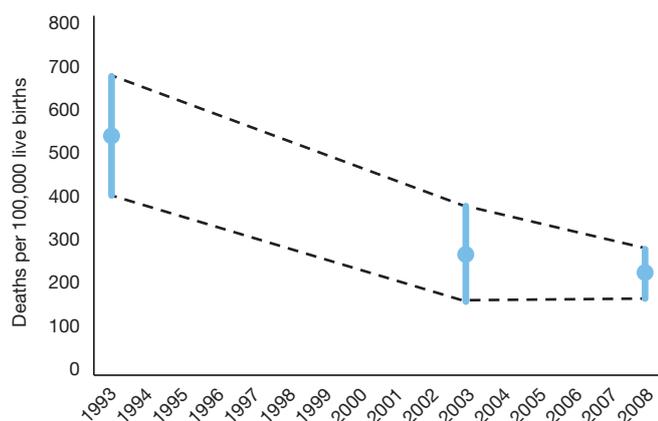
**Table 1: Summary of maternal mortality estimates**

Year	Reference period	Estimated MMR	95% confidence intervals	Number of reported deaths in sample
1996 (NDHS)	1990–1995	539	392–686	87
2006 (NDHS)	2000–2005	281	178–384	39
2009 (MMMS)	2008/09	229	177–283	160

*MMR = deaths per 100,000 live births*

4. Prior to 1996, national estimates of the MMR were based on small-scale and hospital-based studies and vital registration. In the absence of reliable data on this, some scholars have estimated rates of MMR; for example, Thapa (2011) posited that the rate was likely to be at or slightly below 1,500 deaths per 100,000 live births during the 1960s.
5. For example, on the basis of data collected in 1977/78 in rural areas surrounding Kathmandu, Rupandehi and Kavre districts, the MMR was estimated to be 850 deaths per 100,000 live births. A research team from Tribhuvan University estimated an MMR of 1,217 for Kavre district in 1980/90, while the Ministry of Health and Population, based on national data going back 14 years, estimated an MMR of 515 in 1991 (see Prasai and Adhikari, 2012). Thapa (2011) argues that MMR was at the 'natural' rate of about 1,500 per 100,000 live births in the 1960s, implying a steady decline between then and 1990.
6. Different methods have been used throughout the past two decades to measure the MMR. The figures used in the 1996 and the 2006 NDHSs were generated using a version of the 'sisterhood approach' (in which respondents are surveyed about the survival of all their adult sisters), called the 'direct sisterhood method'. This relies on fewer assumptions and collects more information than the original indirect method, as it is a time of death measure rather than a cause of death measure and hence identifies pregnancy-related rather than maternal deaths; however, it requires larger sample sizes and the analysis is more complicated. For the 2008/09 MMMS, researchers triangulated data in eight districts using a community surveillance system, a maternal death review, rapid facility and staff competency assessments and emergency obstetric care monitoring, as well as qualitative components, group discussions and interviews (Lamsal, n.d.).

**Figure 1: Estimates of MMR, with 95% confidence intervals**



Source: Hussein et al (2011a)

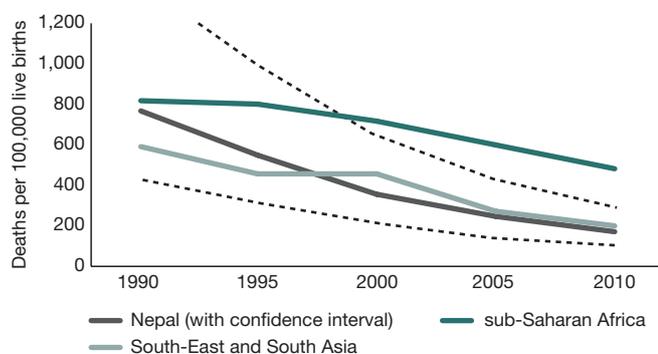
**Table 2: Variation in MMR by ethnicity**

Caste/ethnicity	MMR
Muslim	318
Terai/Madhesi/other caste	307
Dalit	273
Janjati	207
Barhman/Chhetri	182
Newari	105
Other	0

MMR = deaths per 100,000 live births

Source: Swedi et al. (2009)

**Figure 2: Inter-agency MMR estimates for Nepal vs. regional averages for South-East and South Asia and sub-Saharan Africa (dashed line = CI for Nepal)**



Source: MMEIG

MMR decreasing initially and then increasing greatly with age: MMR for women under 20 was 297, decreasing to 119 for 20- to 24-year-olds, but increasing to almost 1% (962) for women aged 35 years and over. Similarly, the MMR among Muslim women was more than three times as high as among Newari women (see Table 2).

The MMMS also shows there has been a significant change in the role of pregnancy as a risk factor. While pregnancy, childbirth and puerperium were the number one cause of all deaths of women of reproductive age in 1998 (accounting for 20.6% of all deaths), they represented the third-largest cause of death in 2008/09 (10.7%). The single leading cause of death among women of reproductive age in 2008/09 was suicide, accounting for 16% of all deaths of women of reproductive age.

The national survey-based estimates to some extent mirror estimates by the two organisations providing internationally comparable (modelled) MMR estimates. The MMEIG (consisting of WHO, the UN Children’s Fund (UNICEF), the UN Population Fund (UNFPA) and the World Bank) has estimated that MMR fell by 80.4% between 1990 and 2011, from 770 (430–14,000) to 170 (100–290). Using the MMEIG estimate, Nepal has made substantial gains, moving from far above to significantly below the average for South-East and South Asia (see Figure 2), although again the large confidence intervals complicate this assessment.

Moreover, the mortality ratio in Nepal has improved more quickly and to a lower level than in many of its neighbours, including India, although the improvement has been slower than in Bhutan (see Table 3 overleaf). Sri Lanka, while reducing its MMR at a slower rate than Nepal, has done so from a much lower point and stands out among South Asian countries as having shown sustained success in maternal health (see Pathmanathan et al., 2003).

The other internationally comparable estimate is that by the Institute of Health Metrics and Evaluation (IHME), which estimates a much smaller decline of 30.6%, from 455 (365–545.9) in 1990 to 315.9 (240.5–407) in 2011. The confidence intervals for these estimates are considerably narrower than in the MMEIG<sup>7</sup> estimates, but they do overlap with these as well as with the NDHS estimates.

Despite these differences between estimates, all sources suggest a broadly similar trend and indicate that the decline in the MMR could almost certainly be large enough for the country to have already achieved MDG 5 – although it could also be significantly smaller. The next MMR estimate, due as part of the 2016 NDHS, will provide a further data point in assessing the rate of maternal mortality. However, we can say with a high level of confidence – and this is the premise informing the subsequent analysis – that a fairly rapid decline in MMR occurred between the first half of the 1990s and the end of the 2000s. Nonetheless, the annual rate of decline has been decreasing as the MMR approaches that of more developed countries and the complexity and cost of achieving further improvements will increase.

7. This requires using the upper-bound IHME estimates for 1990 data and the lower-bound estimates for 2011, as well as the lower-bound MMEIG estimates for 1990 and the upper-bound MMEIG estimates for 2010.

**Table 3: MMR in Nepal and regional comparators**

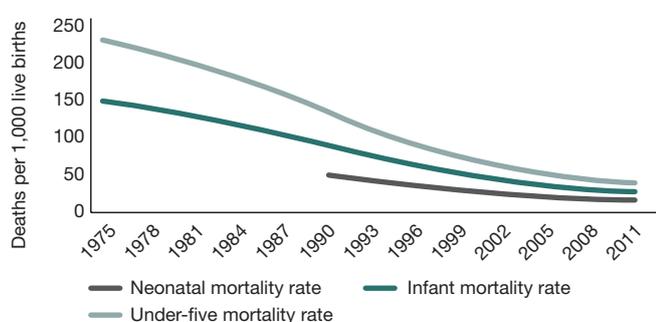
Year	Nepal	India	Bangladesh	Sri Lanka	Bhutan
1990	770 [430–1400]	600 [390–920]	800 [450–1400]	85 [59–120]	1000 [510–1900]
1995	550 [310–990]	480 [320–730]	560 [320–1000]	74 [52–110]	670 [340–1200]
2000	360 [210–640]	390 [260–600]	400 [230–720]	58 [40–81]	430 [220–790]
2005	250 [140–430]	280 [190–420]	330 [190–580]	44 [31–62]	270 [140–490]
2010	170 [100–290]	200 [140–310]	240 [140–410]	35 [25–49]	180 [95–320]
Total change (annual change)	78% (3.9%)	66% (3.3%)	70% (3.5%)	58.8% (2.9%)	82% (4.1%)

Source: MMEIG MMR = deaths per 100,000 live births

## 2.2 Other health outcomes

Other important health indicators have also improved over the past 20 years, and Nepal appears to be on track to meet not only MDG 5 but also MDG 4 on child health. Over this time period, the neonatal mortality rate (NMR) also declined (from 49.9 deaths per 1,000 children in 1996 to 33 in 2011), although not as fast as the decline in MMR, and there was, according to NDHS data, no change in the NMR between 2006 and 2011. The under-five mortality rate has declined by approximately 65% since the 1990s, continuing a precipitous decline from over 300 in 1960 to around 50 in 2011. However, the convergence between neonatal and under-five mortality rates in recent years – neonatal mortality made up less than 40% of under-five mortality in 1990 but increased to significantly over 50% in 2011 – suggests that addressing morbidity and mortality in the first month would go a long way towards ensuring that children survive past their fifth birthday.

**Figure 3: Nepal's under-five, infant and neonatal mortality rates, 1975–2011**



Source: World Development Indicators (WDI)

Life expectancy increased by almost 15 years between 1990 and 2010, a faster improvement than in the previous 20 years, during which it increased by 11 years. Nutrition outcomes, while also getting better, were much slower to improve. Malnutrition for children under five (weight-for-age), for example, has only recently shown a decrease: in the 2011 NDHS, it had fallen to 29%, having remained slightly above or below 40% for the 1996, 2001 and 2006 NDHSs. Levels of anaemia among mothers (which is highly correlated with maternal mortality) have been reducing only slowly and remain high, at 35%. HIV infection rates are declining again, following an increase in the early 2000s that was driven mostly by increased prevalence among male labour migrants (MoHP et al., 2012).

## 2.3 Household incomes and remittances

Given the close correlation between income and health outcomes, the fact that many millions of Nepalis have moved out of income poverty in the past two decades has certainly facilitated progress in maternal mortality. According to analysis by Prasai and Adhikari (2012), gross domestic product (GDP) per capita has a highly significant impact (at the 1% level) on both child mortality and life expectancy. Poverty at the one dollar per day level has declined dramatically in Nepal over the past two decades, from 68% of the population in 1996 to just 25% according to the most recent estimate (2011), and two-dollars-per-day poverty has declined from almost the entire population (89%) in 1996 to 57% in 2011. Poverty is also significantly lower according to the national poverty line, falling from 42% to 25% in the past 15 years.<sup>8</sup>

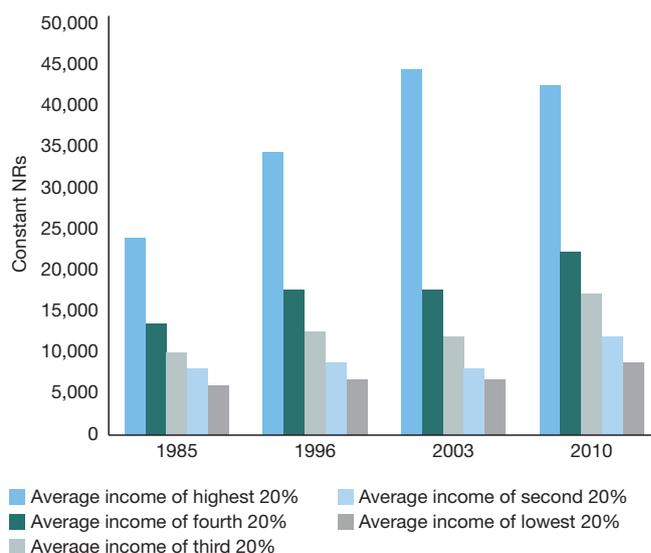
Poverty is a particular problem in rural areas, with about double the proportion of rural households living in poverty compared with urban households. This is particularly significant

8. All figures from WDI online.

given that the vast majority of Nepalis live in rural areas (82%, down from 92% 20 years ago).<sup>9</sup> Parts of the positive trends in poverty reduction and increased incomes can be explained by the massive rise in remittances to Nepal from migrant workers over the past 15 years. Remittances now account for over 20% of GDP, having risen from relatively low levels (between 1% and 2% of GDP) before 2001.<sup>10</sup> A total of 56% of Nepali households receive remittances, up from 23% in the mid-1990s (MoHP et al., 2012).<sup>11</sup> However, how household incomes have interacted with household-level decision-making about health remains unclear. According to one health policy expert interviewed, ‘*There have in recent years been fundamental shifts in the income structure of households, influencing how they plan and make decisions about health and other basic services. This is under-explored and something that we just don’t understand.*’

This general picture masks an interesting anomaly. Inequality rose in the second half of the 1990s, and, while average incomes increased, the vast majority of that rise, according to the data available, was enjoyed by the richest quintile. In fact, the poorest 60% of the population saw their incomes decrease in real terms in this period, before rising again in the 2000s (see Figure 4). This would suggest that poverty reduction is likely to be only part of the explanation for the MMR decline.<sup>12</sup>

**Figure 4: Average income by quintile**



Source: Authors’ calculations based on WDI data



Bayalpata Hospital, Nepal. Photo: © Nyaya Health

9. Average per capita income has been increasing since the 1980s, during which decade it increased by 20%; it increased by 21% in the 1990s and 16% in the 2000s. By contrast, in the 1960s, it rose by only 4%, and in the 1970s it actually fell by 3% (Prasai and Adhikari, 2012).

