Urban Housing Reconstruction Status Paper

March 2021

Report by:

HRRP Housing Recovery and Reconstruction Platform

Funded and Supported by:

CRS

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About HRRP

The Housing Recovery and Reconstruction Platform (HRRP) was established in December 2015 to take over supporting coordination of the post-earthquake housing reconstruction from the Nepal Shelter Cluster, as it returned to the pre-earthquake format as a standard cluster. HRRP provides coordination support services for the National Reconstruction Authority (NRA), Building and Grant Management and Local Infrastructure (GMALI) Central Level Project Implementation Units (CLPIUs), other relevant government authorities, and Partner Organisations (POs). HRRP is currently in its fourth phase and will continue its coordination services until July 2021. HRRP is primarily funded by DFID Nepal and led by CRS Nepal with technical leadership from NSET.

The HRRP works at municipal, district, sub-national, and national levels, providing support primarily to the 14 districts most affected by the earthquake, as well as roving support to the 18 districts moderately affected by the earthquake.

Areas of Focus

The HRRP's main areas of focus are:

- Monitoring and documenting the housing reconstruction process.
- Facilitating coordination and experience sharing to support improvements in coverage and quality of socio-technical assistance.
- Supporting collective planning and roll out of additional support for vulnerable households.
- Addressing gaps and duplications.
- Advocacy, communications, and research.

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ACRONYMS

CBS	Central Bureau of Statistics
CLPIU-Building	Central Level Project Implementation Unit/Building
CLPIU/GMaLI	Central Level Project Implementation Unit/Grant Management and Local Infrastructure
COVID-19	Coronavirus Disease, 2019
CRC	Community Reconstruction Committee
CRS	Catholic Relief Services
DAO	District Administration Office
DCC	District Coordination Committee
DLPIU-Building	District Level Project Implementation Unit/Building
DLPIU/GMaLI	District Level Project Implementation Unit/Grant Management and Local Infrastructure
DoLRM	Department of Land Reform and Management
DoA	Department of Archeology
DoS	Department of Survey
DTCO	District Treasury Controller Office
DUDBC	Department of Urban Development and Building Construction
FGD	Focus Group Discussion
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
CNI	Confederation of Nepalese Industries
FY	Fiscal Year
GoN	Government of Nepal
HRRP	Housing Recovery and Reconstruction Platform
I/NGOs	International Non-Governmental Organization
IFRC	International Federation of Red Cross and Red Crescent Societies
KVDA	Kathmandu Valley Development Authority
KVPT	Kathmandu Valley Preservation Trust
LGOA	Local Government Operations Act, 2017
LGs	Local Level Governments
MFIs	Microfinance Institutions
MoUD	Ministry of Urban Development
MoFAGA	Ministry of Federal Affairs and General Administration
MoHA	Ministry of Home Affairs
MuAN	Municipality Association of Nepal
NDRRMA	National Disaster Risk Reduction and Management Authority
NPC	National Planning Commission
NGOs	Non-Governmental Organizations

ACRONYMS

NRs	Nepalese Rupees
NRA	National Reconstruction Authority
NRA EC	National Reconstruction Authority Executive Committee
NRB	Nepal Rastra Bank
NSET	National Society for Earthquake Technology
NUDS	National Urban Development Strategy
PDNA	Post Disaster Needs Assessment
PDRF	Post Disaster Recovery Framework
PO	Partner Organization
RCC	Reinforced Cement Concrete
RM	Rural Municipality
SAP	Structural Analysis Program
SDG	Sustainable Development Goals
SMC	Stone Masonry in Cement Mortar
SMM	Stone Masonry in Mud Mortar
SOP	Standard Operating Procedure
STA	Socio-Technical Assistance
TVET	Technical and Vocational Education and Training
UM	Urban Municipality
UNFPA	United Nations Population Fund
UR-TWG	Urban Reconstruction Technical Working Group
USAID	United States Agency for International Development
USD	United States Dollar
VDC	Village Development Committee

FIGURES

FIGURES

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1. Introduction

1.1 Objective of the Paper

This status paper has been prepared by HRRP with the objective of providing an overview of progress in urban housing reconstruction to date, as part of the ongoing Post-earthquake recovery efforts in Nepal. The paper documents challenges and successes of reconstruction beneficiaries and retrofitting beneficiaries.

The paper provides a short background of urban context of Nepal, which helps in understanding of three concepts-urban, urbanization and urbanism. Furthermore, it gives an overview of how various Municipalities/Palikas are classified in Nepal. Also, HRRP's concept of urban wards are defined in greater detail in this paper. A brief summary of urban housing issues before the Gorkha earthquake is provided for readers for understanding of inherent issues that is now repeated in urban housing recovery.

Nepal's official earthquake recovery phase is going to end with disengagement of the National Reconstruction Authority (NRA) by the end of 2021. However, private housing recovery of urban areas is still far behind. This fact has been highlighted through various statistics, research and maps. These resources show achievements and gaps in urban housing recovery till date. It is hoped this will help in prioritization of geographic areas at the three levels of government (federal, provincial and local level) in the next phase of future interventions post NRA tenure.

Urban recovery activities will have to be conducted also in historic settlements of Kathmandu valley. Therefore, a dedicated Chapter Four, introducing characteristics of historic settlements is also provided for the readers, in this paper. Nepal will have to undertake urban recovery as well as urban development together in coming years. Hence, it would be logical to have an understanding of national and international policies, acts, agreements and documents related to urban development. A separate, Chapter Three is dedicated to give a brief description for these important documents.

Towards the final chapters, this paper shows challenges in Nepal's urban housing recovery process and proposes next steps.

Limitations: One area that this paper does not cover is renters and informal urban settlements in urban sectors due to a lack of information on this topic.

Urban recovery will still continue in future, hence this is a living document that can be updated and improved as and when required. This version is an update to the earlier Status Paper published in 2018[1] by HRRP.

[1] HRRP, Urban Housing Reconstruction Status Paper, 2018, https://bit.ly/3qTG96Z

1.2 Transition to HRRP4 and how urban issues were addressed by HRRP

The Housing Recovery and Reconstruction Platform- Nepal (HRRP) has been collaborating with NRA and various partner organizations on urban recovery and reconstruction. It has been recognized that urban recovery is more complex, needs increased attention and support. Hence urban recovery will require a longer timeframe for completion. The HRRP's Phase 4 (HRRP4) (August 2019-July 2021) funded by the UK Department for International Development (DFID) and Catholic Relief Services (CRS) was launched in August 2019. Building on the past lessons learned, HRRP4 covers all 32 earthquake-affected districts, with its focus on urban recovery and emphasizes engagement with municipal-level governments. In a major change from the previous Phase 3 (i.e. HRRP3), in HRRP4, each District Coordination Team (DCT) covers a cluster of districts instead of just one district.

Since the formation of HRRP, its key role has been coordination and advocacy. The HRRP4 has been designed to build on the core activities and outputs under HRRP3, but with a focus on greater localisation of the recovery, capacity building of key local actors in recovery and an appropriate exit of the platform. HRRP4 has added roles of a) Localisation and Sustainability b) Leave no one behind- Vulnerable c) Urban reconstruction d) Retrofitting e) Documenting lessons learned. Urban recovery and reconstruction has been a priority area of support during the ongoing HRRP4. In October 2019, HRRP facilitated the formation of Urban Reconstruction Technical Working Group (UR-TWG). The UR-TWG supports NRA, local governments (LGs) and POs in urban housing recovery and reconstruction. Urban Sharing Sessions and various meetings with UR-TWG members have been carried out until now. In January 2020 and August 2020, UR-TWG conducted an urban qualitative research survey and then a quantitative assessment survey, respectively, in collaboration with the NRA and CLPIU-Building for identification of urban housing recovery issues to support the ongoing urban housing recovery research in Nepal.

In July 2020, HRRP published the "Urban Housing Recovery-Compilation of Case Studies-from Nepal and Beyond"[2]. The publication looks at a range of comprehensive and mini-case studies from Nepal and beyond, addressing the diverse and dynamic ways of addressing complex urban crises. In parallel, based on the above, qualitative and quantitative surveys and stakeholder consultations, the UR-TWG has been developing recommendations to propose for developing urban housing strategy: "Post-Earthquake Urban Housing Recovery in Nepal: Challenges & Recommendations (*To contribute towards developing an urban recovery strategy*)". This document aims to contribute towards developing an urban recovery strategy by providing possible recommendations to the GoN/NRA for consideration; and a diverse range of stakeholders on the way forward in the housing recovery and development in complex urban environments.

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[2] HRRP. Urban Housing Recovery Compilations, June 2020, https://bit.ly/3knRVUt

2. Background

2.1 Urban Context in Nepal

2.1.1 Urbanization in Nepal

Urbanization in Nepal is characterized by haphazard growth, infrastructure deficit, densification of the Kathmandu Valley, and an urban sprawl at the cost of agricultural land[3].The pace of urbanization in Nepal is fast and unbalanced. Some of the challenges faced in urban areas are environmental degradation, congestion, urban poverty, squatter settlements, unemployment and inadequate infrastructure. The efforts that have been made so far are more dispersed and uncoordinated. It has to be accepted that within these systemic problems and structural challenges- Nepal's urban housing recovery is ongoing.

The modern history of urban planning practice in Nepal was noted for the first time from Rajbiraj city in 1944 by rehabilitating the inhabitants of Hanuman Nagar. In 1956, Nepal's First Periodic Plan was prepared as a foundation to achieve economic prosperity and planned development. Currently, Nepal is implementing the 15th Periodic Plan (2019-2024) aiming to materialize the government's vision of "Prosperous Nepal: Happy Nepali".

In 1959, Nepal had just 10 municipalities. By 1992, this had increased to 36 municipalities and then further increased to 58 municipalities by 1996. In subsequent years during 1996 to 2017, more municipalities were established and by March 2017 the number reached 263. In September 2017, following the new federal administration restructuring, the numbers and type of municipalities were further re-categorized into rural and urban.

Now, Nepal has 6 metropolitan cities, 11 sub-metropolitan cities, 276 urban municipalities, and 460 rural municipalities. This state restructuring and upgrading of municipalities resulted in 63 percent of the population converted as residents of 293 (urban) municipalities. Kathmandu valley is the hub of Nepal's urbanization. Over half of Nepal's urban population resides in the hills and the rest in the plains, in Terai. Unprecedented growth has created countless challenges and opportunities in the field of urban planning and management.

2.1.2 Understanding the "urban"

The Government of Nepal (GoN) designated municipalities according to the Local Government Operation Act (LGOA) (2017). Nepal largely practices a population size criteria to declare an area as a municipality. The criteria document titled 'Classification criterias of urban areas in Nepal as per Local Government Operation Act, 2017[4]' details the classifications. (see Annex).

[3] Shrestha et al, (2020), Unravelling the Constraints in Reconstruction of Core Urban Housing Sector, https://bit.ly/3qVqTGB
[4] See Annex of this Paper. Criterion developed by GoN as per LGOA-2017.

However, newly designated municipalities and especially those in the mountainous region of the country lack urban facilities. Regional inequalities persist and a tendency of population concentration towards a few urban areas continues. Larger proportion of households in the majority of smaller and new urban municipalities lack coverage of basic service or presence of minimum urban infrastructures, like roads, pedestrian walkways, electricity, drinking water supply, communication and other minimum basic urban facilities.

It is important to define three interrelated concepts namely urban, urbanization and urbanism.

According to the book 'The Age of Sustainable Development'[5] by Jeffrey Sachs, "interestingly there is no official international definition of 'urban' area. The UN relies on national definitions, but generally speaking, an urban area is a place where at least several thousand people live in a relatively densely settled area."[6]

The Dictionary of Human Geography, 2003 defines the term urban as town and cities which is characterized by places that exceed the threshold of population size and/or density frequently used by the government and its authorised body that carries out censuses of the population. But this definition only takes into consideration the demographic aspect and hence in many cases, countries adapt various demographic, spatial and economic areas to define urban areas. The areas that meet or exceed these criteria are classified as urban areas and the rest of the inhabited areas are classified rural.

Nepal largely practices the population size criteria to declare urban areas. Various terminologies to classify urban areas have been used in Nepal. From 1961 to 1990 the Nepali term *Nagar Panchayat* was used to denote urban areas (municipalities), and after 1990 *Nagar Panchayat* was replaced by the term *Nagarpalika*. During these years, there have been attempts to define urban areas using urban facilities, stature as a municipality and annual revenue to further categorise the hierarchy of municipalities. The Local Government Operation Act - 2017 elucidates further subdivisions in existing municipalities namely *Mahanagarpalika* (Metropolitan city), *Upa-mahanagarpalika* (Sub-metropolitan city) and *Nagarpalika* (Municipality) on the basis of population size, annual revenue and level of infrastructure facilities available in the municipalities. A regional dimension is also acknowledged to population size when granting municipality designation to a settlement.

While urban ordinarily refers to a spatial entity, the concept of urbanization can be referred to as a process of becoming urban or a process by which villages turn into towns and towns develop into cities.

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[5] https://bit.ly/2ZPfa0u
[6] Jeffrey D. Sachs, 2017, (p.51) http://cup.columbia.edu/book/the-age-of-sustainable-development/9780231173155

According to the book 'Population Monograph of Nepal-2014 (Volume 3)[7]' published by GoN's NPC/CBS & UNFPA in 2014, 'associated with urbanization is the term urbanism, which refers to the way in which urban people appear different than rural people. 'In vernacular Nepali, urban translates as *shahar* and urban people as *shahariya*. On the other hand, rural translates as *gaun* and rural people as *gaunle*'[8]. Also, 'in layman's terms in Nepal, rural is often associated with simplicity and urban with complexity. Likewise, rural directly or indirectly relates to an agrarian, subsistence nature and a traditional way of living, whereas urban indicates the opposite i.e., non-agricultural, commercial and perhaps modern way of life.'[9]

2.2 Urban housing issues before Gorkha earthquake

From the Urban Housing Sector Profile published by UN-Habitat Nepal in 2010 it is evident that multiple issues existed in urban housing even before the Gorkha earthquake. These inherent issues are found to be repeated during urban housing recovery at present and have played a detrimental role in achieving success in urban housing recovery.

Before the Gorkha earthquake, land prices in urban areas had soared to unprecedented levels. This can be attributed to people's tendency to invest in land and housing which was fueled by local banks' reduced interest rates as well as remittances from overseas Nepali workers who largely invested in land and property. Squatter settlements in Kathmandu grew. Also urban governance was not really on track and urban poverty was increasing steadily. The urban housing supply did not meet the urban housing demand due to the rise in urban population. As a result of the heavy concentration of urban population in Kathmandu Valley, the urban housing problem in the valley was more serious compared to the other major towns of Nepal. Also the implementation of building codes and building by-laws was already a difficult task due to institutional capacities. The pressure on urban infrastructure was enormous and cities were already unable to cope with the demand for housing and basic services such as water supply, power, garbage collection and transportation.

The Government did not prioritize or intervene as required in the urban housing sector which then became a neglected sector. Budget allocation for housing and urban development hardly exceeded 1% in 2010[10]. Despite the significant role being played by the urban sector in the national economy, it was never given a high priority in the periodic allocation of resources. The lack of reliable and comprehensive data on urban housing was another issue hindering the visualisation of the real extent of the problem and created obstacles to make sound decisions from policy makers' side.

[7] https://nepal.unfpa.org/sites/default/files/pub-pdf/PopulationMonographVolume3.pdf
[8] Subedi. B.P, Urbanization in Nepal. Chapter 4 in 'Population Monograph of Nepal-2014'. pp.95-97, https://bit.ly/37LCdgU
[9] Subedi. B.P, Urbanization in Nepal.Chapter 4. pp 95-97, https://bit.ly/37LCdgU
[10] UN-Habitat, Nepal Urban Housing Sector Profile, 2010

The housing finance policy was not effective to address and solve the housing finance problems of poor and low-income families. Issues such as right of way (RoW), lack of land ownership documents and income sources of families inhibited the access of finance for low-income and vulnerable families. Real estate became uncontrolled raising the price of land in an unpredictable manner. During that time too, the banking and financial institutions (BFIs), reportedly charged high interest rates and unfavorable lending conditions for lower income groups that made access to finance unattainable. The condition even persists at present.

2.2.1 The Municipalities and Urban wards

The municipal organization structure in Nepal has changed numerous times in the past decades but it is a fact that although municipality should mean urban but in reality it has not always meant urban – the primary indicator used to define a municipality has been population and as a result many municipalities remain partially, or even fully, rural in character.

After the 2017 federal state restructuring, Nepal now has seven provinces, 77 districts and 753 local-level governments (LGs). As per administrative divisions, the 753 LGs, within the 77 districts, are further subdivided into 6 metropolitan cities, 11 sub-metropolitan cities, 276 urban municipalities (UMs) and 460 rural municipalities (RMs).

According to the Election Commission of Nepal (ECN), both UMs and RMs are local governments and the legal provision is that each RMs can have a minimum of 5 to maximum 21 wards whereas UMs are to be made of minimum of 9 to maximum 35 wards[11].

It is noteworthy that most of the urban areas in the 32 earthquake affected districts, especially those newly declared municipalities, have a rural character in respect to physical facilities, literacy, occupational structure and educational attainment. Population size appears to be the prime criteria for designating urban areas and there is a need to come up with a more functional and economic criteria so that it also reflects urbanism, a missing dimension in urban designation in Nepal.

The National Urban Development Strategy-2017 (NUDS-2017)[12] recommends establishing an objective and non-political system for upgrading settlements to municipal status. It proposes a system of 'census town' (CT) designation, whereby settlements should fulfil the following criteria to be designated as an urban area:

- A locality with a population of 5000 or more.
- A population density of 500 persons per square km.
- 50% of the economically active population engaged in non-agricultural activities.

[11] Election Commission Nepal (ECN), Election education booklet from website https://bit.ly/2Nq8tiV
[12] https://www.moud.gov.np/storage/listies/July2019/NUDS_PART_A.pdf (p.66)

Further, NUDS-2017, proposed that CT will be designated by the Central Bureau of Statistics (CBS) on the basis of census information. The lowest unit for the designation of CT would be the VDC[13, 14]. The CT will be a dynamic classification as the settlement can be reclassified from urban to rural. The advantage of the CT will be that municipal status can only be provided to settlements that already have a CT status

Census Towns approach is a system where market centres and small towns are monitored and an objective basis for upgrading settlements to municipal status is institutionalized.

What are Urban wards ?

HRRP team proposes a similar idea of urban wards as a better way to reflect this phenomenon. Criteria proposed by HRRP are:

a. Mandatory criteria
   i. Household/Population number high
   ii. Infrastructure available (electricity, water, roads, drainage)
   iii. Transport facility available
   iv. Occupation of population (more engaged in non-agricultural activity)
   v. Presence of bazaar area, market centre, *haat* bazaar

b. Optional criteria
   i. Other urban settlement characteristics - heritages, compact settlement, row housing, *jatras*

A quantitative figure for each of the above criteria was not set. Therefore, this exercise is based on judgement. Based on these criteria HRRP conducted a study in 2020 in the 32 earthquake affected districts. The total number of wards inside these districts are 2,553. The number of urban municipalities within earthquake affected districts are 96 and inside these urban municipalities there are a total of 1,211 wards. It is interesting to note from HRRP (2020) study of urban wards that only 653 wards within these 1,211 wards have urban nature based on the criteria developed by HRRP. This study also reinforces the existing literature that many municipalities have a rural character. Another interesting phenomenon is that in some rural municipalities there are also wards which have an urban character. A table below shows the findings.

[13] In Late 2017, the GoN converted the 'VDCs' to RMs and UMs as part of federal state restructuring.
[14] MoUD, National Urban Development Strategy, 2017

Table 1: Ward number comparison between rural municipality and urban municipality in 32 earthquake affected districts of Nepal. Source: HRRP, 2020.

S.No.	Category	As per GoN administrative division		HRRP study 2020	
		Total number of municipalities	Total number of Wards	No. of Rural Wards	No. of Urban Wards
1	Rural municipality	186	1342	1238	104
2	Urban municipality	96	1211	558	653
	Total	**282**	**2553**	**1796**	**757**

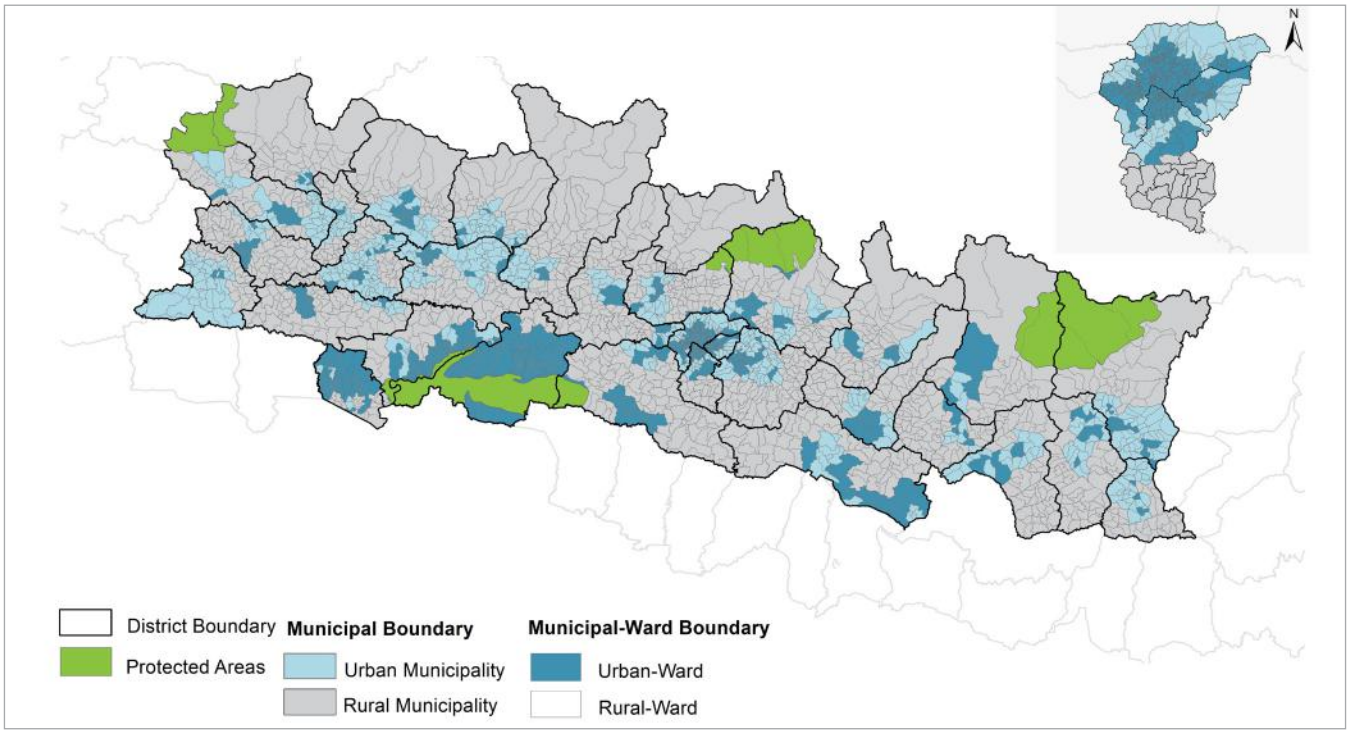


Figure 1: Map showing urban and rural wards distribution. Source: HRRP, 2020

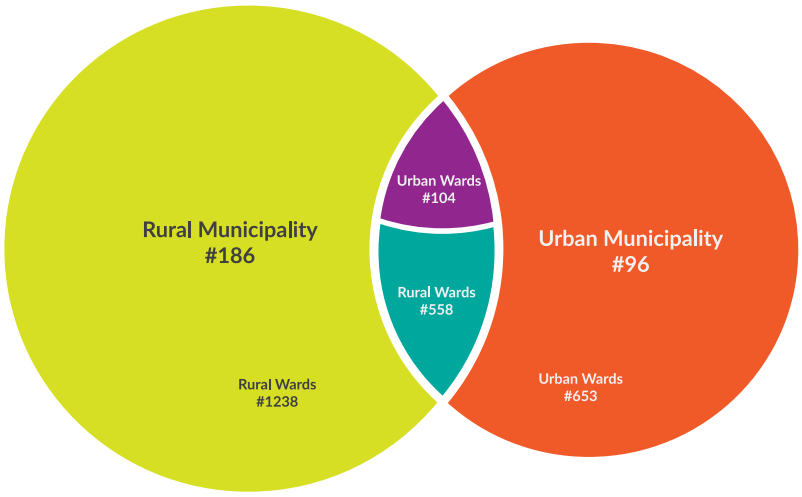


Figure 2: Venn diagram to represent the phenomenon of Urban & Rural municipality in relation to Urban & Rural wards

A venn-diagram above, depicts how rural wards overlap with urban municipalities and how urban wards overlap with rural municipalities. A common understanding is that the wards lying within an urban municipality must have urban character, however in the present scenario an urban municipality can have wards that are rural in nature. Similarly, a rural municipality does have wards that are rural in nature and can also consist of wards/areas that are rural in nature.

Table 2: Comparison of reconstruction status of Urban & Rural Municipality in earthquake affected districts (as of Jan 2021)

S.No.	Category	Total Number	Households eligible	Third Tranche	Remaining caseload	% Remaining
1	Urban municipality	96	373,104	229,890	143,214	38%
2	Rural municipality	186	490,439	380,878	109,561	22%
	Total	**282**	**863,543**	**610,768**	**252,775**	

Data from HRRP Palika Profile is used to make the comparative analysis of reconstruction status of urban municipalities (UMs) & rural municipalities (RMs) in earthquake affected districts.

When comparing housing reconstruction status between UMs and RMs, it is found that there was a higher number of households eligible for reconstruction grants in RMs compared to UMs. Until January 2021, higher progress has been made in private housing reconstruction in RMs compared to UMs. Around 38% caseload (143,214) is remaining for UMs where as only 22% caseload (109,561) is remaining for RMs.

3. Relevant Acts, Policies and Documents

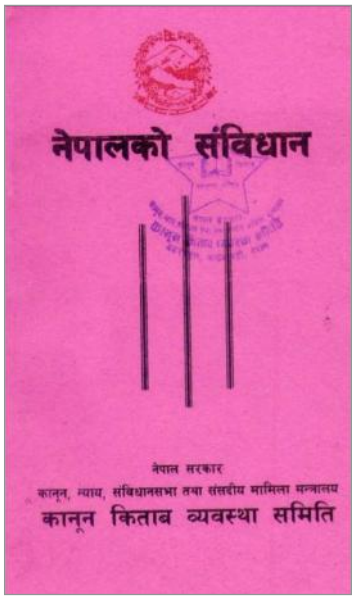
The Constitution of Nepal, 2015[15] (the '*Constitution*') has guaranteed the right to social security, food security and food sovereignty, and also housing, health, education, and employment as fundamental rights[16].

The *Constitution* established a federal government structure with the vision of establishing strong LGs, which are now vested with greater authority[17] compared to the previous constitutional provisions.

On urban development, the *Constitution* envisions balanced and inclusive development of the country in order to realize the national vision of 'Prosperous Nepal, Happy Nepali'[18]

The Constitution of Nepal and Right to Housing Act

The *Constitution* has recognised social justice, clean environment, peace and security, and right to housing[19] as a fundamental right for all.



Part 3, Article 37 (1), under 'Fundamental Rights and Duties', this Article stipulates "right to housing" whereby "every citizen shall have the right to an appropriate housing."

Part 3, Article 51 (f) (1) under, 'Policies of the State' this Article emphasizes on "formulating strategies and programs for sustainable socio-economic development under regional development plans for balanced and inclusive regional development and to implement them in a coordinated manner"[20].

The Right to Housing Act, 2075 (2018)

Nepal's 'Right to Housing Act, (2018)' states that 'every citizen shall have the right to an appropriate housing, and such right shall be respected, protected, and fulfilled pursuant to this Act and other prevailing laws.'[21]

It is evident that the GoN has also placed high importance to housing, regional development

[15] Nepal Law Commission. The Constitution of Nepal, 2015, https://bit.ly/3um0aVX
[16] National Planning Commission (NPC) 15th Plan, (English version), 7.11, p.286
[17] The Asia Foundation, 2018,Diagnostic-Study-of-Local-Governance-in-Federal-Nepal. https://bit.ly/2NpIOH7
[18] National Planning Commission (NPC), 15th Plan,(Nepali version), Part 8.6, p.336
[19] Constitution of Nepal, 2015, Part 3 Article (37) (1)
[20] Constitution of Nepal, 2015, Part 4, Article (51), (f) (1).
[21] GoN, Right to Housing Act, 2018 (Chapter 2, (3) (1) p.2

and inclusive economic development, among other priorities. As GoN's determined recovery phase comes to an end in 2021, it is logical that in upcoming years any remaining urban housing recovery activity has to be linked to the major urban policies and strategies of GoN for long-term development of urban areas.

The table below presents excerpts from Nepal's major acts, national plans and urban policies that are applicable to urban housing development, recovery and resilience in the past decades to the latest 15th Plan.

3.1 National policies & urban-development related acts

3.1.1 Fifteenth Plan (FY 2019/2020 - 2023/2024)

The 15th Periodic Plan[22] of Nepal published by the National Planning Commission (NPC) envisions "Prosperous Nepal: Happy Nepali" or "*Samriddha Nepal, Sukhi Nepali*". and acknowledges modern, planned, environment friendly, disaster resilient, well-organised, inclusive and economically dynamic urban development, housing and settlement planning as tools to achieve the vision of "Prosperous Nepal: Happy Nepali".

The 15th Plan states that it is necessary to improve the urban environment and living standards by providing quality urban infrastructure services and facilities at a time when urban life is becoming difficult due to additional pressure on the already inadequate physical, social and economic infrastructure available with cities.[23] On a national level, only 40 % of the population has access to safe housing. There is also a lack of integrated and planned settlement development schemes, unsafe houses and annually high damage due to disasters. The owner-driven construction of houses using modern construction materials is getting costlier. Due to this, middle income families, low-income families and urban poor have not been able to access appropriate houses. The use of local building culture is limited. A need for integrated settlement, use of local construction materials for making safer and cost-effective houses have been proposed as opportunities in this sector. The 15th Plan also stresses on prioritising low-income groups, marginalized and urban poor to be provided with appropriate housing solutions through social housing schemes and private sector involvement in this area.

