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A digital solution for strengthening Civil Registration System in Rajasthan

Shafqat Hussain,¹ Dr. Om Prakash Bairwa, IAS²

¹ UNICEF (Rajasthan Field Office) India; shhussain@unicef.org

² Director - Public Services; Joint Secretary - Redressal of Public Grievances Department & Director & Joint Secretary – Directorate of Economics & Statistics (DES), Government of Rajasthan; dir.des@rajasthan.gov.in

Abstract

The United Nations defines Civil Registration and Vital Statistics (CRVS) as the “continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events of the population in accordance with the law”¹. A well-functioning and efficient CRVS system is the foundation on which one can plan and implement effective development strategies. For this to happen the CRVS system must ensure registration of all vital events such as births, deaths, marriages, etc. and issues certificates as a proof of such registrations. Such an information generated through the CRVS system is useful in supporting efficient planning and judicious use of resources for realizing the larger agenda of sustainable development.

In Rajasthan, a state located in the north-western part of the Indian subcontinent, the Civil Registration services include registration of births, deaths and marriages and is governed by the India Registration of Births and Deaths Act 1969, the Rajasthan Registration of Births & Deaths Rule 2000 and the Rajasthan Compulsory Registration of Marriages Act 2009. The data generated by the Civil Registration & Vital Statistics system in Rajasthan is used for updating the single registry system known as the ‘Jan Aadhar’², which ensures seamless flow of over 70 beneficiary-oriented schemes and services in the state. At the back of the civil registration system in Rajasthan is a digital solution titled ‘Pehchan’, which since its inception in 2014 has been instrumental in carrying out over 20 million birth registrations, 5 million death registrations and nearly 2 million marriage registrations in the state³.

Using the Pehchan portal the citizens can apply for registration of the vital event and once the event is registered the beneficiaries can avail the digitally signed copy of the registration certificate either by email, delivered at doorstep, downloadable from the portal or getting a printed copy from the common service centre (E-Mitra) by paying a small user fee. About

¹ For more information visit <https://getinthepicture.org/crvs-decade/what-crvs>

² For more information visit <https://janaadhaar.rajasthan.gov.in/content/raj/janaadhaar/en/home.html#>

³ For more information visit <https://pehchan.raj.nic.in/pehchan1/Mainpage.aspx>



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11,548 Registrars, 3,181 Sub-Registrars, 1,783 Private Hospital, 41 Orphanages and 85,000 E-Mitra Kiosks use this portal daily for registration services.

To ensure universal registration of birth, the Pehchan system is also linked with the Pregnancy, Child Tracking & Health Services Management System⁴, which is the management information system (MIS) being maintained by the health department. For all the birth events that are recorded using the health department system, the information is seamlessly synchronized with the Pehchan system so that appropriate steps can be taken for pro-active registration of missed events, if any. The Pehchan system is also being used by the State Election department for updating the electoral roll on a real time basis. The Pehchan system is further supported by Raj eVault⁵ and DigiLocker⁶ facilities for storing of digitally signed certificates.

Pehchan has strengthened the Civil Registration & Vital Statistics system in Rajasthan, which is reflected in the increase in the total number of birth registration from 17,51,191 in 2014 to 19,02,140 in 2022, increase in death registration from 397,468 in 2014 to 471,769 in 2022 and increase in marriage registration from 61,544 in 2016 to 399,649 in 2022⁷. Between 2017 and 2021 the birth registration in the state has improved from 90 to 96 percent and the death registration has improved from 90 to 98 percent. What is more remarkable is the improvement in timeliness of birth registration – for institutional births the registrations after 30 days of occurrence of the event has reduced from 9.3 percent in 2017 to 3.8 percent in 2021, for non-institutional births the registrations after 30 days of occurrence of the event reduced from 73 percent in 2017 to 20 percent in 2021. The system is now placing significant focus on strengthening marriage registration as well as the Medical Certification of Cause of Death (MCCD), which emerged as a priority during the COVID-19 pandemic. The indigenously developed Pehchan portal also holds replication potential and has received expression of interest from few state governments within India.