10. All figures from WDI online.

11. The average income transfer in the form of remittances is about NPR 80,000 (in nominal terms) per recipient household. About two-thirds of Terai households and about half of hill and mountain households receive remittances. About 79% of total remittances are used for daily consumption (e.g. food, housing), whereas 7% is used for loans repayment and 4% for education. There is no clear data on what percentage is spent on health (CBS, 2011).

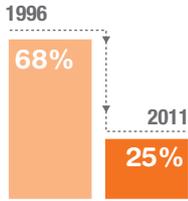
12. This increase in inequality is also supported by the Gini coefficient, which shows an increase between 1991 and 2001 (from 34.2 to 41.1) followed by a decline during the 2000s (to 32.8 in 2010).

# NEPAL'S STORY: IMPROVING MATERNAL HEALTH

## CHANGES IN HOUSEHOLD BEHAVIOUR

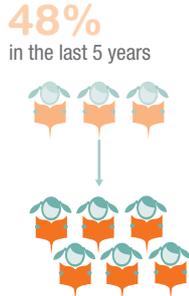
### RISING INCOMES

Extreme poverty (\$1.25/day) fell from **68%** of the population in 1996 to **25%** in 2011



### GIRLS' EDUCATION

Women with secondary-school education or higher increased **48%** in the last 5 years



### WOMEN'S EMPOWERMENT

Women had an average of **2.6** children in 2011, reduced from almost six in the early 1980s



## GOVERNMENT PRIORITISATION



### SUSTAINED POLICY FOCUS

Driven by committed technocrats, well-organised civil society, improved data and international attention

### INCREASED EXPENDITURE

Doubling of health expenditure per capita between 1995 and 2010, **40%** of which was aid



### COOPERATION

Close work with international donors and INGOs to increase resources and capacity

### FOCUSING ON DEMAND

Abolishing user fees and providing cash incentives has improved access for the poorest



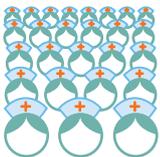
## LARGE SCALE REDUCTION IN MATERNAL MORTALITY

DESPITE DIFFICULT TERRAIN, CONFLICT AND POLITICAL UPHEAVAL, NEPAL HAS – ACCORDING TO MOST ESTIMATES – REDUCED ITS MATERNAL MORTALITY RATIO BY OVER 50% SINCE THE EARLY 1990s

## BETTER ACCESS IN REMOTE AREAS

### COMMUNITY HEALTH VOLUNTEERS

Addition of almost **50,000** female community health volunteers



### DRUGS AND PHARMACIES

Expanding pharmacies in rural areas, enabling mothers to treat illness and increasing access to family planning



### HEALTH FACILITIES

Increased number of health posts



### ANTENATAL VISITS

Over **50%** of expectant mothers seek the recommended four antenatal visits, a fivefold increase over 15 years



### ROADS AND BRIDGES

The road network expanded by **33%** between 1999 and 2008 enabling mothers in remote villages to reach help



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# 3. What are the factors driving change?

## 3.1 The prioritisation of maternal health by Nepali governments

### 3.1.1 Building the foundations of a public health system

Central to the improvements achieved during the 1990s were efforts in the preceding decades that contributed to the development and expansion of a primary health care system in Nepal, starting in the 1960s. A first shift towards a more comprehensive public health system started in 1962, with efforts to train and place one village health worker per village and one community health volunteer per ward. Vertical programmes focused on family planning and child and maternal health were piloted in a few districts in 1968.<sup>13</sup> Family planning also became a central component of the Third Five-Year Economic Plan (1965–1970), with a vertical project established in the maternal and child health section of the MoHP (Pradhan et al., 1997). This was increasingly integrated into existing health facilities (Taylor and Thapa, 1972).

However, prior to 1975, there was little concrete action to address pregnancy-related risks beyond efforts to reduce the number of unwanted pregnancies through family planning. Compared with other countries in the region (most notably Sri Lanka), there was little provision of essential health care outside urban centres, and mortality rates were extraordinarily high; life expectancy was only 45 years in 1975. According to informant interviews, the reach of the health system to marginalised groups – while free or inexpensive at the point of service – was minimal. Almost all births were carried out at home (over 90% in 1991), with the support of family members or birth attendants who had little modern medical training (MoHP et al., 1997).

However, the 1980s saw a more fundamental shift towards increased emphasis on population control and access to family planning, as well as maternal health. The first Long-Term Health Plan (LTHP) (1975–1990) established maternal and child health services in six districts and began the movement towards an integrated primary health care system. One informant interviewed for this study argued that this gradual shift towards a more horizontal approach was based on concerns over the lack of sustainability of previous programmes: *‘We realized that we had to have a basic health system to provide services as the vertical*

*projects come and go’*. During the course of the first LTHP, the Nepal Family Planning and Maternal and Child Health Project took an integrated approach to community health and family planning and was expanded to all 75 districts (Koblinsky, 2010). While health care provision outside of major urban centres remained sparse, the LTHP provided the structures for a rudimentary system where previously none existed. Existing data also indicate that the decline in fertility rates – which has been closely linked to the MMR decline – gained momentum during the 1980s.

### 3.1.2 Initiating health sector reforms following the 1990/91 political transition

The political prioritisation of maternal health by the Nepali government during the late 1980s and 1990s seems to have accelerated following the transition to a multi-party political system. At the time, the health system was seen as overly urban, poorly managed and over-centralised (MoHP, 1991). One in every seven children died before their fifth birthday, and life expectancy was still only 54 years in 1990 (although it had decreased by almost a decade over the course of the first LTHP). The first WHO estimate placed the MMR in 1990 at over 870 deaths per 100,000 births, with delivery by trained health workers at less than 2%, according to the 1991 NDHS.

The 1990/91 political transition and the return of multi-party politics most likely provided political space for substantial reforms of the health system. The election of the Congress Party (led by Girija Prasad Koirala) in 1991 resulted in the Ministry of Health gaining a more important role, including a mandate to address constraints at all levels of service delivery. The new government could approach reform largely untarnished by association with the previous system. It could use the transition as a window of opportunity to scrutinise the health sector’s underperformance and initiate large-scale changes.<sup>14</sup> According to one senior policy-maker, democratic elections and the transition from the *panchayat* system *‘liberalised the scope for new policies’*.

This commitment among high-level government officials was manifested in the numerous increasingly specific policies focused on maternal health, as well as in growing investment over time. This, we will demonstrate, was a necessary condition for the scale of progress achieved. There was, in the words of one informant,

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13. Programmes on malaria eradication, smallpox eradication and tuberculosis and leprosy were also launched at this time.

14. This also corresponds with the findings of Balabanova et al. (2011) from a study of four countries that have achieved ‘good health at low costs’. In all four cases, elites considered health a priority because they faced pressure from community organisations or donors, and were able to utilise a window of opportunity following a political transition.

a 'political imperative to change the system' as 'those in power had to show that they were making things better for the average man and woman'. Within the MoHP, this meant an increasing focus – particularly in the past decade – on underserved parts of the population, with an emphasis on more rural and remote areas (see, e.g., MoHP, 2010; Pant et al., 2008).

These emerging changes were embodied in the 1991 Health Policy, which aimed to expand 'the primary health care system to the rural population' (MoHP, 1991), promising more health centres at the village level and a focus on preventative health services. In many villages, the expansion of basic primary health services and the upgrading of health posts (HPs) to primary health care centres (PHCCs) represented the first time any government services were available in proximity to people's homes. To expand the system rapidly, particularly through the establishment of HPs and sub-health posts (SHPs), sweeping reforms covering broad areas of the health system were implemented, including a move towards shifting certain tasks to lower-level health workers in order to address human resource constraints, the expansion of medical training and large-scale supply-side investments to construct health centres in more remote areas, as well as the significant expansion of medical worker cadres (Section 3.2 discusses these in greater detail).

Efforts to reduce maternal mortality were prioritised within this broader focus on expanding primary health. This included a series of high-level and increasingly detailed policy documents:

- The 1991 Health Policy endorsed 'Safe Motherhood' as a priority area and, for the first time, set targets for the reduction of maternal mortality from 850 to 400 per 100,000 live births between 1991 and 2000.
- The Safe Motherhood Policy and Plan of Action (1994–1997), developed in 1993, laid the foundations for this increased focus on maternal health.
- The National Blood Policy (1993) made the adequate, safe and timely supply of blood and blood products a priority, an essential factor in addressing many pregnancy-related complications.
- The launch of the UK Department for International Development (DFID)-funded Nepal Safe Motherhood Programme in 1997, and its designation as a priority programme, led to increased investment of government resources and is likely to have catalysed further donor engagement in this area.
- The National Safe Motherhood Policy, formulated and endorsed by the government in 1998, in turn placed emphasis on strengthening maternity care (including family planning services), enhancing technical skills of health care providers at all levels and strengthening referral services for emergency obstetric care (EOC) (Lamsal, n.d.).
- Safe motherhood was in turn integrated into the Reproductive Health Strategy (1998), with a central focus on avoiding the three delays: in seeking, reaching and receiving care (Bhandari, 2011).<sup>15</sup>

- The development of the Essential Health Care Package during the late 1990s included maternal health as a priority programme (denoted as P1). This led to an increasing integration of safer motherhood programming with other related vertical programmes, especially in the area of child health and family planning, towards a more horizontal approach.
- Within the 10th National Plan (2002–2007), the health sector, and particularly the extension of reproductive and maternal health and also family planning, was accorded priority. The National Safe Motherhood and Newborn Health Long Term Plan (2006–2017) emphasised institutional delivery care and focused particularly on the development of more EOC and birthing centres, consistent with international evidence (MoHP, 2006).
- The National Policy on Skilled Birth Attendants (2006) defines who can be considered a skilled birth attendant (SBA) in Nepal, including core competencies required of all SBAs and the advanced competencies of selected SBA categories. It further set targets to address human resource constraints.

While perhaps not central to these developments, it is likely that the political imperative of maintaining support in the civil war context may have provided strong incentives to reach out to marginalised communities and establish legitimacy through the provision of basic services. There is considerable evidence to suggest that all sides saw the health sector as an area of political contestation – particularly during the 10-year conflict (see Box 2 overleaf). As such, there may have been incentives to continue improving primary health provision, particularly maternal and child health services. The relatively consistent and coherent policy focus on the health sector (extending specifically to maternal health) does make it stand out compared with other areas of the economy (Jones, 2010), and maternal health outcomes have continued to improve despite frequent changes in government. At the very least, it does not seem to have had a strong impact in terms of reversing efforts to improve health services.

While improvements during the 1990s and 2000s occurred in the midst of conflict and consistent instability, there are increasing indications, particularly since the collapse of the first Maoist government in 2009, that governance and management of the health system are becoming increasingly volatile in the absence of a stable government, consistent leadership and policy coherence. Overarching concerns raised by informants in interviews, and evident in recent sector reviews, include the fragmentation of responsibility for financing and delivery between the health ministry and local government, a lack of transparency in transfer decisions and weak procurement and accountability systems (see, e.g., Jones, 2010; Ministry of Finance, 2011). According to one former government official, 'It doesn't seem like the right person is in the right job anymore.'

This has been exacerbated by an ongoing national political and constitutional crisis that has had an impact on the ability of the government to carry out basic functions, including in the

15. One common analysis of the main obstacles to maternal survival identifies 'three delays' (Thaddeus and Maine, 1994). First, women may be unaware of the need to access maternal health services or their benefits, or lack the power to make decisions on their own health care. Second, even if a woman makes the decision, she may not have the resources to travel to a health centre or to cover her costs once there. Finally, even if a woman makes it to the centre, she may face poor quality care on account of untrained or unsupportive staff, poor infrastructure and/or hygiene and a lack of basic medical supplies. These delays affect both urban and rural areas, but are most common and severe in rural areas, where health professionals may not be available and transport and communication systems and resources are more limited (Hussein et al., 2011b).

