How effective are interventions which seek to improve access and quality of civic infrastructure and amenities? What are the key characteristics of successful interventions in urban areas?: Contextualisation of Evidence Summary findings to Nepal

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Research Question

How effective are interventions which seek to improve access and quality of civic infrastructure and services? What are the key characteristics of successful interventions?

Background

With the rapid pace of urbanisation, provision of civic infrastructure services has become quite important. The importance of civic infrastructure in health and well-being of urban population and the adverse impacts of poor infrastructure on economic development was identified and thus given special attention in the Millennium Development Goals (MDGs) in 2000 and further Sustainable Development Goals (SDGs) in 2015. Under the guidelines laid out by MDGs and SDGs laid by the United Nations, governments have implemented various interventions that seek to improve the provision of civic services. The present evidence summary analyses the systematic reviews in different infrastructure sectors during the period 2000-2016 focussing on Low and Middle Income countries (LMIC). The study focuses on the systematic reviews in water supply, sanitation, electricity, telecom and road & public transportation sectors. In this evidence summary, we have summarised the findings of the results of the systematic reviews on the interventions that were effective in improving outcomes with respect to access and quality of civic infrastructure. Six interventions were considered namely public private partnerships, physical infrastructure investments, institutional and regulatory reforms, urban planning interventions, developmental & multi-lateral agencies participation and community & non-governmental organisation based interventions. The outcomes of access and quality are considered for the above interventions.

There is a growing debate and discussion on policy transfer highlighting the effectiveness of policy substantially depends on the context. The synthesis reviews are expected not only to provide evidence on the effectiveness of interventions but also decipher the causal linkages highlighting "Why interventions worked?" and "What are the conditions inhibiting or enabling the interventions". This will provide indication to policy makers on settings to be created for effective policy implementation and missing dimensions of policy setting that can be investigated by primary researchers as well as systematic reviewers. This evidence summary also interprets the findings from the synthesis in the context of South Asia, with specific reference to Nepal.

Contextualisation

The contextual factors that were taken into account in the evidence synthesis in the SRs can be broadly classified into two categories: one related to population segments considered and the second based on the geographical region from where the primary evidence was obtained. Population segmentation can be based on social strata or on the population life cycle. Eight of the SRs had synthesized the evidence for social segments and only seven of the SRs had synthesized the evidence on the basis of population lifecycle segments. More than fifty percent of the SRs included in this evidence summary (i.e., 14 of the 27 SRs) did not synthesize the evidence separately for different population segments. Among the social segment, the synthesis was most frequently done for rural segment, whereas in the lifecycle segment, the evidence was most often synthesized for children. On the whole, our findings indicate that the context of population has not been adequately considered in the SRs included in this summary.

Inclusion of region as a context was also very limited. Only six of the 27 SRs have synthesized the evidence separately by region. While the SRs were limited to evidence only from developing countries, there are

significant differences in context between different developing country blocs such as Latin America, Asia, Africa, Eastern Europe and so on. Considering the regional context in interpreting the findings would enhance the validity of the findings. While synthesizing the evidence by different region can increase the relevance of the findings, it would be limited by the number of primary studies available for each region. Since many of the primary studies in infrastructure also use multi-country data in their analysis, the SRs may not able to incorporate the regional context in the synthesis, unless region level findings are available in the primary studies. Since there has been limited use of contextual variables in the analysis both in the primary studies as well as the systematic reviews, we have contextualised the findings of the evidence summary by understanding the political, geographical and physical features of the country and interpreting the findings of evidence summary in a way that can have relevance for the targeted country. In this report, we have contextualised the findings of the evidence summary for Nepal.

We also took aid of the evidence present in the systematic reviews to support our contextualisation. Among the SRs included in this evidence summary, 12 SRs have direct reference to the studies from Nepal. Out of these 12 SRs, 4 SRs have reviewed studies related to Sanitation sector (Birdthistle et al, 2011; Heijnen et al, 2014; Annamalai et al, 2016; Waddington et al, 2009), 7 SRs dealt with provision of water (Waddington et al, 2009; Taylor et al, 2015; Dangour et al, 2013; Annamalai et al, 2016; Bain et al, 2014; Hepworth et al, 2013; Hughes et al 2013), 2 SRs have reviewed studies related to electricity sector (Bensch et al, 2016; Annamalai et al, 2016) and 2 SRs dealt with roads sector (Hine et al, 2016; Petrosino et al 2012). Further, from the quality of evidence present in the SRs, the SRs had QAT scores ranging from 70 to 105. Though there are only 12 SRs with direct reference to studies from Nepal, the findings from other SRs would be useful to Nepal as well due to the similarities in the economic development, since this evidence summary included SRs focussing only on LMICs. Incidentally, 20 of the 27 included SRs had references to Asian countries, particularly to South Asian countries and thus the results of such studies could be quite relevant to Nepal as well.