Keywords: Pehchan Rajasthan, Digital Solution for CRVS

⁴ For more information visit <https://pctsrjmedical.rajasthan.gov.in/private/login.aspx>

⁵ Raj eVault is a digital document manager that provides digital verification platform for official documents and certificates, hence, reducing the need of tedious paperwork. For more information visit <https://evault.rajasthan.gov.in/rajevault/>

⁶ DigiLocker is a flagship initiative of Ministry of Electronics & IT, Government of India. It aims at digital empowerment of citizens by providing access to authentic digital documents to citizen's digital document wallet. It is a secure cloud-based platform for storage, sharing and verification of documents and certificates. For more information visit <https://www.digilocker.gov.in/>

⁷ Data on Civil Registration as recorded in Pehchan portal and reported under the 'Report on Vital Statistics of India based on the Civil Registration System' prepared by the Office of the Registrar General of India. For more information visit <https://censusindia.gov.in/census.website/data/VSREPORT>



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Introduction

The United Nations defines Civil Registration and Vital Statistics (CRVS) as the “continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events of the population in accordance with the law”⁸. Strong CRVS systems are key to efficient public service delivery as well as monitoring and improving government services and many SDG goals, notably improved child mortality, maternal health and other health services (SDG 3), gender equality (SDG 5), better education (SDG 4), decent work (SDG 8), reduced inequalities (SDG 10), sustainable cities (SDG 11) and justice (SDG 16).⁹

In India, the enactment of the Registrations of Births and Death Act (RBD Act) in 1969 was a step towards making the system of registration of vital events uniform across all states. The focus was on strengthening the service delivery system at national, state, district and sub-district levels through timely generation of vital statistics that can be used by the government for evidence-based planning, monitoring and designing new programmes for the welfare of the community at large. For the citizens, registration served as a useful legal document for identification, property inheritance, etc.

Despite the passing of this landmark Act in 1969, according to the ‘Vital Statistics of India based on the Civil Registration System’ report 2019¹⁰, at the national level the level of registration of birth was 92.7 percent and the level of registration of death was 92 per cent. With the national government committing itself to the Ministerial Declaration to ‘Get Every One in the Picture’ and thereby achieve universal registration of birth and death by 2024, the focus is fast shifting on the state governments to adopt innovative ways and embrace technological solutions that make processes simpler, efficient and more transparent for everyone.

Rajasthan, which is a state located in the north-western part of the Indian subcontinent, is the largest state by land area and seventh largest by population. In Rajasthan, the Civil Registration services include registration of births, deaths and marriages and is governed by the India Registration of Births and Deaths Act 1969, the Rajasthan Registration of Births & Deaths Rule 2000 and the Rajasthan Compulsory Registration of Marriages Act 2009. The registration and generation of vital statistics processes are led by the Directorate of Economics & Statistics (established under the Planning department) and is characterized by the contributing roles of various line departments such as the Medical & Health, Women and Child Development, Rural Development & Panchayati Raj, Information & Communication Technology, and the Urban Development departments. To make the processes more citizen friendly and improve the timeliness of the registration, a notifier system has also been

⁸ For more information visit <https://getinthepicture.org/crvs-decade/what-crvs>

⁹ For more information visit <https://blogs.worldbank.org/opendata/civil-registrations-and-vital-statistics-its-not-just-important-its-matter-life-and-death>

¹⁰ For more information visit <https://censusindia.gov.in/census.website/data/VSREPORT>



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introduced. As part of this system, the field level functionaries of the line departments (mentioned above) keep a track of the vital events occurring in their respective work jurisdiction and inform the concerned registrar so that pro-active steps can be taken to register these events. The CRVS system in the state is well-established with clear delineation of roles and responsibilities, which is reflected in 96.4 percent registration of births and 98.6 percent registration of deaths as per the Vital Statistics of India based on the Civil Registration System report 2019.

However, this was not always the case. In 2013, in addition to the low coverage there was a growing realization that the data does not reflect on the timeliness of registration, issues persisted with regards the completeness and accuracy of data owing to the manual system of recording of events, there were issues related to inefficiency in monitoring and a generic lack of transparency. Driven by the vision of developing an IT-enabled civil registration system that not only helps in providing timely and accurate data on birth, death and marriages but also brings in transparency and uniformity in the registration system adopting a citizen centric approach, the Government of Rajasthan launched 'Pehchan' in 2014. Pehchan was also envisaged as an essential pre-requisite that can fuel the holistic functioning of various e-governance initiatives thereby integrating them into a collective vision and a shared cause.

Methods

Pehchan, which in English means 'Identity', was introduced as an online system with a dual purpose of timely registration of birth, death and marriages as well as effective monitoring of the entire system.