## Box 2: Examining the role of the Maoist insurgency

In discussing the time period during which maternal health outcomes have improved, it is impossible to ignore the role of the ongoing civil war. The Maoist insurgency (1996–2006) threw Nepal into turmoil and brought substantial uncertainty to many parts of the country. It ended with the signing of the November 2006 Comprehensive Peace Agreement. The substantial improvements achieved during this period of extreme uncertainty and widespread insecurity are striking.

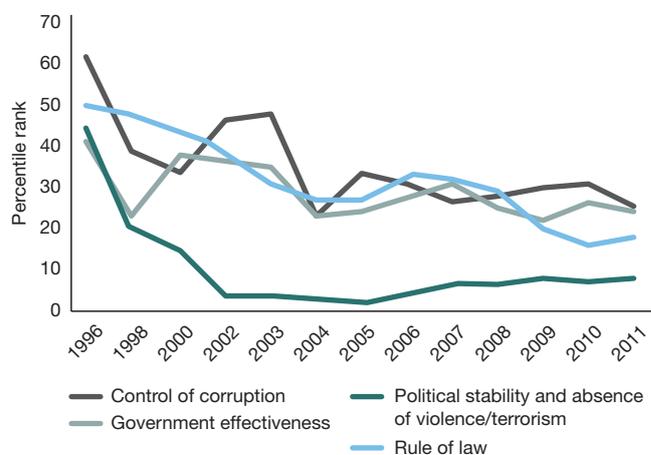
All in all, the conflict is likely to have had a mixed impact on the country's health service. Devkota and van Teijlingen (2009, in Upreti et al., 2012) synthesise the evidence on conflict and health in Nepal and conclude that, although the exact extent of the impact of the war on people's health status is hard to establish owing to a lack of evidence, the war certainly aggravated the already poor (pre-1996) state of the country's health care system. This was because of the killing of health workers, the reluctance of many to seek treatment, malnutrition, psychological trauma and the closure of facilities. However, the conflict is also likely to have had some more beneficial impacts. The authors highlight the positive outlook of insurgents towards health programmes and workers, as well as improved coordination between the MoHP, the National Planning Commission and donors.

provision of health services. It has, to quote one interviewee, led to '*not enough systemic accountability [...] with the wrong examples [of conduct] trickling down from the top*'. While these indicators need to be taken with a degree of caution, according to the World Bank's World Governance Indicators Nepal's percentile rank for three indicators – Political Stability and Absence of Violence, Rule of Law and Control of Corruption – has declined over the past 15 years, and has improved little since the end of the conflict (see Figure 5).

Some interviewees pointed to the difficulties inherent in monitoring an expanding health system effectively during a time of increasing political instability and volatility – particularly since the late 1990s.<sup>16</sup> However, despite frequent political changes, the policy focus on maternal health and safer motherhood has been largely consistent over the years.

Numerous interviewees also expressed concerns about the strong bias towards visible outputs (i.e., new clinics) rather than focusing on some of the country's systemic and institutional

Figure 5: Nepal's percentile rank for governance indicators, 1996–2011



Source: World Bank World Governance Indicators

issues. This is, many argued, symptomatic of a politicisation of the process.<sup>17</sup> As such, issues around the basic functioning of the ministry (especially in the area of performance discipline and human resource management, as well as procurement) have arguably been addressed less effectively.<sup>18</sup>

### 3.1.3 Health expenditure

Commitment to improving health outcomes (and particularly maternal health) has to some extent manifested itself in increased public expenditure in the sector during the 1990s and 2000s. However, while public expenditure on health care as a share of the total government budget has remained relatively constant, expenditure on family planning and safer motherhood programming seems to have increased significantly. Increased public expenditure can be an important factor in improved health outcomes and, according to analysis by Prasai and Adhikari (2012), the ratio of the health budget to the total budget has had a statistically significant impact on child mortality rates and life expectancy at the 10% significance level.

Health expenditure per capita (in constant 2005 terms) almost doubled between 1995 and 2010, from approximately USD 34 to USD 66.<sup>19</sup> However, this is far less than the regional average for South Asia, which increased from twice to three times as much as Nepal spends per capita (see Figure 6 overleaf).

This increase in expenditure has been complemented in recent years by a reduction of over 20 percentage points in out-of-pocket

16. These tensions include difficulties in delivering on federalist promises of greater regional autonomy, containing tensions in the Terai, addressing secessionist activities in the east of the country, resolving the problem of competing security forces, addressing land reform and a legislative backlog and, most significantly, addressing the substantial inequities (Jones, 2010).

17. According to informants, high-level officials are generally viewed as politically aligned and tend to be replaced when control of ministries changes, resulting in short time horizons and strong incentives for rent seeking. Some interviewees expressed concern that the lack of oversight was creating possibilities both for rent seeking and for delaying difficult reforms. To quote one interviewee, '*While government institutions remain functional, they are beginning to be affected by the political turmoil and increasing corruption*'.

18. Jones (2010) points to excessively high levels of turnover of staff in senior administrative positions in MoHP, provisions of the Health Services Act relating to postings and transfers not being upheld, interference in staffing decisions that appears to be driven by political goals, problems with the management of procurement that have led to inflated costs and poor-quality equipment and weak management and supervision through the still effectively centralised process of management of health facilities.

19. To facilitate comparability, and as expenditure data from ministry sources were not available for the entire 1990–2011 period, this section draws on both the WHO's National Health Accounts Database and, where available, on compiled national data – which are very patchy prior to 2000.

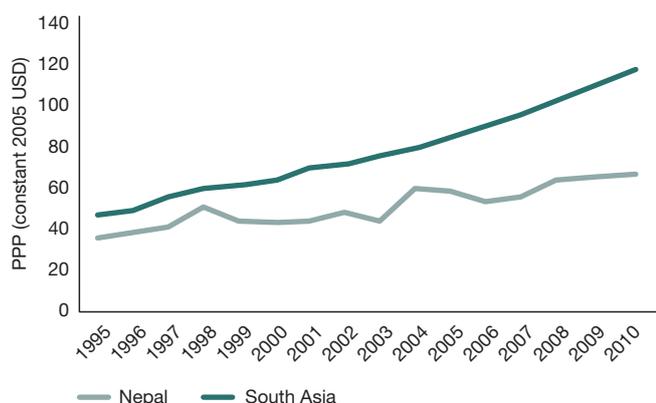
expenditure as a percentage of total health expenditure (see Figure 7). The gradual abolition of user fees (which started in 2007) in particular, as well as other cash incentive programmes, is likely to have contributed to this decline.

Depending on whether one uses WHO data or data compiled based on Nepali accounts in Adhikari and Maskay (2004) and RTI International (2010) (cited in Adhikari, 2010), Nepal's health expenditure has been either slightly less than the WHO-recommended 10% of the budget (8.2% on average between 1995 and 2010 according to WHO) or substantially less (approximately 6% between 1989/90 and 2007/08 according to Adhikari, 2010). It is plausible that this shortfall may be a consequence of limited capacity to absorb larger sums of money as overall revenue has grown, and it stands in contrast to education spending, which has risen steadily from 12.5% of government expenditure in 1999 to over 20% in 2010. Based on WHO data, it does appear, however, that over this time period Nepal has been spending substantially more of its budget and GDP on health than have its neighbours (see Figure 8).

While the data do not indicate a substantial increase since 1995, GDP has increased significantly in recent years, and the government has been able to increase tax revenue collection. During the 1990s, revenue collection was just 8% of GDP. It exceeded 13%, in 2010 and the Ministry of Finance plans to reach 20% by 2018. While rates of budget execution have been improving gradually, public financial management systems continue to have many weaknesses.<sup>20</sup> As a result, improving the timely distribution of funds to facilities has been a central focus of the second Nepal Health Sector Plan (NHSP).

The level of prioritisation attributed to different areas of health within the sector is likely to have had a significant influence on where money has been spent. Nepali policy-makers have viewed primary care as the priority for public spending because of its popularity and society-wide spillover effects; secondary and tertiary care are seen more as individual goods, to be paid for by people who can afford it (see Figure 9 overleaf).

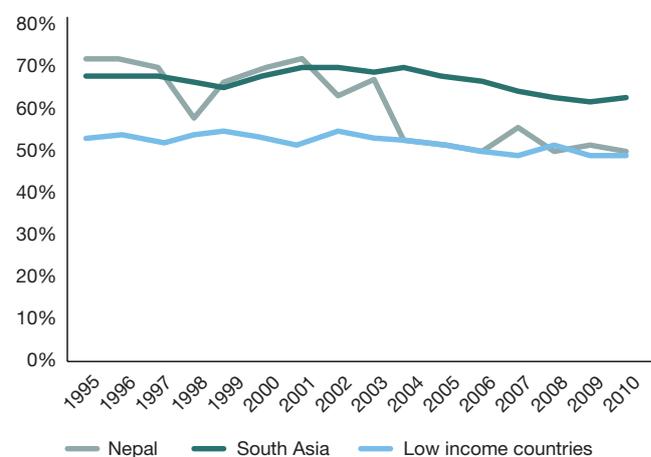
**Figure 6: Health expenditure per capita**



Source: WHO National Health Accounts Database

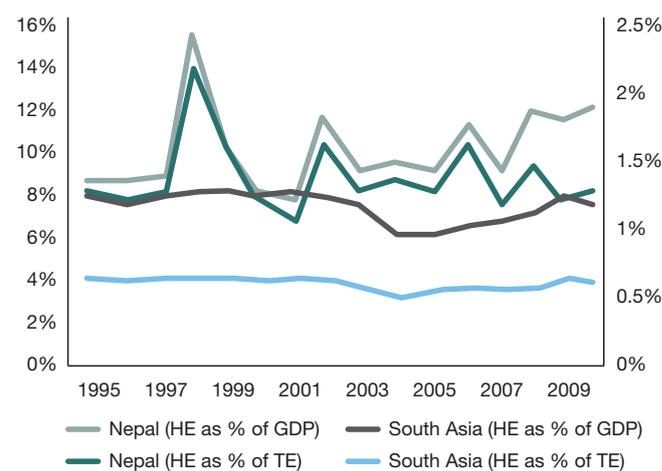
**While public expenditure on health care as a share of the total government budget has remained relatively constant, expenditure on family planning and safer motherhood programming seems to have increased significantly.**

**Figure 7: Out-of-pocket expenditure as a share of total health expenditure, 1995–2010**



Source: WHO National Health Accounts Database

**Figure 8: Health expenditure as share of total expenditure (left axis) and GDP (right axis), 1995–2009**

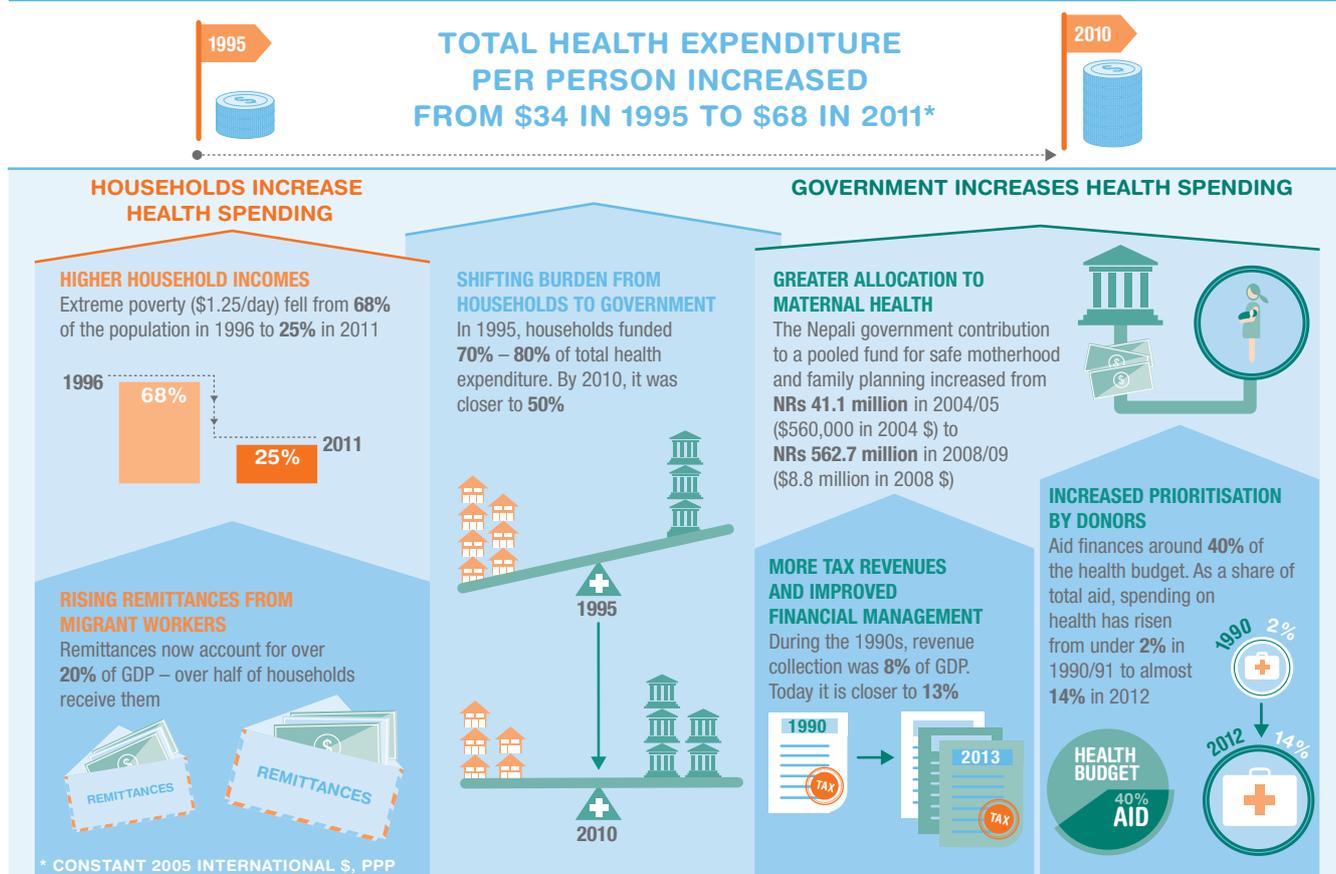


HE = Health expenditure; TE = Total expenditure

Source: WHO National Health Accounts Database

20. In their analysis of public financial management reforms in Nepal, Krause et al. (2013, forthcoming) point to some recent areas of progress, including the introduction and progressive implementation of a Treasury Single Account, the implementation of electronic tendering and the introduction of a new Chart of Accounts in 2011/12 that comprises internationally consistent administrative, economic and functional classifications. However, they also point to an eroded accountability framework of audit and oversight, a disorganised budget process, weak implementation of many capital projects and weakened central finance institutions.

