



MINISTRY OF PLANNING
DEVELOPMENT AND
SPECIAL INITIATIVES

GAP ANALYSIS

CRVS PRACTICES,
MAPPING STAKEHOLDERS AND
DATA SOURCES



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GAP ANALYSIS OF CURRENT CRVS PRACTICES, MAPPING STAKEHOLDERS & POTENTIAL DATA SOURCES BOTH AT FEDERAL & PROVINCIAL LEVELS

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ABBREVIATIONS

| | |
|--------|---|
| BISP | Benazir Income Support Programme |
| CBR | Crude Birth Rate |
| COD | Cause of Death |
| CMWs | Community Midwives |
| CNIC | Computerised National Identity Card |
| CRVS | Civil Registration and Vital Statistics |
| DBR | Digital Birth Registration |
| DHIS | District Health Information System |
| EPI | Expanded Programme on Immunisation |
| EIS | Education Information System |
| ICD | International Classification of Diseases |
| IMR | Infant Mortality Rate |
| IT | Information Technology |
| MICS | Multiple Indicator Cluster Survey |
| MIS | Management Information System |
| MMR | Maternal Mortality Ratio |
| MoH | Ministry of Health |
| NADRA | National Database of Registration Authority |
| NSER | National Socio-Economic Registry |
| PDHS | Pakistan Demographic Health Survey |
| SDGs | Sustainable Development Goals |
| UC | Union Council |
| UNICEF | United Nations Children's Emergency Fund |
| WHO | World Health Organisation |

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01. INTRODUCTION



1. INTRODUCTION

Almost one-third of 135 million births and over two-thirds of approximately 57 million deaths worldwide were unregistered and unrecorded in 2010. Nearly 230 million children under age five lack a birth certificate (UNICEF, 2013). Functioning vital registration systems are global public goods that help with the collection, storage, retrieval, and analysis of accurate population and demographic data to support development policy. Without a strong vital registries, individuals do not have legal documentation of their personhood, citizenship, and all associated rights. National policymakers do not have the necessary data for resource allocation and planning; and the international community does not have evidence to monitor development progress against global benchmarks such as Sustainable Development Goals (SDGs) (Setel et al., 2007).

A strong Civil Registration and Vital Statistics (CRVS) system is a fundamental requirement for, and a sign of, a developed and robust economy. Knowledge of population size, structure, and changes (e.g., births, deaths, and causes of death) become a necessary mean for a government to plan, implement, and monitor development programmes. However, as countries race to meet their development goals, very few have efficient and population-wide CRVS systems, and thus the data needed to monitor their own development progress is missing. The primary purpose of a CRVS system is to record the occurrence of vital events in the lives of the people in a given geographic area (Ye et al., 2012). The best CRVS system is mandatory, permanent and continuous. Also, it should be complete, in that, it registers all vital events, and it must provide high-quality data on time. Completeness can be measured by comparing the percentage of recorded vital events with an estimate that has been established independently for that population.

Vital statistics are tabulations of birth, marriage, divorce, and death registration typically generated by civil registration systems. These statistics are usually based on legal requirements regarding the registration and certification of vital events. While the importance of civil registration for the identification of individuals is well recognized, vital statistics are also critically important for informing public policies and programmes (Phillips et al., 2014). Registration of births, recording deaths by age, sex and cause, and calculating mortality levels and differentials are fundamental to evidence-based policy formulation, monitoring, and evaluation (Mathers et al., 2005).

Civil registration with high coverage and accurate medical certification and coding of the cause of death remains the 'gold standard' source of continuous mortality data. However, only approximately 30 per cent of the world's population lives in areas with more than 90 per cent completeness of death registration. In most African countries, for example, less than one-quarter of deaths are registered. Only 2 per cent of the countries in Africa and South-East Asia have complete death registration data, and half of the countries in these regions record no cause-of-death data. Other challenges include incomplete birth registration, misreported age at death, delays of death records under medico-legal investigation, and delays in releasing the data. For cause-of-death data, limitations include omission of the cause on the death certificate, inclusion of a cause, but not certified by a physician, inclusion of a physician-certified cause, but recorded as 'ill-defined' or 'undetermined', or a physician-certified cause, but inadvertently misdiagnosed or advertently euphemised or misclassified (Joubert et al., 2012).

There are also persistent disparities in death registration and the quality of medical certification of causes. Of 115 member states reporting mortality statistics to WHO, only 23 had high coverage, used the International Statistical Classification of Diseases and Related Health Problems (ICD) to assign causes, and reported minimal proportion deaths as being due to ill-defined causes. In Africa, 42 of 46 member states had no recent mortality data available, and more than half of these reported no mortality data at all (Setel et al., 2005).

1.1 Status of Vital Registration in Pakistan

Births are generally not registered with sufficient completeness to provide accurate statistics. Pakistan has the lowest birth registration at 27 per cent, whereas Bhutan has 100 per cent birth registration. On average, 36 per cent of births are registered in South Asia. A recent study using data from Demographic Health Surveys and Multiple Indicator Cluster Surveys from 2000 to 2014 estimated inequalities in birth registration using the Slope Index of Inequality methods. The study reported a 34 per cent birth registration coverage of children under five years of age in Pakistan with the broadest coverage gap of 72 per cent points in birth certificate coverage in Pakistan between poorest and richest wealth quintiles (Bhatia et al., 2017). Birth registration gaps exist between urban and rural areas (59 per cent versus 23 per cent) (National Institute of Population Studies [Pakistan] and ICF International, 2013). Islamabad Capital Territory has the highest rate of 74 per cent birth registration of children under five years. In contrast, Balochistan has the slowest rate of 8 per cent (National Institute of Population Studies [Pakistan] and ICF International, 2013). Other factors contributing to lower registration of births include poor education of parents.

Registration of births is higher than death registrations because of the families' perception of the direct and immediate benefits attached to birth registration (AbouZahr et al., 2015). Registration of deaths is much less than birth registration in Pakistan. Coverage of death registration is calculated by dividing the total deaths reported for a country-year from the vital registration system by the total estimated deaths for that year for the National population (World Health Organization, 2018). According to the study by Mahapatra et al. Pakistan is among 68 other countries that do not report data on causes of death (Mahapatra et al., 2007).

Similar to birth and death registration, marriage and divorce registration are among the key vital CRVS events. Marriage and divorce registration is not considered as a priority of CRVS systems in many developing countries, including Pakistan. Socio-cultural factors, the social stigma attached to divorce, inadequate awareness among people and weak CRVS system contribute to poor registration of marriage or divorce in Pakistan. According to the Pakistan Demographic and Health Survey (2012-2013) 2 per cent of the ever-married women in Pakistan are either divorced or separated (National Institute of Population Studies [Pakistan] and ICF International, 2013). We could not find any article that indicates the percentage of divorce registered with CRVS systems in Pakistan.

1.2 Benefits of CRVS

1.2.1 Benefits to Individual

a. Individual identity

Civil registration establishes the legal identity of individuals and the legal relationship between them and the state as well as between people. Civil registration also helps to improve the efficiency and fairness of the justice system. Besides, civil registration records and extracts from the system help avoid identity fraud and ensure that services are correctly targeted.

b. Access to government services

CRVS legal documents help individuals to claim government services such as education, health, and land transfers (mutations), and claiming an inheritance.