It was in early 2013 that the idea was first conceptualized to bring about a uniform integration of all urban and rural units designated for registration purpose in the state into one single web-based platform to deliver a wide range of services including online registrations, delivering information, quick transmission of statistical data from ground level to the state level for monitoring purposes and for resolving grievances. The purpose was to build a model that can offer Government to Citizen (G2C), Government to Government (G2G) and Government to Business (G2B) services using a single web-based platform.

A major bottleneck, however, was the lack of experience and technical capacities in the state to develop an application of this nature and that too at a scale. Therefore, the Directorate of Economics and Statistics approached National Informatics Centre (NIC), which is an entity of the Government of India established under the Ministry of Electronics and Information Technology and tasked with the responsibility of architecting, designing, developing and implementing IT systems and services for the central government departments and state governments. As the NIC had already supported the facility to provide digital birth certificates in urban areas of the state it readily agreed to undertake the task of developing a new web-

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portal which could cover both urban and rural areas and provide an end-to-end digital solution for civil registration services. The financial resources for this purpose were secured under the World Bank funded 'Support for Statistical Strengthening Project (SSSP)' being implemented by the Government of India across the states. A rapid study was conducted to understand the requirements for building this system and by September 2013 the software was ready for pilot testing. The Pehchan Application was developed in ASP.Net with C# and JAVA Script using Framework 4.0 and the backend database in SQL Server 2012 and Far DR site in Delhi. While developing the system it was kept in mind that it should be of a nature that it can be used as a ready product by any other Indian state that wishes to create a similar system thereby saving the core system development efforts. It is worth mentioning here that the Pehchan system has already been adopted by Assam, which is a state in north-eastern India and similar request for support has been received from Chhattisgarh, which is a landlocked state located in central India, and Jharkhand, which is a tribal state also situated in the central India.

The pilot testing phase, which included provisions for registering only 'births and still births', was launched in Ajmer district on 26th September 2013. All Registrars and Sub-Registrars were provided Username and Passwords and instructed to completely stop all manual processes related to registration and issuing of certificates. Initially there was lot of resistance, especially from the registrars/ sub-registrars from rural units, especially due to challenges related to the use of web application and internet connectivity. However, gradually with regular training and hands-on support everyone came on board. Thereafter the scope of pilot was expanded to cover two additional districts, i.e., Kota and Sikar. Based on the successful execution of the pilot phase, the government officially launched the state-wide implementation of Pehchan from 1st January 2014. This was followed by marathon round of trainings covering officials and functionaries at state, district, sub-district and village levels. A dedicated toll-free centralized help line was established, and video conferencing sessions were regularly organized to provide continuous support in resolving issues at district and below levels.

Pehchan is now a fully functional and well-established system with the following key features:

- Facility for online registration by public and private health institutions, rural and urban local bodies, orphanages, and citizens using either dedicated dashboard, mobile application and/or citizen service kiosks known as E-Mitra in Rajasthan
- Provision of digital/ E-Signed Certificate which is delivered to the applicant by email or doorstep delivery of the certificate in hardcopy upon payment of nominal postage fee. The same can also be obtained from any E-Mitra kiosk by paying a nominal user fee.
- Minimized duplication of registration through Aadhaar¹¹ enabled registration
- Issuing a unique registration number for each registration across the state

¹¹ Aadhaar number is a 12-digit random number issued by the UIDAI ("Authority") to the residents of India after satisfying the verification process laid down by the Authority. For more information visit <https://uidai.gov.in/en/my-aadhaar/about-your-aadhaar.html>

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- Option to maintain legacy registration
- Facility for bilingual registration certificate
- Availability of real time progress reporting, generation of periodic progress reports including user-defined analytical reports and real time availability of vital statistics for government
- Facility to register adopted child
- Birth registration of foreign national's child settled in India under Section 20 of Rajasthan Birth & Death Registration Rules
- QR code implementation on all certificates for easy verification
- Certificate repository in Raj E-Vault (a centralized server of the state government for storing and retrieving digitally signed certificates)
- SMS alerts to citizens (facility for citizens to receive updates on application/ objection/ registration as well as SMS based appointment to groom and bridegroom for the date of physical presence at the Registrar office for marriage registration)
- Toll free No. 1800-180-6785 for help and support for citizen
- Facility of using artificial intelligence NIC Chat Interface (NICCI) for public assistance

Results

Since its inception in 2014, the Pehchan portal has been instrumental in carrying out over 20 million birth registrations, 5 million death registrations and nearly 2 million marriage registrations in the state¹².