Short background on Nepal

Nepal, is a landlocked country and extremely diverse. It comprises three main geographic regions; the mountain region, the hill region and the Terai region, with a variety of structures ranging from mountains to valleys and plains. Nepal is highly susceptible to natural disasters, and recovery is slow, as evidenced by the Nepal earthquake (UNDP, 2017). Nepal is ranked in 98th position out of 138 countries in the recently released Global Competiveness Index (GCI) (Schwab, 2016: 274). Moreover, Nepal is in the bottom rank within South Asia region in infrastructure, innovation, business sophistication and technological readiness according to the GCI report (ibid, 18). Table 1 provides a snapshot of the key socio-economic indicators of Nepal and also compares with the global indicators. It can be seen that on many of the indicators Nepal fares poorly when compared to the global average.

Table 1 Key socio-economic indicators of Nepal in comparison to global average

Indicators	Unit of measurement/ expression	Nepal	World Average
Demographic Indicator			
Population in 2015	In millions	28.5	7340
Population density in 2015	Number of people per square km	199	56.63

Population growth rate	Percentage change from 2014 to 2015	1.2%	118.5%
HDI (2014)	Index	0.54	-
BPL population in 2014	Percentage of population	25.20%	-
Rural population in 2015	Percentage of population	81%	46.14%
Population living in slums in 2014	Percentage of population	54%	-
Literacy rate of 15-24 year olds in 2015	Percentage of population	89.90%	-
Health Indicator			
Infant Mortality Rate in 2015	For every 1000 births	29	31.7
Maternal Mortality Rate in 2015	For every 100,000 births	258	216
Health expenditure in 2014	Percentage of total expenditure	40.30%	60.00%
Life expectancy at birth in 2015	In years	70	71.676
Environment Indicator			
Total greenhouse gas emissions	Percentage change from 1990 to 2015	62%	40%
CO2 emissions in 2013	Metric tonnes per capita	0.2	4.9
Social Indicator			
Mobile phone subscriptions in 2015	Per 100 people	97	98.3
Electric power consumption in 2014	kWh per capita	140	3144.37
Access to electricity in 2014	Percentage of population	84.90%	85.50%
Access to sanitation in 2015	Percentage of population	46%	67.50%
Economic Indicator			
GDP per capita in 2015	US$	743.3	10,112
GDP growth rate (annual)	Percentage	3%	2.72%

***Source**: World Bank Indicators (http://data.worldbank.org/indicator)*

Nepal was a Hindu kingdom ruled by a monarchy until 2006, after which the powers of the king were curtailed and Nepal was made a democratic country formally by the passing of a Bill in 2008 (GON, 2017:1). A long civil war and political uncertainty has considerably weakened the economic condition and the investment climate in the country. Caste based social inequalities have been one of the primary reasons for conflict in the country, with the previous monarchy chastised for being 'feudal', after having catered largely only to upper-class urban interests. Landlessness, no access to political participation, a lack of financial support have largely been seen as key elements that developed as catalysts to conflict in the region (Wennmann, 2009). While there have been constitutional and legal amendments that focus on gender equality and inclusion, discriminatory attitudes and social norms have hindered women's progress and participation on a number of spheres (Asian Development Bank, 2010).

Apart from this, predicaments such as high rate of inflation, low tax compliance and mounting deficits are causing the country to plummet to economic impotency (World Bank, 2011). In order to achieve the SDG goals within the stressed economic environment and limited government resources it is important for Nepal to collaborate with private, co-operative and civil society sector. While civil society and co-operatives with six million members have made some significant inroads the inclusion of private sector can be possible with better investment climate, easier administrative processes, liberalised labor laws and

improved infrastructure (GON, 2017: 10). Nepal has an access to information legislation in place since 2007 yet the implementation has been very slow and mostly inadequate (Article 19, 2015). Transparency International's Corruption Perception Index (CPI) has Nepal ranked at 131 among 176 countries (TI, 2017). Corruption is deep rooted within the central and local bodies which allocates billions of rupees for development work (Bhattarai, 2011). In order to increase the rate of growth and infrastructure development in Nepal it is important to strengthen accountability, transparency and good governance mechanisms.