The 15th Plan also acknowledges the fact that the post-earthquake recovery tasks may not be completed in the assumed time frame due to lack of experiences to handle such largescale

[22] https://www.npc.gov.np/images/category/15th_plan_English_Version.pdf
https://www.npc.gov.np/images/category/15th_Plan_Final1.pdf (Nepali version)
[23] ibid

disaster, lack of technical knowledge in this area and lack of resources. To complete the remaining tasks of housing recovery and reconstruction the 15th periodic plan also prioritizes coordination with Province level and Local government. It focuses on desired grant distribution and concessional loan schemes to address the remaining beneficiaries. It also outlined the need to utilise local skills, building materials and technology for completion of the remaining caseload.

3.1.2 Urban Development related Acts, Rules and Policies of Nepal

Table 3: Comparative table showing urban development Acts, Rules and Policies of Nepal

Name	Objective of the document	Gaps related to urban development issues
Town Development Act, 1988	This Act provides the legal basis for the formation and operations of town development committees. It deals with the reconstruction, extension, and development of towns, including land-pooling projects.	Physical planning is seen as a town development committee function, rather than a municipality task.
Kathmandu Valley Development Authority (KVDA) Act, 1988 and Regulation 2012	The KVDA is responsible for preparing plans and executing them within Kathmandu valley.	Overlapping mandates and duplication of functions among levels of governments in Kathmandu valley.
Local Government Operations Act (LGOA), 2017	The Act has paved a strong legal foundation towards institutionalizing legislative, executive and quasi-judicial practice of the new local governments, restructured in 2017. The Act has stipulated several arrangements related to authorities, duties and responsibilities of local government, assembly meeting and working system, plan formulation and implementation, financial jurisdictions, and administrative structure This Act describes the criteria to form urban municipalities or rural municipalities and their respective rights, duties and responsibilities. It also details the list of rights of RM and UMs to form local laws, regulations as local governments (LGs).	There are implementation issues. Also there is lack of human & financial resources to implement the Act in its entirety. Urban management capacities of local governments are limited, and their mandates are underfunded.
National Land Use Policy, 2015	This policy was prepared with a vision to guide the proper management and use of land, along with the distribution of land in a fair manner, in order to achieve sustainable social, economic and ecological development. The document outlines 15 policies. In terms of urban development, this policy has looked at supporting planned urbanization. The policy has also prioritized ensuring access by the urban poor to low-cost housing, housing finance, and income-generating activities.	There is Lack of inter-departmental coordination, institutional fragmentation, and duplication of responsibility in government mechanism.
Land Use Act, 2019	The Act is formed to regulate land management and ensure sustainable use of land resources in the country. It stipulates formation of municipal land use bodies, acquisition of land use maps from the federal government, development of land use plans, and carrying out zoning process, land use change, land title update, land valuation and taxation. While developing the land use plan, the local governments will have to prepare separate plans for rural and urban areas. [24]	Land Use Council (LUC) vs. Municipalities. LGOA gives powers to municipalities. The Act assigns all the three levels of governments to develop comprehensive land use plans and classifications based on purpose and other provisions. However implementation by local governments is a challenge in terms of their capacity and resources. It remains silent on cases of urban expansion areas. Despite the concurrent problem of land, no provisions for such scenarios has been suggested in the Act

[24] https://csrcnepal.org/federal-parliament-passes-the-land-use-act/

Name	Objective of the document	Gaps related to urban development issues
The National Shelter Policy, 1996;	This was the first shelter policy introduced in Nepal. It emphasizes the role of the government as an enabler and facilitator and encourages the private sector, both formal and informal, in the production of adequate dwelling units. The policy has spelled out a number of specific housing programs and projects to meet shelter objectives and policies.	The policy has remained silent on the disaster aspect including the shelter response in the post disaster period.
The National Shelter Policy, 2012	The Shelter Policy 1996 was amended to include the socio-political transformation of Nepal after 2007 and focused on housing for the landless, deprived and those displaced due to development and disaster. For the first time, the new National Shelter Policy covered issues of squatter settlements and landless squatters. It also acknowledged that squatter settlements are increasing at a rapid pace.	Implementation of the National Shelter Policy has been challenging.
Apartment Ownership Act 1997	The Act puts forward the concept of group housing to promote the urban areas with higher densities.	Approval process for joint housing is time consuming including Initial Environmental Evaluation (IEE) / Environmental Impact Assessment (EIA) process. Approval required from multiple government agencies. The demand for low-income housing has not been addressed. The act needs to amended to include post-earthquake lessons.
Third United Nations Conference on Housing and Sustainable Urban Development (Habitat III), A National Report, 2016	The conference reinvigorated the global commitment to sustainable urbanization and to focus on the implementation of a 'New Urban Agenda', building on the Habitat Agenda of Istanbul in 1996. The six key areas the new report focuses are: urban demography; land and urban planning; environment and urbanization; urban governance and legislation; urban economy; and housing and basic services	Implementation challenges exists and limited technical capacity to plan and manage cities. Slums and squatter resettlement is still a challenge.
National Adaptation Programme of Action (NAPA, 2010)	It has identified urban settlements and infrastructure as one of the six key themes and included promoting climate smart urban settlements and infrastructure as one of nine priority projects.	Infrastructure investments in urban settlements is low.
National Urban Policy(NUP) 2007	The NUP has put forward mainly three objectives: i) to achieve a balanced national urban structure through proper guidance to development of and investment in the infrastructural facilities; ii) to raise the living standard of the urban residents through development of clean, secure and economically vibrant urban environments; iii) to achieve effective urban management through institutional strengthening and legal empowerment of the local bodies, as well as through promotion of proper cooperation and coordination among the different institution involved in urban development.	Lack of clarity on how the objectives are funded and executed.
National Urban Development Strategy 2017	NUDS proposes 'Vision 2031: Balanced and prosperous national urban system". It gives a strategic directive of urban development. NUDS is not limited to physical development, but aspires to attain a qualitative vision for future cities that reflect the highest value of a society. It contains 105 strategies. It acknowledges that provision of affordable, adequate and safe housing is the objective of the urban housing sector. Also squatter settlements are increasing in urban areas.	There are operational challenges and resources to implement the proposed strategies.

Name	Objective of the document	Gaps related to urban development issues
Right to Housing Act, 2018	The Act empowers federal, provincial and local governments to coordinate, prioritize and provision housing to those citizens and their families who do not own land and housing anywhere in Nepal and also lack income and capacity to manage it. Households may also include those displaced by natural hazards without any assets left. The Act enables Federal, Provincial and the Local governments to undertake "integrated settlement development" or if needed, to relocate settlements-which are remote to provide amenities or which are unsafe- to provision housing.	There is less focus on safer settlements, livelihood issues and safety consideration in housing development.
National Building Code (NBC) 1994	It is applicable to different types of building construction. However, for the structure using brick in mud mortar (traditional technology), the building should be less than 1000 sq ft. and not go beyond two and a half stories in height. Instead of an engineering calculation, MRT will be used.	Traditional masonry buildings with more than three stories are not permitted by National Building Code (NBC). In historic settlements a common typology is three-storey plus attic which is a local building culture.
The Fundamental Construction Bylaws on Settlement Development, Urban Planning and Building Construction 2017	To be applied by all local bodies (VDCs or Municipality, District Development Committee)[25]; they will adjust the prevailing bylaws accordingly.	Bylaws are seen as an imposition by applicants rather than as guidance for appropriate design. There is need to establish an effective implementation system for preserving traditional townscape by 'building bylaws' (including incentive and punishment for effective control).

3.2 NRA procedures, guidance and standards for housing recovery

This sub-chapter delves into the procedures, guidance and standards that have been formulated by National Reconstruction Authority (NRA) during the 5 years of its operation (2016-2020). The 'Act Related to the Reconstruction of Earthquake Affected Structures, 2015'[26] is the legal basis for formulation of all the rules, workings procedures, guidelines and standards for recovery. The NRA has published two booklets of Acts, Rules and Procedures (*Rastriya Punarnirman Pradhikaran sanga sambandhit Ain, Niyamawali ra Karyabidhiharu Bhag-ek , Bhag-Dui*[27]) formulated from 2072 till 2076 BS (2015-2020). This sub-chapter gives an overview of these legal documents.

The tenure of NRA is slated to be completed in December 2021[28] and a popular consensus is, works on the remaining recovery caseloads must continue. Hence, it would be useful to look back at these procedures to understand the intended objective of these documents and its implementation status . This can be useful institutionalizing them directly or with amendments.

[25] VDC/DDC were local-level structures before the 2017 federal state restructuring that created RMs,UMs.
[26] http://www.nra.gov.np/en/content/acts/0
[27] NRA, Working Procedures, directives and standards related to National Reconstruction Authority Part 2, 2019
[28] The Himalayan Times, Dec 2020. https://bit.ly/3pQ2hh7

Table 4: NRA working procedures, guidance and standards to address issues and challenges in housing recovery

Issue Addressed	Procedures, guidance and standards	Objective of the document
Relocation	Working Procedure for Relocation and Rehabilitation of the Risk-prone Settlements, 2017	To manage residents and households living in the risk-prone settlements affected by 2015 earthquake.
	Working Procedure for Development of Integrated Settlements, 2018	To develop integrated land and settlements in earthquake affected districts through simplified procedure for long-term settlement development
Land	Working Procedure for Land Acquisition for reconstruction of the Earthquake Affected Structures, 2016	To implement land acquisition that will be necessary when rehabilitating and relocating in a simple, transparent and effective manner to serve people affected by earthquake or his/her family in order to implement projects on reconstruction, integrated settlement and integrated housing schemes.
	Working Procedure for Land Registration in the name of earthquake affected people, 2016	To make registration process of land simple and effective in the name of the person affected by the earthquake or his/her family.
	Standards on Habitable Land Purchase for Earthquake Victims' - 2017	The Standard provides criteria which a beneficiary has to fulfill to access financial grant for purchasing land. The Standards are targeted towards beneficiaries who do not have land in their own name or in the name of their family within any part of Nepal.
Heritage	Working Procedure for Reconstruction of Single or Multiple Ownership in Heritage Settlement, 2019	To simplify the process of reconstruction of earthquake-affected private houses which have single or multiple ownership inside heritage settlements. Also, to preserve the originality and architecture of heritage settlements.
	Working Procedure for the reconstruction of Gumba/ Monastery/Stupa, 2019	To determine the process for expediting the works of preservation, restoration and reconstruction of affected Gumba/Bihar/ Stupas.
Finance	Working Procedure for Reconstruction Grant Distribution for Earthquake affected Private Housing, 2016	To make the grant distribution process simple and systematic for reconstruction and retrofitting. Also, to determine criteria and processes for reconstruction and retrofitting.
	Unified Procedure for Interest Subsidy on Concessional Loan, 2018	Objective of this Procedure are: - promote agriculture & livestock industry thereby increasing employment, - provide employment to educated but unemployed youth in the country, utilise the skills and professional expertise of young migrant returnees and make them self-employed, - develop entrepreneurial capacity of women, - develop entrepreneurial capacity of dalit community and modernising their traditional skills and profession, - provide loans to financially poor, underprivileged and marginalised group, - provide educational loans to students of targeted communities for technical and vocational education, - provide grant for micro-insurance premium and provide concessional loan for earthquake affected people for housing reconstruction and retrofitting.
Reconstruction	Working Procedure related to Providing Private housing Reconstruction Grants to houses constructed before the Mobilization of Technical Team, 2019	To provide grant in lump-sum for private houses that were built before the deployment of technical team and which is in compliance to earthquake resilient housing technology.

Issue Addressed	Procedures, guidance and standards	Objective of the document
Goverance	Rules for the Reconstruction of Earthquake-affected Structures -2016	To provide a legal and procedural framework to execute reconstruction projects. It outlines criteria for prioritization of projects; standards, bylaws, procedures it has to follow, use of government funds for removal and demolition of structures; DAO's roles, responsibilities and powers; NRA's Secretary's roles, responsibilities and powers; NRA employees management; DCCs roles, responsibilities and powers.
	Public Procurement Procedure for Reconstruction of earthquake affected structures- 2016	To facilitate the procurement process required in quick, simple, transparent, economical and effective manner to serve the displaced people or family for relocation or rehabilitation. Also, to reconstruct quickly the earthquake affected area in a sustainable, strong and planned manner.
	I/NGOs mobilization procedures for rehabilitation and reconstruction, 2016	To make coordination of National / International Non-Governmental Organization effective and to achieve cooperation in a simple, easy, transparent, integrated and effective manner for Reconstruction of damaged structures.
	NRA Procedure for the legal appeal- 2016	To organize the appeal process against the decision or orders made by the NRA.
	Guideline on training operation and management -2016	To develop required human resources for rebuilding and rehabilitation of earthquake affected structures by organising systematic and planned trainings in result-oriented manner.
	Guidelines on Community Reconstruction Committees – 2016	To increase the participation and ownership of the local community in the reconstruction works
	Working Procedure for Grievance Management related to reconstruction 2017	To manage and address complaints related to economic and social recovery in a simple and systematic manner of damaged private housing and other physical infrastructures
	Working Procedure for technical inspection of private housing reconstruction 2018	To enforce the use of earthquake resilient technology during reconstruction, retrofitting and repair of houses damaged by earthquake by ensuring the technical inspections of houses through qualified technical person. It presents technical framework, desired standard to be reached, quality of construction materials
Vulnerable	Working Procedure for identification of earthquake affected vulnerable households beneficiaries under vulnerable category - 2017	To speed up reconstruction of houses of vulnerable people by making special arrangement to support the vulnerable people
Environment	Working Procedure for Environmental Impact Assessment for reconstruction of earthquake affected structure -2015	A criterion for reconstruction in an earthquake affected areas or if incase rehabilitation and relocations is necessary there must be an Environmental Impact Assessment. This procures intends to make environmental impact assessment in a simple, transparent and effective manner

3.3 International agreements

3.3.1 Sustainable Development Goals (SDG)

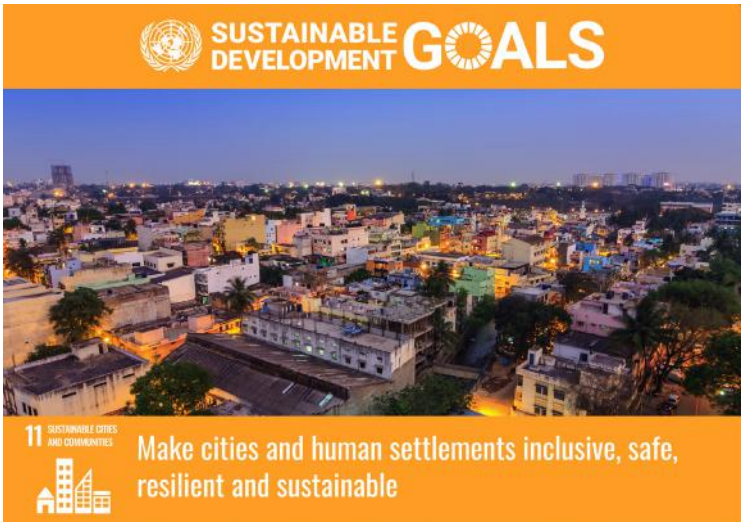
The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030[29].

The 17 SDGs are integrated-that is, they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.

Through the pledge to Leave No One Behind (LNOB), countries have committed to fast-track progress for those furthest behind first.

Goal 11: Sustainable cities and communities

Of the 17 Goals, the SDG 11 intends to 'make cities and human settlements inclusive, safe, resilient and sustainable'.



According to the UNDP, more than half of us live in cities. By 2050, two-thirds of all humanity-6.5 billion people-will be urban. Sustainable development cannot be achieved without significantly transforming the way we build and manage our urban spaces.

Furthermore, "making cities sustainable means creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways'[30].

[29] United Nations, UNDP, SDGs,2015, https://bit.ly/2P7GpRO
[30] UNDP, https://bit.ly/3aNPxU5

Importantly, on SDGs, the New Urban Agenda 2016 by the UN (as detailed below) also works as an accelerator of the SDGs, particularly SDG 11- to provide a comprehensive framework to guide and track urbanization around the globe. Cognizant of the fact that 95 per cent of the urban growth will be in the developing world, Sustainable Development Goal 11 sets targets and defines indicators to measure progress and growth[31].

3.3.2 The New Urban Agenda 2016

The New Urban Agenda 2016[32] or Habitat III by the United Nations represents a shared vision for a better and more sustainable future. This agreement was made possible through the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) from 17 to 20 October 2016 in Quito, Ecuador. The New Urban Agenda, adopted on 20 October in Quito, at Habitat III presents a paradigm shift based on the science of cities and lays out standards and principles for the planning, construction, development, management and improvement of urban areas. If well-planned and well-managed, urbanization can be a powerful tool for sustainable development for both developing and developed countries.

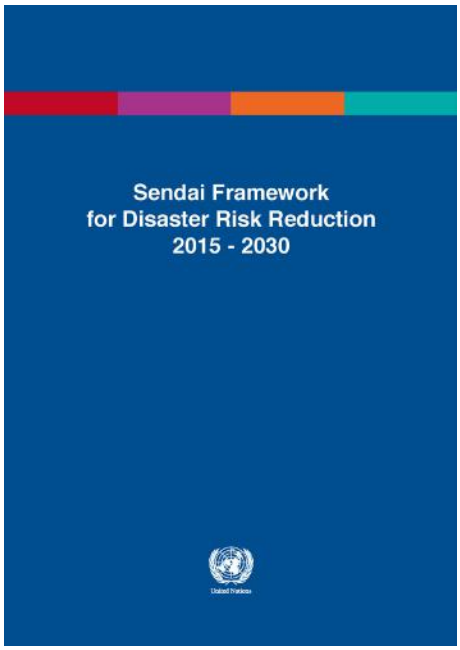
In regards to housing, the New Urban Agenda envisage cities and human settlements that fulfil their social function, including the social and ecological function of land, with a view to progressively achieving the full realization of the right to adequate housing as a component of the right to an adequate standard of living, without discrimination, universal access to safe and affordable drinking water and sanitation, as well as equal access for all to public goods and quality services in areas such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality and livelihoods.

The New Urban Agenda shares commitments on sustainable, affordable, adequate, resilient and safe housing and promoting policies that support the right to adequate housing for all as a component of the right to an adequate standard of living and as a means of social justice for homeless, persons in vulnerable situations, low-income groups and persons with disabilities, and engagement of communities and relevant stakeholders in the planning and implementation of these policies. The commitments are also for strengthening the resilience of cities and human settlements, including through the development of quality infrastructure and spatial planning and to enable households, communities, institutions and

[31] United Nations, New Urban Agenda, 2016, https://bit.ly/3dAZpCq
[32] United Nations, New Urban Agenda, 2016

services to prepare for, respond to, adapt to and rapidly recover from the effects of hazards, including shocks or latent stresses. It also emphasizes on the development of adequate and enforceable regulations in the housing sector, including, as applicable, resilient building codes, standards, development permits, land use by-laws and ordinances, and planning regulations. It stresses the need for sustainable urban development programs with housing and people's needs at the centre of the strategy.

3.3.3 The New Urban Agenda 2016



The Sendai Framework for Disaster Risk Reduction (SFDRR) (2015-2030)[33] provides guidance for post-disaster recovery. **Priority 1** of SFDRR articulates "**Understanding disaster risk**" which is also necessary to build back better and not to repeat the same mistakes while rebuilding. **Priority 4** highlights "**Build Back Better**" as its core idea and guides major aspects which should be taken into consideration during post-disaster recovery.

For recovery, SFDRR promotes a people-centered preventive approach to disaster risk and explains disaster as a critical opportunity to "Build Back Better" by integrating disaster risk reduction into development measures and then making nations and communities resilient to disasters. SFDRR highlights people, communities and nations' role in recovery. It also highlights investment in technologies and research, socio-economic, cultural, health and educational resilience of people, communities and countries. Further enhancement of multi-hazard early warning systems, preparedness, response, recovery, rehabilitation and reconstruction is stressed in SFDRR. This helps in anticipation of events and urges to place capacities for effective response and recovery at all levels. It promotes enhancement in recovery schemes so as to provide psychosocial support and mental health services for people who are in need. It advocates for the continuity of operations and planning of socio-economic recovery, and continuity of basic services in the post-disaster phase and facilitation in information sharing on key lessons and best policy practices on post-disaster reconstruction programs. For housing, SFDRR advocates in strengthening the design and implementation of inclusive policies and social safety-net mechanisms for housing. It also encourages the establishment of necessary mechanisms and incentives to ensure high levels of compliance with the existing safety-enhancing provisions of sectoral laws and regulations, including those addressing land use and urban planning, building codes, environmental and resource management and health and safety standards, and update them, where needed, to ensure an adequate focus on disaster risk management.

[33] SFDRR, https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030

4. Traditional urban settlement and built environment

The artistic temples, stupas, settlement patterns, various building types and traditional houses of Nepal have attracted interest of researchers and tourists from all over the world. These are also tangible cultural heritage. The arrangement of houses, temples, roads and open spaces maintained a remarkable balance within settlements. Such buildings and infrastructures give a unique identity and a character to the settlements and thus form an important part of the urban dwellers. Moreover, these community infrastructures enhance the quality of urban life. Study of traditional urban settlements of Nepal and its built environment is important for urban housing reconstruction because of its linkage and interaction to physical, cultural and social dimension. It is a sad reality that the 2015 Gorkha earthquake has also damaged these structures. It is a challenge for all practitioners in urban housing recovery to address the regeneration of these urban settlements and contribute also in preservation of traditional house designs reflecting the cultural and architectural achievements of earlier periods.

a. Traditional settlement design inside Kathmandu valley

Kathmandu valley has been a centre of attraction with rich cultural heritage both tangible and intangible. The housing and traditional urban settlement patterns in the Kathmandu Valley evolved during the past 2000 years, largely attributable to the Newars- the indigenous inhabitants of Kathmandu valley. There exists variation between size, location and economic activities within the traditional settlements. Inspite of these variations, traditional or historic settlements inside Kathmandu valley are not radically different and there are certain common features found in these settlements. It is noteworthy that a house and a settlement, be it a village, town or city are not only places where people live but are also sacred places where social and spiritual functions are performed. Most of the settlements have a direct association with a particular temple or a tutelary deity. Examples include *Rato Machhindranath (Bunga Deo)* for Bungamati, *Vajra Varahi* for Chapagaon and *Vajrayogini* for Sankhu. It is also interesting that there are festivals, processions, cultural dances (also known as intangible heritage) associated with each of the settlements. Examples include *Rato-Machhindranath jatra* in Bungamati and Patan, *Biska* in Bhaktapur and *Seto Machhindranath jatra* in Kathmandu. Most of these festivals are rooted in the religious traditions of both Hinduism and Buddhism.

When talking about the spatial aspect of the settlement design, the central area of all historic settlements is indicated by an open space in the form of squares where almost all the narrow alleys, only a metre wide, known as *galli* converge. Many of the daily activities are carried out in and around these open squares. The secondary roads and narrow alleys (*galli*) pass through the compact row-houses which encloses smaller quadrangles (*nanni* or chowk). These smaller quadrangles act as a light well to the surrounding houses, air and easy access to the private dwelling units. The quadrangles also are a playground for children, open space for drying

rice in summer, and a place of worship and social interaction. The human scale in terms of its architecture is present. There are various blocks or neighborhoods within a settlement known as *Tol*. In most cases, the *Tol* names have gained their origin the temples or monasteries around which they have grown. These temples (*Mandir* or *Dega*) and other monuments, the rest houses (*phalcha*), water ponds, stepped-water spouts (*hitis*) are located within a settlement.

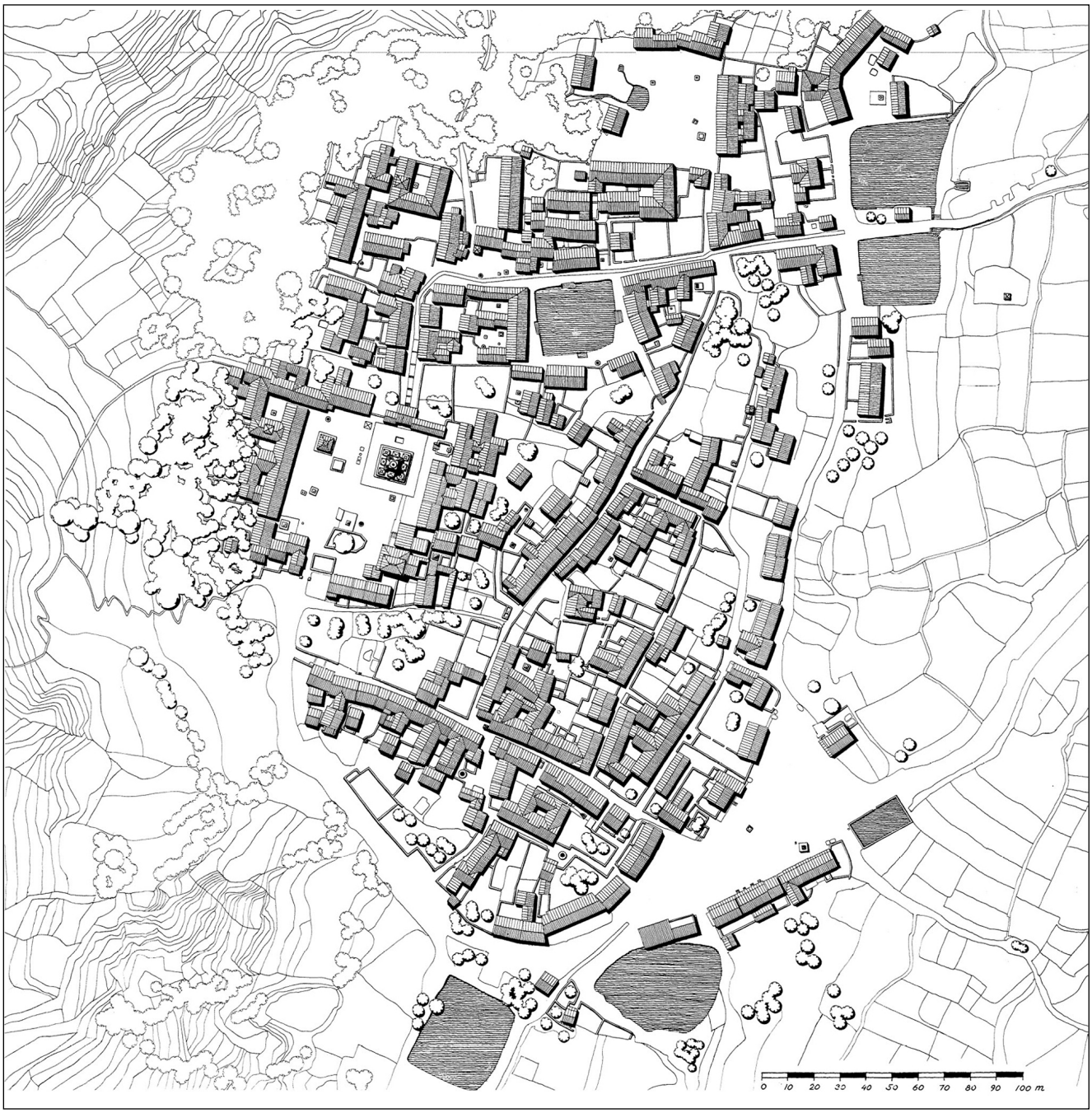


Figure 3: Site plan of traditional settlement of Bungamati
(Drawing source:- Bungamati 1968,A Survey by Danish Architect Students. Page no. 11)

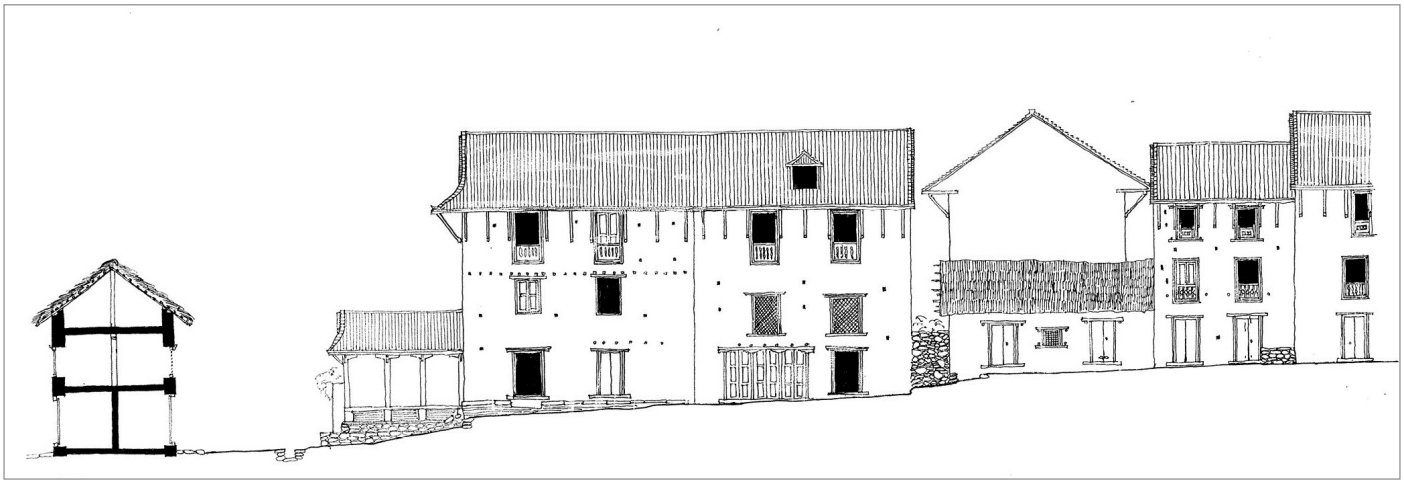


Figure 4: Cross-section of a traditional street in Bungamati
(Drawing source:- Bungmati 1968, A Survey by Danish Architect Students. Page no. 15)

Figure 5: Isometric view of traditional settlement of Bungamati
(Drawing source:- Bungmati 1968,A Survey by Danish Architect Students. Page no. 22)

b. Temples

Inside historic settlements, during the course of centuries special shrines for gods or temples were constructed. They are locally known as *Mandir* or *Dega*. Temples and monuments are raised on multiple plinths, and are much higher than the traditional old houses. There are many variations of Nepalese temples. But a common feature is the multi-tiered roofs. These roofs protect the cella (in Nepali called *Garbagriha*) containing a deity inside.