## FINANCING BETTER MATERNAL HEALTH IN NEPAL



In recent years, expenditure on curative services (e.g. hospitals) has been decreasing, while expenditure on public health services has increased. Within this context, health interventions were scored as first, second or third priorities in 2000, and the budget was then drawn up supposedly to reflect these priorities. Maternal health and family planning was listed as one of these first-order priorities.

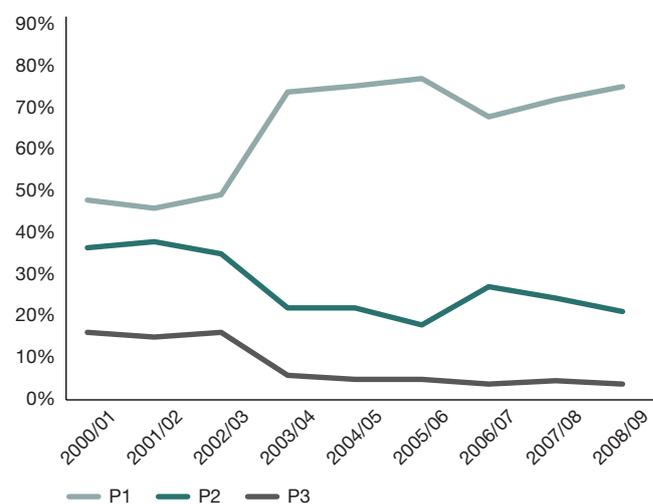
In recent years, and within the context of the NHSP, the Nepali government has committed itself to dramatically increasing its expenditure on safe motherhood and family planning. From the pooled fund, its contribution to this programme increased from NPR 41.1 million in 2004/05 (USD 560,000 in 2004 USD) to NPR 562.7 million in 2008/09 (USD 8.8 million in 2008 USD). A substantial part of this was used to fund the Safe Delivery Incentive Programme (SDIP), a cash incentive provided to women who deliver in clinics. This applies likewise to the abolition of user fees, which occurred in 2008/09 (and therefore would not be reflected in the MMR estimates). However, these reforms to health financing, which have shifted a substantial portion of the burden for health costs from users to the government and donors, do indicate that outcomes may continue to improve in the medium term.

The 'Medium-Term Expenditure Framework' adopted by Nepal in 2002 was intended to bridge the annual budget cycle with the periodic planning framework, prioritise public expenditure and ensure adequate resource availability for prioritised programmes. While in the initial years this did not occur, it has had more success over more recent years, as Figure 9 shows, especially after the start of the NHSP and the introduction

of a sector-wide approach (SWAp) in 2004. However, it is important to note in this regard that over 80% of all government expenditure is classified as P1, which renders that categorisation effectively meaningless (Krause et al., 2013).

Despite these positive developments, there are concerns that the system has taken on more than it can afford. Some informants

**Figure 9: Allocation of government health expenditure by priority classification**



Source: Prasai and Adhikari (2012)

**Table 4: Aid in South Asia (% of GNI)**

Country	1980	1990	1997	2001	2006	2008
Bangladesh	9.9	6.9	2.3	2.1	1.8	2.4
India	1.3	0.4	0.4	0.4	0.2	0.2
Nepal	8.3	11.8	8.3	6.7	5.6	5.6
Pakistan	5.1	2.7	1.0	3.4	1.6	0.9
Sri Lanka	9.8	9.2	2.3	2.1	2.8	1.8

Source: OECD (2010), in Upreti et al. (2012)

particularly questioned the current model of free primary health services for all – whether rich or poor. While it is seen as politically untenable to begin charging for services, there is an increased appetite to look at other modes of financing, including increased reliance on health insurance mechanisms. Expanding the current health package to more remote areas of Nepal will be fairly costly, given the infrastructural deficits, and there is an increasing need to give priority to improving on the relatively low levels of quality of care and reducing the overcrowding in existing facilities. This begs the question of whether the public sector will be able to fill any possible financing gap, particularly after the removal of user fees and the introduction of cash incentives.

### 3.1.4 Increased donor engagement in the sector

There is little doubt that external donors have played an important role in the politics and economy of Nepal in recent decades, and the country receives far more in aid (as a share of gross national income (GNI)) than other countries in the region (see Table 4). While there is considerable disagreement as to how successful donors have been overall in Nepal, few have questioned the importance of their contribution to improving maternal health outcomes (Schmidt, 2009).<sup>21</sup>

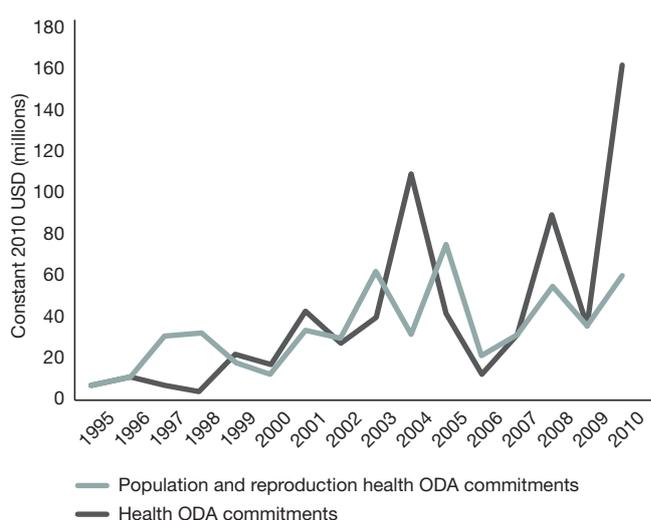
Aid to the health sector has increased greatly in real terms since the 1990s. Examining official development assistance (ODA) commitments to health and to population and reproductive health (which are tabulated separately in the Organisation for Economic Co-operation and Development (OECD) Creditor Reporting System), the increase seen between the mid-1990s and 2010 is striking, with spikes occurring particularly around the start of the first and second NHSPs in 2004 and 2010, respectively (see Figure 10). The enormous commitments recorded for 2010 show the substantial donor commitment behind the 2010–2015 NHSP. ODA to population and reproductive health increased dramatically in 1997 and 1998 with the first DFID Nepal Safer Motherhood Programme as well as the US Agency for International Development (USAID) Nepal Family Health Programme programmes, and has since gradually increased.

Aid to the health sector as a share of total aid to Nepal has also risen rapidly in the past two decades, from under 2% in

1990/91 to almost 14% in the most recent figures. This is part of a general realignment of aid from the ‘productive’ to the social sectors. While in 1990/91 agriculture, transport, the power sector and industry and commerce took over 80% of total ODA, and health, education and water just 7%, this has changed over time, with social sectors now receiving over 40% of ODA.

In real terms, taking into account inflation, this represents an increase from about USD 0.60 per capita in aid to the health sector in 1990 to almost USD 4 in 2010, and, as Figure 11 overleaf shows, aid is in 2011/12 approaching the government contribution at about 40% of public health expenditure. This could make Nepal very vulnerable if aid flows are cut. Further aid to the health sector has generally increased as a share of public expenditure on health, and on average has a more substantial role as part of the total government expenditure than it did in the early 1990s and late 1980s.

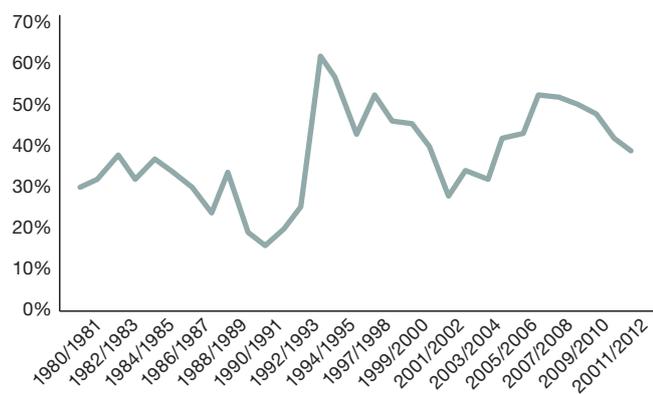
**Figure 10: ODA to health and population/reproductive health, 1995–2010**



Source: OECD Creditor Reporting System

21. For example, the non-governmental organisation (NGO) Federation of Nepal (2008, cited in Schmidt, 2009, p. 8) argues that ‘fifty years of aid assistance has failed to deliver poverty reduction, sustainable development and social justice’ and calls for more local democratic ownership as well as improved transparency and accountability. Conversely, there is a view that aid has helped reduce poverty and stimulate employment, thereby acting as a catalyst for change in the health and education sectors.

**Figure 11: Aid as a share of total public health expenditure, 1980/81–2011/12**



Source: Prasai and Adhikari (2012)

Over the course of the 1990s, donors prioritised maternal mortality as a specific policy priority. USAID began community-level family planning programmes in the 1980s and increased the urgency of reducing the number of unwanted pregnancies. WHO provided support to the health ministry in the development of the first Safe Motherhood Policy in 1993, and the 1990s generally saw increased engagement by donors in the area of maternal and child health. DFID's decision to provide long-term support to the subsector through the Nepal Safe Motherhood Programme (1997–2004) provided predictable and sustained funding and augmented its profile.<sup>22</sup> DFID, the German Agency for International Cooperation (GIZ) and USAID all set up technical assistance programmes that were either embedded in the ministry or worked closely over numerous project cycles on maternal health and family planning. The embedding of long-term technical advisors (many of whom were senior Nepali experts with extensive experience in maternal health) kept these issues at the forefront within the ministry.

Since then, there have been efforts to increase harmonisation, particularly during the past decade. Around 80% of external assistance in the health sector tended to go under-reported in the early 1990s, largely because of the preponderance of 'turnkey projects' administered directly by aid agencies with little relation to the national health strategy and under-reporting of technical assistance in the government budget (Shrestha and Shrestha, 1995). This situation is generally seen to have improved in the late 1990s and early 2000s, as sectoral budget support began to be used along with a debt relief fund. Vertical projects began to be integrated at subsector level. The development of the SWAp in 2004 was a milestone in allowing donors and government to better align and harmonise their budgets and programmes (RTI International, 2010). The government of Nepal, DFID and the World Bank signed a joint financing arrangement (JFA) in

2005, and in June 2009 the Australian Agency for International Development (AusAID) signed as a third external partner. The JFA is, according to one donor representative interviewed, 'an instrument to effectively accommodate donors outside the non-pooled fund in a joint funding arrangement that takes account of corporate limitations'.

The extent to which these very recent events affected health outcomes during the mid-2000s (or even in the present) is difficult to examine in the absence of a counterfactual. However, since the start of the pooled fund, there has been an enormous increase in expenditure on safer motherhood and family planning, both through earmarked donor funds and through donor funding within the pooled funding, coinciding with a substantial increase in outputs (see Section 3.2) and improved outcomes (see Prasai and Adhikari, 2012).<sup>23</sup> According to analysis by RTI International (2010), DFID and the World Bank dedicated over NPR 1.5 billion (USD 20.25 million) between 2004/05 and 2008/09, with the Nepali government contributing a further NPR 1.25 billion (USD 16.87 million) and earmarking almost NPR 2 billion (USD 27 million) over five years for safer motherhood/family planning projects. As such, it has been one of the fastest-growing programmes in the sector.