1.2.2 Benefits to the State

a. Planning population's needs

Vital statistics sourced from CRVS systems enable governments to adequately plan for the present and future needs of the population.

b. Improve health administration

CRVS improves public health administration. Trustworthy statistics on levels and trends in mortality and causes of death help to identify public health threats and high-risk groups. Complete CRVS systems and the improved statistics support the health sector to determine what interventions and resources are needed and where. The data on life events from CRVS system is also essential for calculating the indicators needed to track progress in health programmes and the health status of the population.

c. Efficient electoral processes

CRVS systems have been precious to electoral systems by providing accurate, up-to-date lists of persons qualified to vote at various electoral levels.

d. Measure population dynamics

Vital statistics obtained from civil registration have clear advantages over survey data because they allow fertility and mortality estimates to be measured at the National and sub-National levels regularly. These estimates are essential to understanding the growth dynamics of a population; assess human aspects of socio-economic development; measure the risks of dying by sex at specific ages for insurance and social security purposes and population projections.

e. Track development goals

CRVS systems provide the most reliable data source to track progress on the achievement of various targets, e.g. SDGs. With a complete system, the data needed to measure the indicators for achieving universal health coverage, reducing child mortality, improving maternal health and decreasing the prevalence of malaria and other diseases, is more accurate when continuously generated.

1.3 Stakeholder Mapping

Stakeholder mapping is widely recognised as an essential tool to facilitate the integration to achieve desired objectives. In the context of CRVS and the complexities of its process, it is necessary to map CRVS stakeholders that cover various aspects of registration and vital statistics. For instance, some of the stakeholders are responsible for the event notifications, while others for registrations, and record maintenance. For example, the health department is responsible for death notifications occurring within health facilities, whereas local government is responsible for maintaining the death records and registrations. Stakeholder mapping and data sources identification will help to identify essential players and clarify their actual and potential contributions to the overall performance of the CRVS system. The current study will involve a broader range of sectors and partners to identify and map the stakeholders and explore opportunities to develop their linkages for strengthening CRVS in Pakistan.

1.4 Data Sources

The civil registry deals with individual, personalized, transaction-level data, while vital statistics systems usually focus on aggregated data using multiple sources, e.g. census and surveys. Data aggregation from sources is a difficult task and requires comprehensive mapping of data sources and its flow with a detailed architecture explaining data linkages. The data exchange often requires institutional agreements across many government departments. The first challenge of coordination is assigning clear responsibilities within the CRVS systems and ensuring that there is no duplication or gaps during the registration lifecycle. Another issue is interoperability of data sources. This study will focus on the sources of data that provide inputs to CRVS system including births, deaths, marriage, divorce, and migration and draw the map of data flow with a potential mechanism to establish linkages at various levels from the district to the federal level. The study will elaborate mechanism to generate commonly used vital statistics, including growth rate, fertility rate, and mortality rates and also provide guidance on its potential uses in informed policymaking and programme development.

02. OBJECTIVES



The objectives of this study are to map stakeholders, identify various data sources and perform a gap analysis in current CRVS practices in Pakistan to further strengthen CRVS at Federal and Provincial levels.



03. METHODOLOGY



3. METHODS

The study involved a desk and field review from October 1-15, 2018. A systematic analysis of the literature review followed. In-depth interviews of key stakeholders in all provinces of Pakistan were conducted to achieve the study objectives.

3.1 Desk Review

A thorough review of published and unpublished literature including articles in journals, reports, and grey literature was carried out to examine the data sources of key CRVS events (births, deaths, marriage, and divorce) globally and in Pakistan.

3.2 Systematic Review of Literature

The literature searches were conducted, covering the period from 1950. The following databases along the search criteria were used to search data sources for CRVS:

Database

- Scopus
- Embase

Search criteria

'Civil Registration and Vital Statistics' OR 'CRVS' & 'Births' OR 'Death' OR 'Marriage' OR 'Divorce' OR 'Data collection', 'reporting', OR 'Registration'

3.3 Search Results

Scopus

The search found 947 articles using the defined criteria. When terms 'data sources' or 'stakeholders' were added, 64 articles appeared. The search found three articles when 'Pakistan' was included in the search criteria.

Embase

When the Embase database was searched, using the search criteria described above, 34 published articles appeared. On adding the terms 'data sources' or 'stakeholders,' eight articles were found. Adding the keyword 'Pakistan' returned no results.

Web of Science

When the Web of Science database was searched, using the search criteria described above, 98 published articles appeared. Adding the terms 'data sources' or 'stakeholders' yielded 14 results. The keyword 'Pakistan' produced no results.

3.4 Field Visits

Field visits were conducted to observe current practices of events notifications, certifications, and registration to analyse the gaps in current practices of CRVS, i.e. visiting the offices that manage the civil registration, and the facilities where the registration and related services take place. The field visits covered Districts Abbottabad (KP), Rawalpindi (Punjab), and South Karachi (Sindh). The details of the field visits were recorded, and the UC level field staff interviewed. The public representatives were also interviewed. Annexe I has the details of the field visits.

Field Visits to Observe Current Practices of Events Notifications, Certifications, and Registration, District South Karachi, Sindh



3.5 In-depth Interviews

In-depth interviews were conducted at the federal and provincial levels to identify stakeholders and data sources for vital events. An open-ended questionnaire was also served to complement the discussions, and critical findings noted. Participants of the in-depth interviews were selected in consultation with the secretaries or director generals of the key stakeholder departments. The departments were identified through literature review, desk review, or in consultation with TSU-CRVS. Annex I has the details of those interviewed and their designations. The overarching schemes to map stakeholders and data sources include:

- Reporting of vital events
- Registration of vital events
- Certification
- Data storage
- Vital statistics
- Demand creation



04. RESULTS

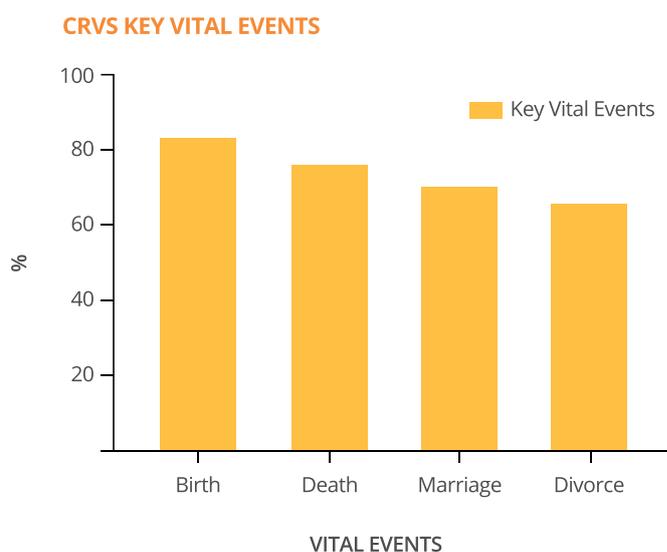


4. RESULTS

The articles identified through a systematic review of literature and data searched were analysed to identify sources of births and deaths at the global level and in Pakistan. A descriptive analysis was performed on the data collected through the questionnaire. Data sources of vital events were mapped across the complete pathway from its collection to the analysis. Stakeholders were analysed as per their role, i.e. involved in the collection, registration, certification, and analysis in the cycle of CRVS.