Another popular style is the Shikhara style which is a four-sided pyramid with parabolic instead of straight edges. One of an architectural style under Shikhara temple found in Nepal is called

"*Granthakuta*" in which a central Shikhara is surrounded by subsidiary porticos on four cardinal sides with addition of Gajurs to the subsequent porticos (some indigenous Newari manuscripts relate it as "*Garakuta*"). This style was used during reconstruction of *Balgopaleshwar* Temple inside *Ranipokhari* (a large pond) which is located at the centre of Kathmandu.

These temples are not just part of the urban landscape but also a part of the social, cultural and economic life of the valley.

Figure 6: A tiered temple inside Kathmandu valley - Vishveshvara Temple at Patan Darbar Square, Lalitpur, 2019

Picture source: Rupesh Shrestha

Figure 7: A Shikhara style temple- Jagat Narayan Temple at Sankhamul before Gorkha Earthquake, Lalitpur, 2009

Picture Source: Rupesh Shrestha

c. Resthouses (*Phalcha* or *Pati*)

It is an arcade-like open structure with a raised and covered platform, that can be a stand-alone structure or can be a part of another building. These rest houses were built for purposes such as to give shelter to travelers, social gatherings and performance of music (Bhajan). They were constructed by donations of locals, religious groups or families. Sometimes donor also formed a society called Guthi for such public buildings which then became responsible for its construction and upkeep.

d. Step-wells (*Hiti* or *Dhungedhara*)

It is an arcade-like open structure with a raised and covered platform, that can be a stand-alone structure or can be a part of another building. These rest houses were built for purposes such

as to give shelter to travelers, social gatherings and performance of music (Bhajan). They were constructed by donations of locals, religious groups or families. Sometimes donor also formed a society called Guthi for such public buildings which then became responsible for its construction and upkeep.

e. Ponds (*Pukhu* or *Pokhari*)

They are reservoirs of water and can be found upstream, inside or downstream of an urban settlement. The ponds inside settlements are relatively smaller in size. They collect stormwater and recharge local aquifers. In old times, they were also a source for water used for cleaning, washing , fire fighting; duck farming and animal husbandry. There are many ponds still existing in urban settlements that were hit by the Gorkha earthquake. However many ponds have dried out or been encroached.

Figure 8: Pimbahal Pond in Patan, 1880 (Source: Henry Ambrose Oldfield)

f. Drinking water fountain (*Jahdhun*)

Drinking water fountains dot the urban environment and are often located at the edge of squares, on the side of roads or next to temples. With the installation of public water taps at the beginning of the 20th century, the historic drinking water fountain lost its function.

Figure 9: Ancient drinking water fountain (Jahdhun) found in traditional settlements of Patan, 2021

Picture Source: Rupesh Shrestha

g. Traditional houses inside historic urban settlements

The traditional houses inside historic urban settlements are simple rectangular buildings usually four to five stories high with a sloped roof. Each story is about six to seven feet in height. The urban dwellings are built in contiguous rows and are facing a street, narrow lane or around a courtyard. The height of a traditional building seldom exceeds five stories. The old houses were constructed with load bearing walls, at least 14 inches thick , raised on deep and wide foundations; brick masonry with timber banding (often the timber banding is also carved), houses organised around courtyards, and sloped, tiled roofs. It is noteworthy that in urban settlements, houses have a mixed-use. There can be workshops (*jyasa*) or retail stores (*pasa*). The urban dwellers can use their houses for income generating and livelihood purposes. Another noticeable feature of traditional houses are lavishly decorated hand-carved wooden windows and doors of various types. The continuous facade of lavishly carved windows on backgrounds of red brick walls provided an identity to the houses. Many traditional houses were destroyed by the Gorkha earthquake. The earthquake resistant elements present at various levels in these buildings indicates that people were aware of safer construction practices.

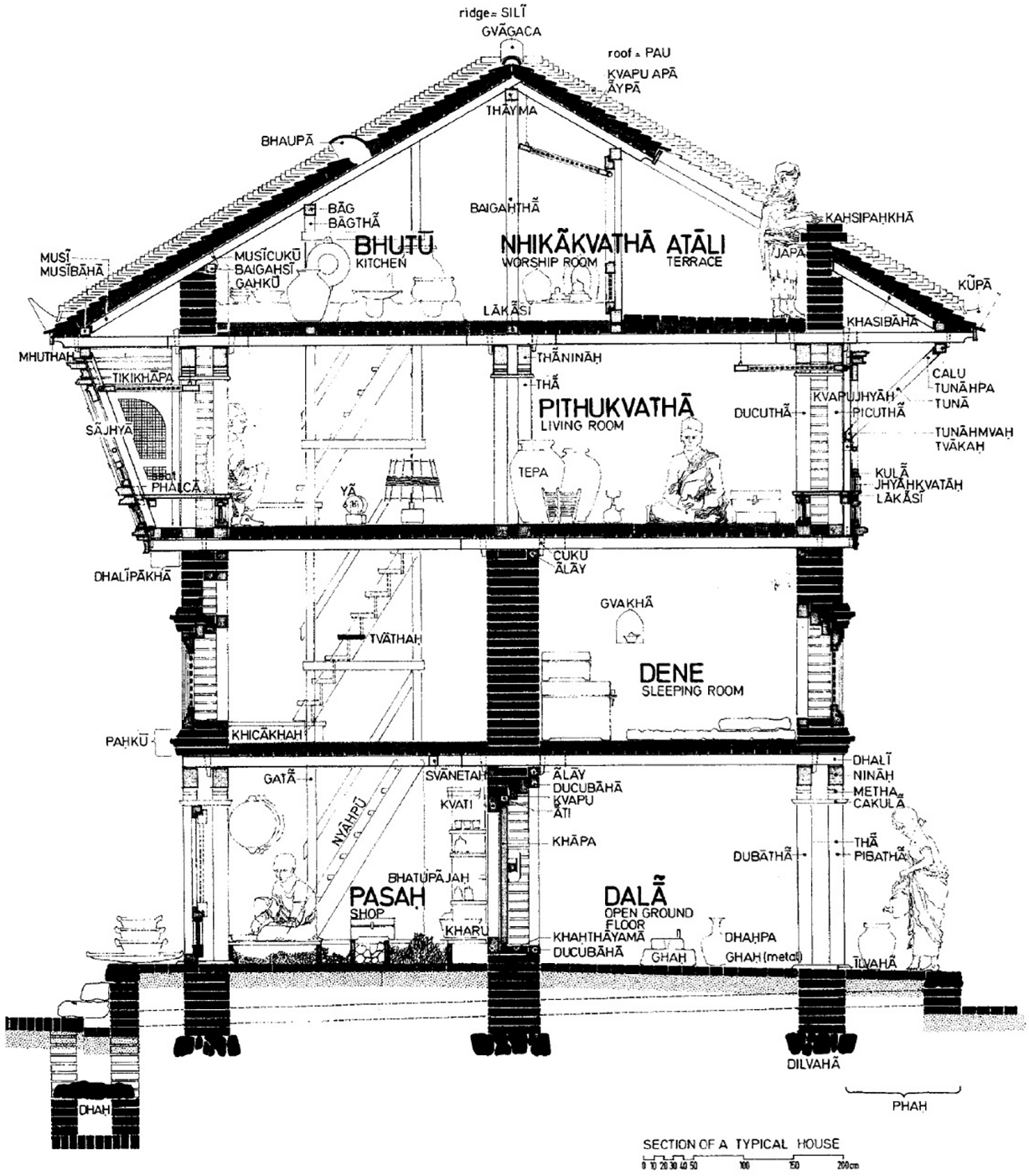


Figure 10: Section of typical Newari house with their local names. Drawing: Niels Gutschow. Newari towns and buildings

h. Transformation of heritage settlement in modern times

A strong visual image of traditional settlement is created through both tangible and intangible heritage. As discussed in earlier sections, historic settlement's streets, squares, courtyards and community infrastructure contribute to the character of the settlement. However, at present, demolition of traditional buildings for modern high rise reinforced concrete structures, lack of quality open spaces, conflict between vehicular and pedestrian pathway and changing streetscape have become the attributes of many heritage settlements. Activities inside many

of the settlements have also changed. As a consequence of rise in commercial activities inside the historic settlements, there is unmanaged urban sprawl and regular encroachment of open spaces. Recently, the change in lifestyle and urban development is increasing the number of vehicles on the narrow streets. The social system of dividing parental properties to children has caused fragmentation of land. This has encouraged vertical division of traditional houses. Additions of floor on the existing structures were needed to increase habitable rooms. Some of the non-compliance issues that already existed prior to the earthquake were creation of door and window openings haphazardly on the load bearing front walls, addition of Reinforced Cement Concrete (RCC) floor on the mud mortar walls and random infill development of new RCC structures. These are often unfit with the surrounding buildings in terms of scale and proportion, architectural style and construction detailing. In historic settlements, community infrastructures such as temples, step wells, ponds and rest houses that were described earlier are in dilapidated condition due to lack of funding and demise of "*guthi*" system[34]. Population growth, rapid urbanization, commercial activity and unplanned development has affected the image, form and activity within historic settlements. The Fundamental Construction Bylaws on Settlement Development, Urban Planning and Building Construction 2017 second amendment is developed to address the urban design principles and to conserve the traditional vernacular settlements as necessary.

List of heritage settlements declared by NRA

There are about 42 historic '*newari*' settlements within the Kathmandu Valley and 12 outside Kathmandu valley as declared by NRA. Kathmandu Valley historic settlements can be categorized into three groups.

1. The first group are the historic settlements in Kathmandu, Lalitpur, and Bhaktapur city, which are also designated as UNESCO World Heritage Sites.
2. The second group of historic settlements are the four towns on the World Heritage Tentative List: Panauti, Khokana, Kirtipur, and Shankarapur.
3. The last group is composed of other towns in the valley, such as Bungamati, Panga, and Kisipidi, which are historic settlements with traditional values and satellite towns of the principal Cities of Kathmandu, Lalitpur, and Bhaktapur. For example:- Khokana and Bungamati are the satellite towns of Lalitpur, whereas Kisipidi is that of Kathmandu.

Whole Kathmandu valley has been designated as a World Heritage Site (Cultural) due to its Outstanding Universal Values (OUV). Inside Kathmandu valley, seven groups of monuments and buildings are given prime attention which display the full range of historic and artistic achievements for which the Kathmandu Valley is world famous. The seven include the Durbar Squares of Hanuman Dhoka (Kathmandu), Patan and Bhaktapur, the Buddhist stupas of Swayambhunath and Bauddhanath and the Hindu temples of Pashupatinath and Changu Narayan.

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[34] *Guthi* is a feature of Newar socio-cultural setup. Inside historic settlements, it is a community institution created within a specific caste or groups within society. *Guthis* can have objectives such as organizing festivals, workshops, teaching specific skills, maintaining and conserving heritage buildings.

Table 5: List of heritage settlements declared by NRA

A) Heritage Settlements in Kathmandu Valley		
1. Kathmandu City Core	15. Pharping	29. Tokha
2. Thecho	16. Chobar	30. Budhanilkantha
3. Chapagaon	17. Nagaun	31. Sundarijal
4. Bulu	18. Panga	32. Gokarna
5. Lele	19. Kirtipur	33. Baudha
6. Pyangaon	20. Machhegaun	34. Handigaun
7. Bandegaon (Baregaon)	21 Satungal	35. Deopatan
8. Thaiba	22. Kishipidi	36. Patan City Core
9. Harisiddhi	23. Balambu	37. Thimi
10. Sanagaun	24. Thankot	38. Nagadesh
11. Lubhu	25. Ichangu	39. Bode
12. Sunaguthi	26. Swoyambhu	40. Changu
13. Bungamati	27. Balaju	41. Sankhu
14. Khokana	28. Dharmasthali	42. Bhaktapur City Core
B) Heritage Settlements Outside Kathmandu Valley		
43. Nala	47. Khadpu	51. Dolakha Bhimsen Bazar Area
44. Sanga	48. Panauti	52. Chautara
45. Banepa	49. Gorkha Durbar Area	53. Namobudha
46. Dhulikhel	50. Nuwakot Durbar Area	54. Dapcha

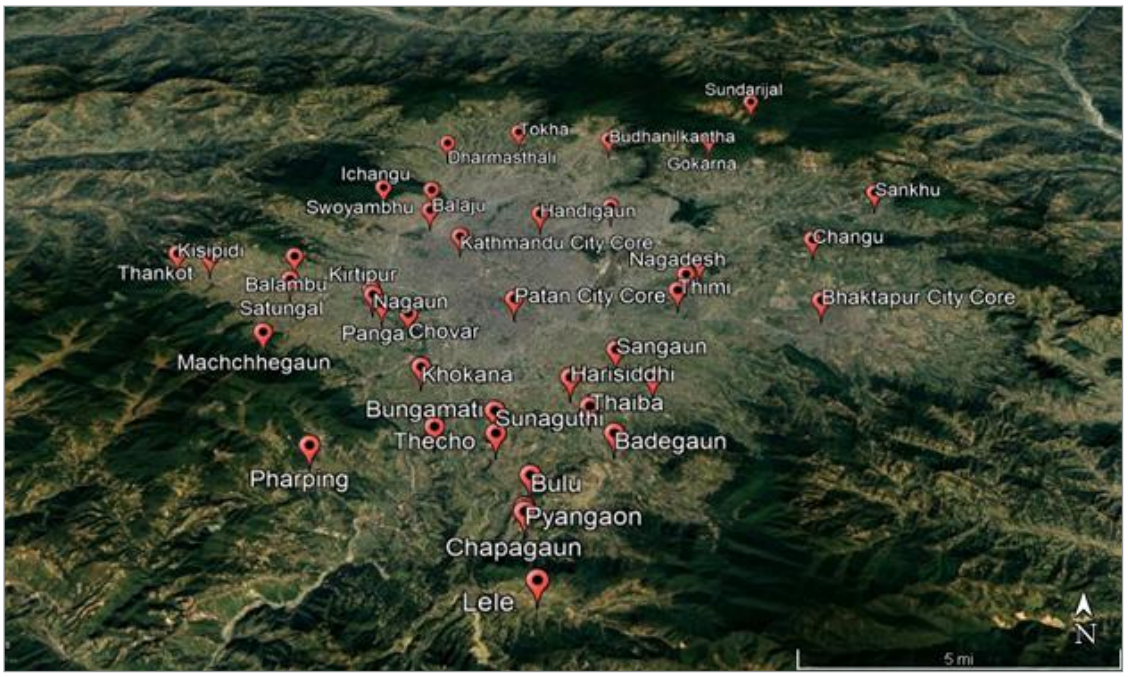

Figure 11: Mapping of Heritage Settlements inside Kathmandu Valley

i. Policies and Operational issues in preserving Historic Settlements and traditional private housing recovery

The importance of historic settlements and traditional private buildings have been a national and international agenda. However not all are legally designated as cultural properties. There are core heritage zones and buffer zones in which heritage preservation is enforceable. Traditional masonry buildings with more than three stories are not permitted by National Building Code (NBC). There is a lack of an effective implementation mechanism for preserving traditional townscape by use of 'building bylaws' where incentive and punishment schemes are used for control.

j. GoN provisions on declaring areas of cultural importance as Historic / heritage settlement

Local Government Operation Act, 2017 has given the Province government as well as Local government (Rural and Urban Municipalities) powers to declare any rural or urban municipality with historic, archaeological, artistic or cultural importance as Areas of Cultural Importance or Heritage settlement. The Provincial government and Local government have to develop criterias with support from experts in the heritage sector and can designate any rural or urban municipality or any part with demarcation of its exact boundaries to become an Area of Cultural Importance. It is also stated that the Heritage settlements can have a special program or budget from the Province Government for its development.

The Fundamental Construction Bylaws on Settlement Development, Urban Planning and Building Construction 2017, has stated the following procedures that have to be followed for declaring any settlement as a heritage or historic settlement:

1. The local inhabitants have to request Department of Survey for demarcation of heritage settlement with further recommendations from local authorities
2. Recommendation from Department of Archaeology
3. Formation of Committee with a Coordinator; assessment of the area and field inspection report from a technical team

5. Current status of urban housing recovery in Nepal

This chapter focuses on the achievements and remaining caseloads in housing recovery. It also presents a comparison between the Great Nepal earthquake of 1934 and Gorkha earthquake 2015.

Data are also disaggregated as per Province level and Local level government. The federal structure of Nepal is divided into three layers of government -- federal, provincial and local. The Constitution of Nepal states that the relations between the Federation, Provincial, and Local level shall be based on the principles of cooperation, co-existence and coordination.

History: Damage data from Great Earthquake of 1934, in Nepal

Historically, the three[35] biggest earthquakes ever recorded in Nepal occurred in 1255, 1505 and 1934. For the comparative purpose in this page, we will focus on the 1934. During the study of damage and recovery of Gorkha Earthquake 2015, it would be interesting to also look at the damage data from The Great Earthquake of Nepal which occurred on 15th January 1934, almost 81 years before Gorkha Earthquake. The 1934 earthquake, of magnitude of 8.2, caused more than 15,700 casualties. The Gorkha Earthquake of 2015 was of magnitude 7.8 with a loss of more than 8,000 casualties. Account from Brahma Samsher Rana's book "The Great Earthquake of Nepal 1934" (Nepalko mahabhukampa 1990 B.S.) presents a statistics of damage to housing inside Kathmandu valley which already had urban characteristics. According to the book, a total of 55,739 private houses suffered damage inside Kathmandu valley. While all over Nepal, there was a damage of 207,248 houses. It was estimated that the total population of Kathmandu valley in 1934 AD was 315,000 and population all over Nepali was 5,900,000[36]. The book also states that 70% of the housing stock was damaged inside Kathmandu valley. Five Settlements of Lubhu, Sanogaun, Harisiddhi, Khokana and Bungamati were completely destroyed. The least damage (less than 5 % of housing stock) was observed in Kirtipur, Gokarna, Sundarijal and Gaucharan.

Further, the description presented in Rana's book depicts the prevalence of widespread stone and brick masonry structures, back then in 1934. Notably, the bricks were of both burnt and unburnt clay units in absence of mechanized systems. The learnings from the Great Earthquake of Nepal 1934 emphasized on good quality construction materials, skilled engineers and good quality land as factors to reduce earthquakes.

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[35] *NPC,Nepal- Sustainable Development Goals, Status and Roadmap_ 2016-2030.pdf, p.1*
[36] *Sapkota et. al, Fatality rates of the M w ~8.2, 1934, Bihar–Nepal earthquake and comparison with the April 2015 Gorkha earthquake, 2016*

5.1 Urban housing recovery status at present

When we discuss urban housing recovery, the consideration is made towards recovery inside urban municipalities because the GoN recognises urban municipalities as urban areas. It is noteworthy that urban housing recovery in Nepal has moved at a slower pace compared to the rural reconstruction. Reconstruction data from January 2021 states that 800,973 households all over Nepal have enrolled as reconstruction beneficiaries and 54,580 households have enrolled as retrofitting beneficiaries. These two types of beneficiaries receive varied grant amounts from GoN in tranches along with the socio-technical assistance packages. At present, there is no distinction between the grant amount and socio-technical assistance that urban and rural households receive. As of January 2021, 61.61% have completed their reconstruction in urban municipalities. In rural municipalities, the success rate is even higher where 81.1 % have completed their housing reconstruction. Further, Table 6 indicates that urban recovery is not uniform across the 32 earthquake-affected districts; 38.8% of earthquake-affected households in urban municipalities of Kathmandu Valley have completed reconstruction compared to 70.8% urban municipalities outside Kathmandu Valley.

Table 6: Comparison of final (third) tranche progress (Jan 2021)

	Earthquake affected Rural areas	Earthquake affected Urban areas	Within Kathmandu valley	Outside Kathmandu valley
Beneficiaries completed 3rd tranche	81.1%	61.61%	38.8%	70.8%

Table 7: Recovery status of private housing in Kathmandu valley (as of Jan 2021)

Geographic area	HHs eligible	HHs enrolled	1st tranche	2nd tranche	3rd tranche	Progress achieved (%)
Inside Kathmandu valley						
1. Kathmandu district	48,463	48,172	43,167	23,059	20,063	41.4%
2. Lalitpur district	20,624	18,129	18,111	7,232	6,386	31.0%
3. Bhaktapur district	28,619	25,089	25,089	11,876	11,444	40.0%
Total	**97,706**	**91,390**	**86,367**	**42,167**	**37,893**	**38.8%**

Table 7 shows that private housing recovery in Kathmandu valley is slowest in Lalitpur district.

Meanwhile, Table 8, below shows that the status of urban recovery is better in areas outside Kathmandu valley where 262,469 HHs are enrolled for support and 194,460 have completed their housing construction until January 2021. This is 70.8% progress achieved.

Table 8: Housing recovery status in urban areas of earthquake affected districts (as of Jan 2021)

Geographic area	HHs eligible	HHs enrolled	1st tranche	2nd tranche	3rd tranche	Progress achieved (%)
1. Inside Kathmandu Valley	97,706	91,390	86,367	42,167	37,893	38.8%
2. Outside Kathmandu Valley	274,613	262,469	259,749	217,767	194,460	70.8%
Total	**372,319**	**353,859**	**346,116**	**256,154**	**232,353**	**62.4%**

Data shows that reconstruction in urban areas is slower as compared to reconstruction in rural areas. This discrepancy makes it important to identify the issues associated with urban reconstruction so that they can be discussed in detail and addressed appropriately.

To complete the remaining tasks of housing recovery and reconstruction, the 15th Plan (FY 2019/20- 2023/24) by NPC[37] proposes coordination with Provincial level and Local level governments. Seven Provinces[38] of Nepal was formed on September 20, 2015. Schedule 9 of the Constitution provides a basis for provinces to be active in disaster management. When the Gorkha earthquake hit Nepal, there was no system of Provincial government. The Four provinces namely : Bagmati Province, Gandaki Province, Lumbini Province and Province no. 1 were affected and still have caseloads remaining. Following table shows the recovery status in urban areas of these four Provinces.

Table 9: Recovery status of private housing in urban municipalities of earthquake affected Provinces (as of Jan 2021)

Geographic area	HHs eligible	HHs enrolled	1st tranche	2nd tranche	3rd tranche	Progress achieved (%)
1. Bagmati Province	304,952	288,106	281,376	208,945	184,499	60.5%
2. Gandaki Province	50,955	48,871	48,262	38,434	34,115	66.95%
3. Lumbini Province	2,149	2,090	2,124	1,459	1,165	54.21%
4. Province No. 1	15,048	14,962	14,256	11,865	10,657	70.82%
Total	**373,104**	**354,029**	**346,018**	**260,703**	**230,436**	

[37] National Planning Commission (NPC), Nepal.
https://www.npc.gov.np/images/category/15th_plan_English_Version.pdf
[38] https://www.election.gov.np/uploads/Pages/1564381682_np.pdf

Table 10: Progress of various districts on private housing in urban areas (as of Jan 2021)

S.N.	Progress range	Number of Districts	Name of Districts
1	31% - 60% progress	12	Arghakhanchi, Bhaktapur, Kaski, Kathmandu, Kavrepalanchok, Lalitpur, Lamjung, Myagdi, Palpa, Parbat, Sindhuli, Syangja
2	61% - 80% progress	12	Baglung, Bhojpur, Chitwan, Dhankuta, Dolakha, Gulmi, Khotang, Makwanpur, Nuwakot, Sankhuwasabha, Solukhumbu, Tanahun
3	81% - 100% progress	6	Dhading, Gorkha, Nawalparasi, Okhaldhunga, Ramechhap, Sindhupalchowk
Total		30	

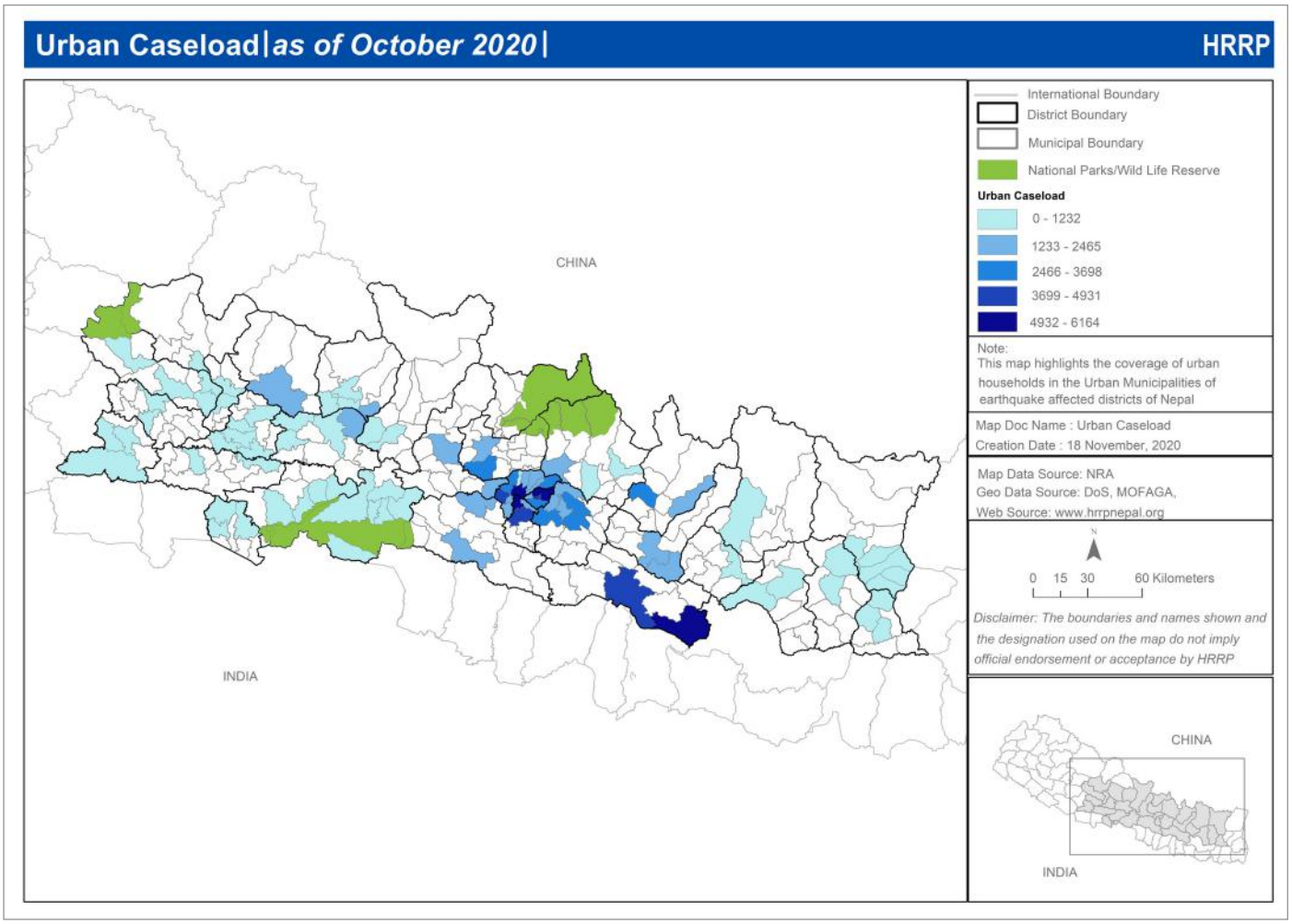


Figure 12: Map showing District-wise urban caseload

HRRP has also been gathering housing recovery data according to the municipalities affected by the Gorkha earthquake. There are 96 urban municipalities in earthquake affected districts.

Data shows that Bhaktapur, Kathmandu, Kirtipur, Lalitpur, Dudhouli, Bhirkot urban municipalities have high number of caseloads. Hence a concentrated effort is required for these municipalities.

Table 11: Progress of various urban municipalities on urban housing reconstruction (as of Jan 2021)

S.N.	Progress range	Number of municipalities	Name of Urban Municipalities
1	0% - 30% progress	6	Bhaktapur, Kathmandu, Kirtipur, Lalitpur, Dudhouli, Bhirkot
2	31% - 60% progress	46	Bhumikasthan, Sitganga, Baglung, Dhorpatan, Galkot, Changunarayan, Madhyapur Thimi, Suryabinayak, Madi, Ratnanagar, Dhankuta, Pakhribas, Musikot, Pokhara Lekhnath, Budhanilkantha, Chandragiri, Dakshinkali, Gokarneshwor, Kageshwori Manohara, Nagarjun, Shankharapur, Tarakeshwor, Tokha, Banepa, Dhulikhel, Namobuddha, Panauti, Godawari, Mahalaxmi, Besishahar, MadhyaNepal, Sundarbazar, Hetauda, Beni, Rampur, Tansen, Kushma, Phalebas, Dharmadevi, Madi, Kamalamai, Chapakot, Putalibazar, Waling, Bhimad, Shuklagandaki
3	61% - 80% progress	30	Sandhikharka,Jaimuni,Bhojpur,Shadananda, Bharatpur, Kalika, Khairahani, Rapti, Dhunibesi, Mahalaxmi, Bhimeshwor, Jiri, Resunga, Mandandeupur, Panchkhal, Halesi Tuwachung, Rupakot Majhuwagadhi, Rainas, Thaha, Kawasoti, Belkotgadhi, Bidur, Ramechhap, Chainpur, Khandbari, Panchakhapan, Solududhakunda, Galyang, Bhanu, Byas
4	81% - 100% progress	14	Nilakantha, Gorkha, Palungtar, Bardaghat, Devchuli, Gaidakot, Madhyabindu, Ramgram, Sunwal, Siddhicharan, Manthali, Barhabise, Chautara SangachokGadhi, Melamchi
Total		**96**	

5.2 Partner Organisations working in urban recovery

Partner Organisations are institutions either I/NGOs or community based organizations that are working in sectors for recovery from the Gorkha earthquake. NRA's approval is necessary for partner organisations to implement their activities. Partner Organisations must also incline their activities as indicated in the PDNA and PDRF along with coordination with District Coordination Committee (DCC) and District Level Project Implementation Unit (DLPIUs) Building and GMaLI.