Looking forward, there are also concerns about how progress in maternal health in Nepal can be sustained financially. In recent years, the government has been gradually increasing its share of funding to the health sector. However, external assistance currently finances approximately 40% of the health budget and it is unclear whether assistance will remain constant in the medium term, or whether it will decrease as the scale of improvement per dollar spent diminishes (and as aid budgets come under ever-greater pressure in many donor countries). It tends to be easier to support a sector that is performing particularly well, and so a flattening of the steep improvement curves may lead to reduced donor interest. Views on this issue were mixed among donors. One representative felt this issue was perhaps not as dramatic as is frequently claimed: 'In the short term there is a donor commitment, and for the medium term incomes will increase and an increasing share can be focused on the most marginalised'.<sup>24</sup> However, another pointed out that the financial sustainability of the current financing model was one of the most frequent areas of discussion between donors and the ministry.

### 3.1.5 Integration of evidence and data in addressing maternal mortality

The improved enabling environment for maternal health went beyond high-level commitment and increased funding, to the nuts and bolts of policy-making among a group of officials in MoHP. Pressure on this issue was fuelled in part by a core of mid-level officials who remained in post for extended periods of time within the ministry (and especially the Family Health Division), particularly during the 1990s and early 2000s. According to

22. DFID earmarked GBP 20 million over five years for maternal health in 2005, following the initial GBP 5 million it provided for the Nepal Safer Motherhood Project in 1997. The World Bank gave an extra USD 50 million in 2006 to be spent on child and maternal health.

23. Currently, all pooled partners use the same financial management system, including for auditing purposes, reducing transaction costs and increasing synergy. Technical working groups for policy dialogue on technical and programme-specific issues comprising government and donor representatives have been formed on maternal health, child health and disease control. Sector governance has been strengthened through a learning-by-doing process, particularly MoHP's organisation of periodic sector-wide reviews and joint meetings (Vaillancourt and Pokhrel, 2012). Donors coordinate through Joint Annual Reviews by a Health Sector Development Partners' Forum, among other consultative meetings.

24. A health ministry official argued that there is scope for the Nepali government to continue paying a greater share over time, but that any reduction in donor share below 25% would be difficult to replace.

### Box 3: The role of international summits in shaping maternal health prioritisation

Numerous government informants discussed the importance of international summits and agreements in sensitising policy-makers to maternal mortality as a major public health issue. These exposed policy-makers to colleagues from around the world working on the same issues and problems, as well as to the latest research in this area, and resulted in a series of international commitments that had a strong influence on national priorities.

According to Nepali officials who attended the Alma Ata conference in 1978, it strengthened policy-makers' awareness of the importance of establishing nationwide primary health care systems, and was a central touchstone for efforts to integrate maternal and child health and family planning. This, according to one health official active during this time, 'tilled the ground' for the improvements achieved during later decades. Nepal's endorsement of the Safe Motherhood Initiative, initiated by WHO at the 1987 Nairobi Conference, entailing a commitment to halve maternal mortality by 2000, was described as a turning point for many interviewed for this study, as it put maternal mortality on the national agenda in a way that it had not been previously.

Following their development of the first national Safe Motherhood Policy and Safe Motherhood Plan of Action (1994–1997), Nepali policy-makers participated in the International Conference on Population and Development in 1994. This was seen as a landmark experience for many

interviewees, and led to a closer integration of family planning, population control and maternal health, which manifested itself in the National Reproductive Health Strategy (1998). Similarly, the Fourth International Conference on Women in 1995 in Beijing brought government officials and donors together for several days to assess Nepali conditions within the global context shortly before the publication of the first NDHS. This, according to one former Nepali official, 'triggered the need to focus [on the issue of maternal mortality]'.

The development of the MDG framework, which included maternal health as one of its eight goals, is also likely to have had a significant impact in terms of the greater focus on maternal health. Since 2000, the achievement of these targets has been an overarching objective in global health policy; one Nepali policy-maker told us that his colleagues had been instructed to achieve the MDGs 'at all costs'. Maternal health was elevated from a ministry priority to a cross-governmental objective. According to one former official, the MDGs 'helped to set targets for maternal health and were effective in giving [external] partners and the Nepali government a means to lobby [for more support]'. The flipside of this is a growing concern that MDG targets have come at the expense of quality of care and non-MDG issues, such as mental health and non-communicable diseases.

accounts by key informants, many leading officials had gained first-hand experience working as public health experts and medics in remote areas, seeing the dire birthing conditions of women as well as the high incidence of maternal and newborn death in rural areas. One former government official particularly emphasised the importance of public health training: *'Our directors and health administrators had a public health background, rather than just being clinicians. It made a big difference as they would want to focus on essential care rather than only sophisticated care.'* Many informants also argued that the participation of high-level Nepali officials at international summits dedicated to issues of safer motherhood and maternal health may have influenced their knowledge of risks to maternal health (see Box 3).

Interviews carried out with activists and consultants who have worked with MoHP pointed to the *'strong civil service ethic'* among many. Key informants who have worked with MoHP also suggested that officials in the ministry had inculcated a culture of evidence-based policy-making that has in most cases resisted non-evidenced solutions and the more populist impulses of politicians.<sup>25</sup> This has manifested itself in the commissioning and utilisation of in-depth research on the causes of maternal death and its precise locations through the NDHS and the MMMS, as well as on the main barriers to utilising clinics for

births.<sup>26</sup> One academic emphasised the manner in which officials *'worked the information systems'* and *'pored over these when results came out'*.

Following the publication of the MMMS in 1998, key informants asserted that the 'three delays' were recognised as key barriers to progress; this then became a slogan informing all safer motherhood programming. Post-partum haemorrhage was identified in the 1998 MMMS as the largest cause of maternal death. This was addressed by making the availability of appropriate drugs a priority, which has had some impact since (Suvedi et al., 2009). It also led to a prioritisation of skills

***'Our directors and health administrators had a public health background, rather than just being clinicians. It made a big difference as they would want to focus on essential care rather than only sophisticated care.'***

25. Beyond the quality of policy development and implementation, interviewees explained this in part by the popularity of improved health services, and thus their electoral importance, and in part by the relatively greater difficulty caused by large-scale rent seeking in the health sector compared with other sectors.

26. One factor central to this has been the willingness of donors to extensively fund health policy research, as well as extensive capacity-building and technical assistance efforts (most notably through the embedding of a DFID-funded Options team within MoHP).

training in basic EOC services and to efforts to improve the EOC referral mechanism.<sup>27</sup>

Evidence suggesting that unsafe abortions were an important cause of maternal deaths was instrumental in legalising abortion. According to the 1998/99 MMMS, 10% of maternal deaths and 54% of complications treated in hospitals were related to illegal abortions. This informed a large-scale campaign to legalise abortion, as well as donor support for research and analysis on this issue. This resulted in legalisation in 2002 and nationwide provision of first-trimester (and in some cases second-trimester) abortion services by 2004. The legalisation of abortion, Samandari et al. (2012: 2) argue, was greatly facilitated by ‘reliance on public-health evidence in formulating policies governing abortion provision, which led to the embrace of medical abortion and authorization of midlevel providers as key strategies for decentralizing care’.<sup>28</sup>

The use of evidence in devising policies was complemented by effective work with advocacy groups, donors and other government departments. Officials within MoHP lobbied other ministries on the multi-sectoral dimensions of maternal health, for example by creating brochures emphasising the broader relevance of the central policy issues. Interviewees speculated that the relatively greater receptiveness to evidence-based policy-making has been due a less bureaucratic structure for policy implementation than is present in other countries. A recent political economy study that compared the health sector with other sectors in Nepal notes the ‘significant continuing use of evidence and research to inform policy choices, and [...] well-organised and effective civil society engagement in the policy process’ as well as a ‘considerable degree of policy continuity and consensus over key elements of health service delivery policy’ (Jones, 2010: 8). Interviewees also pointed to the relatively high levels of public health knowledge among many officials, as well as the experience many officials had had working in remote areas. Furthermore, according to former and current officials in donor agencies and government, there seems to have been a reasonably collaborative personal relationship between some donors and officials, with both sides exposed to and willing to experiment with new policy ideas.<sup>29</sup> While most likely not contributing greatly to the reduction in maternal mortality rates recorded in survey data, the introduction of the SDIP in particular provides a striking example of the interaction between policy and evidence (see Box 4).

In the area of safe motherhood, policy-makers found allies in civil society. The transition to a more democratic and less autocratic form of governance increased the ability of many civil society groups to engage politically. In the early 1990s, the number of groups working on health issues increased greatly, both nationally and at the community level, even if they remained largely uncoordinated and dependent on different sources of

funding. Soon, researchers, medical experts and advocates for women’s health came together under the umbrella of the Safe Motherhood Network Federation (SMNF), which augmented the level of attention these issues received. The ability to coordinate activities and speak with a common message made their lobbying activities more effective, and the SMNF was able to act as the main liaison on safer motherhood issues with government officials.

The SMNF and its roughly 750 member NGOs have – in the words of one member – ‘developed a critical mass’ to carry out large-scale advocacy and awareness-raising.

#### **Box 4: Developing the Safe Delivery Incentive Programme**

Evidence of high transport and infrastructure costs influenced policy-making during the development of the SDIP. In a country like Nepal, with difficult geographical terrain and poor infrastructure, Phase 2 delays (delays in reaching care) are particularly relevant. In fact, transport costs make up almost half of total costs in Nepal, dwarfing the cost of skilled attendance. The potential costs of a caesarean section were also prohibitive: NPR 11,400, or up to six months’ income for the poorest income groups (Ensor et al., 2008).

Four policy options were developed based on this evidence: free facility delivery care for the poor; free delivery for all; matching funds; or cash in hand for skilled birth at facility. The latter option was eventually implemented. Here, the research – particularly through experts in the Support to Safer Motherhood Programme team – laid the groundwork, but the scheme also benefited from a coalition government looking for a popular policy, DFID’s willingness to temporarily bear the costs and political champions who were well connected to the political elite (Ensor et al., 2008). The delivery of the incentive scheme was carefully monitored by the Center for Research on Environment, Health and Population Activities, a research institute, through five rounds of surveys.

While the scheme had an impact in terms of increasing institutional deliveries, it has since been recognised that projections were perhaps over-optimistic (Powell-Jackson and Hanson, 2010). This led to the piloting of free deliveries for all women (as part of the general abolition of user fees), which had a much more significant impact on institutional deliveries when paired with the incentive programme (Witter et al., 2011).

27. The introduction of misoprostol to combat post-partum haemorrhage was based on comparable experiences in Indonesia that were in turn shared by USAID in joint meetings. In this case, as in others, there was willingness to try these promising interventions to see if they would work in the Nepali context. Once the programme showed promising results, it was rapidly scaled up, with ongoing operational research to modify strategies and address the problems resulting from implementation.

28. In the next MMMS carried out in 2008/09 (Suvedi et al., 2009), abortion-related complications had declined to 28% of all maternal complications treated in hospitals. However, abortion accounted for 14% of all maternal deaths, meaning that ‘fewer abortion complications are presenting at facilities, but they are more serious, and/or their management needs to be improved’ (p. 16). Further, many providers were not using internationally recommended methods and had important gaps in knowledge and skills.

29. This has led to some degree of policy borrowing from other countries. For example, the Integrated Management of Childhood Illnesses (IMCI) programme was based on a comparable one in Ethiopia, while Nepal’s experience of using chlorhexadine for newborn care has now also been adapted in Bangladesh (informant interview).

This has taken a number of forms, including lobbying central government to increase the health budget, working with the Family Health Division on certain policies and programmatic approaches and taking an active role in the Safe Motherhood Sub-committee, as well as at grassroots level, to reactivate health management committees.<sup>30</sup>

The group also benefited from the engagement of Arzu Deuba, SMNF Chairperson and wife of former Prime Minister Sher Bahadur Deuba, who greatly increased its visibility and ability to influence politics. The SMNF was thus in a politically uniquely privileged role in engaging with the government and donors. Jones (2010: 8) argues that the adoption of the Safe Motherhood Programme ‘illustrated the important role of initiatives involving civil society and politically well-connected activists in health policy design and advocacy, and how political opportunities have been skilfully used to take forward these initiatives in a context where political parties have been keen to articulate and implement high profile health policies with electoral appeal’. Thus, civil society and advocacy networks working on this issue may be over-dependent on well-connected activists who were able to develop a more sustained funding base, as well as on their influential and respected role in policy development.<sup>31</sup>

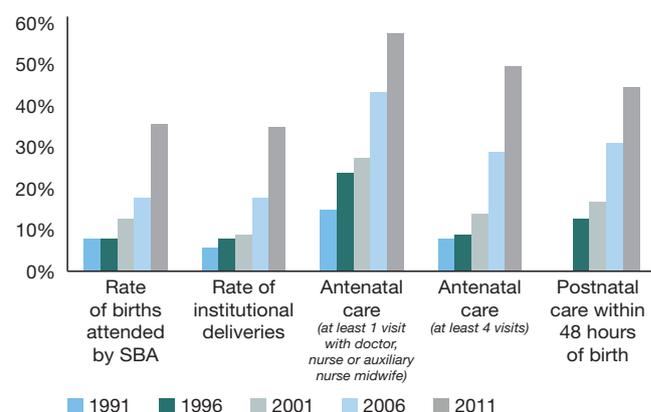
However, this does beg the question of why maternal health – among numerous competing priorities inside and outside the health sector – became such an area of focus. The prioritisation of maternal health is indicative of a process of policy development and implementation that was to some extent insulated from day-to-day political pressures that arguably focused ‘getting on with what works’. It moreover suggests that, for successive governments, even in the midst of conflict, removing the strong emphasis on the health sector – with safer motherhood as a core priority within the sector – was politically untenable. Or, to put it more positively, there was a strong social bias among successive governments – guided by a capable cadre of top-level officials in MoHP – to continue aiming to improve maternal health outcomes, especially among rural populations. This combination of a relatively effective system of policy-making and service delivery has been able to draw on the high priority placed on the sector by politicians and donors.