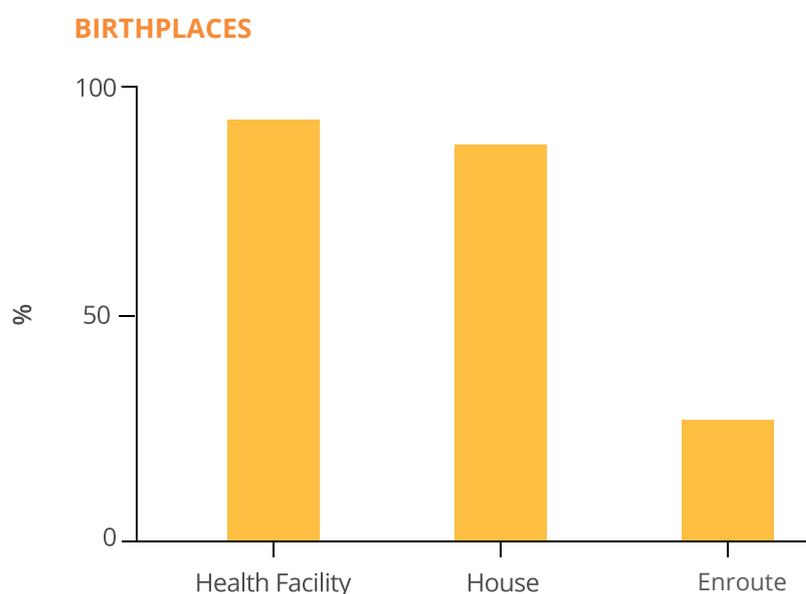
A total of 40 key informants were requested for interviews, including officials involved with reporting or registration of vital events, statistics generation, and officials dealing with births, deaths (including causes of deaths), marriage or divorce. Of these, 37 responded, and in-depth interviews conducted—a response rate of 97 per cent. Of those responding, 86 per cent had heard about CRVS. Seventy-three per cent of the interviewees were aware of all four key vital events, including births, deaths, marriage, and divorce. Figure 1 shows knowledge of the respondents about CRVS key vital events.

Figure 1. Knowledge of CRVS Vital Events in Pakistan 2018



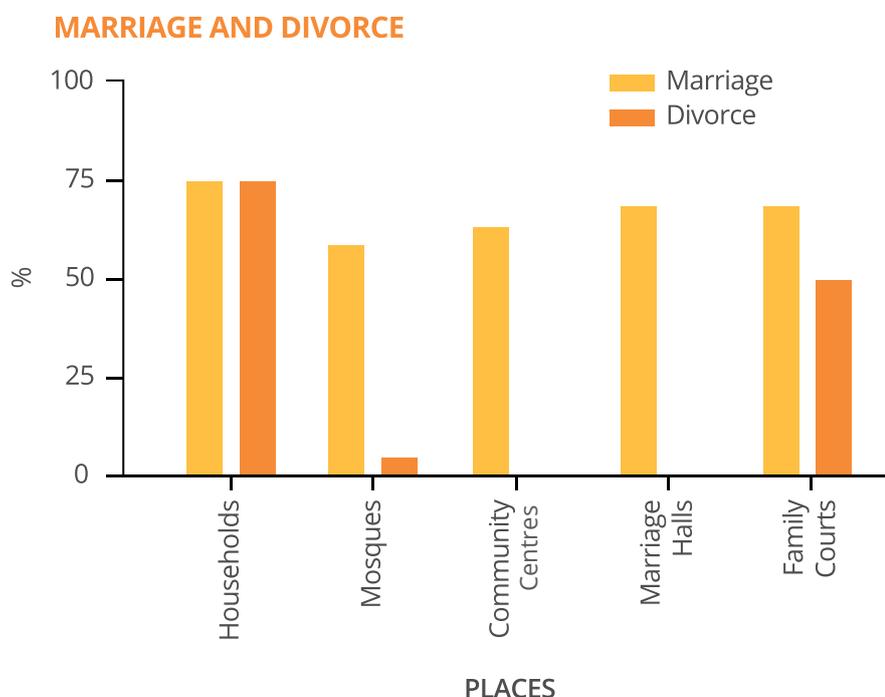
Health facility and household were reported as the most common places of birth by 95 percent and 80 per cent of the respondents, respectively (Fig. 2)

Figure 2. Most common birthplaces in Pakistan



When the commonplace of marriage and divorce were assessed, more than 95 per cent mentioned household, both for marriage and divorce. Other places where a marriage can occur, including a mosque, community centres, marriage halls, and family courts, all were also included in the responses. Divorce is the most difficult vital event to register and following households, family courts were reported by 65 per cent of the respondents. Figure 3 shows places where marriage and divorce can occur.