Until October 2020 there were 269 partner organisations active in urban municipalities. Among them only 7 partner organisations were working in the urban private housing sector. Partner presence is negligible for urban housing recovery as compared to rural recovery.

Table 12: Partner Organisations working in Urban Municipalities for Earthquake recovery in various sector (from HRRP 5W Oct 2020)

S.N.	Sector	Total PO presence
1	Agriculture, Livestock Development and Irrigation	11
2	Cultural Heritage	1
3	Disaster Risk Management	18
4	Education	59
5	Electricity and Renewable Energy	1
6	Employment and Livelihood	17
7	Gender Equality and Social Inclusion	5
8	Governance	2
9	Health	17
10	NA-Others-Others-(Please specify in Activity Detail)	5
11	Nutrition	2
12	Rural Housing and Community Infrastructure	88
13	Social Protection	6
14	Transport	1
15	Urban Housing and Settlements	7
16	Water, Sanitation and Hygiene	29
	Grand Total	**269**

5.3 Housing Typologies

The spread of urban wards across earthquake affected districts covers a wide range of areas and contexts and the diversity of housing typologies reflects this. The following housing typologies are based on building materials usage:

- **Reinforced Cement Concrete (RCC) Framed Building**: this is a frame structure consisting of cast in situ RCC beams and columns. Floors and roofs are constructed from cast-in-situ

concrete slabs. These buildings usually have brick masonry infill in the walls. RCC buildings fall into two major categories; non-engineered and engineered.

- **Brick and Cement Mortar Masonry**: the structural walls in these buildings are one brick thick (230mm) and the mortar used is 1:6 cement sand mortar. These buildings are normally two or three storeys but can be even higher in some areas. The floors are using either reinforced concrete, reinforced brick, or reinforced brick concrete slabs. The roof is generally built in a similar way but in some cases a sloped roof is built using RC slabs. Usually, the slabs rest directly on walls without beams. A peripheral beam cast with the floor slab can be found in some buildings.

- **Hollow Concrete Block and Cement Mortar Masonry**: in these type of structures hollow concrete blocks are used as the wall materials. Concrete blocks with a core void area larger than 25% of the gross area are considered hollow concrete blocks. Under Nepal Standards NS 119/2042, hollow concrete blocks are required to have a minimum compressive strength of 51 kg/cm2.

- **Stone and Cement Mortar Masonry**: in these buildings, cement mortar is used to bind the stones together. The wall thickness is reduced compared to stone and mud mortar masonry buildings and is usually 350-450mm. These houses are normally 2 or 3 storeys. The floors are constructed of either reinforced concrete, reinforced brick slabs, or timber. The roof is generally constructed in a similar way but in some cases sloped roofs may be built from RC slabs. Usually, the slabs rest directly on walls without beams. A peripheral beam at plinth and roof can be found in some buildings.

- **Stone and Mud Mortar Masonry**: in these buildings, mud mortar is used to bind the stones together. The structural walls are the main load bearing components of the building and are normally 450-650 mm thick. These thick walls are generally constructed in multiple layers, with smaller pieces of stone used as filler material between them. The flooring is normally bamboo or timber joists with mud plaster. Roofs are normally constructed using timber rafters with CGI sheets or tiles.

- **Hybrid Structures**: these structures bring together a combination of building typologies or systems in one structure. There are generally two types of hybrid structures; combined load resisting systems, e.g. RCC at ground floor and masonry structure for upper storey(s), and combination of materials in the structural system, e.g. brick masonry load bearing wall at ground floor and adobe for upper storey(s).

6. Post disaster recovery framework and urban housing reconstruction

The Post Disaster Recovery Framework (PDRF),[39] published by the Government of Nepal (GoN) in May 2016, was intended to "provide a systematic, structured, and prioritized framework for implementing recovery and reconstruction of Nepal, struck by the April 2015 earthquake" for "all of government, as well as national and international partners and other recovery stakeholders, including the affected population".

Building on the Post-Disaster Needs Assessment (PDNA), the PDRF prioritised recovery requirements across 19 sectors, including six cross-cutting issues, one of which included the Social sectors-'Cultural Heritage; Education; Health; Nutrition; Rural Housing and Community Infrastructure; Urban Housing and Settlements'[40].

Thus, it is evident that urban housing was one of the key sector in the recovery and reconstruction priorities identified in the PDRF and the PDNA back in 2016, by the government.

The PDRF defines five[41] strategic recovery objectives, the first of which is to "restore and improve disaster resilient housing, government buildings and cultural heritage, in rural areas and cities". Under this first strategic objective the PDRF outlines plans for giving priority for restoring urban heritage settlements, unsafe neighborhoods, and affected market towns by:

- Improving access to planning and building skills and maximizing local initiative.
- Engaging small and medium sized businesses and cooperatives to increase investment in revival of historic settlements and market towns.
- Strengthening effectiveness of municipalities and other stakeholders to plan and enforce safe and resilient rebuilding and expansion of settlements.
- Advocating for comprehensive risk reduction and enforcing the safeguarding of public and open spaces for evacuation.

The PDRF 'Sector Plans and Financial Projections'[42] document, under the sector for urban housing reconstruction outlines recovery and reconstruction priorities, together with estimated financial requirements. Please see Annex for budget estimate. There are priorities in the PDRF sector plan that have not yet taken off but that could have a big impact on the urban housing reconstruction. This includes:

[39] https://www.np.undp.org/content/nepal/en/home/library/crisis_prevention_and_recovery/post-disaster-recovery-framework-pdrf2016-2020.html
[40] NPC, PDRF, 2016, Sector plan, p.i.
[41] GoN, Post-Disaster Recovery Framework (PDRF) 2016, strategic recovery objectives, p.6
[42] NPC, PDRF, Sector Plans, 2015

- **Regeneration of heritage settlements (including 52 in the KTM valley)** – Recovery in heritage settlements needs specific support and cannot take an approach focused on individual houses. Settlement planning is required accompanied by technical support for reconstruction that protects / promotes heritage building styles.

- **Community grants for local infrastructure** – Housing recovery is not just about the houses. Settlement planning and recovery are equally important and providing community grants for local infrastructure could contribute hugely to this. There have been some examples where community groups in old core settlements have come together to reconstruct a '*paati*' (resting place).

7. Challenges in urban housing recovery

Data analysis of January 2021 for housing recovery indicates that there is almost 38.39% housing stock still remaining to be constructed in urban areas. In Kathmandu valley there is still 61.2% housing stock remaining to be completed. Why haven't so many households in urban areas completed their reconstruction or retrofitting? It has almost been 5 years. What are the problems encountered by beneficiaries of urban areas? The answer to it is not simple. There are several and often interlinked challenges that hinder urban housing recovery. This chapter tries to answer these questions regarding challenges in urban housing recovery.

HRRP has been researching urban housing since its inception. An assessment of the 'Impact of the 2015 Earthquake on Housing and Livelihoods in Urban Areas in Nepal'[43], was completed in June 2016. In October 2017, HRRP conducted a research on the cost of housing construction and financing for construction costs. HRRP also published Urban Status Paper in 2018 to provide a snapshot of progress in urban reconstruction[44]. Another HRRP publication from July 2020 "Urban Housing Recovery Compilation of Case Studies from Nepal and Beyond" documents the critical components that have impacted and will continue to impact urban housing recovery through various case studies[45]. In 2019, HRRP facilitated the formation of the Urban Reconstruction Technical Working Group (UR-TWG). Several qualitative and quantitative studies have been conducted through UR-TWG to identify issues in urban housing recovery. Most recently, in August 2020, UR-TWG conducted "Quantitative Survey for Identification of Urban Housing Recovery Issues" jointly with NRA, CLPIU Building and HRRP that analysed barriers and potentials in urban housing recovery. In total, 473 reconstruction beneficiaries / households (termed as RCB samples) and 345 retrofitting beneficiaries/ households (termed as RTB samples) were surveyed in six earthquake affected districts, including households living in heritage areas and NRA-listed vulnerable households.

These studies provide a basis for this Chapter 7, which details the challenges.

7.1 Housing Recovery Finance

One of the biggest challenges faced by the beneficiaries is access to finance and construction affordability.

Based on quantitative survey, the average reconstruction cost is NRs. 3,075,512 (USD 26,000) and based on the findings from the retrofitting households, the average retrofitting cost is NRs. 402,628 (USD 3400). It is noteworthy that a housing reconstruction grant of NRs. 300,000

[43] HRRP / Innovative Solutions, The Impact of the 2015 Earthquake on Housing and Livelihoods in Urban Areas in Nepal, June 2016
[44] https://bit.ly/3I5FKhE
[45] HRRP, Urban Housing Recovery Compilation of Case Studies from Nepal and Beyond, July 2020

might represent almost 50% of the total cost of construction for rural houses but for urban areas the grant may represent as little as 10% of the total cost of construction which greatly reduces the significance and impact of the grant.

HRRP study of October 2017 also found that the most expensive houses were RCC frame structures. In traditional settlements, this cost of construction is even higher because of need to comply with principles for conservation of heritage settlements together with need to follow guidelines for preservation of private buildings inside heritage settlements. Beneficiaries suggested that the government should provide financial incentives or other support to promote traditional architecture. A house owner constructing a house inside Kathmandu valley shared that they were reconstructing their house in the traditional Newari style and have already spent 1.6 lakhs NRs. just to repair the eight timber columns on the ground floor.

The Nepal Urban Housing Sector Profile, produced by UN-Habitat in 2010, provides a summary of financing options for urban housing but highlights that "the existing housing finance system has not been able to address and solve the housing finance problem of poor and low income families with high interest rates and unfavorable lending conditions for lower income groups, for whom at times collateral in the form of land and house makes access to finance unattainable"[46].

To reconstruct their houses, many of the earthquake affected families, in urban areas, have taken up loans at higher interest rates and also have sold their fixed assets like ancestral lands. This could have contributed to an increase in urban poverty. However, the extent of it has to be further studied. Five-years of earthquake recovery by NRA during its term (2016-2020) has provided a lesson that appropriate finance options are to be made available to homeowners trying to reconstruct houses in urban areas.

[46] UN-Habitat, Nepal Urban Housing Sector Profile, 2010

Excerpts from the qualitative fieldwork undertaken for the Independent Impacts and Recovery Monitoring Project (IRM), led by The Asia Foundation (TAF) project in November 2019

A family rebuilt their house with the housing grant and by selling land

Badri Narayan's family of eight was living in an old house in Bhaktapur before the earthquake. It was fully damaged during the earthquake. But the family rebuilt faster than others. 'We built quickly; where would we stay if we didn't rebuild?" said Badri Narayan.

The family financed their new house with the housing reconstruction grant and by selling land. Badri Narayan said he spent around Rs. 3,000,000 on rebuilding his house. While he received all tranches of the housing grant, he did not receive the completion certificate because he deviated from the original design by adding one more floor. To receive a subsidy from the municipality, he had to use traditional bricks, traditional windows and tiles.

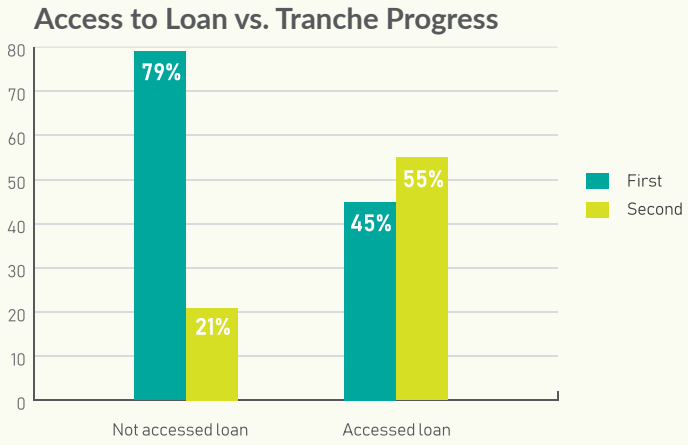
According to Badri Narayan, local cooperatives are providing loans at low interest rates to those having to rebuild. But he also said that many, like himself, are only able to rebuild only after selling ancestral land. Others cannot rebuild because of family disputes or insufficient financial resources.

A mason unable to rebuild his house due to insufficient financial resources and a family dispute

Dil Bahadur from Bhaktapur Municipality is a mason by profession, earning a small income. The house he lived in at the time of the earthquake got destroyed and was declared unlivable. As the land was in his wife's name, she was the one enlisted as beneficiary for the housing grant. With his wife's permission, Dil Bahadur tried to rebuild a house on some other land they own. He used the first tranche of the housing grant she received to demolish the old-damaged house. Demolishing was costly because their house was in a narrow lane. He also took a loan of Rs 3,000,000 (30 lakh) from a local cooperative. He says he spent Rs 800,000 – 900,000 on construction so far but could not complete building a new house because his loan has been discontinued. Dil Bahadur claims his wife, who was a witness for the loan, did not trust him to be able to pay back the loan. Dil Bahadur now lives in a temporary shelter near the construction site while his wife and two children live in a rented house supported by her family.

Summary of UR-TWG August 2020 study (n=818, RCB samples=473, RTB samples=345)

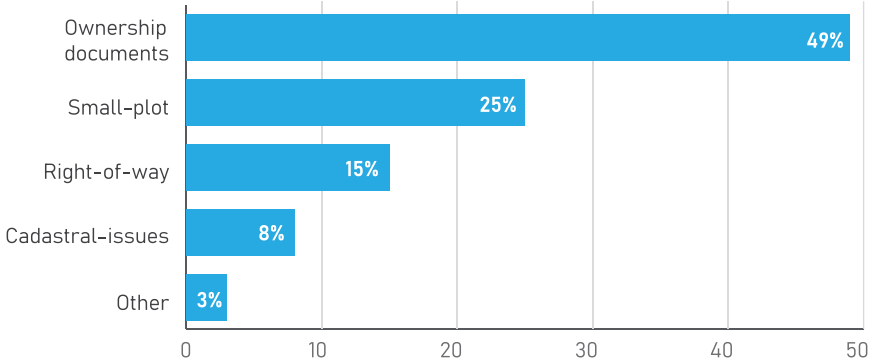
Access to finance and affordability were identified as the biggest barriers to housing recovery from the quantitative study, by HRRP. This study also shows that almost half of the respondents still need to access loans and many have accessed loans at high interest rates. The higher interest rates are mainly from micro-finance institutions and cooperatives, while the least awareness of interest rate is observed when the loan is taken from family and neighbours. The awareness on NRA's soft loan through this survey has been low, with 75% of reconstruction respondents unaware of it. After grievances related to insufficient livelihood and insufficient tranche amount retrofitting, the next biggest financial issue for both reconstruction and retrofitting was the high interest on loans.



The linkage between access to finance and urban recovery can be seen from the study, as 55% of those who have accessed housing loans received the 2nd tranche, and only 21% of those who did not access loans progressed to the 2nd tranche. This shows that access to finance is a huge barrier and many beneficiaries who couldn't access the loans were not able to proceed ahead with reconstruction of their homes.

7.2 Land

The UR-TWG 2020 study found that about 29% of all reconstruction households surveyed faced land issues in their housing recovery process. It was found that almost half of the respondents with land issues faced ownership challenges. This was followed by small plot issues (25%), Right of Way (RoW) (15%) and cadastral issues (8%). In case of RoW issues, the household either did not have an access road to the plot, or had to leave a setback for road expansion. There is minimum land area required by household if they want to construct their house. However, for many households after leaving their land for RoW, the land area becomes



[Source: UR-TWG- Study August 2020,(n=818, RCB samples=473, RTB samples=345)]

insufficient and a household does not receive a building permit. More research is required on the impact of RoW in Nepal's urban housing recovery. Beneficiaries who are already facing financial constraints in urban areas are unable to purchase another adequate plot of land and build their house within their existing place of residence. Moving to another area or outside the urban area would mean that livelihood of the beneficiary will be uncertain. Hence, many beneficiaries still want to build a house where they are currently living. Without adequate land, secure tenure and land title documents the issue of land has hindered the urban housing recovery.

7.2.1 Lack of ownership documents

The UR-TWG 2020 study found the following issues as reasons for lack of land ownership documents:

1. One plot can have multiple owners and hence such beneficiaries were not able to access housing grants.
2. No ownership papers or land entitlement papers although beneficiaries are rightful owners of the property and have been living in the same plot since many generations.
3. Beneficiaries still live in land owned by Trusts (Guthi land), Public or Government lands.
4. Beneficiaries who don't have any land as assets.

In urban areas there are cases where siblings are living in the same house but with different kitchens or as a separate family. However, the plot is not divided or is too small that it cannot be further subdivided. The siblings in this case will not have land entitlement certificates of their own and cannot access individual housing grants although they are separate families now. Working Procedures for Reconstruction by Single or Multi-ownership Beneficiaries in Heritage Settlements- 2019 was developed to solve these issues. This document was brought by NRA to undertake housing reconstruction by beneficiaries who are siblings or from the same family and who will be living in the same house but on different floors. This procedure recognizes siblings as separate beneficiaries who can then access reconstruction grants to build a common house or multi ownership house. In the UR-TWG 2020 study it was found that the majority of beneficiaries didn't know that this procedure existed or how to apply for a grant under this procedure.

Trust, or '*guthi*', land is the parcel of land that is held under a trust that is endowed by any philanthropist through relinquishment of their title to an immovable property fund to a trust for the operation of any social or religious cause. Government land is public space such as roads, land around government buildings or offices, land around monasteries and temples, forests, river beds, and uncultivated lands, which are owned by the Nepal government or are declared as public lands and published in the '*Nepal Rajpatra*'. People residing on '*guthi*' or government land do not have a land ownership certificate ('*lal purja*') and cannot construct on the land as it does not belong to them. People who have been residing on these types of land

for decades found themselves displaced after the 2015 Gorkha Earthquake as a result of issues with land ownership rights.

Figure 13: An extremely narrow house in core historical area of Kathmandu Municipality, Kathmandu in Feb, 2020

7.2.2 Small Land Plots

In many core areas in the Kathmandu Valley the plot size is small and it does not meet the minimum requirements of the building permit process. Small plots are often due to the practice of vertical sub-division when the home is inherited by the younger generation it is divided vertically leading to increasingly smaller plot sizes over time. A narrow house with minimal width remains after vertical divisions of private houses, with inadequate space for even a minimum size room in one floor.

In some cases, the plot size may be small due to a portion of the land sold by a sibling as land prices in Kathmandu Valley are high. When households build on these small plots, many build with eccentric footings which are not compliant with the building code unless a structural analysis is done by a qualified engineer. In addition to having small plots, the houses that are on these plots are adjoined making the construction process even more challenging. This increases risk during earthquakes as the buildings are not structurally well designed to be adjoined and therefore may have a negative impact on neighboring structures.

7.2.3 Right of Way (RoW)

The RoW is defined as a land corridor designed or constructed for the use of public access, vehicular traffic circulation and the location of public utilities such as pathways, roads and highways, regardless of the ownership of the land. Most of the municipalities have strengthened their by-laws and right of way, hence many of the beneficiaries have to allocate additional land as setbacks. This puts additional strain on the beneficiaries whose land is already limited. RoW is generally not applied in traditional or old settlements as they were built before RoW standards were endorsed. But if these buildings are demolished for any reason and a new structure is rebuilt in its place then RoW must be followed, resulting in smaller plot sizes.

There are four main government entities who set Right of Way (RoW) standards and there are 10 RoW standards as presented in Table 13. The RoW standards conflict with each other and these provisions lead the land size below the minimum official threshold area eventually

making municipal approval process difficult[47].

Table 13: Right of Way (RoW) determined by various governmental agencies[48]

Agency	Highway (m)	Feeder (m)	District (m)	Arterial/ Trunk (m)	Sub-arterial (m)	Collector (m)	Local (m)	Ring Road (m)	Local Min (m)	Feeder (Urban)
KVDA 2064	50				22	14		62		11
DoR 2070	50	30	20							
MoFAGA 2072							6		4	
MoUD 2076				50	30	20	10			

[Source: (DoR, 2013), (KVDA, 2007), (MoUD & MoFAGA, 2015)]

Due to this issue many households in urban areas are reluctant to start building, or have started building and had to stop, as a result of issues with Right of Way and road expansion. For example, in Dolakha district, the width of Jiri road was initially set at 15 meter by the Department of Roads (DoR) but after the earthquake it was revised to 21 meter which has left many households with insufficient land to build on. In addition, in some cases of Gorkha district and Dolakha, there are more challenges building on small plots due to the 25 meter RoW rule.

Figure 14: Rambika Thapa Magar stands outside her one room home on the edge of Kathmandu's ring road. The expanded road is due to cut through the middle of the house. "We have been told to evacuate. The demolition could start any time, maybe while we are sleeping.[49]

[47] Shrestha et al, Unravelling the Constraints in Reconstruction of Core Urban Housing Sector, 2020 https://bit.ly/3qVqTGB
[48] Shrestha et al, Unravelling the Constraints in Reconstruction of Core Urban Housing Sector, 2020 https://bit.ly/3qVqTGB
[49] Heat and dust: Kathmandu's commuter hell – in pictures, The Guardian, 20 June 2018

7.2.4 Cadastral issues

UR-TWG 2020 study has also found that beneficiaries are facing challenges wherein their land's cadastral map does not match the plot size.

Excerpts from the qualitative fieldwork undertaken for the Independent Impacts and Recovery Monitoring Project (IRM), led by The Asia Foundation (TAF)project in November 2019

A single woman unable to claim financial support without a land certificate

Name: Bishnu, 60 years old
Surya Binayak Municipality
Bishnu is a single woman living in a temporary house in a village in Suryabinayak Municipality. She is not a beneficiary of the housing reconstruction grant scheme even though her house was completely destroyed in the earthquake. She is missing the land registration certificate needed to enlist as beneficiary. Her husband had left the family many years ago. Bishnu knows that her husband mortgaged the land but is unaware of his current whereabouts.

After the earthquake Bishnu tried to register for the housing grant and also tried to get Rs. 6000 allotted for animal husbandry but she could not receive either without the land registration number.

Five years after the earthquake, Bishnu still lives in a temporary house made of materials from the old house and with the support from her community. She lives there with her 30-year-old son who had taken a loan of Rs. 700,000 to go abroad. He has since returned and is currently unemployed.

Summary of UR-TWG qualitative (14 FGDs, 9 KIIs) and quantitative study-2020 (n= 818, RCB samples = 473, RTB samples = 345)

The majority of land issues emerging from both the previously conducted qualitative study and the quantitative assessment are land ownership documentation issues, and issues of multiple ownership. From the analysis of district-wise land issues from the quantitative survey of August 2020, it is seen that land ownership issues are prevalent in most districts, but some land issues are dominant only in a particular district, such as RoW in Kavrepalanchok. Close to 60% of those who face land issues have not started reconstruction, indicating that land issues are a large barrier to urban housing recovery. Targeted research is required on the land issues of *Guthis* and on the recovery progress of landless households.

The 2016 publication on Housing, Land and Property Issues in Nepal by CARE[50] gives a deeper insight into the land dynamics of rural and urban Nepal.

[50] https://www.sheltercluster.org/sites/default/files/docs/care_housing-land-property-issues-in-nepal_feb-2016.pdf

7.3 Compliance of heritage conservation norms

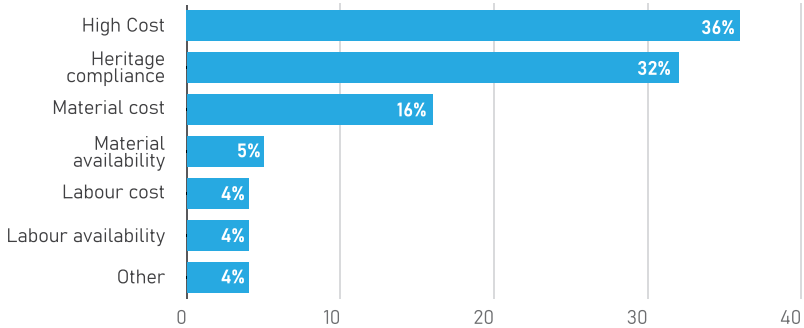
The housing and traditional urban settlement patterns in the Kathmandu Valley evolved during the past 2,000 years are the culture and identity of Nepal. Unfortunately, many private houses in historical core areas of the Kathmandu Valley, and in other areas outside Kathmandu valley got damaged. There is a risk that vernacular architecture would be lost during the housing reconstruction. The understanding of norms related to heritage conservation and its execution during actual reconstruction is a challenge.

The NRA and the Department of Urban Development and Building Construction (DUDBC), with support from UN-Habitat, initiated formulation of an amendment to the The Fundamental Construction Bylaws on Settlement Development, Urban Planning and Building Construction 2017 to better reflect the needs of heritage settlements. This by-law has adopted 12 principles for conservation of heritage settlements and 21 guiding points for conservation and preservation of buildings inside heritage settlements. This fundamental by-law is applicable to all urban municipalities and can choose for conservation of historical areas including house pooling, land pooling, and integrated settlement development. Compliance of these principles and guiding points is another challenge. Another challenge is that there are not enough construction workers (carpenters, masons, etc.) available who are skilled in the techniques used in vernacular architecture.

If the beneficiaries living in earthquake-affected traditional heritage areas reconstruct their houses reflecting traditional style, each beneficiary will get an additional grant of Rs. 50,000 at the recommendation of local government. The government has given such privilege for protection and promotion of traditional settlements.

In UR-TWG 2020 study a total 120 responses from households in settlements with heritage value were collected. Over a third of the households surveyed in heritage wards shared that the high cost of reconstruction was a challenge they faced, followed by heritage compliance requirements, also faced by nearly one third of the respondents. Other issues included material availability, and labor cost and availability. In terms of on-site construction issues in urban areas, demolition of houses was also one the major issues found during UR-TWG 2020 study.

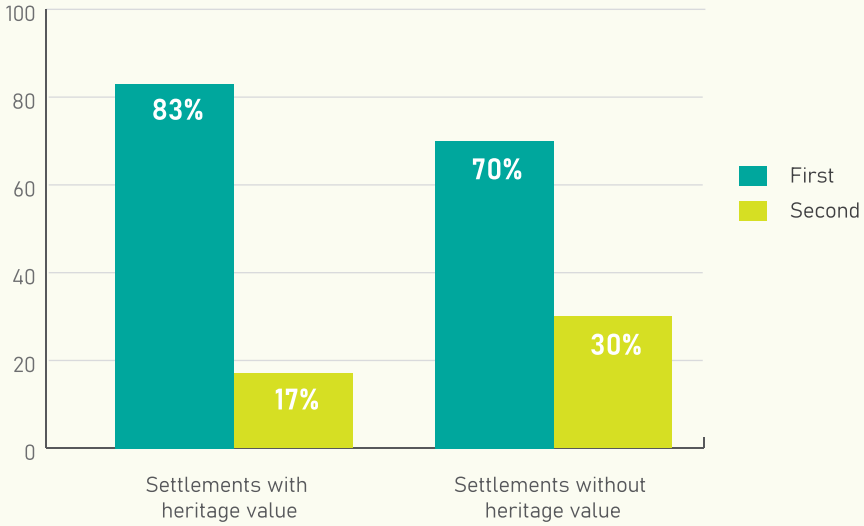
Heritage housing reconstruction challenges



[Source: UR-TWG- Study -2020,(n=818, RCB samples=473, RTB samples=345)]

Summary from UR-TWG 2020 study (n=818, RCB samples=473, RTB samples=345)

Tranche status of households living in settlements having heritage value vs. settlements without heritage value



Heritage areas are lagging behind more in their reconstruction, with 83% of heritage areas surveyed still at first tranche, compared to 70% at first tranche for the total number of households surveyed. The awareness of the heritage top-up grant has emerged quite low. For further reading, case studies of housing recovery from five heritage settlements in Kathmandu Valley can be found here. (*https://pubs.iied.org/sites/default/files/pdfs/migrate/10836IIED.pdf*)

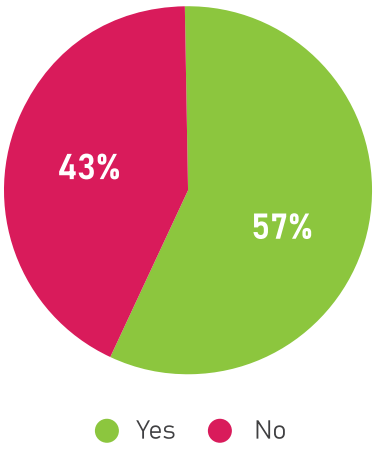
7.4 Communication

Access to the right information at the right time is critical to disaster recovery. However, in the UR-TWG 2020 study, 43% of the respondents informed that they did not receive sufficient information regarding reconstruction in urban areas. Among the participants of the survey who said that they received adequate information, the largest source of information was through local ward-level representatives, followed by NRA engineers and technical staff. Another effective source of information was found to be media like radio and TV and through word of mouth in the community and family. The previous chapter 5.2 on partner presence (Partner Organisations working in urban recovery) has already indicated that there is less partner presence in urban housing recovery, and the findings reflect that households in urban areas have not received consistent information on housing reconstruction. All the households undertaking reconstruction would like to continue receiving information mainly from local ward level representatives and NRA technical staff.

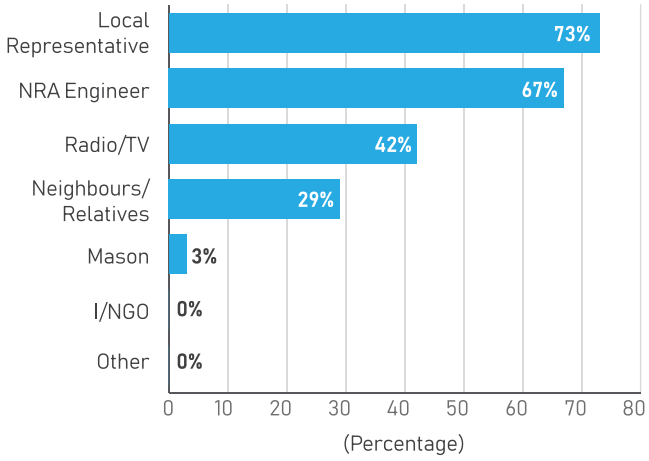
There has been a miscommunication at local level regarding reconstruction policies and procedures. Design Catalogue for Reconstruction of Earthquake Resistant Houses produced by DUDBC to support households in the reconstruction of their houses offers a wide range of building designs for rural housing but very few designs in the catalogue address the context of urban areas[51].