## 3.2 Improving access to health services

### 3.2.1 Expanded coverage of care

The past two decades have seen improvements in a number of indicators of access to care, suggesting this may have been a significant factor in the reduced MMR. This is also supported by the district-level study by Hussein et al. (2011a), which finds that improved coverage of care accounts for over 10% of the variation in the MMR between 1996 and 2006.

**Figure 12: Safer motherhood indicators in Nepal, 1991-2011 (NDHS data)**



Source: MoHP et al. (1997; 2002; 2007; 2012)

There is a close correlation (although not necessarily a causal relationship) between MMR and skilled birth attendance (see, e.g., Buor and Bream, 2004). While the proportion of births attended by SBAs remains very low by international standards, and Nepal is far from reaching its MDG target of 60%, the country has seen a steady increase in the rate of births attended by SBAs, from 7.4% in 1991 to 18% in 2006 and 36% in 2011 (see Figure 12).

The number of expecting mothers seeking antenatal care has increased substantially since 1996, and by 2011 over 50% of women made the WHO-recommended four (or more) antenatal visits – a fivefold increase in the course of 15 years. Similarly, the rate of institutional births has been increasing rapidly, although over 60% of mothers still give birth at home. The provision of postnatal care has also been improving, with over half of all women receiving care within two days of a child’s birth. Finally, the rate of caesarean sections, which is an indicator of access to emergency care in the case of complications, increased between 1996 and 2011, from 1% to 4.6%.

By disaggregating NDHS data according to different sources of marginalisation, however, the limitations of this progress become more evident (MoHP et al., 2012). In terms of maternal health outcomes, children in urban areas are more than twice as likely (71%) to be delivered in an institutional setting as children born in rural areas (32%), and in the mountain region of the country only 19% of children are delivered in health facilities. Similarly, only 1% of women in the bottom income quintile deliver by caesarean section, while this value is 14.1% for the wealthiest quintile. In the mountain region of Nepal, the rate of births by caesarean section (1.4%) is less than one-quarter what it is in the Terai (5.8%), and the rate of births attended by SBAs is less than half that of the Terai (18.9% and 42.8%, respectively).

30. However, the very effectiveness of the SMNF is indicative of a broader problem – the 200 or so NGOs working in the health sector frequently lack reliable sources of finance to remain engaged in the development of policies and in service provision.

31. This finding is supported by research carried out by Shiffman (2007). Drawing on a five-country comparative study, he aims to explain how political commitment to addressing maternal mortality emerges and sees it as based on three explanatory variables: a political transition that creates space for new priorities, the role of transnational influences and domestic advocacy. While clearly not a perfect fit, several of these strongly influenced policy-making in Nepal. This also corresponds with a four-country study by Balabanova et al. (2011) of countries that have achieved ‘good health at low costs’. In all four cases, elites considered health a priority because they faced pressure from community organisations or donors and were able to utilise a window of opportunity.

Indicative of this, the rate of births attended by an SBA also remains strongly stratified by wealth (see Table 5).

### 3.2.2 Improved access to clinics and health workers

While service delivery at the district level (much as policy formulation in the ministry) remains fraught with complex challenges pertaining to inadequate capacity and poor performance, there have been substantial improvements in terms of the scope of provision at the village and district levels over the past two decades, and particularly in the past decade.

This has been driven particularly by an expansion of public health facilities. The structure of Nepal's health system is that it is divided into a regional health directorate, whose main function is the supervision of the health service delivery system, and related functions, for the districts under the region. Funding bypasses the regions and is allocated directly from the central level. District public health offices (DPHOs) coordinate with district-level public and private providers, NGOs and other agencies for delivering health services. Below PHCCs, health services are provided by HPs and SHPs. Hospital development boards and health facility management committees provide an opportunity for direct local involvement in management and fundraising to secure additional resources for these facilities.

The number of HPs increased from 351 in 1991 to 701 in 2001 and 1,204 in 2011. Every village development council (VDC) is now intended to have an SHP staffed by three health workers, one of whom is an auxiliary nurse midwife (ANM) tasked specifically with the provision of basic maternal and child health services (Pant et al., 2008). There were 2,636 SHPs in 2011 (no data are available for the early 1990s), while the number of PHCCs increased from 33 in 1991 to 214 in 2011. This has been accompanied by a rise in deliveries in public facilities, from 7% of all births in 2001 to 26% in the 2011 NDHS. The scaling-up of birthing centres has been prioritised, as well as ensuring that EOC facilities are available in a growing number of health facilities. The establishment of birthing centres is frequently carried out with community contributions and cost-sharing; one district official described the process as follows: *'When we establish any birthing centre we organise a meeting and tell the community that we will provide all necessary equipment and ensure you have a skilled birth attendant, but that they need to raise funds for*

**There have been substantial improvements in terms of the scope of provision at the village and district levels over the past two decades, and particularly in the past decade.**

**Table 5: Inequity in deliveries attended by SBAs (%)**

Wealth quintile	1996	2001	2006	2012
First (poorest)	2.6	2.5	4.8	10.7
Second	4.9	4.7	10.1	23.7
Third	6.1	6.7	12.4	35.9
Fourth	7	12.6	22.9	53
Fifth (wealthiest)	35	43.9	57.8	81.5
Total	9	10.8	18.7	36
<b>Difference: poorest and wealthiest quintiles</b>	<b>32.4</b>	<b>41.4</b>	<b>53</b>	<b>69.8</b>
<b>Ratio: poorest to richest quintiles</b>	<b>0.07</b>	<b>0.06</b>	<b>0.08</b>	<b>0.13</b>

Source: MoHP et al. (1997; 2002; 2007; 2012)

*construction and ensure that all women come to the centre for antenatal care and birthing. This way we encourage ownership.'*

The number of HPs and SHPs providing 24-hour delivery services has also increased rapidly, from 150 HPs as recently as 2009 to over 1,100 in 2012. However, because this has occurred only recently it is unlikely to have had an impact on past MMR estimates. In the words of one nurse interviewed, *'Service is much better now as we have 24-hour services and have also created awareness regarding availability of the services'.*

Finally, the availability of contraceptives has also increased enormously over this time period, with supply through government clinics a key factor. According to the most recent NDHS, 69% of all respondents listed the government sector as the main source of contraception, followed by the private sector (19.8%) and NGOs (9.5%).

Closely linked to this have been efforts to improve the referral system to ensure that, in the case of complications, mothers can be seen more quickly. Further, drugs needed during childbirth have been included on the essential drug list (although – like other drugs on the list – they are frequently not available). This rapid pace of change shows the prioritisation maternal care has received at national and district levels. One district public health officer interviewed said, *'We want to make this district an example in safer motherhood. All the health posts already have birthing centres. Now we are expanding it to sub-health posts and this year we've already built birthing centres for five sub-health posts. Since last year this has doubled.'*

Changes in human resource policies have been central to increasing the quantity of skilled medical staff available.<sup>32</sup> The number of medical and paramedic colleges has greatly expanded, and during the early 1990s maternal and child health

32. Improvements in human resources capacity are seen as central to improved maternal health outcomes where they have occurred. Examining the success of Sri Lanka and Malaysia in reducing the MMR, Pathmanathan et al. (2003) found that expanded service provision was driven by increased access to SBAs, with professional midwives being the backbone of maternal care. The authors also noted the importance of improving data collection and management, pointing to the important role of recording and reporting maternal deaths in addressing mortality and morbidity. A systematic review by Bhutta et al. (2010) argues that 'the shortage of health workers in many countries is the most significant constraint to attaining the three health-related MDGs'. One of the most common barriers to scaling up interventions is a shortage of well-trained health workers, as well as reluctance to transfer some tasks to less extensively trained workers (Bhutta et al., 2008). In a study comparing safer motherhood programmes in South Asia, Koblinsky and Kureshly (2009) found the move towards 24/7 staffing, task-shifting (in which lower-level staff fulfilled comprehensive EOC functions) and improved incentives to deploy staff in rural areas to be some of the most important innovations contributing to improved outcomes.

### Box 5: The role of female community health workers in Nepal

The national network of female community health volunteers (FCHVs) has been described as central to Nepal's 'alternative pathways and strategies for effectively reducing maternal mortality' (Hulton et al., 2011: 15).

FCHVs are private citizens who liaise with the local health facility on a regular basis. They are generally selected by members of the local Mothers' Group for Health with the help of local health personnel. They are in turn provided 18 days of basic training in two phases on selected primary health care components. After completion of the basic training, they receive a certificate and a medicine kit consisting of necessary drugs and supplies. They are also given manuals, a flip chart, a ward register, information, education and communication materials, a bag, a signboard, an identity card and a distinct blue sari. They are generally not paid, although they are compensated for travel costs and occasionally receive small incentives.

Over time, FCHVs have proved to be a skilled and capable cadre that has taken on more and more health responsibilities. The growing network of community health volunteers (and especially of FCHVs) is likely to have had an enormous impact on improved maternal health outcomes since the programme was founded in 1987/88 in 27 districts (and gradually expanded nationwide). The FCHV programme evolved from training voluntary health workers for a malaria eradication project in the 1970s (Thapa, 2011).

FCHVs promote health and healthy behaviour of mothers and community members for the promotion of

safe motherhood, child health, family planning and other community-based health services with the support of health personnel from SHPs, HPs and PHCCs. As such, they have an integral role in promoting antenatal and postnatal visits, safe delivery, child health and nutrition. They have also been central to awareness creation, providing treatment and referral. FCHVs have also been closely involved in the provision of contraception and are likely to have contributed to the reduction in the fertility rate. FCHVs are, according to one informant, 'highly revered', and 'have played a role in the empowerment of women'. One FCHV interviewed said that decision to volunteer was gradual: 'The district health officer had come to the village and was looking for volunteers. We did not understand what they were talking about, but later one of the newborn children died from tetanus at childbirth so I became interested and then was asked by the people in the community to become the FCHV.'

While concerns have been raised that the number of programmes that utilise FCHVs may lead to them being overloaded, this seems to vary significantly from district to district. However, the numerous programmes FCHVs are expected to support will inevitably lead to some degree of prioritisation. One interviewee working for a large international NGO felt that FCHVs 'tend to focus more on the programmes that are new or for which they are trained for recently, while others get sidestepped'.

workers and ANMs were recruited locally and attached to SHPs. Both were given the specific responsibility of attending births and managing complications. Despite opposition from the gynaecological/obstetric society, the government focused on task-shifting. This entailed shifting responsibilities from doctors to SBAs (nurses and ANM staff), in order to address the chronic lack of human resources at peripheral health facilities and also to enable more local lower-level staff to work in remote areas. Nurses started providing first-trimester abortions and basic EOC services and serving as anaesthetic assistants.

Furthermore, in order to increase the number of SBAs, the definition was broadened to include staff nurses and ANMs with at least 18 months of training in maternal and child health, although this most likely had an impact on the quality of care. Over recent years there have been efforts to increase the number of trained SBAs. This has been running behind the rate of increase needed to meet the target of 7,000 by 2015, but nonetheless the number has been raised substantially, with 3,000 trained and certified over the past three years (MoHP, 2012). However, at this stage it is not fully clear how comparable the levels of skills of SBAs are. Finally, and of central importance to the delivery of health services in Nepal, has been the cadre of 48,000 female community health volunteers (see Box 5). These have provided a 'backbone' (Thapa, 2011) to the country's health service.

However, staffing has not been able to keep pace with population growth: the population increased by 45% between 1991 and 2011, but the increase in staffing was only 3.4% over the same period (MoHP, 2012). Thus, according to WHO data,



Sunita leading a group discussion on adolescent reproductive health in Surkhet, Midwest, Nepal. Photo: © The Advocacy Project

the number of public sector physicians per 1,000 people declined from 0.05 to 0.04 between 1990 and 2004 (ibid.). The number of nurses is 0.25 per 1,000, representing a total ratio of 0.29 health workers per 1,000. While this is significantly lower than in neighbouring countries, the picture changes significantly if private sector health workers are included (0.31 doctors per 1,000/population). This suggests there are approximately five times as many doctors in the private sector as in government facilities (see Section 3.2.3).