Figure 3. Places where a marriage or a divorce can occur in Pakistan



4.1 Stakeholder Mapping

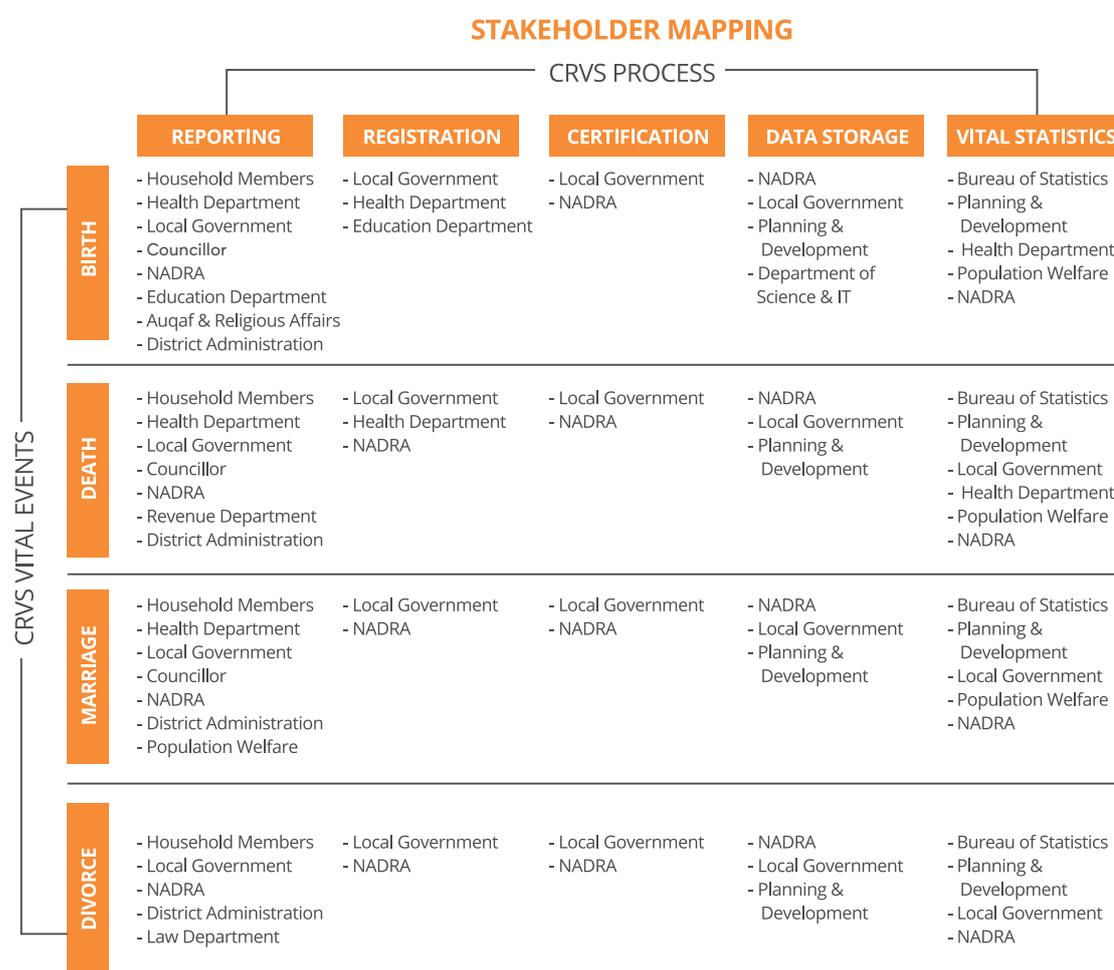
The stakeholder mapping is carried out using the stakeholders' matrix under the framework of their roles and responsibilities involved in CRVS process (Figure 4). The results are presented in the five key areas of the CRVS system. These include reporting, registration, certification, data analysis/storage, and demand creation. The stakeholders identified in these areas are enumerated as under:

4.1.1 Reporting

Stakeholders vary in the role in reporting of the key vital events in Pakistan. The most agreed stakeholder for reporting vital events are the household members (parents/guardians), who share the prime responsibility to report births, deaths, marriages, and divorces. The health department can also play a significant role in reporting of births and deaths. The

local government is a stakeholder in reporting all CRVS events, whereas the primary and secondary education department was recognized as an essential stakeholder for reporting of births when a child is registered at the school. An important stakeholder identified in all provinces was a village, union council or urban council members (councillors). A detailed map of stakeholders for births is presented in Figure 4.

Figure 4. Proposed stakeholder mapping as per their role in CRVS process, Pakistan 2018



For reporting marriage, the local government department through its nikkah registrars can play a significant role. Whereas, for divorce, family courts were recognised as an important stakeholder other than the family members/individuals. UNICEF, through its Digital Birth Registration project, can play an essential role in bridging the gaps of reports and strengthening birth reporting.

4.1.2 Registration

The local government department and NADRA were reported as the most important stakeholders for registration of all vital events. Besides, the health and education departments can also play a role in the registration of children. Additionally, the health department can play a part in the registration of deaths that occur in the community and at the health facilities.

4.1.3 Certification

NADRA and the local government emerged as the only two stakeholders for certification of CRVS events, because of validation of records, provision of security papers and privacy, and security issues.

4.1.4 Data storage

Similar to the certification process, NADRA, local government, and Planning Commission were reported as important stakeholders for data storage at district, province and federal levels. Information technology boards in various provinces can also play their role in ensuring that appropriate standards are followed for data security.

4.1.5 Vital Statistics

Bureau of Statistics, Planning Commission, local government, health department, NADRA, and Population Welfare Department are reported as important stakeholders in generating vital statistics at district, province, and National levels.

4.1.6 Demand Creation

Demand creation is a critical aspect of improving CRVS in Pakistan. In addition to main

stakeholders identified in the process of CRVS, media, UN agencies and the social welfare department are reported as important stakeholders for increasing the demand for CRVS. Programmes that provide various incentives to public, e.g. Benazir Income Support Programme, Prime Minister Health Card, CM KP Cash Incentive Programme, and Flour Distribution Program GB etc. can play a major role in demand creation for registration of all vital events. Figure 5 shows a detailed list of stakeholders identified during this study.

Figure 5. Stakeholder for CRVS demand-creation in Pakistan

| DEMAND CREATION | |
|-------------------------------|-----------------------------|
| - Health Insurance Programs | - District Administration |
| - U.N Agencies | - Planning Commission |
| - Civil Society Organizations | - Local Government |
| - Education Department | - Health Department |
| - Media | - Revenue Department |
| - Auqaf and Religious Affairs | - Social Welfare Department |

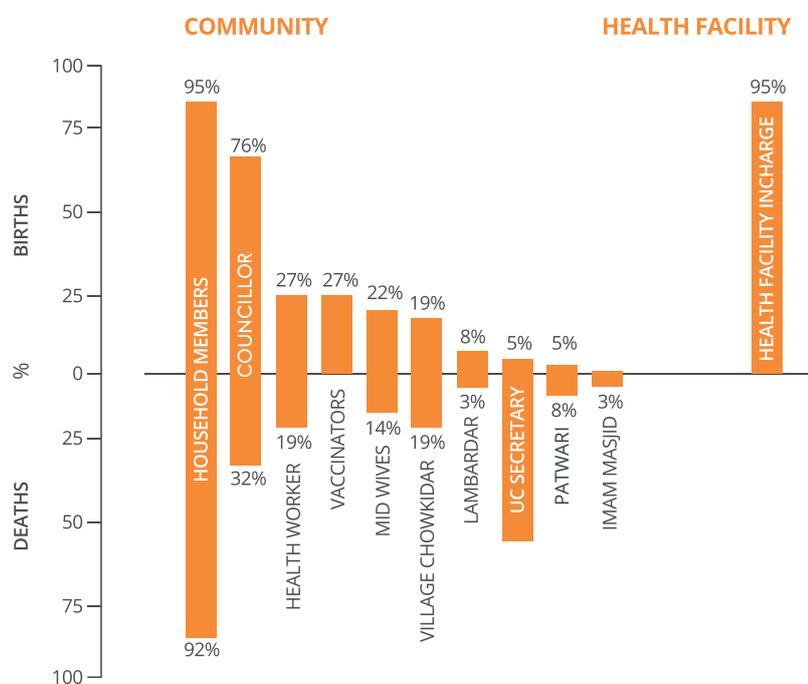
4.2 Data Sources

The data sources for vital events emerging from the systematic review of the literature, and in-depth interviews are described below:

4.2.1 Births

In CRVS perspective, the source of registerable births is required to have data on name, date of birth, parents' name along with their Computerized National Identity Card numbers. The Department of Local Government registers births at its union council offices. No database is maintained at the UC, district or provincial levels. In Khyber Pakhtunkhwa, the Primary and Secondary Education Department maintains a record of children enrolled in schools in the Education Information System (EIS). The aggregated data on births (without names, parents' names, and CNIC) occurring at the household level in areas covered by the lady health workers are also available across all provinces. However, this data has been utilized in a limited manner in the context of CRVS and hence, may be used for comparative analysis of various rates, and for correcting the estimates generated by the CRVS system. Currently, only NADRA has detailed information on births and maintains databases across all provinces. Their coverage and completeness cannot be ascertained through this study. Figure 6 shows various data sources that can report birth and death at the community and health facility levels.