[51] https://www.hrrpnepal.org/hrrp-reference-library/design-catalogue-for-reconstruction-of-earthquake-resistant-houses

Do you receive sufficient information on reconstruction?



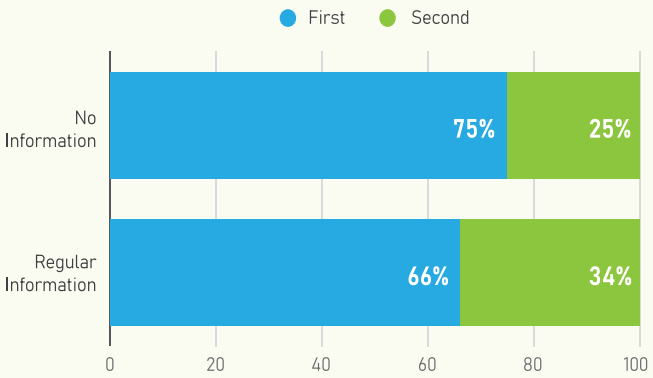
Where are you receiving housing recovery information from?



[Source: UR-TWG- Study -2020,(n=818, RCB samples=473, RTB samples=345)]

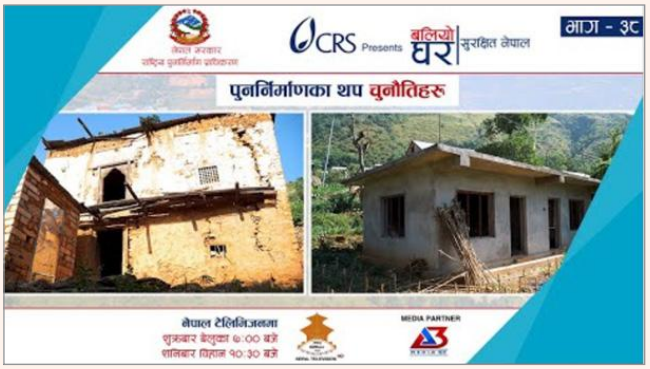
Summary from UR-TWG 2020 quantitative study (n=818, RCB samples=473, RTB samples=345)]

The quantitative findings substantiate the findings from the previously carried out qualitative study that the biggest sources of information for the households have been NRA technical staff and local representatives, indicating their potential to carry out more effective information flow. Although more than half of the households have responded that they are receiving information on housing recovery, the awareness on aspects like NRA's soft loans and the top-up grants is still quite low.



Authentic and updated information is key in decision-making, especially in urban areas where the available market choices are more and the housing costs are higher. 34% of those with access to regular information have proceeded to the 2nd tranche, compared to 25% with no access to regular information. This shows the need to identify communication gaps and also identification of major stakeholders in the current mechanism to establish a user-friendly, two-way urban communication channel.

Baliyo ghar Surakshit Nepal Episode



The TV program Baliyo Ghar Surakshit Nepal focuses on reconstruction related content. Baliyo Ghar program is designed with the concept of integration of field level activity and media promotion so that both complement each other to promote Nepal's recovery process. The TV program is designed and developed to disseminate earthquake reconstruction related information to beneficiaries in urban and rural areas. There are many areas in rural Nepal where access for NRA related information and technical assistance is a challenge, thus the earthquake affected people are not able to reconstruct houses as per the requirement. The TV program works for bridging this information gap. The main viewer of the program are the beneficiaries from 32 earthquake-affected districts. Although the program focuses on these earthquake affected districts, the program has benefited people of the entire nation. Beneficiaries looking to construct new houses as well as masons benefit out of the information provided through the program. It has helped stakeholders to scale-up retrofitting tasks and other crucial reconstruction works.

7.5 Socio-Technical Assistance (STA)

The owner driven housing reconstruction programme combines financial assistance from the GoN with socio-technical assistance. The 2015 Post-Disaster Needs Assessment (PDNA) calls for "a cascading socio-technical facilitation mechanism for recovery support at the national, district and local level"[52], which when combined with the financial grant from the GoN will "empower households to lead their own recovery efforts" in compliance with "safe construction standards".

HRRP publication on Core Socio-Technical Assistance Package 2017[53] provides a description of each of the activities in the core socio-technical assistance package. NRA has defined a core STA package consisting of 7 components: community orientations, door-to-door technical assistance, short training for masons, on the job training for masons, helpdesks, demonstration construction, and Community Reconstruction Committees (CRC).

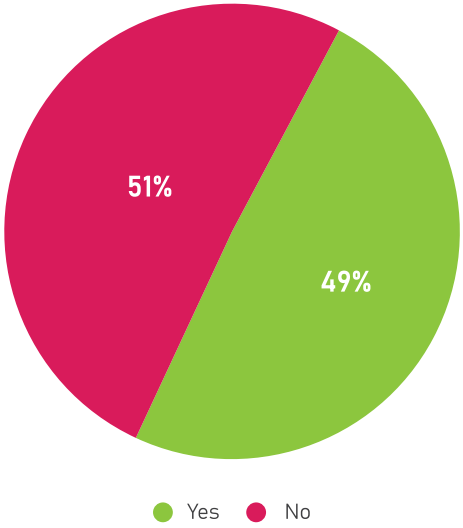
The PDNA estimated 140 million USD as costs for associated Technical Assistance (TA). The lack of information access, the lack of partner presence, lack of skilled human resources and other inter-linked complexities in urban areas means that providing Socio-Technical Assistance

[52] GoN, PDNA, 2015, Vo.A, p.5
[53] Core Socio-Technical Assistance Package 2017

Package has been a challenge in urban areas. HRRP 5W, January 2021 data suggests that out of 758 urban wards studied only 163 wards have access to at least one of the STA components, the gap is quite significant.

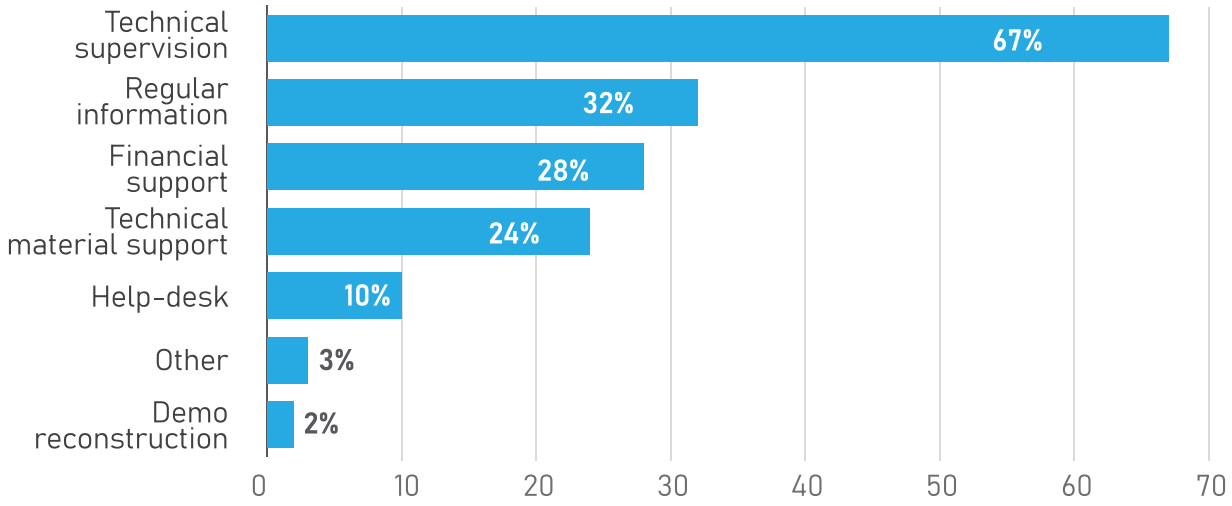
UR-TWG 2020 survey provides data on the kind of assistance made available to urban households for their housing recovery. Out of the reconstruction households that face demolition issues, about 49% households surveyed have received one or more types of assistance in their reconstruction, while 51% did not receive any form of assistance. Certainly, the coverage and quality of STA for urban areas would determine the success of urban housing recovery.

Households received/receiving assistance in reconstruction



[Source: UR-TWG- Study -2020,(n=818, RCB samples=473, RTB samples=345)]

Type of assistance received



[Source: UR-TWG- Study -2020,(n=818, RCB samples=473, RTB samples=345)]

The maximum assistance being provided to households is that of site supervision (67%), followed by regular information (32%), financial support (28%), technical/material support (24%), helpdesks (10%), demo reconstruction (2%).

7.6 Urban Retrofitting

The progress for retrofitting beneficiaries is minimal where about 0.58 % completion is achieved all over Nepal until January 2021. In September 2017 the NRA published the Repair and Retrofitting Manuals for masonry and RCC structures. These manuals set out the technical guidelines and the process for disbursement of GoN housing retrofit grant. The grant is 100,000 NRs disbursed in two tranches; the first of 50,000 NRs on signing the partnership agreement with the government and the second of 50,000 NRs on completion of the retrofit as per the standards.

Retrofitting was initially executed by NSET-Nepal as part of Kathmandu Valley Earthquake Risk Management Program (KVERMP) in 1997. There are many examples of successful implementation. However many challenges in urban housing retrofitting are encountered which are:

a. Retrofitting is still not mainstreamed

Retrofitting is a relatively new concept in Nepal and there is low awareness and trust in the concept of retrofitting. Many beneficiaries are not interested or not convinced in retrofitting. Misunderstanding between repair and retrofitting exists. Beneficiaries have been claiming to have retrofitted the house but they are actually minor repairs.

Furthermore, many municipalities have strengthened their by-laws and right of way, many of the buildings have to allocate additional land as setbacks. Many of the partially damaged houses have not been able to retrofit as the local authorities have not promoted retrofit because their by-laws would not be implemented or their plans of implementing the setbacks would be hindered.

b. Social acceptance

There are conflicts over multiple ownership, where the owners haves contradictory views on retrofitting technology. There is also a tendency not to live in the old house but rather to construct a new house with modern architecture and services. Most of the core-urban retrofitting cases, especially in Kathmandu, are of old houses. As these traditional houses might not fulfill the current family needs, a number of house owners are willing to demolish old structures and reconstruct modern buildings. Such case loads must be separated, as these houses aren't being retrofitted due to personal preferences. A study at the local level can provide a better scenario on this aspect..

c. Retrofitting is considered complex

There is lack of willingness among retrofitting beneficiaries as they are not certain about the technology. Most of the retrofitting beneficiaries are interested to change to reconstruction beneficiaries. For example, as per January 2021 HRRP data, 3234 beneficiaries have requested for beneficiaries conversion, 2991 beneficiaries changed beneficiaries types to reconstruction

from retrofitting which is further in increasing trend and 243 changed to retrofitting from reconstruction. Similarly, retrofit being a novel concept in the context of private housing, there are many socio-cultural challenges especially in preserving the vernacular architecture. The usage of RCC columns and beams in load bearing mud mortar houses might not be acceptable by the community. These issues have also resulted in beneficiaries not signing the partnership agreement. There is confusion between retrofit and repair for beneficiaries. Although this has been addressed to some extent through efforts by NRA, POs and local NGOs, the confusion still persists.

d. Lack of guideline for RCC building

For retrofitting of RCC buildings there is a need of different design for each house. However, there is a lack of structural designers for providing the appropriate retrofitting design. There is no separate STA for retrofitting, and the current STA package is insufficient to fastrack STA.

e. New construction has a well established system for contractual process whereas retrofitting does not have a streamlined contractual process.

As there are no standard retrofitting norms for rate analysis, it has been difficult to estimate the cost of retrofitting of houses. Further, there is huge confusion and lack of understanding on contracting procedures for retrofitting in developing countries such as Nepal.

f. Lack of skilled manpower for retrofitting

Retrofitting technique demands skilled manpower. Retrofitting trainings to technical engineers have been conducted across all earthquake affected districts. Similarly, awareness programs for retrofit beneficiaries have been conducted at the local level. However in earthquake affected areas, there is still a huge lack of skilled masons and technical person expertise on retrofitting. Without training, technical staff are not able to suggest the appropriate retrofitting method to the beneficiaries.

g. Economical affordability

The cost of retrofitting can be high depending on housing typology and other factors such as structural damage, house size and more. Particularly in urban areas the dominant structure is RCC and the retrofitting cost of RCC structure may be higher as compared to other structures. In urban areas, the cost of hiring structural engineers to design for retrofitting is high because of which the beneficiaries are not intending to move forward with retrofitting process. There is also a lack of usage of locally available materials in the retrofitting process and it contributes to an increase in cost for retrofitting.

h. Technical feasibility

Retrofitting of adjoined buildings is more complex and at times technically not feasible due to limited or no research on seismic retrofitting for urban row housing for Nepal. In traditional core areas of Kathmandu valley such as Sankhu and Indrachowk multiple storey load bearing

structure in mud mortar of more than 3 storey have been listed under retrofitting which are not feasible for retrofitting

i. Grant procedures

There is no provision of multiple grants for multiple ownership of a building. Due to this many beneficiaries have not retrofitted their house.

7.7 Assistance to vulnerable

As of November 2020, out of the total 18,505 identified vulnerable beneficiaries, 89% (16,444) have received the first tranche, 65% (12,042) have received the 2nd tranche and 57% (10,527) have received 3rd tranche[54]. In addition to the reconstruction grant of 300,000 NPR, a top-up support of 50,000 NPR is being granted to households that fall in the NRA's vulnerable category. The criteria include People With Disabilities (PWD), senior Citizens above 70 years, single women headed households above 65 years, and child headed households under 16 years. Access to finance is the biggest challenge in urban housing recovery, especially for vulnerable beneficiaries. NRA has recruited mobile masons and social mobilizers to expand socio-technical assistance and speed-up reconstruction of houses belonging to vulnerable beneficiaries. Various partner organizations have also been mobilized in this process. However due to the large scale of remaining work and field-level difficulties many vulnerable beneficiaries are yet to be addressed. The vulnerability criteria, as it does not include socio-economic vulnerability hence many vulnerable beneficiaries might not have been categorized properly. Municipalities also do not have adequate capacity and resources to respond to the needs of vulnerable beneficiaries. Vulnerable households have other issues impeding them from starting reconstruction such as relocation, land ownership, inundation area etc. In addition, access to information, getting relevant documents, obtaining materials and labour were other pertinent challenges.

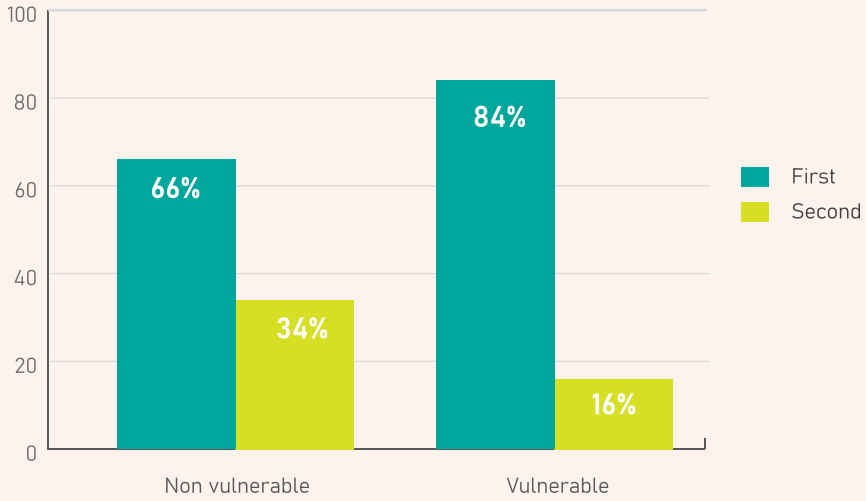
Summary from UR-TWG 2020 study (n=818, RCB samples=473, RTB samples=345)

A larger percentage of (NRA-categorized) vulnerable households (67%) had not started their reconstruction compared to non-vulnerable households at the time of survey, and almost half faced demolition challenges. Vulnerable respondents were taking informal loans at higher interest rates, and mainly from relatives. It is striking that one third vulnerable households who had taken loans did not know the interest rates of the housing loans taken. From both the qualitative and the quantitative findings, it is clear that the awareness of the vulnerable top-up grant was found to be considerably low. The above findings also conclude vulnerable respondents had lesser access to both technical assistance and information compared to non-vulnerable households.

[54] https://www.hrrpnepal.org/uploads/media/11HRRPBulletinNovember2020_20201201205539.pdf

From this assessment, the recovery rate of NRA listed vulnerable households was slower than the non-vulnerable households, with 84% of vulnerable households at first tranche compared to 66% non-vulnerable households, and 16% of vulnerable households at second tranche compared to 34% non-vulnerable households.

Vulnerable households vs. Tranche status



8. Opportunities & Successes in urban housing recovery

This chapter presents areas of potential intervention or opportunities which can lead to positive outcome for urban housing recovery. The examples of successes in urban housing recovery are presented through case studies that are from different geographies and scales within Nepal. HRRP through its District Team and National Team collected these case studies from beneficiaries and masons. In addition, partner organizations like Lumanti, UNDP, NSET, and The Asia Foundation have shared their valuable program experiences. Arughat Municipality in Gorkha district has shared their initiative on setting up an effective model of a revolving fund. Detailed success stories from Nepal as well as abroad can be found from HRRP's publication from June 2020, titled as, Urban Housing Recovery - Compilation of Case Studies from Nepal and Beyond.

8.1 Housing Recovery Finance

One of the biggest challenges faced by the beneficiaries which is hindering the urban reconstruction to move forward, are access to finance and affordability. After the earthquake, though people had land, and little assets, they didn't have the required financial resources to start rebuilding of their houses immediately. The construction cost in urban areas is far more than in rural areas, and given the smaller parcel of the land available, people have had no options but to go higher, which has added to the cost of rebuilding. A huge amount of means and resources is required to make finances available to beneficiaries living in urban areas. To overcome this challenge, it is necessary to ensure and ease access to concessional loans; prepare and set-up revolving fund guidelines; institutionalize housing recovery finance; introduce affordable housing solutions to reduce the cost of construction; promote community based interventions.

Arughat Rural Municipality in Gorkha district was formed in February 2017. The Municipality has successfully emulated a financial model for reconstruction which can be helpful in adopting similar models in urban municipalities as well. Arughat Municipality set up a revolving fund in September 2017, with the objective of supporting vulnerable households to get through construction of the foundation of their houses and to receive the second tranche of the Government of Nepal (GoN) housing reconstruction grant. Households that receive funds from the revolving fund must return the money they took once they receive the second tranche from the GoN and this money is then available for another household.

The structure of the revolving fund is as follows:

- Aarughat Rural Municipality has placed 1,000,000 NRs (10 lakhs) in the revolving fund
- Households can apply to take up to a maximum of 100,000 NRs (1 lakh)

- Applicants must be recommended by the Ward Chairperson and must meet the selection criteria: single women, elderly, ultra-poor families, disabled headed households, and others that are struggling to get their foundation complete and receive the second tranche of the GoN housing reconstruction grant
- The Ward Chairperson monitor use of the fund and reconstruction compliance
- The Ward Chairperson coordinates with the banks to ensure that recipients of the fund cannot withdraw the second tranche from their bank account without recommendation from the Ward Chairperson

A Revolving Fund Operational Support Committee (RFOSC) was set up and has been responsible for the management of the fund. The coordinator of the committee is the Rural Municipality Vice-Chairman and all 10 Ward Chairpersons are members. The revolving fund will continue throughout the housing reconstruction, and on completion, the funds will return to the Rural Municipality and be used for other development activities. The first loans from the revolving fund in Aarughat Rural Municipality were distributed in February 2018 and to date 30 households have used the revolving fund and 22 households have already returned their loan to the fund.

Scaling up

- The concept needs to be promoted at national level with POs and donors. To develop a common approach, experience sharing workshops should be held at district level with municipalities.
- Other stakeholders like Municipal Association of Nepal (MUAN) to utilise their networks to advocate for and promote this concept for urban municipalities
- Experience from other revolving fund housing projects, such as those carried out by Lumanti, and international examples too can be studied for a better idea and exchange on revolving funds

Influence

- The chairperson of Aarughat Rural Municipality presented the concept of the revolving fund during the 3rd Nepal Earthquake Memorial Day event in Kathmandu hosted by HRRP and NRA and attended by several decision makers and municipal representatives.
- Aarughat Rural Municipality was supported in drafting the guideline and shared through NRA and HRRP website and various events and sessions to promote the initiation.
- 'Scaling up Municipal Revolving Fund Concept in EQ -Affected Rural and Urban Municipalities';several working sessions were conducted by Vulnerable Support Working Group with several commitments from government and organizations to support other municipalities to adopt the concept.
- The Aarughat Municipality's revolving fund concept was nominated for United Nations Sasakawa Award for Disaster Risk Reduction under the theme 'Building inclusive and resilient societies' by the HRRP in 2019.

Replication/Adoption

- Sahid Lakhan Rural Municipality in Gorkha District allocated 9 lakh funds in its annual budget. 1 lakh per ward in all 9 wards and proposed to double fund next year.
- Gandaki Rural Municipality in Gorkha District is utilizing revolving fund to provide materials through vendors and beneficiaries had to pay back after receiving other tranche for 18 HHs in four wards.
- UNDP promoted and facilitated establishment of revolving funds in other municipalities in Dolakha and Sindhupalchowk districts with European Union funded projects.

Household's Perception Survey

- A Perception survey was conducted with 4 beneficiaries who have returned the subsidized loan. Two beneficiaries saved the 1st tranche whereas one did spend it to celebrate Dashain festival and one had used it to treat cancer of her late husband.
- The average fund return time was 3 months and 3 of them took additional external loans from savings cooperatives at 16% interest rate for reconstruction.They recommended the larger grant for a longer period and suggested the purpose can be expanded to be used for additional recovery activities like agro-industry, farming and other livelihood activities.

8.2 Land

Lack of adequate land, secure tenure and land title documents have hindered the urban housing recovery. Opportunities exist for local bodies (municipalities) to intervene. Municipal leadership can be instrumental in identifying the types of land issues and extending facilitation. Identification of prevalent issues related to Guthi land and government authorities can develop a guideline on resolving the ownership issues with Guthi. Also, another approach must be explored which combines affordable housing programs and social housing for urban poor, squatters and inhabitants of informal settlements.

Sarjamin: Land Registration through Public Inquiry Deed

Ward no 8, Panga, Kirtipur Municipality, Kathmandu district

As informed by the Ward Chief, Binod Maharjan, nearly 585 houses in Ward no 8, Panga, Kirtipur Municipality, Kathmandu have gone through Sarjamin, a process of land registration through a public inquiry deed. Sarjamin is done when the land resided by any concerned person is not registered or does not fall under any authority or certification of any people, community or organization. In such cases, the ward office facilitates the concerned people by issuing a first public notice of 7 days. The first public notice is to check if the application filed by the concerned person claiming authority over land that he has been legally habituating belongs to anyone, and whether any concerned neighbor or relative wants to raise a claim. Such a public notice means that anybody concerned can claim rights over the land within mentioned dates. If complaints are

not found in first public notice, then the second and final public notice of 21 days is issued by ward office.

If complaints are received within mentioned days then, the ward office sets committee to resolve disputes over the land. If no one complains or raises claims over the mentioned land within 21 days, then the ward office provides "Bhogchalan Sifaris' ' letter(letter stating tenancy rights of concerned one over the land).

Figure 15: Houses in Panga, Kritipur Municipality

The concerned resident takes the Bhogchalan Sifaris letter to the Department of Survey (DoS), requesting them for detailed measurements of the land as per blueprint. After the measurement works by the DoS, the concerned person can go on making building drawings. Further to this, the ward office writes a letter to Malpot office (Land Revenue Office) for issuing land ownership certificates. In Ward no 8, Panga, Kirtipur Municipality, nearly 400 earthquake-affected beneficiaries have received Bhogchalan sifaris letter. As of May 2020, Land ownership (lalpurja) issuance task has been halted because of lockdown due to Covid-19 crisis.

8.3 Compliance of heritage conservation norms

For improving compliance of heritage conservation norms during urban housing recovery means and resources must be allocated to support heritage areas. Mechanism at local level is necessary to support heritage areas. Furthermore capacity building programs for technical professions involved in heritage conservation and traditional craftsmen is necessary.

Pilachhen Reconstruction and Tourism Promotion Project

Pilachhen is a Newari (dominated by ethnic Newar Jyapu Sub caste) neighborhood in Ward No. 7 of Lalitpur Metropolitan City. During the 2015 Gorkha Earthquake, 82 houses out of 110 houses in Pilachhen were completely destroyed. After the earthquake, the community, with support from the Maya Foundation, launched the Pilachhen Reconstruction and Tourism Project with the objective of reviving the Newari culture whereby reconstructing houses on the existing footprint using vernacular architecture and rehabilitating existing courtyards, alleys, and temples. Further, each house in reconstruction plan proposed to build under the project incorporates a home-stay facility for tourists to generate income and ensure sustainability. Maya Foundation proposed rebuilding of 88 houses in total under Pilachhen Reconstruction and Tourism Promotion Project from Pilachhen Tole.

Figure 16: Heritage home at Pilachhen Tole, Patan

Figure 17: Interiors of heritage home at Pilachhen Tole, Patan

The residents of this settlement have set up a model of collective engagement of community and in planning, financing, preserving and promoting culture and tourism. The exterior facades of the houses-all four-storied with an attic-like structure on top-are being laid out in the original Newar style. As part of the master design, four buildings then come together to form an enclosed open public space, or a chowk, with a shrine in the middle. Further, each house being built under the project incorporates a home-stay facility for tourists to generate income and ensure financial sustainability.

8.4 Communication

To bridge communication gaps a two-way effective communication system has to be explored. Since consistent information flow has been identified as one of the major challenges in urban areas, the gaps need to be identified and analyzed. Multiple tiers of communication channel might delay information flow, so updated contact list of districts, local levels and wards at the national level can help reach out information from national to the ward level promptly. It is also important to ensure that the wards have received information. This computerized system of communication too can cater well to the urban beneficiaries who can either directly access information from the national or municipal systems. Door to door communication might not be an option to urban areas but there needs to be a communication mechanism at ward level to reach the beneficiaries, mostly the vulnerable ones. Similarly, as communication is a two-way process, bottom-top communication channel too needs to be effective. The already existing central and district websites, toll-free numbers, radio-tv messaging etc. can be looked upon and upgraded if necessary, to meet the urban requirements. In the same manner, revisiting the stakeholders and their roles can support strategize the communication needs of the remaining urban caseloads into a communication strategy, which will also be an important document to plan communication after NRA's exit and handover. In the long run, possible innovations, stakeholder (mostly media) engagement, etc. in the communication strategy can be revised and endorsed by all relevant entities to ensure continuation of urban user-friendly two-way communication.

A home for two, a Case study from Mahalaxmi Municipality-6, Siddhipur, Lalitpur, with success as multi-ownership housing beneficiaries

Tulsi Bahadur Nemkul and his sister-in-law Pancha Maya Nemkul from Mahalaxmi Municipality-6, Siddhipur of Lalitpur district, lost their home in the massive earthquake in April, 2015. Tulsi Bahadur owns a rice mill and his sister-in-law Pancha Maya is a widowed, single woman, who lives with her son and daughter-in-law. They lost their ancestral home built in traditional Newari architecture in the earthquake. Prior to the earthquake, the property was housing two families of Tulsi Bahadur and Pancha Maya and they both had equal claims to the property. A huge ordeal remained in front of them which was to build their house from the scratch again. Financially they were struggling, so they were compelled to live in a makeshift hut built besides They had heard about the government providing loans to the earthquake affected beneficiaries with minimal interest but they could not access it. They personally didn't want to carry the financial burden that comes with taking loans from financial institutions. Ward Chair of ward number 6 of Mahalaxmi Municipality, Basudev Maharjan also confirms that a lot of beneficiaries from his ward opted to sell their houses or farmlands to rebuild their houses rather than seeking loans from financial institutions, thus affecting their livelihoods in the long run. Both of them decided to sell their ancestral plot of land where they earlier used to farm to raise money for reconstructing their house. They also came to know from the ward officials that they were eligible for the government's grant of rupees three

hundred thousand each, rupees six hundred thousand in total, under the multi-ownership private shelter reconstruction approved by the National Reconstruction Authority. The Nemkul duo decided to build their house in multi-ownership structure and started reconstruction works. The government's grant also provided them with much-needed respite although it wasn't enough. They submitted all the required documents, including consent form for multi-ownership structure, structural design, land ownership certificates etc and carried out all necessary reconstruction work on time, enabling them to receive the government tranches within the NRA-stipulated timeframe. They are the only beneficiaries in Mahalaxmi-6 to have completed reconstruction and received all government tranches given for earthquake affected under multi-ownership private shelter reconstruction procedure.

Figure 18: A home for two, a Case study from Mahalaxmi Municipality-6, Lalitpur

Today, they can boast of a strong and resilient house that fulfills their need of a secure abode as well as fulfills all government criteria and is mutually shared between both families, though the structure is vertically divided.

8.5 Socio and Technical Assistance (STA)

It is noteworthy that the achievements in Nepal's post-earthquake housing recovery is attributed to well thought socio-technical assistance package. However, STA package mostly catered to the needs of rural population. Hence urban STA package can be developed with identified components and roles of stakeholders considering urban specific contexts like debris management, heritage and HLP (Housing, land and property). Also the urban STA packages can be scaled up and institutionalised at local levels.