The total number of birth registration has improved from 17,51,191 in 2014 to 19,02,140 in 2022, increase in death registration from 397,468 in 2014 to 471,769 in 2022 and increase in marriage registration from 61,544 in 2016 to 399,649 in 2022¹³. Between 2017 and 2021 the birth registration in the state has improved from 90 to 96 percent and the death registration has improved from 90 to 98 percent. What is more remarkable is the improvement in timeliness of birth registration – for institutional births the registrations after 30 days of occurrence of the event has reduced from 9.3 percent in 2017 to 3.8 percent in 2021, for non-institutional births the registrations after 30 days of occurrence of the event reduced from 73 percent in 2017 to 20 percent in 2021.

The following charts (Figure 1 – 3) depict the trends in the level of registration of births and deaths that reflect on the improvements made in improving the coverage and addressing issues related to registration within stipulated time or the window of opportunity when the

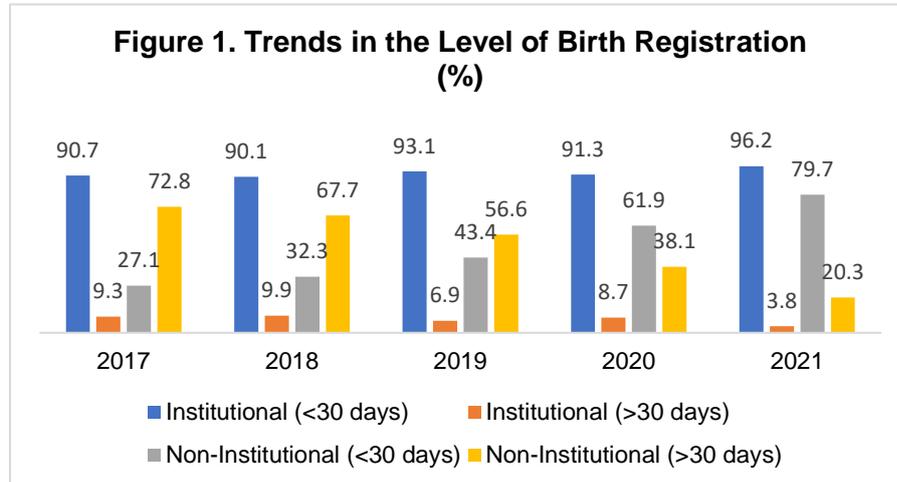
¹² For more information visit <https://pehchan.raj.nic.in/pehchan1/Mainpage.aspx>

¹³ Data on Civil Registration as recorded in Pehchan portal and reported under the 'Report on Vital Statistics of India based on the Civil Registration System' prepared by the Office of the Registrar General of India. For more information visit <https://censusindia.gov.in/census.website/data/VSREPORT>

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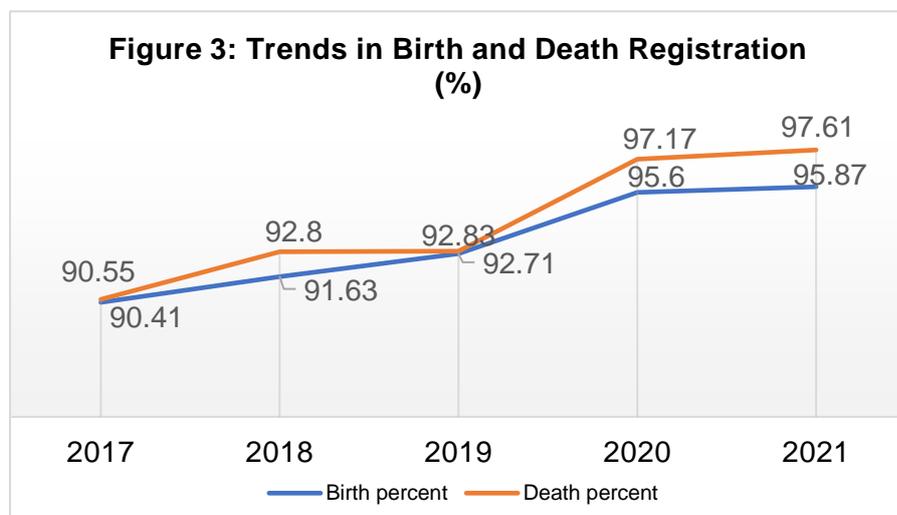
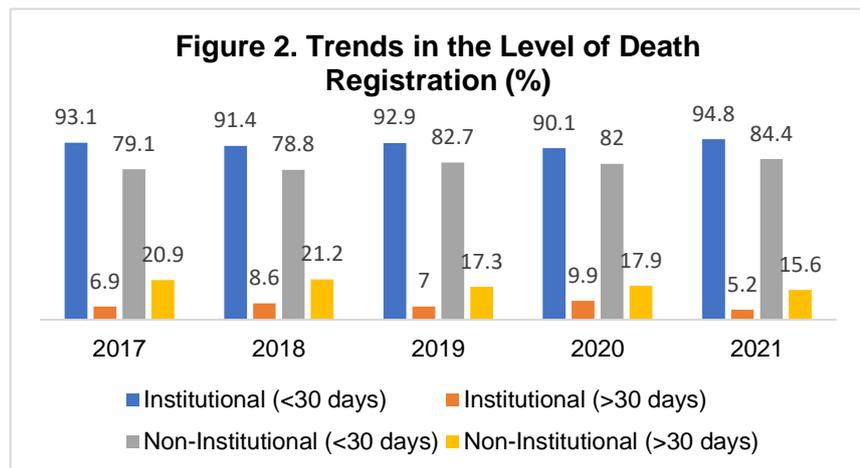
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registration processes are free of any penalty or fine that needs to be paid by the user once this period is exceeded.