Figure 6. Potential data sources to report births and deaths



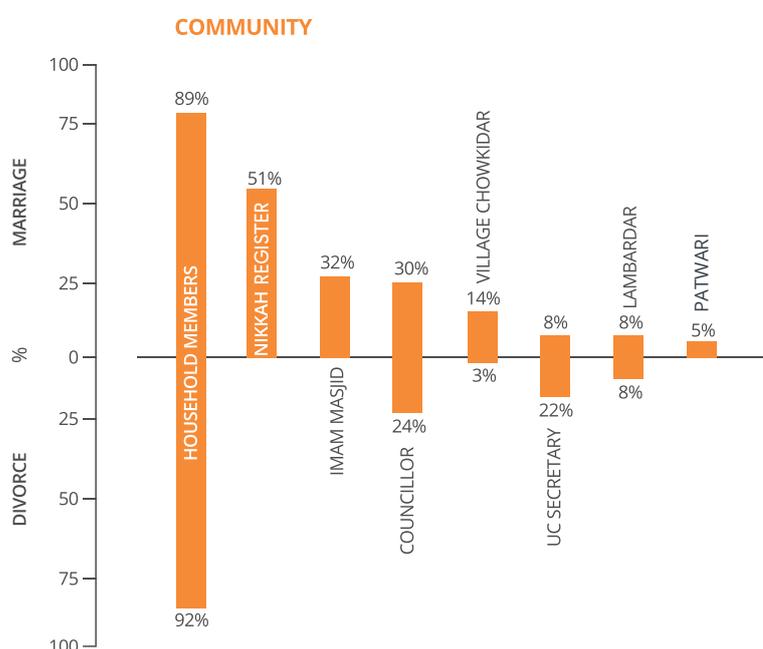
4.2.2 Deaths

The analysis of reported data showed that sources of the death data with the required information are only available with NADRA across all provinces. The LHWs programme currently captures death data only from areas covered by LHWs, and data is limited to maternal deaths and under five years of age. Moreover, it is not entered into any database with all the required information, including CNIC numbers. The MIS of LHWs programme has aggregated numbers of deaths, which can be used for generating rates for comparative analysis for correcting the underestimation by CRVS through mathematical models. The District Health Information System is another source of death data, with the limitation of death occurring in hospitals and with aggregated numbers of deaths. It is worthwhile to mention that the Hospital Information Management System, currently piloted in few districts of Punjab, captures death data with all the required information and has the potential to link up with NADRA and the local government. Figure 6 reflects the sources that can help report deaths.

4.2.3 Marriage

The potential data sources for marriage include nikah khawan, nikah registrars, groom, and the family courts. The study could not identify any database other than NADRA that contains data on marriage.

Figure 7. Potential data sources to report marriage



4.2.4 Divorce

The registration of divorce is globally recognized as one of the most challenging events to register in the CRVS systems. One of the reasons for reduced registration rates in developing countries, including Pakistan, is the stigmatisation of women that were divorced. Currently, NADRA is the only database that can provide information on divorce rates. Potential sources include family courts and UC secretaries for capturing data on divorces. Sources that may help in improving the marriage and divorce reporting and registration include councillors, imam masjids (prayer leaders of mosques), and UC secretaries.



05. POTENTIAL DATA SOURCES FOR VITAL STATISTICS



5. POTENTIAL DATA SOURCES FOR VITAL STATISTICS

5.1 Health Information System

Three main information systems in the health department report data on births and deaths. They are District Health Information System (DHIS); the Lady Health Workers Programme-Management Information System, and Maternal, Newborn and Child Health Programme-Management Information System. These reporting systems have certain limitations, which are outlined below

5.1.1 District Health Information System

The District Health Information System (DHIS) collects data from public health facilities, including basic health units, rural health centres, tehsil headquarters hospitals, and district headquarter hospitals, and tertiary care hospitals. An evaluation of DHIS in 2012 showed 87 of 100 target districts in Pakistan using DHIS (Japan International Cooperation Agency, 2012). It can provide hospital-based data on disease indicators, including cause-specific mortality rates, maternal and neonatal mortality rates, and crude birth rates (Directorate General Health Services, Punjab, 2014).

5.1.2 Lady Health Worker Programme

The Lady Health Worker Programme, also known as the National Programme for Family Planning and Primary Healthcare, was launched in April 1994 to provide universal health

coverage at the community level. The programme covers approximately 70 per cent of the population in Pakistan (Government of Pakistan Primary Healthcare, 2010). In the context of CRVS, the lady health workers' monthly report includes aggregated data on total live births and stillbirths, total deaths including neonatal deaths, infant deaths, and maternal deaths (Hafeez et al., 2011).

5.1.3 The National Maternal Newborn and Child Health Programme

The National Maternal Newborn and Child Health Programme was launched in 2007 to improve the delivery of better healthcare services to women and children, and to ensure progress towards achieving the Millennium Development Goals in maternal and child health. Community midwives' monthly reports include data on a number of pregnant women, antenatal care visits, and mortality rates from the areas covered by community midwives.

5.2 Benazir Income Support Programme

Benazir Income Support Programme (BISP), initiated by the Government of Pakistan (2008) was started with the primary objective to support poor households (Benazir Income Support Programme, 2011). The vision of BISP, being the premier safety net institution of Pakistan, is the eradication of poverty and elevating the status of marginalised and underprivileged sections of society, especially women, through the establishment of comprehensive social protection net (Benazir Income Support Programme, 2011). To carry out its programmes, BISP collects data through door-to-door complete household surveys, which so far, is the largest database of most impoverished families of Pakistan. The indicators used by BISP reflect the socioeconomic conditions of the targeted population from multiple angles. Therefore, the data collected by the BISP, particularly about population-based statistics, is of major importance in generating vital statistics. The BISP has established National Socioeconomic Registry (NSER), which is the data repository of poverty score survey conducted in 2010 and is updated regularly. The NSER contains data of over 27 million households. Vital statistics on poverty, population structure, employment, education, disability, and under-five registration coverage can be estimated using poverty score survey data (NSER).

5.3 Survey Data Sources for Vital Statistics

Pakistan Bureau of Statistics and the National Institute of Population Studies perform various surveys with the support of international agencies including UNICEF. Significant ones include the Pakistan Demographic Health Survey, Multiple Indicator Cluster Surveys, Pakistan Demographic Survey, Child Labour Survey, and Pakistan Social and Living Standards Measurement. They provide a sufficient source for generating vital statistics in the country.

5.4 Local Government Data

Local government offices in urban and rural areas maintain registers for all four vital events including birth, death, marriage, and divorce. Although these registers are not compiled or aggregated at district and provincial levels in Pakistan, they may provide a continuous source of data for generating vital statistics.