Building Permit Support Studio by UNDP as Socio-technical assistance

Building permit is mandatory in both Gorkha and Palungtar municipalities to ensure compliance with building by-laws and building codes. As more than 50% of the project supported households were located in 2 urban municipalities, this essentially meant reconstruction had to incorporate building permit process as per the municipal laws and regulations, which adds a layer of complexity in reconstruction process requiring them to complete the administrative process of design submission to the municipalities and obtain approval prior to construction of the houses. This is key support needed by the house owners, which otherwise had become a bottleneck as most house owners were finding it difficult to initiate construction, were unaware of the permit process and had to spend ten to fifteen thousand just for the drawings. Therefore, a special mechanism to support house-owners with the building permit process was developed to facilitate/expedite this process at both house-owner and municipal level. As part of facilitation to house owners, UNDP established a Building Permit Studio within each of the two municipality premises as an extended service wing of the municipality to provide consultation, design and drawings at no-cost to the house owners. One studio comprises structural engineers, 2 architects and 4 draftspersons. The house owners are further linked with the field team working under NHRP to provide on-site support during housing reconstruction.

Figure 19: Building permit studio supported by UNDP

About 3,200 households have benefitted from the services of the studio, and 142 have been exclusively supported for structural analysis needed for both new construction and non-compliant houses. During time, with progress in construction the studio has been flexible in accommodating alteration in designs, revisions as well as further supporting in redrawing for those undertaking extensions.

8.6 Urban Retrofitting

Based on the issues covered and highlighted in this paper, including from the UR-TWG study findings from 2020, there seems to be an opportunity to improve urban retrofitting through increased capacity building. Capacity building could include conducting extensive retrofit training to technical persons and masons. Also special STA's can also be developed to support urban retrofitting considering various building typologies and involving local levels and POs. Also, Urban retrofitting solutions can be developed that documents existing knowledge and capacity in urban retrofit.

Retrofitting of the Thapa brothers' homes

Ward no 5, Katunje, Suryabinayak Municipality, Bhaktapur District

1. **Mr. Narendra Thapa** resides with his wife in a 25-year old, two and half storey load bearing house of brick masonry and cement mortar, while his two sons live separately . The house was built incrementally over the years and had some structural discrepancies. It was damaged by the earthquake, estimated to be damage grade 3 with plenty of hairline cracks in some of the rooms and the staircase block. He enrolled as a reconstruction beneficiary but he was in a dilemma about technology and processes to be followed in earlier days. He was advised to conduct retrofitting for his earthquake-damaged house by one of his neighbors, who is a structural engineer. Narendra was advised to retrofit the house instead of reconstructing it from scratch.

Figure 20: Retrofitted house in Bhaktapur district

Narendra Thapa's retrofitted house, Source: HRRP District Team, 2019

The neighbor prepared retrofitting drawings as per the measurement of Narendra's house, and also connected him with a certified retrofitting agency. The technique applied was jacketing from outside with reinforcement and micro-concreting, and splint and bandage from inside. Once retrofitting started, Narendra was supported by his neighbor in site supervision, monitoring and even in providing necessary technical guidance to the masons' team. Total cost of retrofitting as revealed by Mr. Narendra himself is NRs 2,633,000 including finishing such as painting. The retrofitting costs excluding finishes based on the engineer's estimate is about NRs 500,000. The retrofitting was done in mid of 2016, at that time engineers were just recently deployed in Bhaktapur district so the reconstruction unit of Suryabinayak Municipality also does not have proper PA details of Mr. Narendra in their MIS or in CS entry. After completing full retrofitting, he applied to shift his reconstruction category into the retrofitting list during 2017 and has received both the retrofitting grants.

2. **Mr. Kanchan Thapa** is Narendra Thapa's brother and lives in the same neighborhood with his wife and 2 kids. He was influenced by the retrofitting of Narendra's house, and thus Kanchan also consulted the same neighbor to retrofit his house with a lesser damage grade of 1. His house is 20 years old, with 2 storey plus attic load bearing brick and mud mortar on ground floor, and brick

with cement mortar on upper floors. Kanchan followed the advice of his neighbor, he requested the Reconstruction Unit of Suryabinayak Municipality to conduct resurvey and reverification of his house to remain in the retrofitting category during the January 2019. Kanchan's neighbor, the structural engineer, took measurements and prepared a retrofitting drawing. He was also connected with a certified retrofitting agency that provided trained masons. The retrofitting started in March 2019, and was similarly executed with jacketing on the outside and splint and bandage technique on the inside. It took 4 months to complete the retrofitting with 14 masons working for 9 hours everyday, along with some degree of supervision from the neighbor.

Figure 21: Retrofitted house in Bhaktapur district

Mesh being laid out for external jacketing of Kanchan Thapa's house Source: HRRP District Team, 2020

The total expenses incurred by Kanchan totals around NRs 2,500,000 including other finishes such as painting. Out of this cost the engineer estimates NRs 500,000 went for retrofitting. He is happy that his house is strong, and he feels safe living in an earthquake resilient house now. First tranche of retrofitting grant (NRs 50,000) has been accessed by Mr. Thapa. During inspection District Support Engineer revealed that the house is compliant, followed proper guidelines for retrofitting (certified designs) process and therefore he is eligible for final tranche of retrofitting grant too.

8.7 Assistance to vulnerable

The task of completing the vulnerable caseload is challenging. For it, there needs to be institutionalization of vulnerable support mechanisms. In coming months, municipalities have to take over the vulnerable support role, identify vulnerable beneficiaries and make plans to support them. A comprehensive vulnerable support guideline can be developed which details out further assistance modalities. Another area of intervention can be development of financial solutions for urban vulnerable beneficiaries through concessional loan schemes and livelihood programs.

Mr. Kuma Maharjan, Thalkhu, Ward-6, Dakshinkali Municipality, Kathmandu

Kuma is a senior citizen whose house was badly damaged by the Gorkha earthquake. Since then, he has been living in a temporary shelter with his brother who is also a senior citizen. His daughter looks after them. Due to poor economic and weak health conditions, reconstruction of his house has been challenging as the damaged house is still to be demolished. On 31 December 2018, DLPIU-GMaLI organized an orientation and consultation program in Dakshinkali Municipality as part of the Environment and Social Management Plan (ESMP) under the Environment and Social Management Framework during which the municipality identified debris management in Thalkhu as their sub-project. The site was verified by the municipality engineer and Environment and Social Development Specialist and was approved by the Municipality upon verification of the site. As per the approved sub-project of ESMP, the Municipality demolished the damaged houses along with debris management at the identified location, about 300m away from the settlement area. The budget for demolition and debris management is estimated to be approximately NRs. 70,000/-. Mr. Maharjan has now received the first tranche of the housing reconstruction grant and has been able to reconstruct his house with the support from the ward office that has taken care of his house reconstruction. With the technical assistance of the ward office, he constructed a two-room load bearing house with brick and cement mortar masonry structure at the cost of NRs. 300,000/-.

Figure 22: Kuma Maharjan and his new house under construction in front of his temporary shelter

9. Next Steps

Urban housing is not only reconstruction issue, it is development issue. It is evident that multiple issues existed in urban housing even before the Gorkha earthquake. These issues are repeated and now pose considerable challenges in achieving success in post-earthquake urban housing recovery in Nepal. Urban housing and urban development were already complex and got further exacerbated after the Gorkha Earthquake.

Key messages

1. Urban housing reconstruction is not progressing at the same pace as rural reconstruction.
2. Urban recovery is highly complex, many aspects are interlinked.
3. Urban recovery needs increased attention and support.
4. Urban housing recovery supports national development.

Challenges in urban housing recovery are interlinked and complex. It will require a longer-term intervention than a short term project. Humanitarian sector needs to overcome the "Anti-Urban Bias" in project planning. Urban recovery needs to be connected with long term Nepal's urban development vision. Some of the potential intervention as next steps could be:

- **Intervention in land issues and access to finance**

As discussed in detail in Chapter Seven (7.1) (7.2), of this paper, solving challenges related to land issues and access to finance needs innovative approaches in land management and improving access to low-interest loans. Consideration needs to be made in increasing the housing reconstruction grant amount in urban areas and even more for heritage housing. Approaches such as cost-effective housing; redevelopment and land adjustment; house pooling and social and community housing is necessary in urban areas. Livelihood opportunities for urban dwellers is another area where intervention is needed to avoid a debt crisis.

- **Multi-stakeholder consultation and collaboration**

As discussed in Chapter 7, challenges in urban recovery are complex and interlinked with many other sectors. This will need a wider discussion and a collaborative approach to solve the remaining caseload. Stakeholders include federal, provincial, local government; users committees; academia; banking & financial institutions; NGO & INGOs working in urban areas and Donors. As seen from the previous chapter the interest of partner organizations and donors is decreasing in recovery activities. This would also mean that more POs and donors have to be encouraged to step-in to support urban housing reconstruction and recovery.

- **Nationwide detailed survey on housing stock and database management**

The lack of reliable, updated and comprehensive data on urban housing is an issue in knowing the extent of the problem in urban housing recovery. This could be considered as one of the

obstacles for sound and long-term decision making by policy makers and urban planners. A comprehensive database is thus required to solve it. Local governments should be supported to maintain a detailed inventory of buildings and its inhabitants inside their geographic areas, using latest land and housing database management systems and digitization of records as per rights, responsibilities and duties stipulated in the Land Use Act 2019.

- **Conserving traditional housing architecture and heritage settlements**

The conservation of vernacular architecture is necessary. One step can be developing a catalogue of designs with traditional housing architectural typologies, but it should only be used as a guidance and not promoted as mandatory designs. More subsidies should be allocated for beneficiaries who contribute in conserving the vernacular architecture through their housing reconstruction. Urban regeneration of heritage settlements should be a part of recovery.

- **Scale-up retrofitting research**

Further research on retrofitting options is necessary for urban housing and increase in coverage of retrofitting training to engineers and masons

- **Thinking about urban DRR**

After the Gorkha earthquake, a lesson learnt is that in future more concentrated efforts are needed towards reducing risks associated in cities and increasing urban resilience. This would mean assessing exposure to hazards and reducing vulnerability of urban populations.

- **Institutionalization and Capacity enhancement**

The current tenure of NRA will end in December 2021. The remaining tasks of urban recovery would fall under various institutions within the government. Many policies and directives are prepared by NRA. These must be integrated or adapted in the agencies that will lead recovery in future. Also the institutions that will take the lead will need to enhance its capacities so that it can successfully complete the remaining task. Institutionalization and capacity enhancement are urgent.

- **Detailed studies on urban housing recovery**

As discussed throughout this Paper, considering the complexities and challenges within urban housing recovery in Nepal, further studies are required to supplement the existing knowledge.

Importantly, a comprehensive strategy is required to solve the remaining caseload as part of post-earthquake urban housing recovery and also for urban regeneration of settlements.

ANNEX

Classification criterias urban areas in Nepal as per Local Government Operation Act, 2017

	Mountainous District	Hilly District (including Hilly of Himalayan)	Inner Madesh District	Terai District	Kathmandu Valley
Palikas/Municipalities					
Permanent resident (Minimum Population)	10,000	40,000	50,000	75,000	100,000
Generated Internal Revenue within last 5 years (NRs.)	1 crore	3 crore	3 crore	3 crore	3 crore
Other criteria	• Presence of minimum urban infrastructures like roads, Pedestrian walkways, Electricity, Drinking water supply, Communication, Urban Facilities and Infrastructures • Waste management and landfill sites • Open spaces, parks, gardens in each ward • Minimum 25 Beds Hospitals service • Passenger waiting places and public toilet with bus park • Water and sanitation facilities • Bank and financial institution services • Public building and Convention center • Market place • Slaughter house • Crematorium • Stadium • Master plan available in city-scale • Other additional infrastructures; social, economic, and environmental criteria				
Sub-Metropolitan					
Permanent resident (Minimum Population)	200,000	200,000	200,000	200,000	200,000
Generated Internal Revenue within the last 5 years (NRs.)	25 crore	25 crore	25 crore	25 crore	25 crore

	Mountainous District	Hilly District (including Hilly of Himalayan)	Inner Madesh District	Terai District	Kathmandu Valley
Other criteria	• Hospitals, Waste management and processing facility • Convention center, stadium, covered hall • Facilities of electricity, drinking water supply, communication • Black-topped roads • Higher Level Technical and Vocational Education Facility • Public garden and city hall facilities • Modern slaughter house and managed crematorium • Public utility place and disable friendly buildings and access with physical facilities • Motel, hotel and resort for tourist • Other additional infrastructures; social, economic and environmental criteria				
Metropolitan					
Permanent resident (Minimum Population)	500,000	500,000	500,000	500,000	500,000
Generated Internal Revenue within the last 5 years (NRs.)	1 Arab (1 Billion)	1 Arab (1 Billion)	1 Arab (1 Billion)	1 Arab (1 Billion)	1 Arab (1 Billion)
Other criteria	• Bus park with terminal building, pedestrian walkways • Educational institute teaching up to master's degree , presence of hospitals, shopping malls, • International Standard Hotel; stadium; international airport, museums • Higher Level Technical and Vocational Education Facility • International Standard Trade Fair Centre • Facility of well managed Agriculture Market Centre • Open spaces; parks and gardens for children and senior citizens • Other additional infrastructures; social, economic and environmental criteria				

Recovery status of private housing in urban areas of earthquake affected Districts (as of January 2021)

District	HHs Eligible	HHs Enrolled	1st tranche	2nd tranche	3rd Tranche	Progress achieved %
Province 1						
Bhojpur	2365	2365	2164	1846	1652	69.85%
Dhankuta	2080	2080	1907	1586	1261	60.63%
Khotang	3225	3265	3221	2710	2135	66.20%
Okhaldhunga	2891	2765	2765	2428	2448	84.68%
Sankhuwasabha	1495	1495	1356	1017	974	65.15%
Solukhumbu	2992	2992	2843	2278	2187	73.09%
Grand Total	**15048**	**14962**	**14256**	**11865**	**10657**	**70.82%**
Province 3						
Sindhuli	18149	18149	18127	10759	7512	41.39%
Ramechhap	18323	18307	18307	15826	14888	81.25%
Dolakha	18367	18486	17007	15315	14254	77.61%
Bhaktapur	28619	25089	25089	11876	11444	39.99%
Dhading	20788	19888	19888	18360	17002	81.79%
Kathmandu	49259	48205	43354	23194	20318	41.25%
Kavrepalanchok	50053	44120	43760	36010	28963	57.86%
Lalitpur	20624	18129	18111	7232	6386	30.96%
Nuwakot	24886	23826	23826	22219	19554	78.57%
Sindhupalchowk	36566	35981	35981	34462	32282	88.28%
Chitwan	5823	5823	5823	4142	3711	63.73%
Makwanpur	13495	12103	12103	9550	8185	60.65%
Grand Total	**304952**	**288106**	**281376**	**208945**	**184499**	**60.50%**
Gandaki Province						
Baglung	1729	1729	1709	1226	1051	60.79%
Gorkha	18252	17539	17539	16663	16021	87.78%
Kaski	3509	2960	2960	1761	1546	44.06%
Lamjung	8601	8159	8159	6116	4891	56.87%
Myagdi	448	448	448	263	246	54.91%
Nawalparasi	326	326	326	313	308	94.48%
Parbat	2530	2303	2303	1717	1246	49.25%
Syangja	5804	5822	5648	3427	2787	48.02%
Tanahun	9756	9585	9170	6948	6019	61.70%
Grand Total	**50955**	**48871**	**48262**	**38434**	**34115**	**66.95%**

District	HHs Eligible	HHs Enrolled	1st tranche	2nd tranche	3rd Tranche	Progress achieved %
Lumbini Province						
Arghakhanchi	351	344	351	232	175	49.86%
Gulmi	932	942	954	708	574	61.59%
Palpa	866	804	819	519	416	48.04%
Grand Total	**2149**	**2090**	**2124**	**1459**	**1165**	**54.21%**

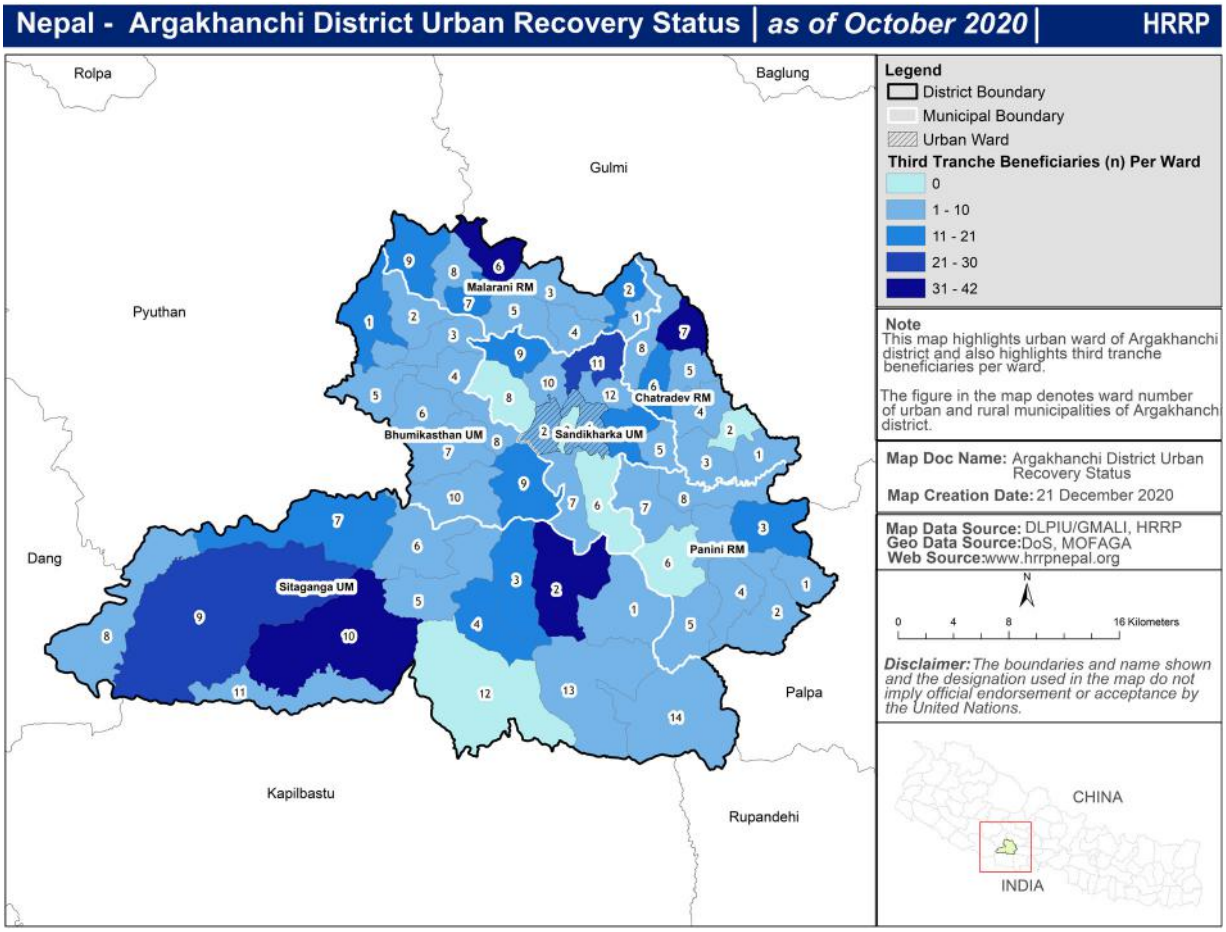
Budget allocation for various years of post-earthquake reconstruction (PDRF 2016)

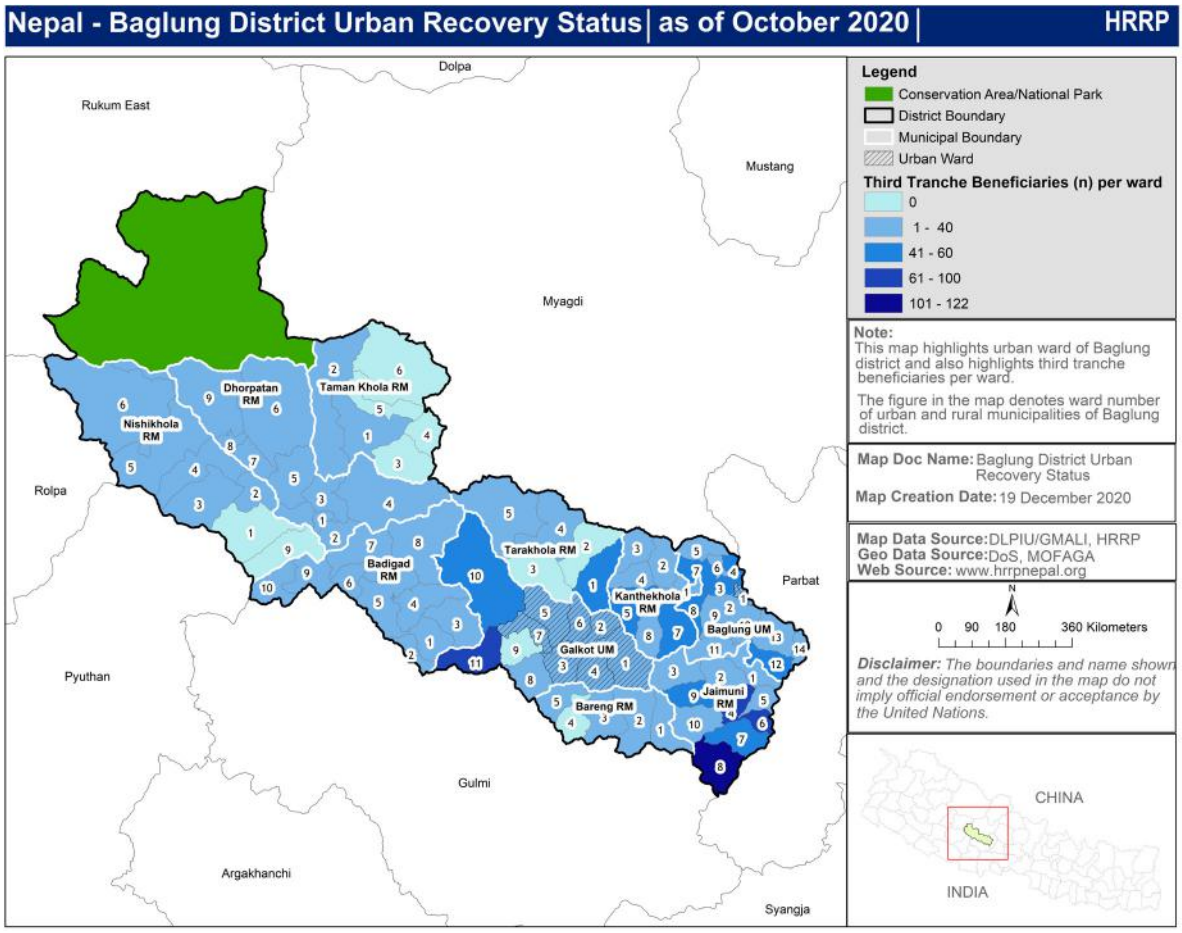
Year	2016	2017	2018	2019	2020	Total	On-budget sources	Off-budget sources	Unknown
Budget in Million NPR	**19,814**	**19,475**	**17,694**	**17,569**	**15,507**	**90,059**	**20,000**		**70,059**
Program									
Regeneration of 63 (52 in Kathmandu valley) heritage settlements	4,000	4,000	4,000	4,000	4,000	20,000			20,000
Housing Reconstruction	4,000	4,000	4,000	4,000	4,000	20,000	20,000		
Funding support for financing housing credit	4,159	4,159	4,159	4,159	4,157	20,793			
Vulnerable top up subsidy	600	600	600	600	600	3,000			
Repair and retrofit subsidy	1,000	1,000	500	500		3,000			
Material supply, enterprise, livelihood	2,000	1,500	500	500	500	5,000			
Sustainable housing services	200	200	200	200	200	1,000			
Emergency shelter and camps	500	200	100	100	100	1,000			
Community grants for local infrastructure	1,500	1,500	1,500	1,500	300	6,300			
Safe demolition	75	25				100			

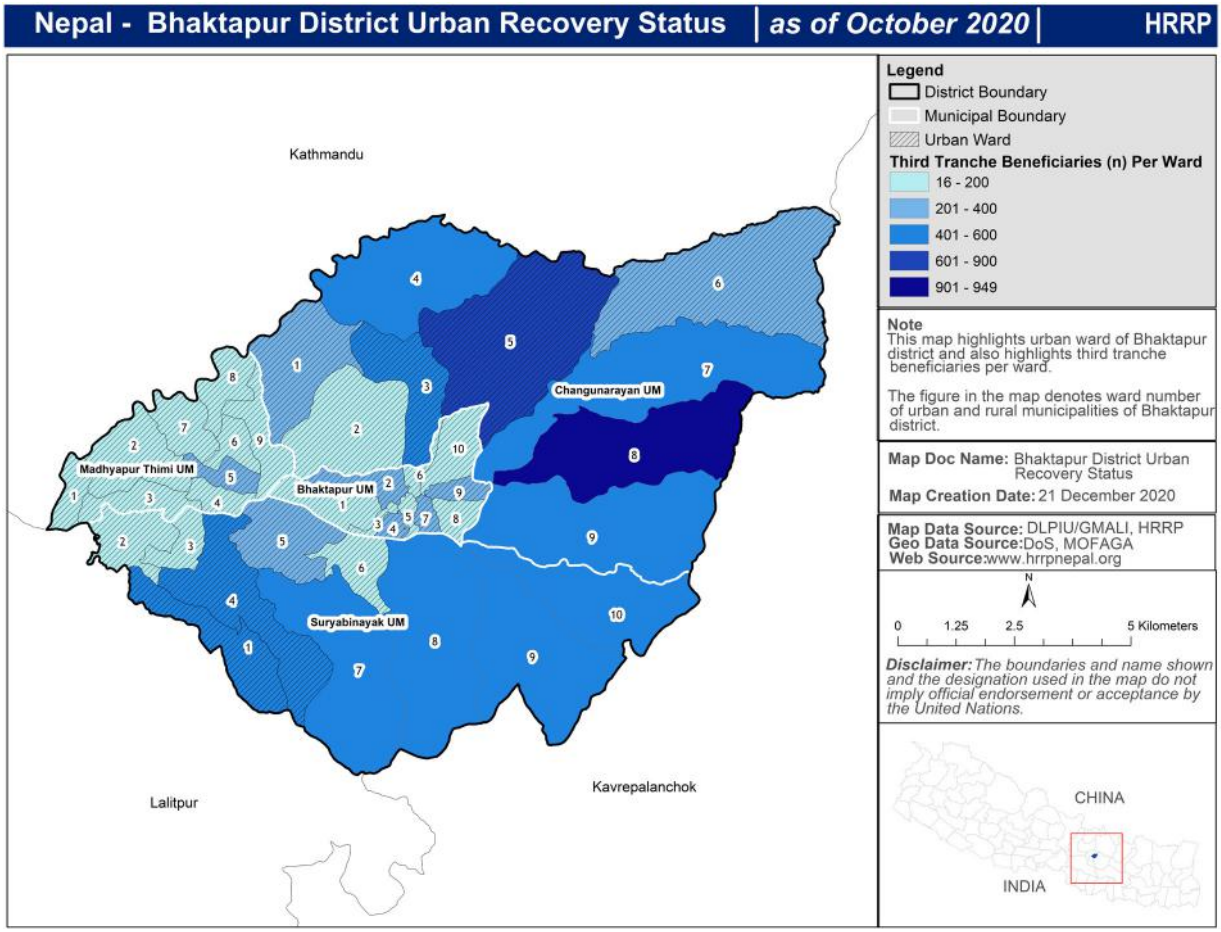
Year	2016	2017	2018	2019	2020	Total	On-budget sources	Off-budget sources	Unknown
Communication campaigns	250	250	250	125	125	1,000			
Risk sensitive land use plan preparation and implementation for 31 settlements with adequate provision for open spaces	310	310	310	310	310	1,550			1,550
Rental housing for urban poor	50	50	50	50	50	250			250
Integrated reclustering of urban settlements		250	250	250	250	1,000			
Preparation of Guidelines, planning norms, standards, bye-laws for safer housing and settlement reconstruction	60	25				85			85
Construction of 1 model houses in each of the 30 urban settlements	30	15				45			45
Institutional development and capacity enhancement for building back better	250	250	250	250	200	1,200			1,200
Review national plans, strategies and building codes	10	6				16			16
Preparation of housing technology and design options	10	10				20			20