Effective Interventions for Nepal

Nepal has a week investment climate, poor economic condition and 81% of the population lives in rural areas (World Bank, 2017). Multilateral agency and community organisations are two important actors that can play a leading role in improving the infrastructure scenario. The key for successful intervention lies in balancing out roles and close collaboration between these two agencies.

Big multilateral organisations such as the World Bank, Asian Development Bank and the United Nations have assumed an active role in Nepal's growth. They have been involved in democratic, human rights and investment causes in the country in addition to dealing with situations such as natural disasters (Bhandari, 2014). However, a criticism with regard to functioning of multilateral organisations include poor problem assessment and funding of projects which are not the key issues of Nepal (Bhandari, 2014). The working of the multilateral agencies can be made more effective if they have close partnership with community based organisations. Community based organisations have the expertise of micro planning at par with local needs along with local populations, non-governmental organisations and other stakeholders. The involvement of the community is also important for maintenance and sustainability of the infrastructure as it has emerged from the findings of this study. These are effective tools and could be used for building effective infrastructure projects in the country. In the rural areas, collaboration between these two agencies can provide successful interventions in water supply, sanitation, health and education projects. Such sentiments were expressed by the systematic reviews which dealt with urban planning, institutional and regulatory reforms and multilateral institutions interventions in their studies (3 SRs had references to such interventions). This is further reinforced by other SRs that focus on South Asian countries. Thus, such findings become quite relevant to the context of Nepal.

The planning and implementation of any infrastructure project for water, sanitation, health or education intervention needs a conducive environment. However, most infrastructure projects in Nepal either remain incomplete, or delayed due to corruption and are not strong enough to overcome adverse externalities (Ali & Pernia, 2003). Lack of corruption and effective transparency mechanisms are key components for successful interventions (Annamalai et al, 2012). Transparency indicators can be enhanced by periodic monitoring of infrastructure, improved data collection and ensuring compliance to standards. Multi-lateral agencies play an important role in a number of developing countries for ensuring transparency standards. One SR from the sanitation sector with studies included from Nepal had evidence pointing towards this. The World Bank has stringent transparency procedures to be followed by the client country as a clause for initiating big development projects. While Nepal has adopted a strong legislative framework, there has been a shortfall in the implementation. The political will among the government to ensure transparency and good governance are major steps towards ensuring an amicable environment for participation of multilateral and private agencies.

In Nepal it has been noticed that that Public Private Partnerships (PPPs) are much more successful at the local level. There is strong evidence that PPPs have been quite successful at the municipality level and other such civic levels in the country (Ullah, 2014). In 2015, Nepal drafted a PPP policy that gives private enterprises the power to work in areas pertaining to physical infrastructure, transport, electricity, information and communication, waste management, environment management and infrastructure related to education and health. Government support and incentives are necessary for PPP to thrive in rural and far flung areas. There should also be an intensive cost recovery policy accompanied by measures to incentivise cost minimisation to promote infrastructure investment projects.

Urban planning is also an important area of intervention especially in major metropolis like Kathmandu, along with interventions like financial support from multilateral funding organisations and community participation. Nepal has recognised the need for phased urban planning due to the positive externalities, in the form of poverty reduction, bestowed by this intervention. Right from the 10th Five Year Plan of the country, the focus of the country has been extensively on urban planning, but numerous challenges have been faced along the way (Dhakal, 2012). Community participation through improved knowledge of local and social conditions and inclusive decision making with local stakeholders, NGOs and CBOs are important steps for successful urban infrastructure. A study in 2005 identified 137 slum neighbourhoods in Kathmandu, with 6,985 households and 31,463 people (UN. n.d). In order to effectively upgrade the slums apart from community participation there should be stable policy context for slum up gradation, firm commitment from government to address housing problems and poor infrastructure, defined legal status and promotion of innovative interventions.

For successful infrastructure in Nepal, maintenance cost has to be reduced in addition to innovative technology and attention to gender equity. Local and social knowledge is mandatory preparatory groundwork that must be done during the planning stage. In the context of disaster prone topography of Nepal, it is important that access to insurance, credit and capacity building for sustenance be included from the planning stage. To ensure sustainability of the infrastructure, the implementing agency should ensure community ownership and hand-hold the community about maintenance. It may also be noted that the present evidence summary points to the fact that more specific studies related to various civic infrastructure sectors are needed in the contexts like Nepal to objectively determine the areas of concern and possible interventions that could be effective.

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