06. RECOMMENDATIONS

6. RECOMMENDATIONS

- Introduction of a unique identification number for birth registration, or other methods to improve consistency and linkage between different registers. It means that a unique ID number is allocated to a child at birth in the hospital or when it is notified in case of home birth.
- A comprehensive stakeholders' engagement strategy should be developed to improve coordination mechanism for CRVS strengthening.
- For strengthening CRVS and improved coordination between stakeholders, coordination units should be established at all provinces similar to recently established CRVS Technical Support Unit at the Ministry of Planning, Development and Special Initiatives at the federal level. These shall promote the uniform registration of all vital events occurring within the country and among various groups of the population. The CRVS units at the provincial level shall conduct the vital statistics functions, such as cleaning, coding, data processing, preparation of tables and charts, statistical and trend analyses, publishing reports, and doing related research.
- The linkage between CRVS data and census/survey data should be established to validate and improve the quality of population-level data and housing census.
- Interoperability, National standards, and guidelines can also be added for further clarity.
- Information systems that capture births and deaths at the hospital and community levels should develop data systems that are interoperable between various portals.
- In Pakistan with decentralised systems, the primary responsibility for civil registration and local vital statistics lies with the provincial authorities. The National authority would establish National standards and guidelines to be applied uniformly and compile overall statistics for the country from the data provided by the provincial authorities.

07. REFERENCES

7. REFERENCES

- ABOUZAHR, C., DE SAVIGNY, D., MIKKELSEN, L., SETEL, P. W., LOZANO, R., NICHOLS, E., NOTZON, F. & LOPEZ, A. D. 2015. Civil registration and vital statistics: progress in the data revolution for counting and accountability. *The Lancet*, 386, 1373-1385.
- BENAZIR INCOME SUPPORT PROGRAMME. 2011. Benazir Income Support Programme [Online]. Islamabad: Government of Pakistan, Available: <http://www.bisp.gov.pk/Default.aspx> [Accessed 12 May 2011].
- BHATIA, A., FERREIRA, L. Z., BARROS, A. J. D. & VICTORA, C. G. 2017. Who and where are the uncounted children? Inequalities in birth certificate coverage among children under five years in 94 countries using nationally representative household surveys. *International Journal for Equity in Health*, 16, 148.
- DIRECTORATE GENERAL HEALTH SERVICES PUNJAB 2014. DHIS Annual report 2014. Lahore: MIS Cell, Health Department, Punjab.
- GOVERNMENT OF PAKISTAN PRIMARY HEALTH CARE. 2010. National Programme for Family Planning and Primary Health Care, Ministry of Health Pakistan [Online]. Available: <http://www.phc.gov.pk> [Accessed].
- HAFEEZ, A., MOHAMUD, B. K., SHIEKH, M. R., SHAH, S. A. & JOOMA, R. 2011. Lady health workers programme in Pakistan: challenges, achievements and the way forward. *Journal of Pakistan Medical Association*, 61, 210-5.
- JAPAN INTERNATIONAL COOPERATION AGENCY 2012. Summary of Terminal Evaluation Study of the Project.
- JOUBERT, J., RAO, C., BRADSHAW, D., DORRINGTON, R. E., VOS, T. & LOPEZ, A. D. 2012. Characteristics, availability, and uses of vital registration and other mortality data sources in post-democracy South Africa. *Glob Health Action*, 5, 1-19.
- MAHAPATRA, P., SHIBUYA, K., LOPEZ, A. D., COULLARE, F., NOTZON, F. C., RAO, C. & SZRETER, S. 2007. Civil registration systems and vital statistics: successes and missed

opportunities. *The Lancet*, 370, 1653-1663.

- MATHERS, C. D., FAT, D. M., INOUE, M., RAO, C. & LOPEZ, A. D. 2005. Counting the dead and what they died from: an assessment of the global status of cause of death data. *Bulletin of the World Health Organization*, 83, 171-7.
- NATIONAL INSTITUTE OF POPULATION STUDIES (PAKISTAN) AND ICF INTERNATIONAL 2013. Pakistan Demographic and Health Survey 2012-13. In: NATIONAL INSTITUTE OF POPULATION STUDIES ISLAMABAD, P. (ed.) PDHS 2012-2013. Islamabad, Pakistan, and Calverton, Maryland, USA: NIPS and ICF International.
- PHILLIPS, D. E., LOZANO, R., NAGHAVI, M., ATKINSON, C., GONZALEZ-MEDINA, D., MIKKELSEN, L., MURRAY, C. J. & LOPEZ, A. D. 2014. A composite metric for assessing data on mortality and causes of death: the vital statistics performance index. *Popul Health Metr*, 12, 14.
- SETEL, P. W., MACFARLANE, S. B., SZRETER, S., MIKKELSEN, L., JHA, P., STOUT, S. & ABOUZAHR, C. 2007. Who Counts? 1: A scandal of invisibility: making everyone count by counting everyone. *The Lancet*, 370, 1569-77.
- SETEL, P. W., SANKOH, O., RAO, C., VELKOFF, V. A., MATHERS, C., GONGHUAN, Y., HEMED, Y., JHA, P. & LOPEZ, A. D. 2005. Sample registration of vital events with verbal autopsy: a renewed commitment to measuring and monitoring vital statistics. *Bulletin of the World Health Organization*, 83, 611-617.
- UNICEF 2013. *Every Child's Birth Right: Inequities and Trends in Birth Registration*. New York: UNICEF.
- WORLD HEALTH ORGANIZATION. 2018. Completeness and coverage of death registration data [Online]. Geneva: WHO. Available: <https://www.who.int/healthinfo/statistics/mortcoverage/en/> [Accessed 2018].
- YE, Y., WAMUKOYA, M., EZEH, A., EMINA, J. B. O. & SANKOH, O. 2012. Health and demographic surveillance systems: a step towards full civil registration and vital statistics system in sub-Saharan Africa? *BMC Public Health*, 12, 741.

ANNEXES



Annex I: List of Participants: In-depth Interviews and Field Observations

| ISLAMABAD CAPITAL TERRITORY (FEDERAL) | | |
|---------------------------------------|----------------------------|--|
| 1. | Mr. Zeenat Hussain Bangash | Additional Secretary Auqaf and Religious Affairs |
| 2. | Dr. Syed Mursalin | National Advisor, TSU-CRVS, Ministry of Planning, Development and Special Initiatives |
| 3. | Dr. Nasser Mohiuddin | Director General (Technical), National Ministry of National Health Services, Regulation and Coordination |
| 4. | Dr. Bahrawar Jan, | Member, National Accounts, Pakistan Bureau of Statistics |
| 5. | Maj (Retd) Aftab Khan | Director CRMS National Database and Registration Authority |
| BALOCHISTAN | | |
| 6. | Mr. Abdul Ghaffar Kakar | Director General Bureau of Statistics, Balochistan |
| 7. | Mr. Sajjid Khan | Assistant Director Local Government, Quetta |
| GILGIT-BALTISTAN | | |
| 8. | Mr. Ali Jabbar | Focal Person CRVS Planning and Development Department, GB |
| 9. | Mr. Rahim Gul | Secretary Law and Prosecution Department, GB |
| 10. | Mr. Ghulam Murtaza | Deputy Director Education Department, GB |

| | | |
|-----|-----------------------|--|
| 11. | Dr. Shakil Ahmed Khan | Provincial Program Manager EPI, GB |
| 12. | Mr. Manzoor Karim | MIS Coordinator National Program for Family Planning and PHC, GB |