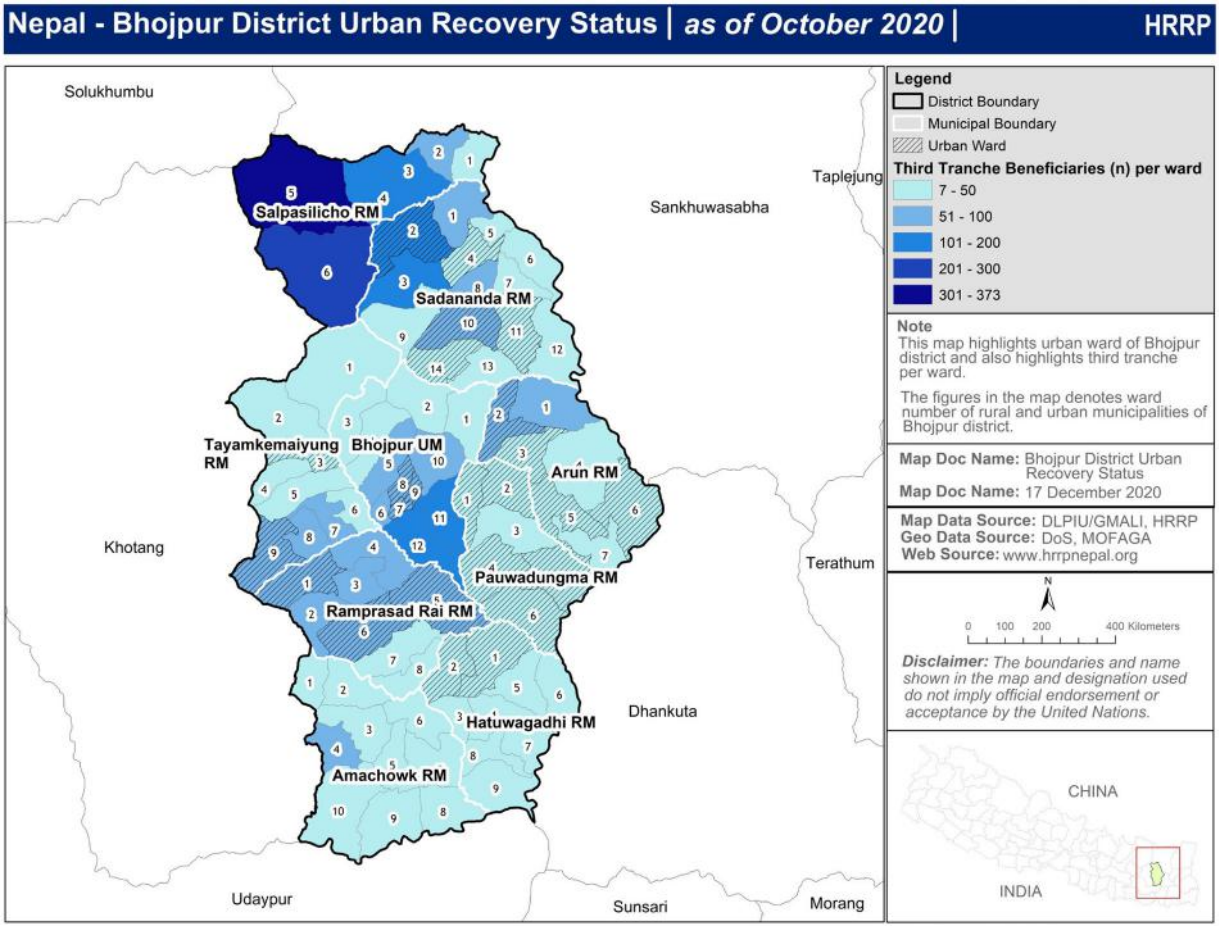
Year	2016	2017	2018	2019	2020	Total	On-budget sources	Off-budget sources	Unknown
Implementation of national plan of action for safer building construction	10	25	25	25	15	100			100
Setting up resource and training centers	100	100				200			200
Technical assistance for revitalization of traditional settlements of Kathmandu valley	500	500	500	500	200	2,200			2,200
Revitalization of 44 informal settlements of Kathmandu valley	200	500	500	500	500	2,200			2,200

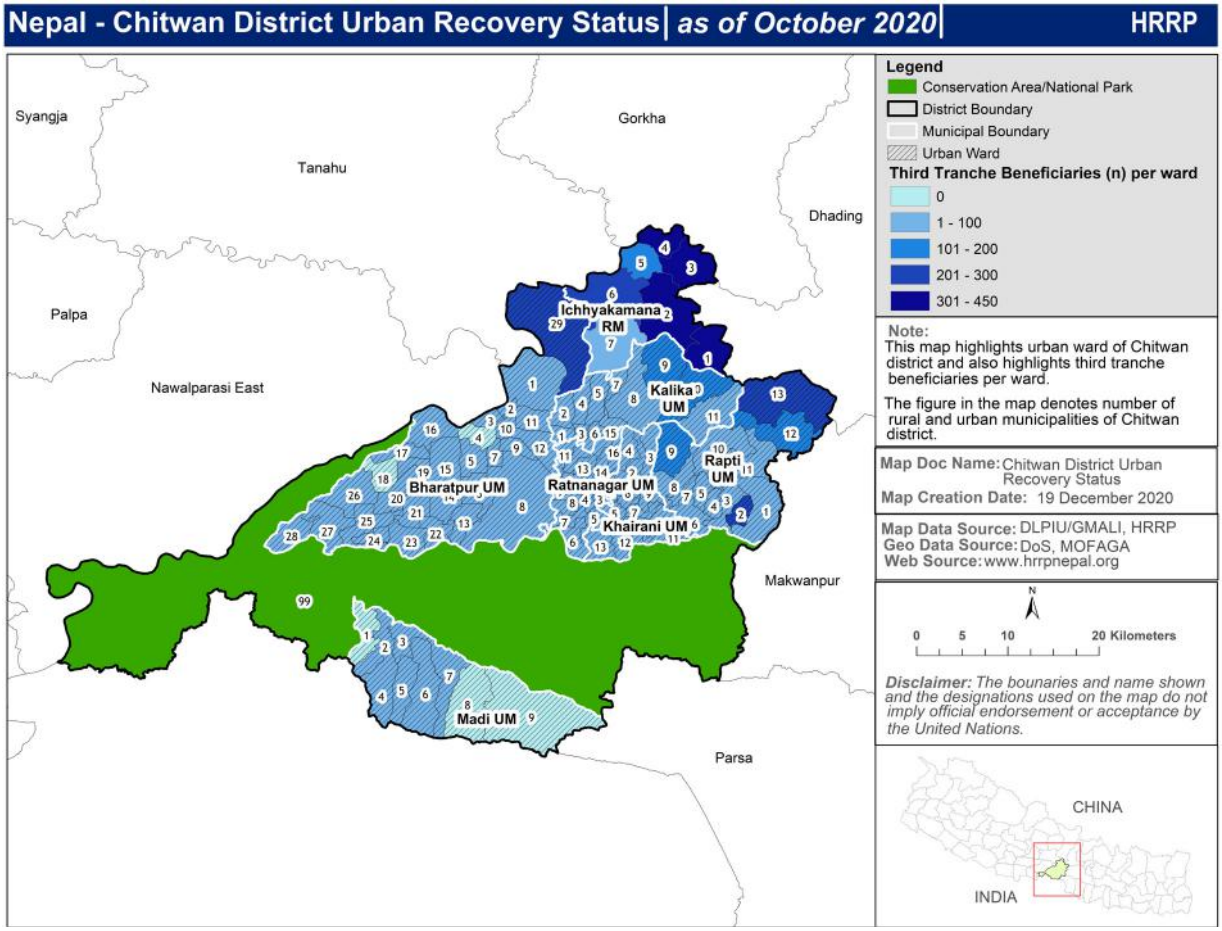
Urban Recovery Status of 29 earthquake affected districts

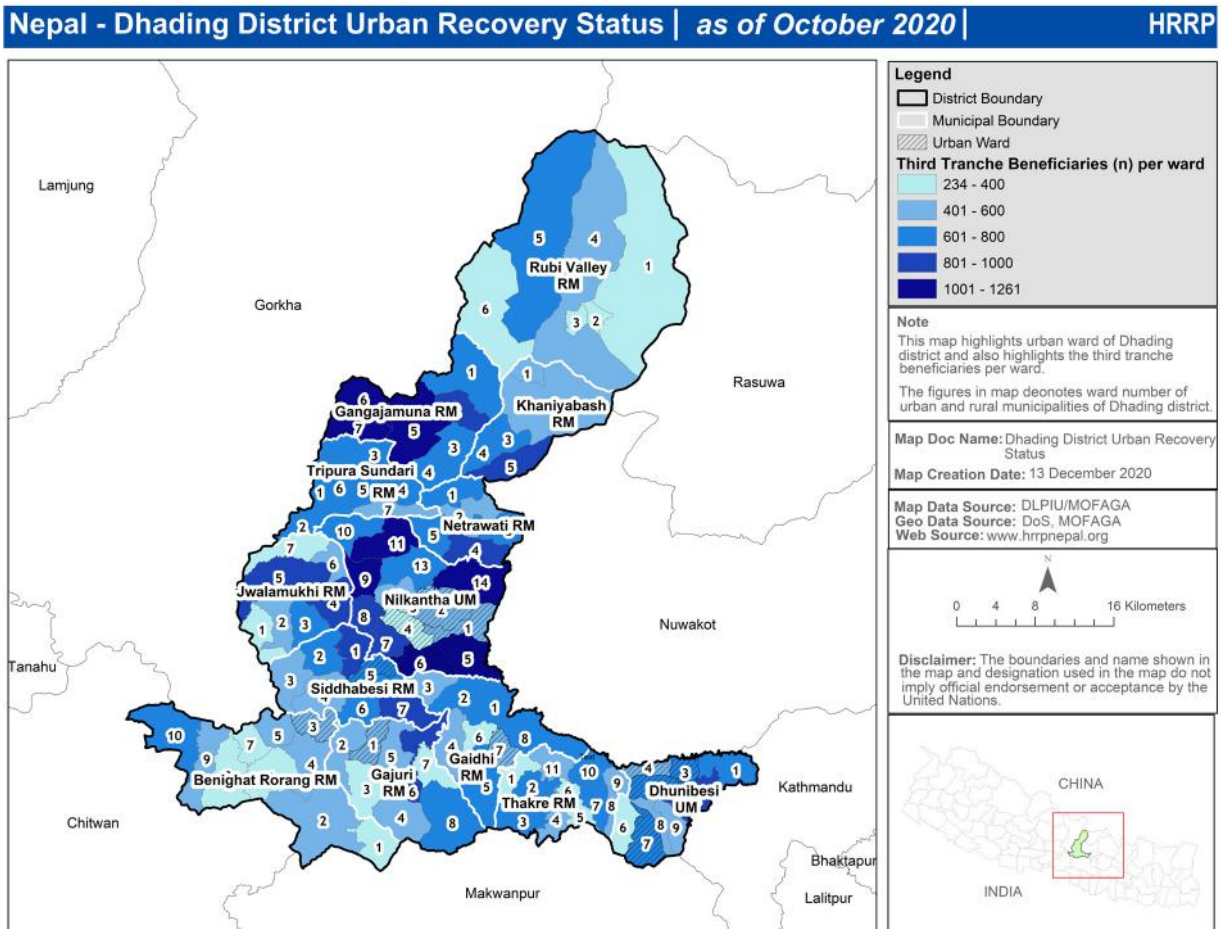


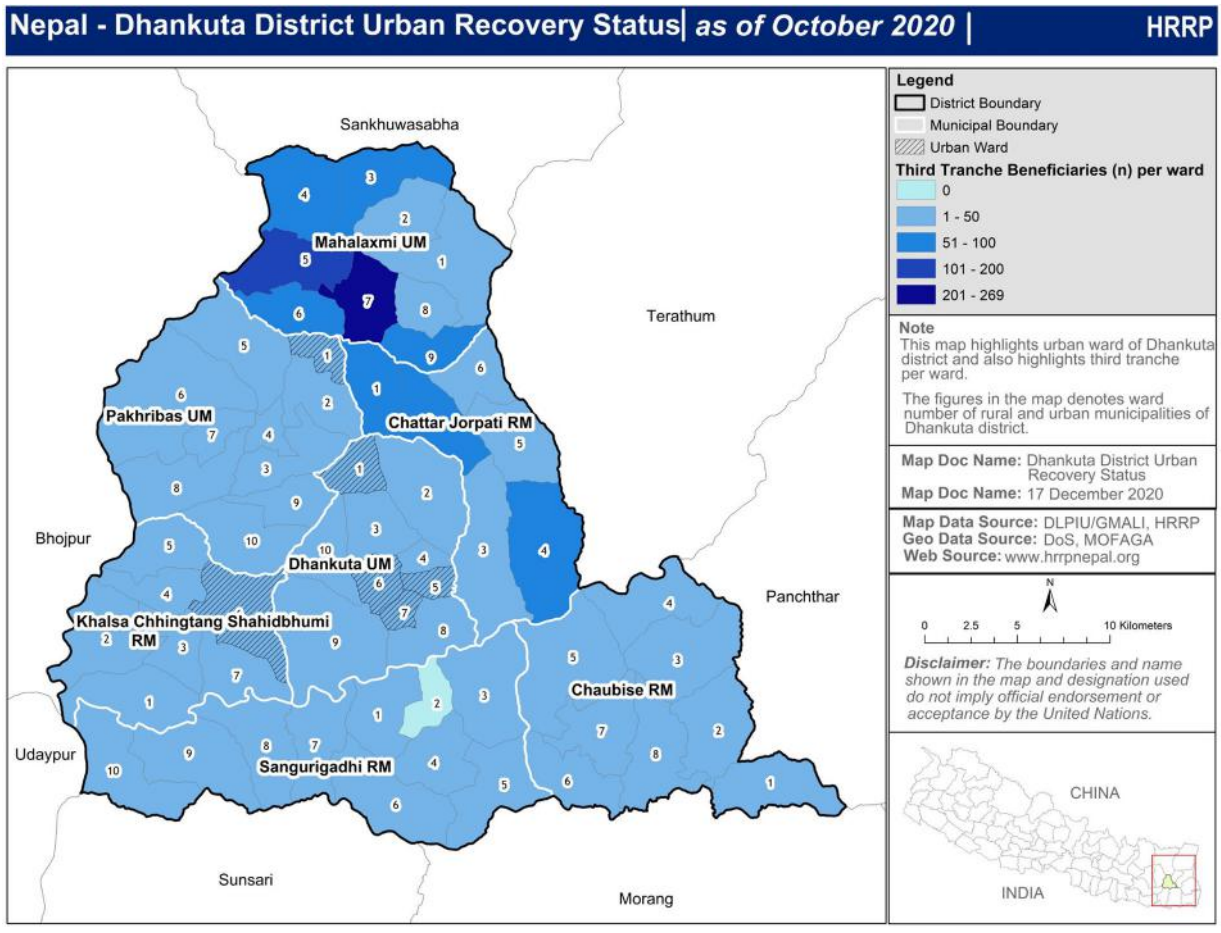

Nepal - Baglung District Urban Recovery Status | as of October 2020 | HRRP
Dolpa
Rukum East
Mustang
Myagdi
Rolpa
Parbat
Pyuthan
Gulmi
Argakhanchi
Syangja
Dhorpatan RM
Taman Khola RM
Nishikhola RM
Badigad RM
Tarakhola RM
Kanthekhola RM
Baglung UM
Galkot UM
Jaimuni RM
Bareng RM
Legend
Conservation Area/National Park
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 40
41 - 60
61 - 100
101 - 122
Note:
This map highlights urban ward of Baglung district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Baglung district.
Map Doc Name: Baglung District Urban Recovery Status
Map Creation Date: 19 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 90 180 360 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Bhaktapur District Urban Recovery Status | as of October 2020 | HRRP
Kathmandu
Lalitpur
Kavrepalanchok
Changunarayan UM
Madhyapur Thimi UM
Bhaktapur UM
Suryabinayak UM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
16 - 200
201 - 400
401 - 600
601 - 900
901 - 949
Note
This map highlights urban ward of Bhaktapur district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Bhaktapur district.
Map Doc Name: Bhaktapur District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 1.25 2.5 5 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Bhojpur District Urban Recovery Status | as of October 2020 | HRRP
Solukhumbu
Taplejung
Sankhuwasabha
Salpasilicho RM
Sadananda RM
Tayamkemaiyung RM
Bhojpur UM
Arun RM
Khotang
Terathum
Pauwadungma RM
Ramprasad Rai RM
Dhankuta
Hatuwagadhi RM
Amachowk RM
Udaypur
Sunsari
Morang
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
7 - 50
51 - 100
101 - 200
201 - 300
301 - 373
Note
This map highlights urban ward of Bhojpur district and also highlights third tranche per ward.
The figures in the map denotes ward number of rural and urban municipalities of Bhojpur district.
Map Doc Name: Bhojpur District Urban Recovery Status
Map Doc Name: 17 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 100 200 400 Kilometers
Disclaimer: The boundaries and name shown in the map and designation used do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Chitwan District Urban Recovery Status | as of October 2020 | HRRP
Syangja
Gorkha
Tanahu
Dhading
Palpa
Ichhyakamana RM
Nawalparasi East
Kalika UM
Rapti UM
Bharatpur UM
Ratnanagar UM
Khairani UM
Makwanpur
Madi UM
Parsa
Legend
Conservation Area/National Park
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 100
101 - 200
201 - 300
301 - 450
Note:
This map highlights urban ward of Chitwan district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes number of rural and urban municipalities of Chitwan district.
Map Doc Name: Chitwan District Urban Recovery Status
Map Creation Date: 19 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Disclaimer: The bounaries and name shown and the designations used on the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Dhading District Urban Recovery Status | as of October 2020 | HRRP
Lamjung
Gorkha
Rasuwa
Nuwakot
Tanahu
Chitwan
Kathmandu
Bhaktapur
Lalitpur
Makwanpur
Rubi Valley RM
Khaniyabash RM
Gangajamuna RM
Tripura Sundari RM
Netrawati RM
Jwalamukhi RM
Nilkantha UM
Siddhabesi RM
Gaidhi RM
Gajuri RM
Benighat Rorang RM
Thakre RM
Dhunibesi UM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
234 - 400
401 - 600
601 - 800
801 - 1000
1001 - 1261
Note
This map highlights urban ward of Dhading district and also highlights the third tranche beneficiaries per ward.
The figures in map deonotes ward number of urban and rural municipalities of Dhading district.
Map Doc Name: Dhading District Urban Recovery Status
Map Creation Date: 13 December 2020
Map Data Source: DLPIU/MOFAGA
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 4 8 16 Kilometers
Disclaimer: The boundaries and name shown in the map and designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Dhankuta District Urban Recovery Status| as of October 2020 | HRRP
Sankhuwasabha
Terathum
Panchthar
Bhojpur
Udaypur
Sunsari
Morang
Mahalaxmi UM
Pakhribas UM
Chattar Jorpati RM
Dhankuta UM
Khalsa Chhingtang Shahidbhumi RM
Chaubise RM
Sangurigadhi RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 50
51 - 100
101 - 200
201 - 269
Note
This map highlights urban ward of Dhankuta district and also highlights third tranche per ward.
The figures in the map denotes ward number of rural and urban municipalities of Dhankuta district.
Map Doc Name: Dhankuta District Urban Recovery Status
Map Doc Name: 17 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 2.5 5 10 Kilometers
Disclaimer: The boundaries and name shown in the map and designation used do not imply official endorsement or acceptance by the United Nations.
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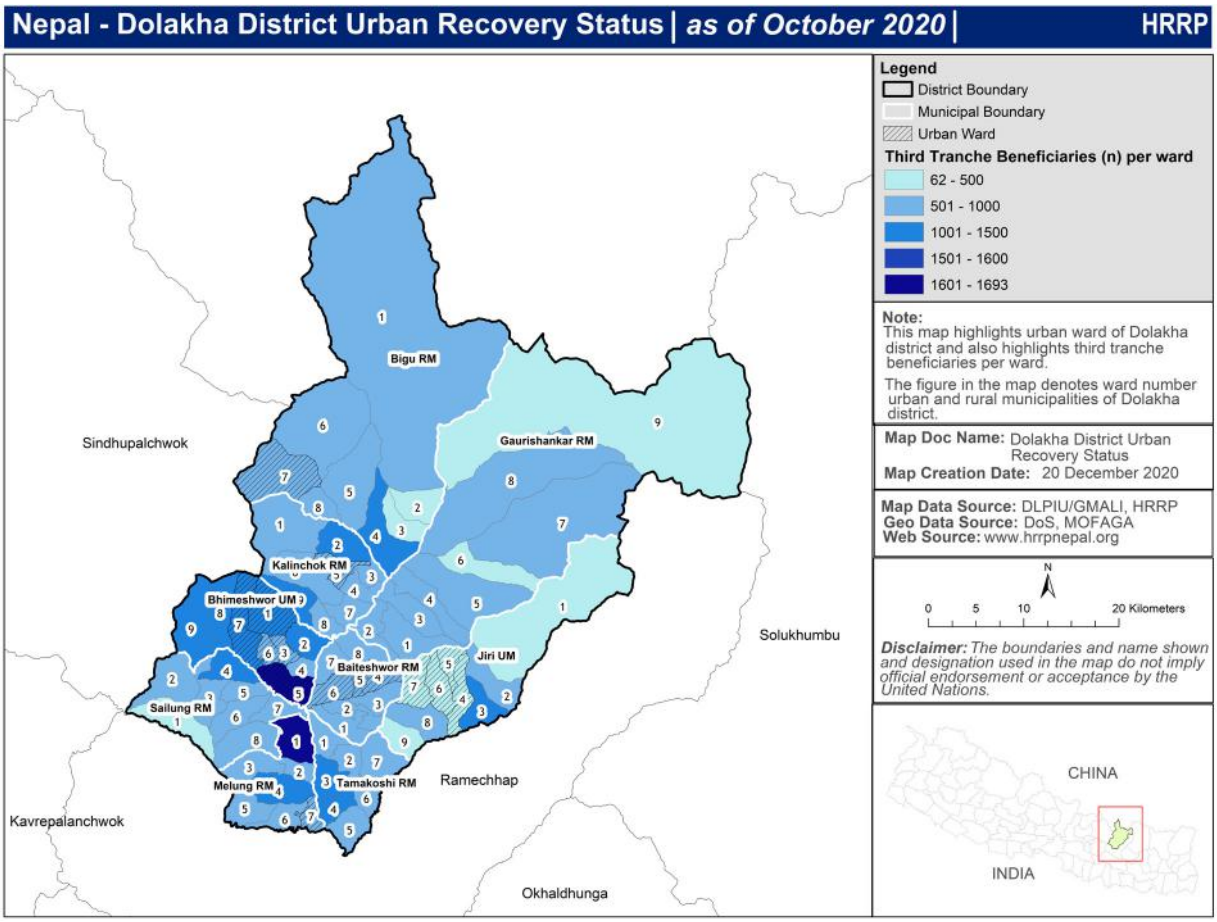
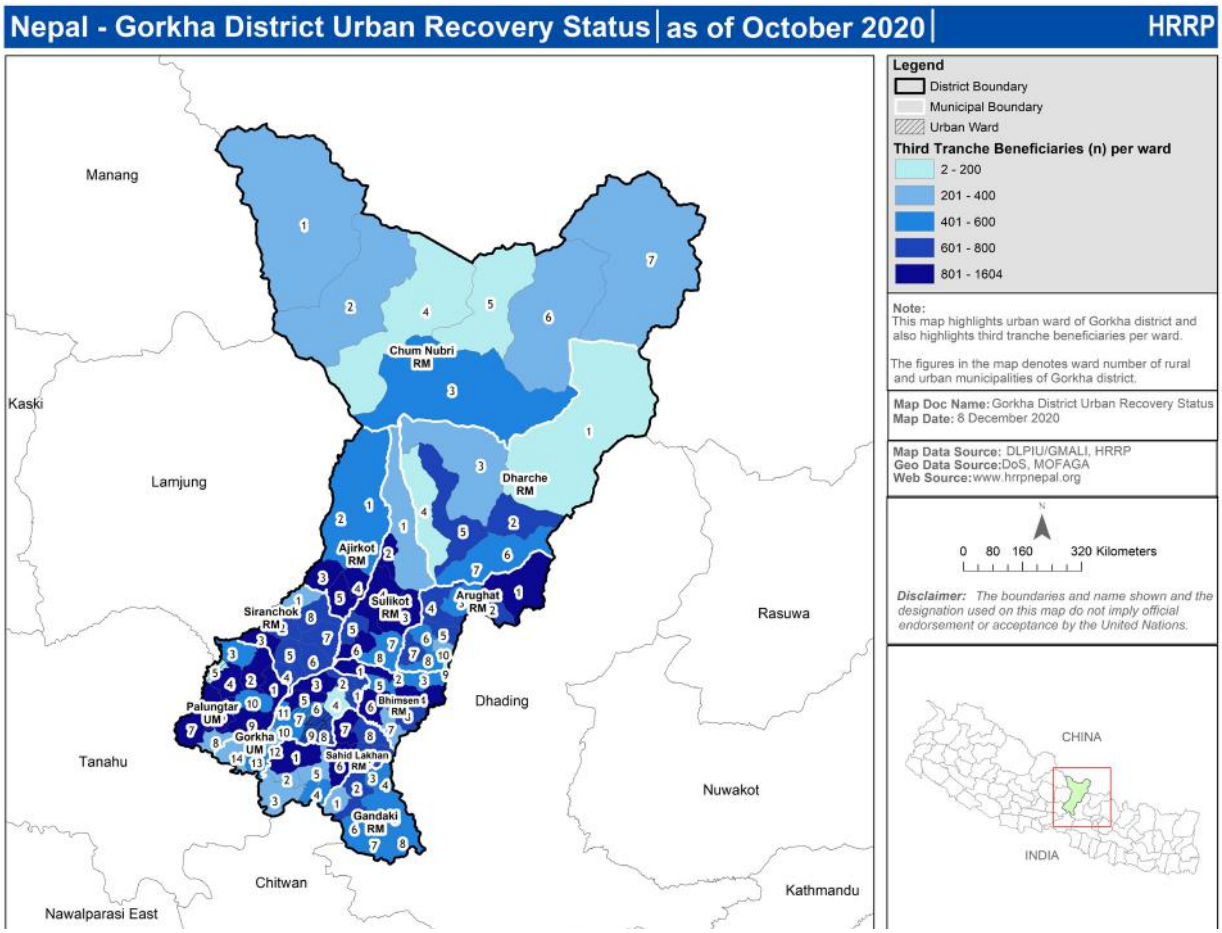
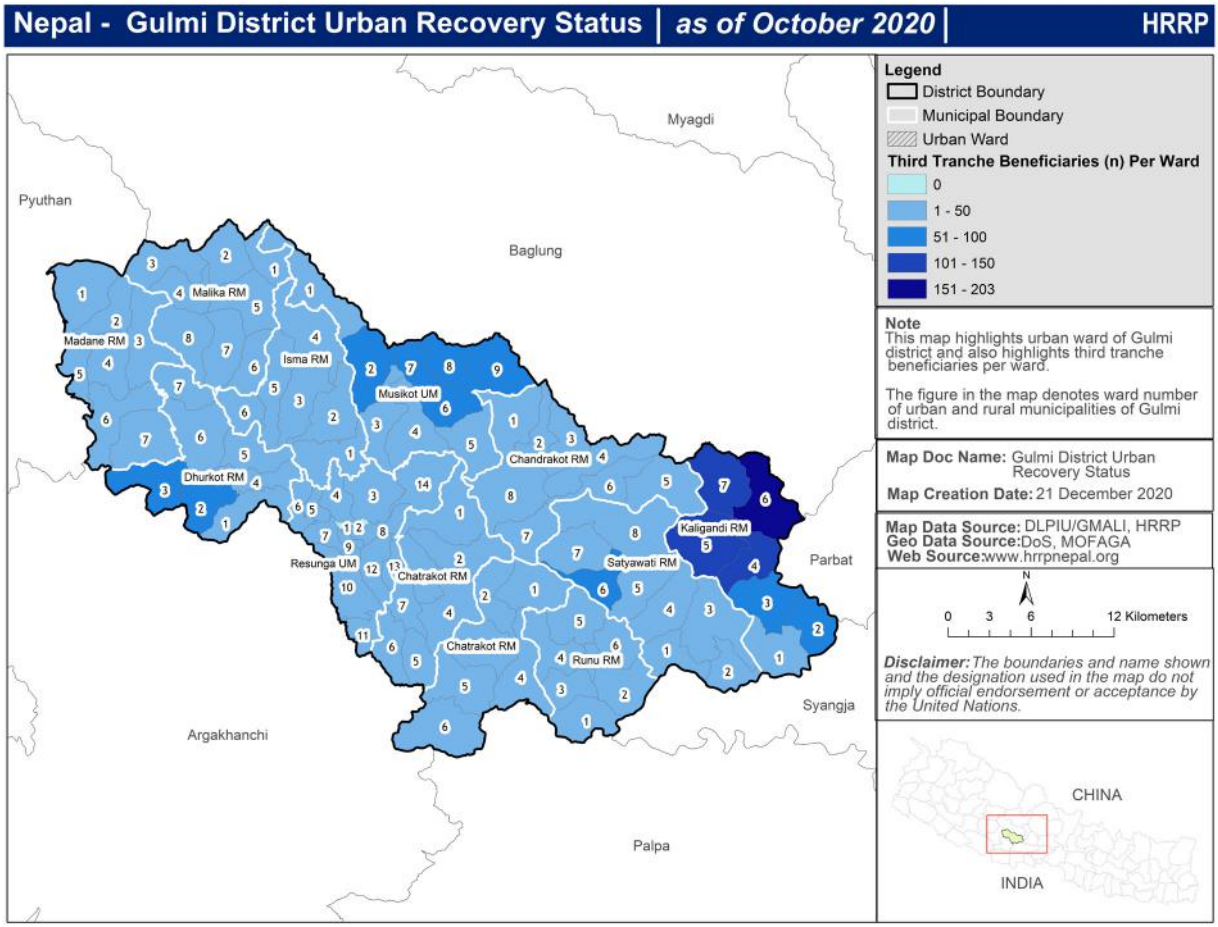
INDIA


Nepal - Dolakha District Urban Recovery Status | as of October 2020 | HRRP
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
62 - 500
501 - 1000
1001 - 1500
1501 - 1600
1601 - 1693
Note:
This map highlights urban ward of Dolakha district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number urban and rural municipalities of Dolakha district.
Map Doc Name: Dolakha District Urban Recovery Status
Map Creation Date: 20 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Disclaimer: The boundaries and name shown and designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA
Bigu RM
Gaurishankar RM
Kalinchok RM
Bhimeshwor UM
Jiri UM
Baiteshwor RM
Sailung RM
Melung RM
Tamakoshi RM
Sindhupalchwok
Solukhumbu
Ramechhap
Kavrepalanchwok
Okhaldhunga


Nepal - Gorkha District Urban Recovery Status | as of October 2020 | HRRP
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
2 - 200
201 - 400
401 - 600
601 - 800
801 - 1604
Note:
This map highlights urban ward of Gorkha district and also highlights third tranche beneficiaries per ward.
The figures in the map denotes ward number of rural and urban municipalities of Gorkha district.
Map Doc Name: Gorkha District Urban Recovery Status
Map Date: 8 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 80 160 320 Kilometers
Disclaimer: The boundaries and name shown and the designation used on this map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA
Chum Nubri RM
Dharche RM
Ajirkot RM
Siranchok RM
Sulikot RM
Arughat RM
Palungtar UM
Bhimsen RM
Gorkha UM
Sahid Lakhan RM
Gandaki RM
Manang
Kaski
Lamjung
Tanahu
Chitwan
Nawalparasi East
Rasuwa
Dhading
Nuwakot
Kathmandu