Concerns have also been raised about the inability of district health officers and facility managers to regulate the performance of medical staff effectively (see, e.g., Harris et al., 2013). In many regions, and particularly in remote areas, doctors, nurses and paramedics do not show up for their assigned postings or receive frequent study deferments. One PHCC facility management committee member linked these problems to the general instability at the government level: *'We have gone to complain about the vacant post of the doctor but what can we do? The government keeps changing and there is no one to listen.'* As a result, managers have few means for sanctioning poor performance or incentivising improved performance. This is unsurprising: doctors in the public sector are generally poorly paid, and working and living conditions in the periphery are difficult. There is a substantial brain drain and a strong bias to work in urban rather than rural areas, especially in the absence of an effective reward and punishment system.<sup>33</sup>

### 3.2.3 The role of private clinics and pharmacies

The 1991 Health Policy opened the door for the private sector's investment in health. The role of private sector providers in providing health care services is increasing, according to the Health Management Information System. In terms of births delivered, private sector clinics have increased from providing 1.1% of all births in 2001 to 3.7% in 2006 and 9.3% in 2011 (including not-for-profit providers). Clinics run by NGOs and private hospitals have expanded rapidly in the past few years, particularly when compared with the public sector. Private health care providers tend to operate in relatively developed and urban areas.

Beyond private sector clinics, and perhaps of greater significance, has been the massive expansion of privately run pharmacies in rural areas in recent years. These pharmacies provide medicines and antibiotics essential in the prevention of deaths of mothers, particularly after childbirth (see, e.g., Heydon, 2011; Hotchkiss et al., 1998). According to informants, these are frequently run by clinical medical auxiliaries who have medical training but could not be incorporated into the government system and set up as independent practitioners in their home

villages. The access to antibiotics provided by these pharmacies is likely to have played a vital role in ensuring rapid treatment for sepsis following delivery.<sup>34</sup>

The importance of private pharmacies was particularly relevant before government clinics began providing many essential drugs for free in 2007 (although there continue to be frequent reports of stock-outs at government clinics).<sup>35</sup> According to research carried out in the late 1990s, pharmacies were particularly relevant for treatment of illnesses in rural areas and for the poor, given their much greater prevalence in remote areas (Hotchkiss et al., 1998, found that 38% of rural communities were within one hour of a pharmacy, as opposed to only 17.6% being within an hour of a nurse or doctor), while the cost of consultation was lower than at an HP during this time period. This was also likely to be the largest source of household expenditure on health care. Furthermore, pharmacies provide 11% of all contraceptives, according to the most recent NDHS (and are the leading source for condoms and the contraceptive pill).

### 3.2.4 Community outreach services

Nepal has an extraordinarily dense network of local and international NGOs and community-based organisations (CBOs) working in the health sector at community level. These both work as implementing agencies for the government and fill many gaps where the system currently fails to provide sufficiently for communities. CBOs and NGOs also serve as a source of innovation, for example in the development of the Birth Preparedness Package, which was developed and piloted, and then handed over to the government.<sup>36</sup> Paired with government efforts, this has been integral to increased awareness about safe deliveries and practices. Finally, NGOs also run some clinics: according to the most recent NDHS, approximately 2% of births were carried out in NGO facilities and NGOs provide 9.5% of contraceptives.

There are varying degrees of coordination between locally operating NGOs and local government. At the district level (much as at national level), reproductive health committees have been established with the objective of promoting government–NGO collaboration and partnership, to ensure compliance with government policy, strategy and guidelines and to avoid

***'We have gone to complain about the vacant post of the doctor but what can we do? The government keeps changing and there is no one to listen.'***

33. Possible ways of addressing frequent absenteeism and inadequate incentives to serve in remote rural areas are enumerated in Harris et al. (2013) and include changing the delivery model to enable more mobile delivery from urban areas, expanding compulsory service requirements beyond doctors studying on scholarships, improving broader conditions of service for health workers (e.g. by improving infrastructure links) and increasing the number of local hires, for example through spatial affirmative action policies favouring remote areas.

34. This would mirror the decline in the MMR in England and Wales following the introduction of prontosil in 1935, which led to a rapid decline in puerperal sepsis in the absence of an increase in skilled midwifery (Tew, 1998).

35. Numerous interviewees raised concerns about difficulties around drug and equipment procurement, including allegations about funds disappearing. In particular, the provision of free essential drugs has increased the incentives for rent-seeking, as some district health budgets increased 10-fold in a short time period in order to procure these. As a result of concerns raised over frequent mismanagement, procurement processes in many cases have been re-centralised, with items being purchased centrally and then sold on to the districts. This in turn has led government officials to complain about the drawn-out nature of procurement processes and the numerous time-consuming procedures involved.

36. The Birth Preparedness Package aims to motivate behavioural change that takes into account safe motherhood, husbands' decision-making and the need to prevent harmful practices while promoting effective behaviours (Koblinsky, 2010).

duplication and overlapping in programme planning and implementation. The functionality of these committees and the regularity with which they meet vary (and frequently depend on donor engagement in the district), but many are seen to be providing valuable inputs in programme planning budgeting and policy formulation, aiming to harmonise working relations between the government, donors and Nepali and international NGOs. Moreover, several NGOs and CBOs have taken up important monitoring roles. NGOs in several areas have been involved in carrying out social audits, which allow community members to assess the quality of the facilities they use.<sup>37</sup>

Many NGOs and CBOs have a specific mandate to support marginalised and excluded groups. Exemplary of this is work carried out in Makwanpur to testing the use of women's groups as a platform for community mobilisation for reducing maternal and neonatal mortality. The presence of women's groups focused primarily on maternal and neonatal health practices resulted in a 30% NMR reduction (from 36.9 to 26.2 per 1,000 live births) in a cluster randomised trial. They also exhibited healthier behaviours, such as increased use of antenatal care provision, greater likelihood of giving birth in a facility (doubled to about 7%), use of a trained birth provider and more hygienic behaviour (Manandhar et al., 2004). In an interview for this study, one of the lead researchers involved in these trials attributed the impact of women's groups on health outcomes to four mechanisms. First, the groups provided information and spread awareness and a broader understanding of health problems. Second, they allowed the women involved to develop confidence and greater independence in making decisions about their own health. Third, women in the groups in turn disseminated information to their communities. Finally, this helped build capacity within communities to take action.<sup>38</sup>

The effectiveness of outreach activities is demonstrated by the proportions of women aware of the transportation cost reimbursement if they use a facility for delivery (89%) and free delivery services (76%). However, other awareness-raising activities have been less effective; according to the most recent NDHS, only 38% of women aged 15–49 years believe that abortion in Nepal is legal (MoHP et al., 2012). These awareness-raising and outreach activities have frequently interacted synergistically with the expansion of facilities to provide a fundamental change in the breadth and accessibility of medical care. This is mirrored in comments by an official working for a local NGO in the Terai:

*In the southern belt of the district, there are communities where many newly married women are not allowed to go out of the house for two to three years, who will frequently*

*give birth without anyone in the community knowing about it. After carrying out orientations with the husbands and the mothers-in-law, this has begun to change. Especially the older women relate to the problem because they do not want their daughter-in-law to suffer [in childbirth] the way they did.*

Great strides have clearly been made in terms of raising the awareness among rural communities of what kinds of health services can be provided. However, expectations are not always met. Disappointment with quality of service, as well as a lack of information about what can be expected, has led many to use private sector providers, even for services that are provided free of charge at government clinics. According to one doctor working at a private clinic, 'Many people do not trust government health facilities because of bad experiences'. Moreover, there are concerns that there is insufficient capacity to enforce minimum standards in the private sector effectively, and that some staff request informal payments for services.<sup>39</sup> Problems relating to the SDIP payment seem on the whole to have been mitigated after initial problems, which saw some women complaining of not receiving their money and allegations of misappropriated funds. Nonetheless, the financial incentive offered to women who make four antenatal care visits is frequently not paid reliably, according to interviews with both users of facilities and medical staff.

### 3.2.5 Infrastructure

Because of Nepal's topography, the emphasis on road and bridge construction, paired with the rapid expansion of health facilities, has probably contributed to addressing the second of the 'three delays' (i.e. the delay in deciding to seek help) that frequently lead to maternal death.<sup>40</sup> This is essential given that, in the case of complications, the need to transport the woman to a clinic is urgent. Prior to the free delivery policy, transport costs were found to make up almost half of total costs for facility deliveries (Borghi et al., 2006). The number of paved roads and bridges has increased in recent years, and this form of infrastructure improvement was seen as a principal priority by most district development committee (DDC) and VDC officials interviewed.<sup>41</sup> While data prior to the late 1990s are limited, the total road network expanded from approximately 13,200 km in 1999 to 19,875 km in 2008. Moreover, the percentage of paved roads (as a share of total roads) increased from 37.5% in 1990 to 53.9% in 2008.<sup>42</sup> This has been paired with efforts to ensure that government vehicles can act as ambulances in emergencies. One woman interviewed for this study who had recently given birth said that the police had offered to provide her with a lift free of charge.

37. The social audits consisted of an exercise to collect data from the community using several tools to assess the quality and performance of health workers. A facilitated community gathering was organised at a later time, with service providers, representatives from the DPHO, the VDC and community members. Strengths and weaknesses were discussed and action plans developed. Problems identified by one recent social audit included the fact that the cash incentive for the four antenatal care visits and postnatal care visit was not provided. As a result, the DPHO committed to addressing the processing that needs to be in place for this to be functional. Moreover, some community members were not aware of which drugs were free. The discussion helped them understand the free drug policy, minimising the disputes that would often arise between health workers and community members. While at first health workers were hesitant, they later came to appreciate the process.

38. There is also evidence of community mobilisation efforts being effective in breaking down stigmas and discrimination attached to transporting Dalit women to health facilities (Hulton et al., 2011).

39. Recent research by Simkhada et al. (2012) reveals that women in Kathmandu regularly have to pay informal fees for maternal care.

40. This has some parallels with Thailand's improvements on numerous health indicators – a multi-sectoral focus with a strong emphasis on rural electrification and basic infrastructure complemented efforts.

41. The centrality of integrating transport and health strategies is underlined through a study by Goldie et al. (2010, in Hussein et al., 2011b). Based on modelling techniques, the authors predict that the MMR will not be able to decline by more than 35% if access to EOC is not provided. Referral and transport strategies, alongside other interventions, could contribute to as much as an 80% reduction in maternal mortality.

Improved access to health centres has probably had an impact. While no data are available from earlier rounds of the NDHS, among those women who did not deliver in a health facility only 14% said the health facility was too far or that they had transportation problems (MoPH et al., 2012). A further 8% of women reported that the child was delivered before reaching a health facility, while 5% reported cost as the main barrier to having a delivery in a health facility. The remaining 72% felt that delivering in a health facility was either ‘not necessary’ or ‘not customary’. This is indicative of the fact that, while lack of access remains a barrier, the most significant obstacles to increasing institutional deliveries are socio-cultural.

### 3.2.6 Decentralising sector governance and service provision

Efforts in recent years to decentralise service delivery and strengthen local governance have resulted in some signs of progress. In recent years, provision at the local level has improved, and some responsibilities have been decentralised to facility managers. This has been far from a smooth process, and it has varied greatly across the country – especially in the absence of elected VDC bodies. However, given the rapid expansion of the system, delivery of health services has become more reliable, even during the conflict. For example, there is some anecdotal evidence that the monitoring of performance has become much stronger, with clear targets and year-on-year performance assessments publically available at DPHOs.<sup>43</sup> At the village level, VDC secretaries have also been educated on safer motherhood initiatives and have prioritised these for their discretionary expenditures.

Efforts to improve district-level capacity is indicative of piecemeal efforts to progressively decentralise more funds and responsibilities to the DDC and VDC levels, frequently with efforts to ensure these funds are spent on social services and marginalised groups. VDCs, for example, are required to spend 10% of the development budget supplied to them on supporting women, 10% on children, 15% on marginalised groups and 15% on agriculture.

The Local Self-governance Act in 1999 expanded the mandates of local bodies, developed powers, responsibilities and resources of local governments and called for a greater role for civil society (see The Asia Foundation, 2012). While the early 2000s saw a process of considerable decentralisation of funds from the ministry to the districts, the constitutional quagmire has resulted in a gap in downward accountability, with VDCs appointed rather than elected, and little autonomy over budgets and few incentives to provide high-quality services. According to a World Bank study (2010, in Upreti et al., 2012), positive outcomes of community-managed programmes initiated under the Act are now visible throughout the country, such as an increased number of rural roads, as well as community-managed schools, health centres, forests and micro-hydropower plants.