KHYBER PAKHTUNKHWA

| | | |
|-----|----------------------------|---|
| 13. | Dr. M Fakhr-e-alam Irfan | Senior Member Board of Revenue, Khyber Pakhtunkhwa |
| 14. | Mr. Mukhtiar Ahmad | Secretary Elementary & Secondary Education, Khyber Pakhtunkhwa |
| 15. | Capt (Retd) Khalid Mehmood | Additional Secretary Home & Tribal Affairs Department, Khyber Pakhtunkhwa |
| 16. | Mr. Shabli | Deputy Director of Local Government and RDD Peshawar |
| 17. | Dr. Ayub Rose | Director General Health Services, Khyber Pakhtunkhwa |
| 18. | Mr. Jawad Marwat | Assistant Commissioner Revenue, Abbottabad |
| 19. | Mr. Sajjid Khan | Assistant Director LG & RDD Abbottabad |
| 20. | Mr. Naqash Iqbal | UC Secretary Mirpur I/II, Abbottabad |
| 21. | Mullana Abdul Wajid | District Khatib, Abbottabad |
| 22. | Mr. Aman Khan | Assistant Director, NADRA Abbottabad |

PUNJAB

| | | |
|-----|-------------------|---|
| 23. | Dr. Omar Jahangir | Deputy Commissioner Rawalpindi |
| 24. | Mr. Shahid Akram | Joint Director, Punjab Information Technology Board |

| | | |
|-----|------------------|--|
| 25. | Mr. Zaman Watto | Deputy Director of Digital Birth Registration Cell Local body Complex, Lahore |
| 26. | Mr. Rizwan Ali | Assistant Director CRMS, NADRA HQ, Lahore |
| 27. | Mr. Hassan | Project Manager Hospital Management Information System, Lahore |
| 28. | Mr. Saeed Moin | Coordinator, LHW Program, Ministry of Health Punjab |
| 29. | Mr. Nauman | MIS Coordinator, EPI Program Punjab |
| 30. | Mr. Farooq Ahmed | DHIS Coordinator, Ministry of Health Punjab |

SINDH

| | | |
|-----|-------------------------|---|
| 31. | Mr. Naeem Uz Zafar | CRVS Focal Person, Chief Economist Planning and Development, DG Bureau of Statistics |
| 32. | Mr. Niaz Ahmed Soomro | Especial Secretary Local Government |
| 33. | Mr. Fahim Akhtar Junejo | Director General Local Government |
| 34. | Mr. Abdul Raheem Memom | Deputy Director of Local Government, District South Karachi |
| 35. | M. Iqbal Chhipa | Chairman Urban Committee 20 (Millat Nagar Ramsawami), District South Karachi |

UN AGENCIES

| | | |
|-----|----------------------|---|
| 36. | Dr. Saeed Akbar Khan | Operation Officer, WHO Khyber Pakhtunkhwa |
| 37. | Mr. Azlan Butt | Child Protection Officer, UNICEF, Punjab |

Annex II: Study Questionnaire



Study on

Gap analysis of current CRVS practices, mapping stakeholders, and potential data sources both at Federal and at Provincial Levels

Interview Questionnaire

INTERVIEWER VISITS

| | 1 | 2 | FINAL VISIT | | | |
|---------|-------|-------|-------------|----------------------|----------------------|----------------------|
| DATE | _____ | _____ | DAY | <input type="text"/> | <input type="text"/> | |
| RESULT* | _____ | _____ | MONTH | <input type="text"/> | <input type="text"/> | |
| | | | YEAR | <input type="text"/> | <input type="text"/> | <input type="text"/> |

*RESULT CODES:

1. COMPLETED
2. POSTPONED

3. REFUSED

4. OTHER_____

| Interviewer Details | |
|--|--|
| Name of interviewer: _____ | Date: _____ |
| Signature of interviewer _____ | Respondent agrees to be interviewed..... 1 |
| Respondent does not agree to be interviewed..... 2 --END | |

| Interviewee Details | |
|---|--------------------|
| Name of interviewee: _____ | Designation: _____ |
| Department: _____ | Province: _____ |
| District (If applicable): _____ Union Council (If applicable) | |

Page 1 of 6

Assalam-o-Alaikum.

My name is _____. I am conducting a study on stakeholders mapping and data sources for civil registration and vital statistics for the Federal Ministry of Planning Development and Reform. I will ask few questions. Interview may take around 20 minutes.

Part A: Civil Registration

Reporting and Registration of Births, Deaths, Marriage, and Divorce

| No. | Questions | Answer |
|------|--|--|
| 1A01 | Have you ever heard of CRVS? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1A02 | What are the key events registered in Pakistan for CRVS? Answer should cover the followings: Birth Deaths Marriage Divorce <input type="checkbox"/> | Births <input type="checkbox"/> Deaths <input type="checkbox"/> Marriage <input type="checkbox"/> Divorce <input type="checkbox"/> |
| 1A03 | What are the places where a birth or a death can occur? <input type="checkbox"/> | Hospital/Health Facility <input type="checkbox"/> Household <input type="checkbox"/> On route to hospital <input type="checkbox"/> Other _____ <input type="checkbox"/> |
| 1A04 | What are the possible sources to report a birth at the community level? | Household member <input type="checkbox"/> Village Chowkidar <input type="checkbox"/> Lambardar <input type="checkbox"/> Village Council members <input type="checkbox"/> Lady Health Worker <input type="checkbox"/> Community Midwife <input type="checkbox"/> Vaccinators <input type="checkbox"/> Other _____ <input type="checkbox"/> |
| 1A05 | What are the possible sources to report a birth from the Health facility/Hospital? | Hospital Incharge <input type="checkbox"/> EPI Technician <input type="checkbox"/> Lady Health Visitor <input type="checkbox"/> Other _____ <input type="checkbox"/> |