The level of registration (births) in institutional setup improved by nearly 5 percentage points and in non-institutional setup by 53 percentage points

The level of registration (deaths) in institutional setup improved by nearly 2 percentage points and in non-institutional setup by 5 percentage points



The level of registration (births) improved by nearly 6 percentage points and level of registration (deaths) improved by nearly 7 percentage points between 2017 and 2021



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Data Source: Data on Annual Vital Statistics compiled by the Directorate of Economics and Statistics, Government of Rajasthan

For the civil registration officials and functionaries, the facility has removed the need for maintaining physical registers because all the data is now available online and registration certificates are issued without any manual intervention. Further, the existence of signed certificates in E-Vault has made retrieving the information much simpler and easier.

For administrative authorities, the system has become efficient because of the faster transmission of information from one administrative unit to another thereby strengthening the monitoring and accountability measures. The system has brought the required transparency which was sought at the time of conceptualization of the online system. The real time availability has made data analytics of vital statistics feasible and quicker.

For citizens, the facility provides big relief from running in and out of registration units and following-up with the officials for the status of their applications. Digital service delivery has nearly eliminated the long queues at the registrar offices. Families get birth certificates at the time of discharge from the hospital or conveniently via e-mail or doorstep delivery. They can track the progress online and can get information through SMS and E-mail. Mobile Application has given them the liberty to submit their applications sitting from the comfort of their home. They have enhanced access to information and interactions with government agencies which has led to both efficient service delivery and transparency in dealings.

In matters related to insurance claims related to death, the insurance companies can now settle the claims by verifying the death certificate through QR code.