However, there has been little meaningful political devolution and, since July 2002, there has been no election of local officials (Upreti et al., 2012). One local government official explained that, ‘when there was elected government there were 53 people leading one VDC; now there is one VDC secretary leading one VDC, so you can imagine the situation’. This has also translated into more limited enforcement and regulatory capacity, which is particularly acute in the case of regulation of the growing number of private sector providers. As a result, district health coordination committees are not always functional, although the reproductive health coordination committees (which donors tend to monitor more actively) are generally more reliable.

Given both capacity constraints at district level and strict control over district-level political appointments and procurement, decentralisation in Nepal has thus far largely been a process of deconcentration, rather than a more tangible devolution of responsibilities to district-level officials. Integral to many of these problems is the current lack of elected village and district councils. While financial management at the local level has improved, according to Schmidt (2009), bottlenecks tend to exist in terms of accounting and public financial management capacity at the district level, with frequent problems related to funds reaching HPs and SHPs.<sup>44</sup> Following efforts in the 2000s to gradually decentralise funding decisions, there are concerns both about insufficient capacity at the district level to develop effective plans and budgets, and about leakages along the delivery chain. These concerns are particularly acute around the procurement of drugs and large-scale medical equipment purchases. A study by The Asia Foundation (2012: 22) points to the fact that there is inadequate clarity on the role of VDCs and DDCs in supporting HPs, and that ‘efforts to devolve the health sector in Nepal have fallen sort of its target [...] with virtually all important decisions in planning and budgeting still made at the Department of Health Services or the Ministry of Health and Population’.

## 3.3 Behavioural changes at the household level

### 3.3.1 Reduction in unwanted pregnancies

According to numerous studies in other countries, improved outcomes in family planning are closely linked to reductions in the MMR (see, e.g., Hulton et al., 2011), and this is likely to have been the case in Nepal also. This decline in the MMR has been driven, at least in part, by broader improvements in the field of sexual and reproductive health, most notably a precipitous decline in the fertility rate. Nepali women went from having, on average, 6.0 children in the 1980s to 4.6 in 1991 to 2.6 in 2011. As Figure 13 (overleaf) shows, the rate of decline in fertility tracks that in the rest of the region quite closely until the mid-1990s,

42. Data according to the World Bank’s WDI.

43. In all three DPHOs visited, district health performance against targets for the past three years were clearly posted in the office of the respective DPHO.

44. Citing efficiency gains, MoHP has increasingly re-centralised large-scale procurement. However, district health officers have also complained about frequent delays in the release of district funds, making it difficult to spend these effectively before the end of a financial year. NGO interviewees implementing awareness-raising activities funded by the government complained about delays in the release of funds, which has an impact on the continuity of programming, as all activities then have to be carried out in a short time period at the end of the fiscal year.

when it begins to accelerate, leading the total fertility rate to converge rapidly with the regional average.

This reduction in fertility has been driven by a number of factors, but most notably by the increased availability of contraceptives (discussed in Section 3.2), as well as the legalisation of abortion. The contraceptive prevalence rate increased from 24.1% in 1991 to 49.7% in 2011. Further, the legalisation of abortion led to over 500,000 women receiving safe abortions between 2004 and 2012 from over 1,500 trained health care providers (Samandari et al., 2012).

The reduction is also likely to be facilitated by the fact that many men and women are not in the country: according to the most recent NDHS, 32% of married women report that their husbands live away from home.

### 3.3.2 Education and empowerment

There tends to be an inversely proportional relationship between maternal mortality and women's status, with better-educated women more likely to receive antenatal care, safe deliveries and postnatal care (Hulton et al., 2011). Greater awareness and decision-making capacity is a central determinant of health-seeking behaviour.

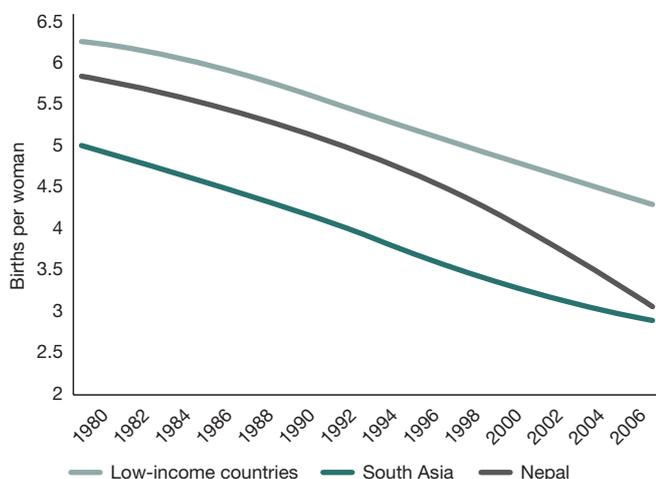
This appears to have been the case in Nepal. Over the past two decades, enrolment rates have increased significantly, and between 2006 and 2011 alone the net attendance rate increased

from 43% to 58%. Secondary education in particular tends to have a strong positive effect on women's empowerment (Hulton et al., 2011). The percentages of women and men with at least some secondary education or higher have increased by 48% and 26%, respectively, in the past five years. The change is particularly striking when one looks at access to secondary education by age cohort (see Figure 14). However, much like access to health care, access to education, which tends to correlate with the MMR, remains highly stratified by geography and income.<sup>45</sup>

Central to the more empowered role of women in households have been active efforts to change norms and behaviours around many of the very patriarchal family structures. Many women, Pant et al. (2008: 22) argue, 'place little value on their lives [...] because they have been socialised by socio-cultural norms to perceive and accept their status to be the lowest in the family and community'.<sup>46</sup>

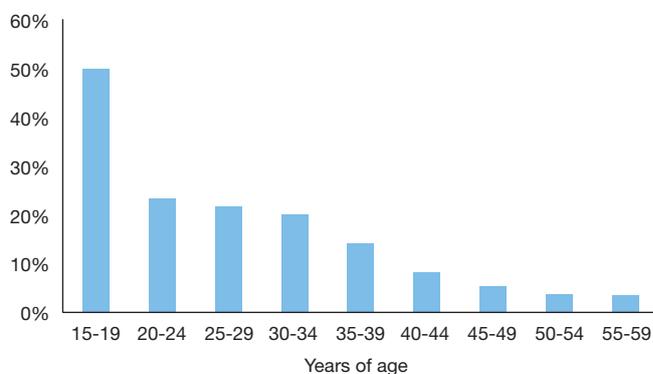
In recent years, there have been efforts to combat discrimination, most notably through community-level efforts by NGOs and through FCHVs. There has further been an explicit focus on integrating sexual and reproductive health in the school curriculum. Health, Population and Environment Education is one of the six core subjects at the secondary level. In Nepal, it has been shown that women with strong decision-making power, with their own income or with access to microcredit are more than twice as likely to have an institutional delivery than women with weak decision-making power (Hulton et al., 2011).<sup>47</sup>

**Figure 13: Decline in total fertility rates, Nepal vs. South Asia and low-income countries mean, 1980–2010**



Source: WDI

**Figure 14: Women who have received some secondary education, by age cohort, 2011.**



Source: MoHP et al. (2012)

45. Among women, over 50% of women in the poorest quintile have no education; this is only 20.8% for those in the wealthiest quintile. Similarly, the median years of education completed among rural women is 0.4 years (4.6 years for urban women).

46. The most recent NDHS analyses the relationship between indicators of empowerment and health-seeking behaviour. According to this, only 46% of currently married women participate in decisions pertaining to their own health care, major household purchases and visits to their family or relatives (MoHP et al., 2012). Women who participate in these decisions are, on the whole, more likely use contraceptives and have access to family planning. More empowered women are also more likely to access antenatal and postnatal care, and seek delivery assistance from a skilled provider. Finally, while there are no data on the MMR and its correlation with empowerment, a relationship has been found between the mortality rate of infants and children and improvements in a women's level of empowerment.

47. Similarly, in Bangladesh, the empowerment of women and their decision-making power in health matters has been accompanied by broader policies such as employment-generating activities in the economic sphere (Rodriguez-Pose and Samuels, 2011).



Maya Rani holding her daughter Shami. Photo: © Save the Children

# 4. Concluding remarks and lessons

Nepal's MMR reduction has been the outcome of a complex combination of factors and interventions that have frequently interacted in a synergistic manner; there has been no single 'magic bullet'.

The past 20 years have witnessed strong and sustained efforts by the government and donors to facilitate safer motherhood through carefully planned policy decisions and programmes. It is, in our view, highly likely that these efforts have been an important factor behind the progress Nepal has experienced, and that they explain, in part, why rapid progress has been achieved in maternal health.

The question that follows is: why did maternal health become such an area of focus among the numerous competing priorities inside and outside the health sector? It appears that, for successive governments, keeping the strong emphasis on health – with safer motherhood as a core priority within the sector – was politically important, even in the midst of conflict, and that this prioritisation was guided by a capable cadre of top-level officials in MoHP and backed by donors.

Along with these efforts, it is likely that some of the profound changes that have occurred at the household and village levels made a significant difference in terms of reducing the MMR. Decisions on whether to have antenatal and postnatal check-ups, to give birth in a health care facility or to seek care in case of complications are made at the household level (and increasingly by women themselves) and are subject to a complex decision-making calculus influenced by a range of factors, only some of which are internal to the health system.

Thus political imperatives and effective service delivery decisions combined in a virtuous circle with contextual

**Why did maternal health become such an area of focus? It appears that, for successive governments, keeping the strong emphasis on health – with safer motherhood as a core priority within the sector – was politically important, even in the midst of conflict, and that this prioritisation was guided by a capable cadre of top-level officials in MoHP and backed by donors.**

socioeconomic factors at the household level. As suggested in prior work on Nepal's MMR (Hussein et al., 2011a) and other countries and regions that have seen a fall in maternal mortality despite low uptake of skilled birth attendance (see, e.g. Chowdhury et al., 2007), there was no single solution: rather, the decline was due to a number of factors that were related to decisions at all levels, including by the Nepali government, donor agencies, care providers and women and their families. Many of these, moreover, are outside the direct purview of the health system (such as education of women or improving incomes of the poor).



Teej Reproductive Health Information Stall. Photo: © The Advocacy Project

## Lessons learned

Nepal's experience with maternal health over the past 20 years provides **useful lessons that other countries struggling to reduce maternal mortality may wish to consider**. These include the following:

- **Engage a well-connected policy advocacy movement.** Sustained political consensus and financial commitment to reducing maternal mortality, even during the conflict, benefited from a large and effective advocacy community consisting of public health officials and experts, civil society organisations, medical staff and donors. As health policy became a rich area of political contestation, parties' electoral interests converged with the objectives and commitment of advocacy to reach the poor, strengthen women's agency and widen access to public services, most evidently through highly visible populist initiatives, such as the SDIP (Jones, 2010).
- **Make extensive and informed use of data and evidence.** The sustained openness of officials to new ideas and pilots, as well as to swift scaling up, has been integral to the effective use of scarce resources to maximise gains. Nepal's health officials drew on a relatively standardised set of interventions to address maternal mortality, but generally did so in an evidence-based, targeted and sequenced manner.
- **Create awareness of risks at the community level.** Given both the poverty and the remoteness of many villages and communities, the role of community health volunteers has been a highly effective strategy for raising awareness of pregnancy-related risks and carrying out simple preventative interventions. Training nurses and midwives to perform more complex obstetric procedures ('task-shifting') has also provided a cost-effective way of ensuring health workers can carry out life-saving interventions in more remote areas.
- **Assess and address demand-side constraints.** The evidence seems fairly strong that government policies that have reduced the cost of giving birth in controlled surroundings, along with cash incentives to do so, are having an effect. While not silver bullets

by any means, demand-side financing and cash transfers have been influential in reducing barriers to access. However, these can also have unintended consequences. For example, the rapid increase in mothers giving births in health care facilities may create a risk of crowding other patients out of a limited number of hospitals and HPs.

- **Integrate maternal health and family planning.** The parallel decline of the MMR and the total fertility rate illustrates the integrated relationship between maternal health and family planning. Reducing unwanted pregnancies through increased access to contraception and abortion, paired with awareness-raising efforts, is likely to have been a significant driver of reducing maternal deaths.
- **Work multi-sectorally to improve maternal health.** Factors not directly related to the public health system may have been equally, if not more, important in progress than health policies and programmes. The importance of addressing health priorities across sectors and ministries is underscored by the strong role that poverty reduction, female education and empowerment and transport infrastructure played in reducing maternal mortality.

As Nepal moves towards 2015 and the likely achievement of MDG 5, numerous challenges to maintaining progress are emerging on the horizon. Sustaining the many aspects that have contributed to the development of a virtuous circle in Nepal's health sector, and particularly in the area of maternal health, will be challenging, and will depend on a number of factors, including addressing inequalities and disparities, increasing community awareness and mobilisation to improve accountability, building more effectively on inter-sectoral synergies and, most importantly, maintaining political and financial commitment to safer motherhood within public policy, civil society advocacy and the donor community. However, the strong institutional foundations within the health sector and increased awareness of systemic pressures provide cause for optimism that current rates of progress can be maintained.

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