| | | |
|-------------|---|---|
| 1A06 | What are the places where a child can be registered? <input type="checkbox"/> | Schools <input type="checkbox"/> Madras <input type="checkbox"/> Hospitals <input type="checkbox"/> Others _____ <input type="checkbox"/> _____ |
| 1A07 | What are the possible sources to report a death at the community level? | Household member <input type="checkbox"/> Village Chowkidar <input type="checkbox"/> Lambardar <input type="checkbox"/> Village Council members <input type="checkbox"/> Lady Health Worker <input type="checkbox"/> Community Midwife <input type="checkbox"/> Imam Masjid <input type="checkbox"/> Patwari <input type="checkbox"/> Other _____ <input type="checkbox"/> _____ |
| 1A08 | To whom a death in the health facility/Hospital should be reported? | District Health Officer <input type="checkbox"/> District Administration <input type="checkbox"/> Local Govt Office <input type="checkbox"/> Other _____ <input type="checkbox"/> _____ |
| 1A09 | What are the places where a marriage can take place? | Household <input type="checkbox"/> Mosque <input type="checkbox"/> Community centre <input type="checkbox"/> Marriage Hall <input type="checkbox"/> Courts <input type="checkbox"/> Others _____ <input type="checkbox"/> _____ |
| 1A10 | What are the possible sources to report a marriage at the community level? <input type="checkbox"/> | Household member <input type="checkbox"/> Village Chowkidar <input type="checkbox"/> Lambardar <input type="checkbox"/> Village Council members <input type="checkbox"/> Imam Masjid <input type="checkbox"/> Patwari <input type="checkbox"/> Other _____ <input type="checkbox"/> _____ |

| | | |
|-------------|--|--|
| 1A11 | Who can maintain marriage records at the Union Council Level? □ | _____ |
| 1A12 | What are the places where a divorce can occur? □ | Household <input type="checkbox"/> Mosque <input type="checkbox"/> Family Courts <input type="checkbox"/> Others _____ |
| 1A13 | What are the possible sources to report a divorce at the community level? □ | Household member <input type="checkbox"/> Village Chowkidar <input type="checkbox"/> Lambardar <input type="checkbox"/> Village Council members <input type="checkbox"/> Imam Masjid <input type="checkbox"/> Patwari <input type="checkbox"/> Other _____ |
| 1A14 | Who is/should responsible to register births and deaths at UC/District level? | _____ _____ _____ |
| 1A15 | Who is/should responsible to register marriage and divorce at the UC/District level? □ | _____ _____ _____ |

Part B: Vital Statistics

| No. | Questions | Answer |
|-------------|--|-------------------------|
| 1B01 | Who is responsible to maintain the database of vital events at the District level? □ | _____ _____ _____ |
| 1B02 | Who is responsible to maintain database of vital events at the Provincial level? | _____ _____ _____ |

| | | |
|------|---|--|
| 1B03 | Who is responsible to maintain the database of vital events at the Federal level? | <hr/> <hr/> <hr/> <hr/> |
| 1B04 | What are the key vital statistics that can be generated from births and deaths? | Growth Rate <input type="checkbox"/> Crude Birth Rate <input type="checkbox"/> Mortality Rate <input type="checkbox"/> Cause-specific Mortality <input type="checkbox"/> Others _____ <hr/> |
| 1B05 | Which department is/should be responsible for generating vital statistics? | <hr/> <hr/> <hr/> <hr/> |
| 1B06 | Can you share any example on the use of vital statistics in your department or elsewhere? | <hr/> <hr/> <hr/> <hr/> |

| Additional Question Specific to Bureau of Statistics | | |
|--|---|-------------------------|
| No. | Questions | Answer |
| 1C01 | Which data sources are used for the production of annual statistical information on births? | <hr/> <hr/> <hr/> <hr/> |
| 1C02 | Which data sources are used for the production of annual statistical information on deaths? | <hr/> <hr/> <hr/> <hr/> |
| 1C03 | Is there a strategy for promoting wider use of vital statistics? If so is the strategy being implemented? | <hr/> <hr/> <hr/> <hr/> |

| | | |
|-------------|--|----------------------------------|
| 1C04 | Who are the main users of vital statistics data at different levels? | _____ _____ _____ _____ |
| 1C05 | Are vital statistics from civil registration used to check accuracy of data from other sources, such as population censuses? | _____ _____ _____ _____ |

| Additional Question Specific to Department of Local Government | | |
|--|---|---|
| No. | Questions | Answer |
| 1C06 | Is there any formal evaluation of application forms for births, deaths, marriage ever carried out by your department? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C07 | Is the application form for birth, deaths, marriage, and divorce available national language? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C08 | Is the application form for birth, deaths, marriage, and divorce available in regional languages? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C09 | Is there any column/space to write the cause of death in the application form? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C10 | Is mandatory to write/mention cause of death in the application form? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C11 | Is there any processes in place to assess the quality of data from civil registration? | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| 1C12 | Is the consistency of the vital statistics pattern checked over time, including disaggregation comparisons? | Yes <input type="checkbox"/> No <input type="checkbox"/> |

END

That is the end of our questionnaire. Thank you very much for taking the time to answer these questions. We appreciate your help.



DEFINITION OF KEY TERMINOLOGIES

Civil registration

The continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events pertaining to the population as provided through decree or regulation in accordance with the legal requirements in each country. Civil registration is carried out primarily for the purpose of establishing the legal documents provided by law. The usefulness of these records as the best source of vital statistics has been established (United Nations 2001, para. 14).

Vital event

As defined by the UN is “the occurrence of a live birth, death, fetal death (defined as the death of a fetus before birth or extraction from its mother, irrespective of the duration of pregnancy), marriage, divorce, adoption, legitimation, recognition of parenthood, annulment of marriage, or legal separation.”

Vital registration

All sanctioned modes of registering individuals and reporting on vital events. These modes can include registration activities through complementary systems that are not done as part of the civil formal registration system and do not produce legal birth or death certificates.

Vital statistics

Summary measures of vital events drawn from all the sources of vital events data; particularly in a developing country setting, where civil registration functions poorly or not at all. The UN acknowledges that many data sources and systems are used to derive estimates of vital statistics.

Vital statistics system

As defined by the UN is the total process of (a) obtaining information by civil registration or enumeration on the frequency of occurrence of specified and defined vital events, and relevant characteristics of the events themselves; and (b) compiling, processing, analysing, evaluating, presenting, and disseminating these data in statistical form (Setel et al., 2007).

Live birth

The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born (all live-born infants should be registered and counted as such, irrespective of gestational age or whether alive or dead at the time of registration, and if they die at any time following birth, they should also be registered and counted as deaths).

Death

The permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capability of resuscitation).

Foetal death (Stillbirth)

Death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. The death is indicated by the fact that after such separation the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles (note that this definition broadly includes all terminations of pregnancy other than live births. The legal requirements for the registration of foetal deaths vary from country to country).

Cause of Death

All those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstance of the accident or violence, which produced such injuries (WHO, 2011, p31).

Marriage

The act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious or other means as recognized by the laws of each country. Countries may wish to expand this definition to cover civil unions if they are registered; in that case, registered partnership usually refers to a legal contract, registered with the public authorities according to the laws of each country, that leads to legal conjugal obligations between two persons (United Nations 2001, para. 57).

Divorce

Final legal dissolution of a marriage, that is a separation of a husband and wife which confers on the parties the right to remarriage under civil, religious and/or other provisions according to the laws of each country. In the case where a country recognizes registered partnerships, legal dissolution of a registered partnership refers to the legal final dissolution of such a partnership, according to National laws, conferring on the parties the right to re-enter into another partnership or marriage (United Nations 2001, para. 57).

Verbal autopsy

A structured interview with caregivers or family members of households after death occurs; used to determine the probable cause(s) of death where most deaths occur outside of health facilities, and where direct medical certification is rare.