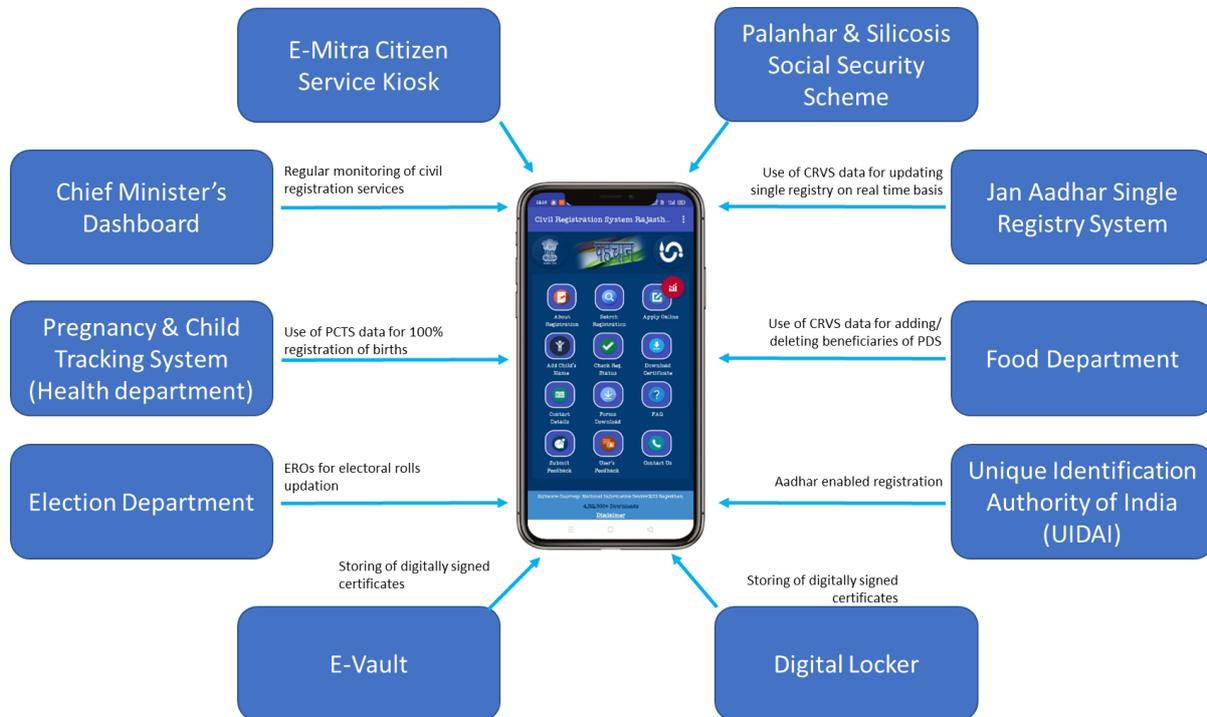
Further as depicted below in Figure 4, the Pehchan System serves as an important data source for improved delivery of government services through real time integration with other data systems. For instance, the Pehchan system is also linked with the Pregnancy, Child Tracking & Health Services Management System¹⁴, which is the management information system (MIS) being maintained by the health department. For all the birth events that are recorded using the health department system, the information is seamlessly synchronized with the Pehchan system so that appropriate steps can be adopted for pro-active registration of missed events, if any. The information generated via Pehchan is also being used for updating the state's single registry system 'Jan Aadhar' on a real time basis. The election department and food and civil supplies departments are also using the Pehchan data for updating their beneficiary list.

¹⁴ For more information visit <https://pctsrjmedical.rajasthan.gov.in/private/login.aspx>

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Figure 4: Integration of Pehchan with our data systems



Discussion

Despite the significant gains made, there also remain challenges that need to be addressed especially given the context that Rajasthan is a diverse state with large tracts of remote and hard-to-reach areas in the western-desert, southern-tribal and eastern-ravine regions of the state. The internet connectivity still contributes to the delay in registration and sometimes missed registration of events especially the one that take place in non-institutional setting. An option needs to be explored to create an offline entry facility which can be pushed in the web portal as soon as there is a stable internet connection. Delayed registration is also a challenge due to lack of awareness of citizens about the importance of timely registrations. This is more so in rural and remote areas where literacy levels are low, and relatively less awareness exist about the facilities provided by the government. For citizens, delayed registration of either birth or death event results in non-accessibility to various government benefits and legal procedures. For government, it results in non-accurate vital statistics and hindrances in syncing with interlinked databases. The quality of data generated through civil registration process is another area that can be further strengthened through inter-operability of data systems generating similar information¹⁵.

¹⁵ Pehchan – Simplifying the Civil Registration in Rajasthan Digitally, Oct-Dec 2018/ Informatics.nic.in

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Conclusion/Recommendations

The indigenously build ‘Pehchan’ system holds significant potential for states willing to strengthen the coverage of civil registration services and the use of data and information generated through the civil registration system. For Rajasthan government, which places significant emphasis on E-Governance, Pehchan system acts as the fulcrum that drives the entire citizen centric proactive service enablement through integration of Pehchan with Jan Aadhar and other service gateways. Investments in improving the timely registration of services, last mile coverages and expanding the scope of vital events that can be captured using this institutionalized mechanism would further add value to this innovative solution. The following next steps emerge as important for the state government to further invest in strengthening the Pehchan system:

- Explore offline module for Pehchan that enables storing of registration information offline and allows for pushing it as soon as there is internet connectivity. This would address the issues related to delays and missed reporting of events
- Focus on strengthening the quality of data being reported through this system, including exploring inter-operability of data for minimizing duplication of data, and generate reports on vital statistics on a regular basis
- Development and implementation of e-modules for training and capacity building of the vast network of registrars, sub-registrars, notifiers, etc.
- Increased allocation for Information, Education & Communication (IEC) for awareness generation and demand creation to improve timely registration of vital events
- Facilitate AADHAR-linked birth registration through linking of Pehchan database with the national unique identity system, i.e., AADHAR