Nepal - Gulmi District Urban Recovery Status | as of October 2020 | HRRP
Myagdi
Pyuthan
Baglung
Malika RM
Madane RM
Isma RM
Musikot UM
Chandrakot RM
Dhurkot RM
Kaligandi RM
Satyawati RM
Resunga UM
Chatrakot RM
Chatrakot RM
Runu RM
Parbat
Syangja
Argakhanchi
Palpa
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1 - 50
51 - 100
101 - 150
151 - 203
Note
This map highlights urban ward of Gulmi district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Gulmi district.
Map Doc Name: Gulmi District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 3 6 12 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
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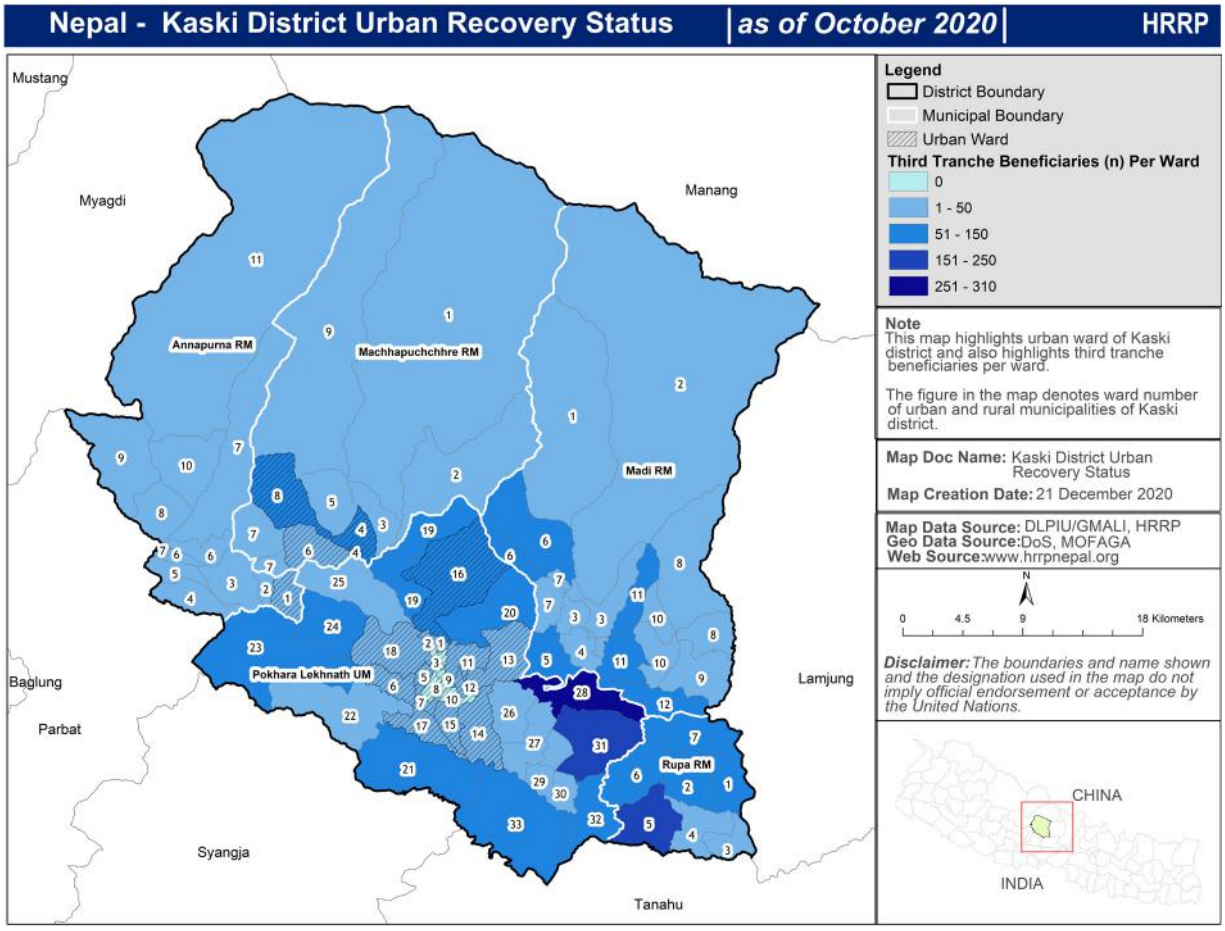
INDIA


Nepal - Kaski District Urban Recovery Status | as of October 2020 | HRRP
Mustang
Myagdi
Manang
Annapurna RM
Machhapuchchhre RM
Madi RM
Pokhara Lekhnath UM
Rupa RM
Baglung
Parbat
Lamjung
Syangja
Tanahu
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1 - 50
51 - 150
151 - 250
251 - 310
Note
This map highlights urban ward of Kaski district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Kaski district.
Map Doc Name: Kaski District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 4.5 9 18 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
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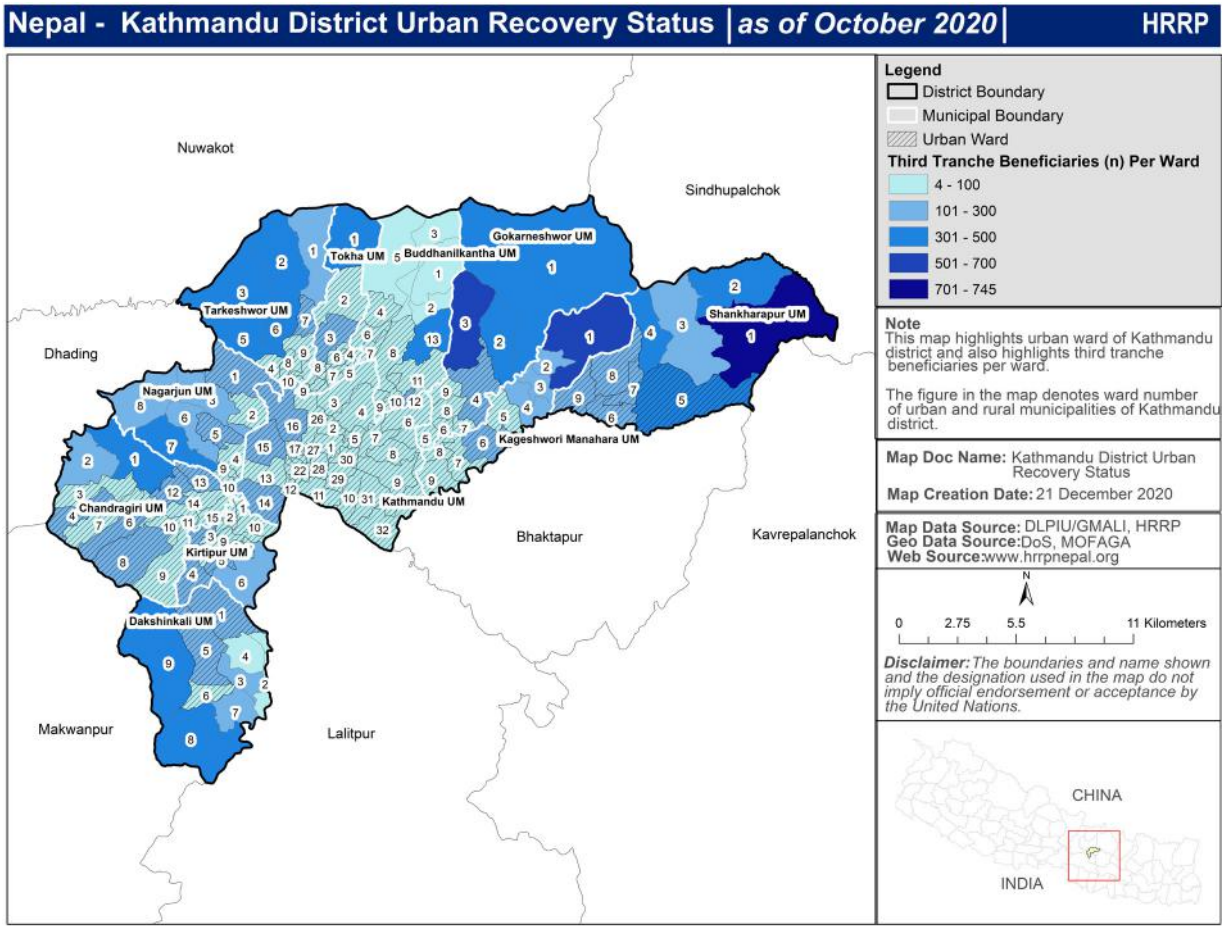
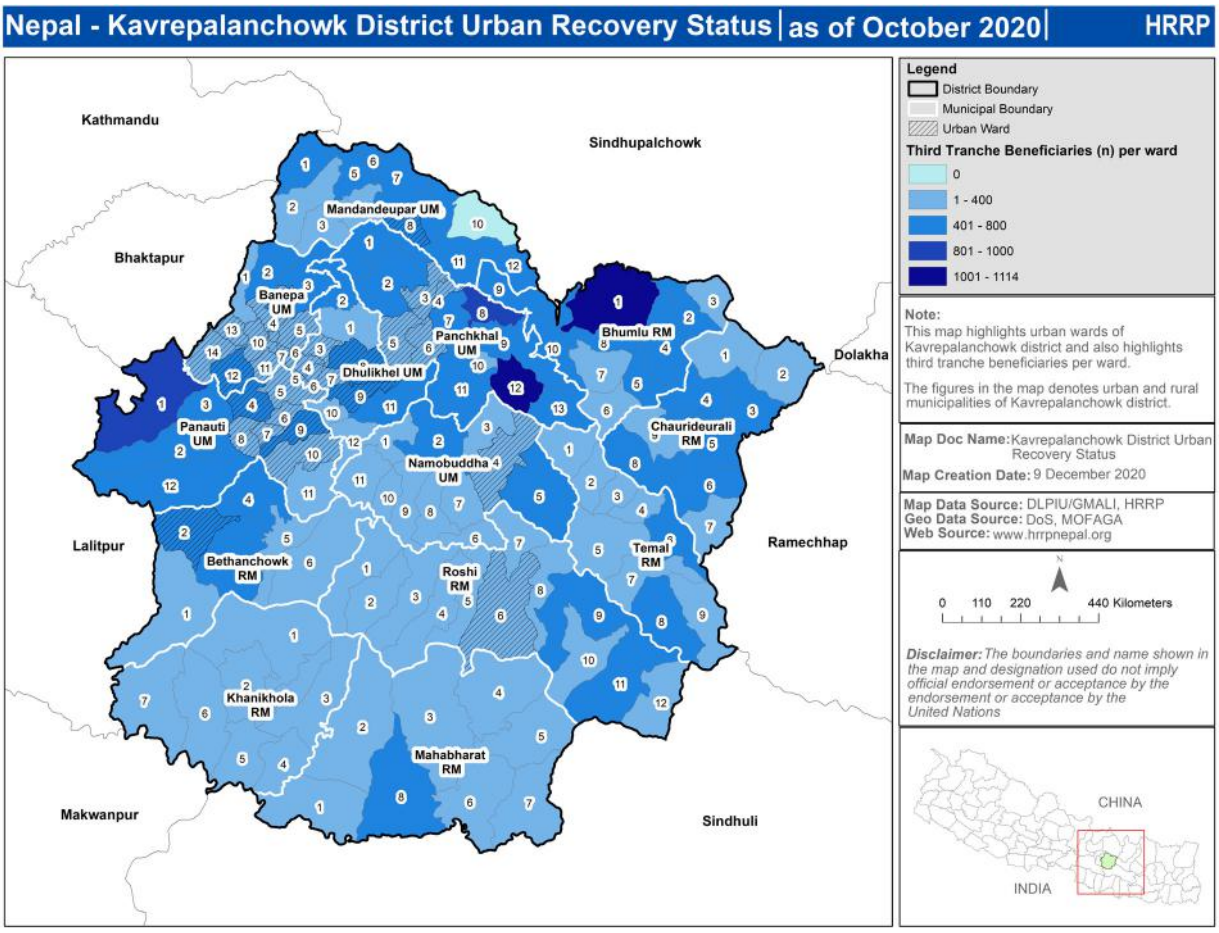
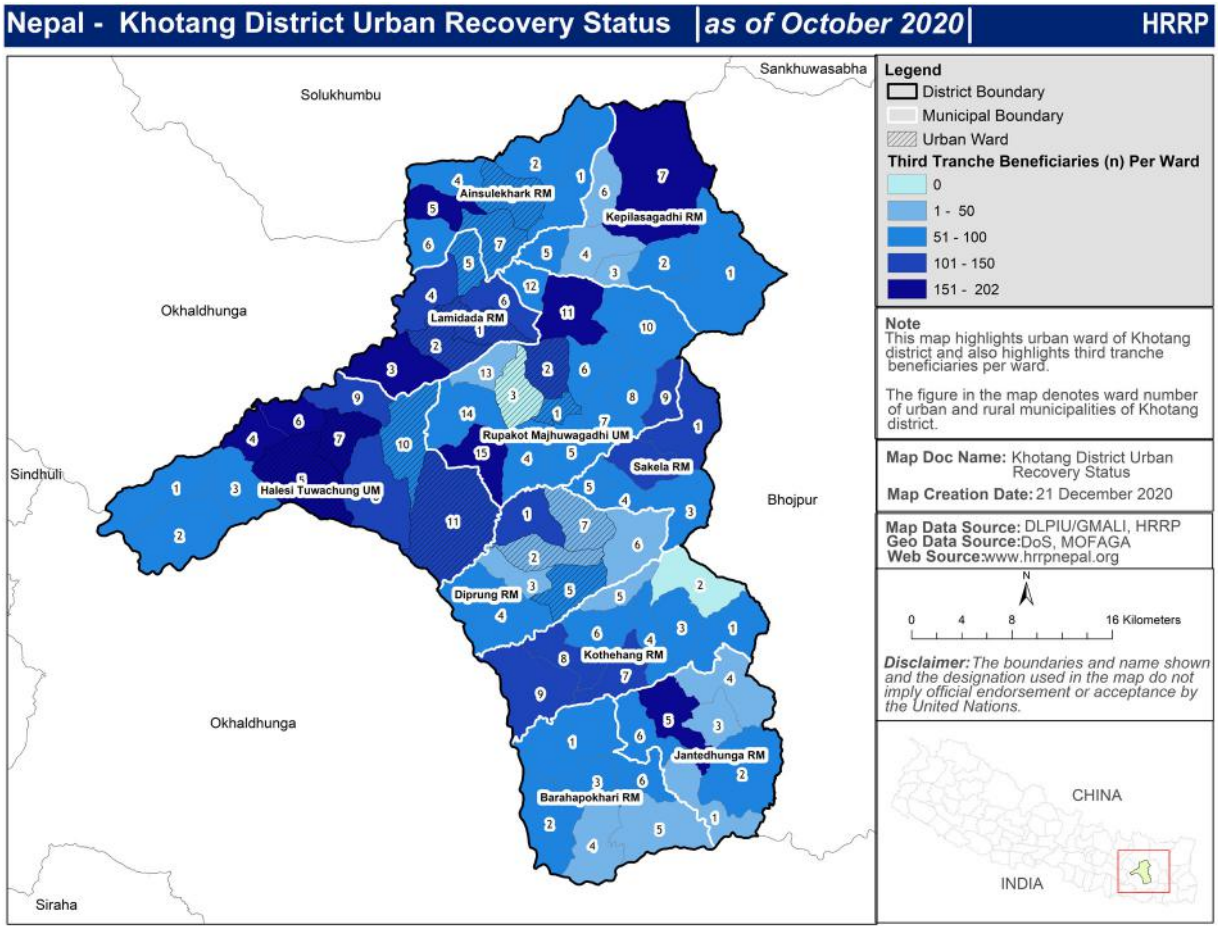
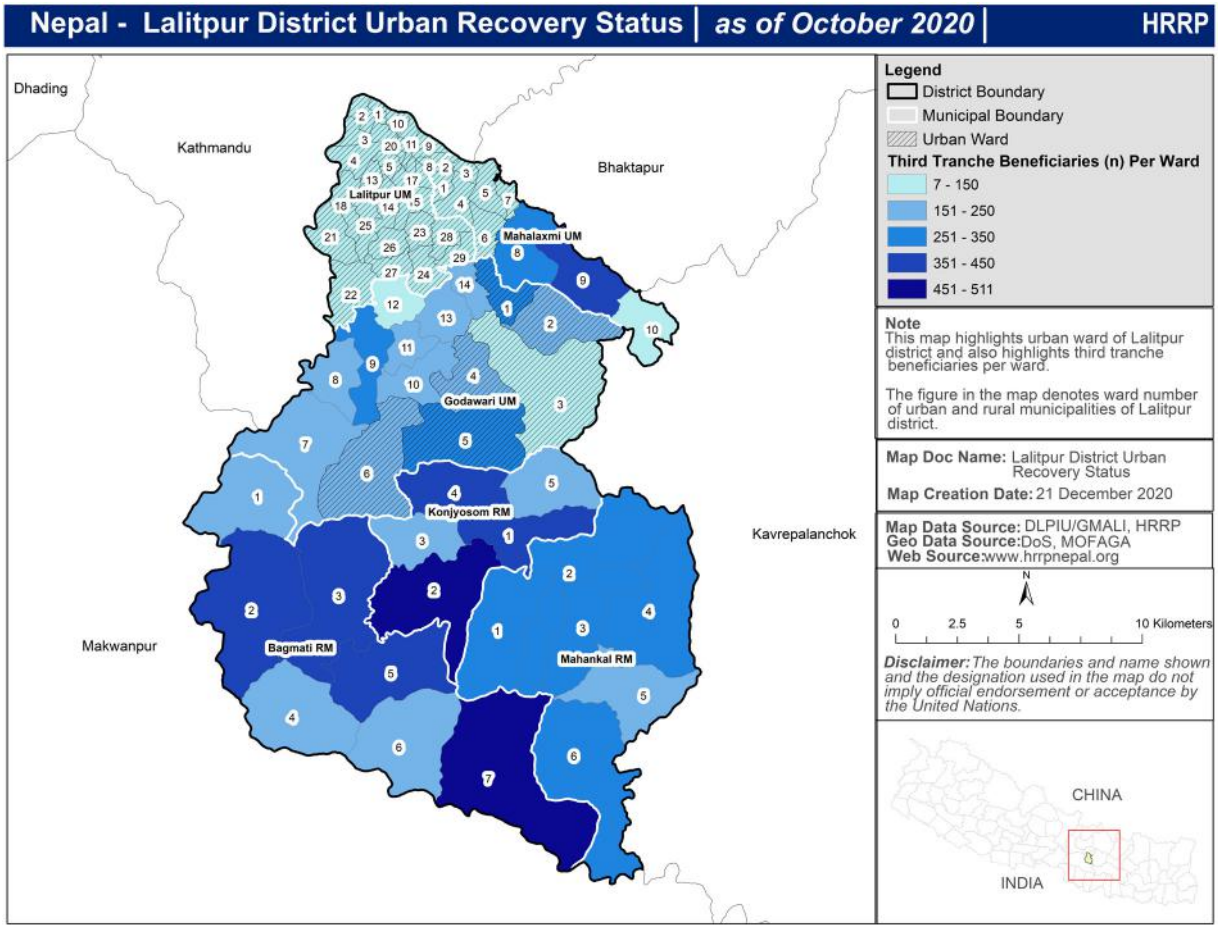
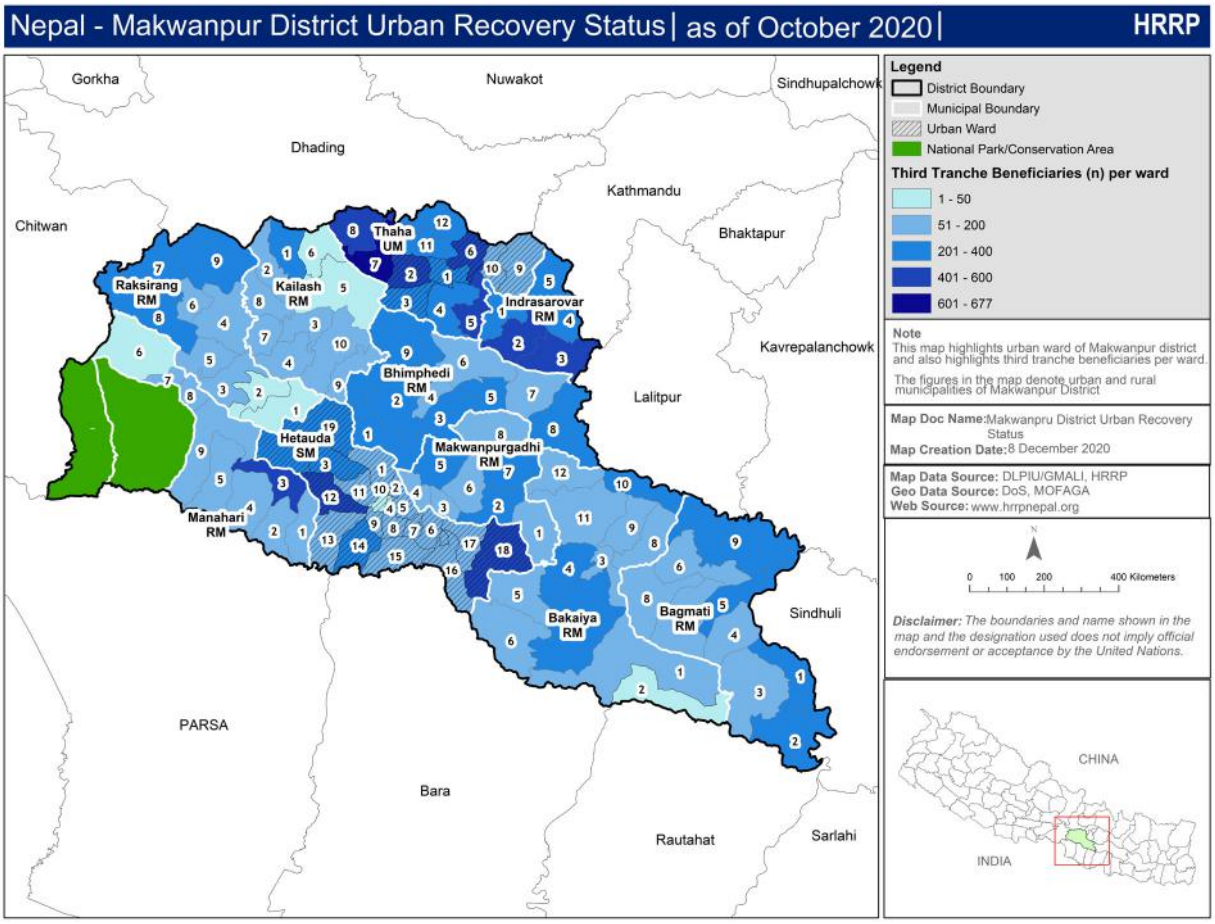
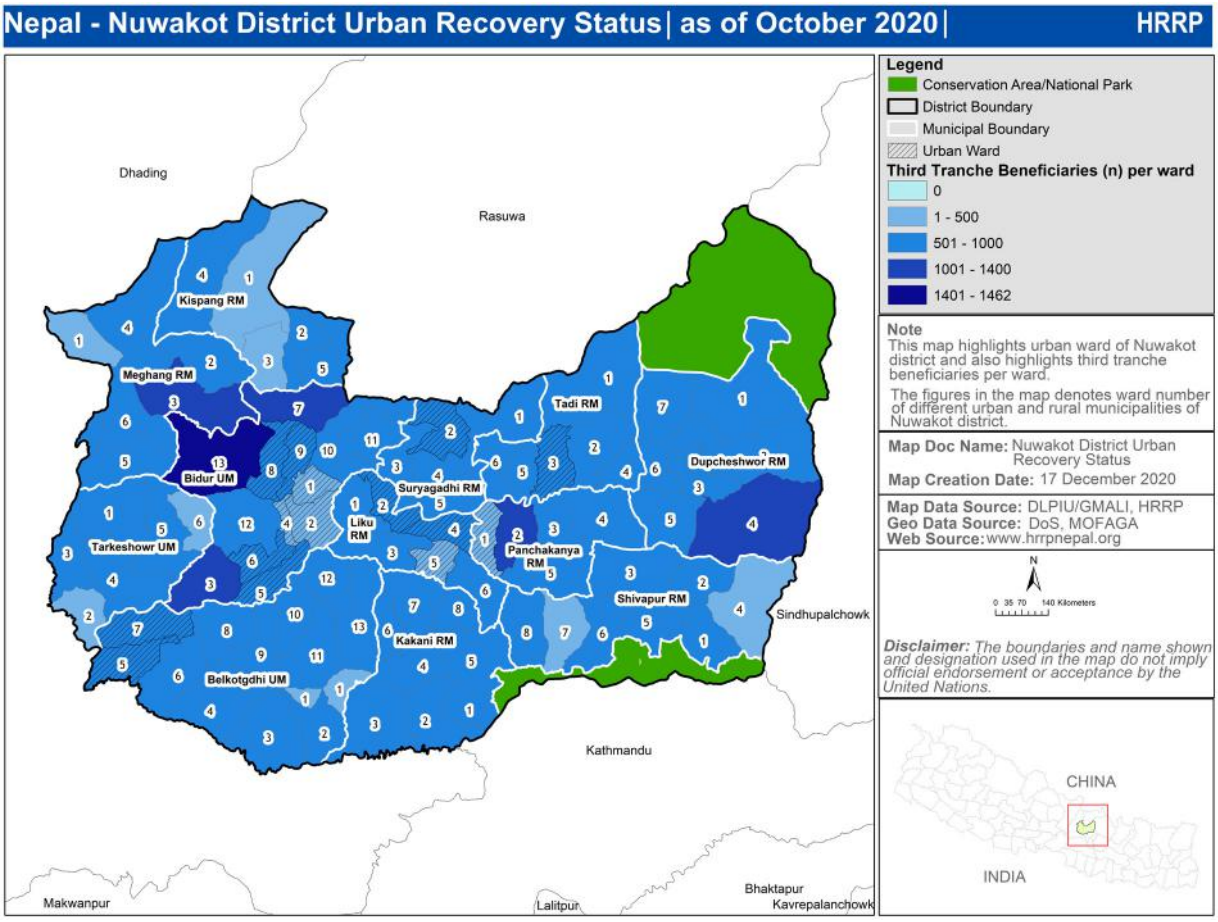

Nepal - Kathmandu District Urban Recovery Status | as of October 2020 | HRRP
Nuwakot
Sindhupalchok
Dhading
Bhaktapur
Kavrepalanchok
Makwanpur
Lalitpur
Tokha UM
Buddhanilkantha UM
Gokarneshwor UM
Tarkeshwor UM
Shankharapur UM
Nagarjun UM
Kageshwori Manahara UM
Chandragiri UM
Kathmandu UM
Kirtipur UM
Dakshinkali UM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
4 - 100
101 - 300
301 - 500
501 - 700
701 - 745
Note
This map highlights urban ward of Kathmandu district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Kathmandu district.
Map Doc Name: Kathmandu District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 2.75 5.5 11 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Kavrepalanchowk District Urban Recovery Status | as of October 2020 | HRRP
Kathmandu
Sindhupalchowk
Bhaktapur
Dolakha
Lalitpur
Ramechhap
Makwanpur
Sindhuli
Mandandeupar UM
Banepa UM
Panchkhal UM
Bhumlu RM
Dhulikhel UM
Panauti UM
Chaurideurali RM
Namobuddha UM
Bethanchowk RM
Roshi RM
Temal RM
Khanikhola RM
Mahabharat RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 400
401 - 800
801 - 1000
1001 - 1114
Note:
This map highlights urban wards of Kavrepalanchowk district and also highlights third tranche beneficiaries per ward.
The figures in the map denotes urban and rural municipalities of Kavrepalanchowk district.
Map Doc Name: Kavrepalanchowk District Urban Recovery Status
Map Creation Date: 9 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 110 220 440 Kilometers
Disclaimer: The boundaries and name shown in the map and designation used do not imply official endorsement or acceptance by the endorsement or acceptance by the United Nations
CHINA
INDIA


Nepal - Khotang District Urban Recovery Status | as of October 2020 | HRRP
Solukhumbu
Sankhuwasabha
Okhaldhunga
Sindhuli
Bhojpur
Okhaldhunga
Siraha
Ainsulekhark RM
Kepilasagadhi RM
Lamidada RM
Rupakot Majhuwagadhi UM
Sakela RM
Halesi Tuwachung UM
Diprung RM
Kothehang RM
Jantedhunga RM
Barahapokhari RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1 - 50
51 - 100
101 - 150
151 - 202
Note
This map highlights urban ward of Khotang district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Khotang district.
Map Doc Name: Khotang District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 4 8 16 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Lalitpur District Urban Recovery Status | as of October 2020 | HRRP
Dhading
Kathmandu
Bhaktapur
Kavrepalanchok
Makwanpur
Lalitpur UM
Mahalaxmi UM
Godawari UM
Konjyosom RM
Bagmati RM
Mahankal RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
7 - 150
151 - 250
251 - 350
351 - 450
451 - 511
Note
This map highlights urban ward of Lalitpur district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Lalitpur district.
Map Doc Name: Lalitpur District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 2.5 5 10 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Makwanpur District Urban Recovery Status | as of October 2020 | HRRP
Gorkha
Nuwakot
Sindhupalchowk
Dhading
Kathmandu
Chitwan
Bhaktapur
Kavrepalanchowk
Lalitpur
Sindhuli
PARSA
Bara
Rautahat
Sarlahi
Thaha UM
Raksirang RM
Kailash RM
Indrasarovar RM
Bhimphedi RM
Hetauda SM
Makwanpurgadhi RM
Manahari RM
Bakaiya RM
Bagmati RM
Legend
District Boundary
Municipal Boundary
Urban Ward
National Park/Conservation Area
Third Tranche Beneficiaries (n) per ward
1 - 50
51 - 200
201 - 400
401 - 600
601 - 677
Note
This map highlights urban ward of Makwanpur district and also highlights third tranche beneficiaries per ward.
The figures in the map denote urban and rural municipalities of Makwanpur District
Map Doc Name: Makwanpru District Urban Recovery Status
Map Creation Date: 8 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 100 200 400 Kilometers
Disclaimer: The boundaries and name shown in the map and the designation used does not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Nuwakot District Urban Recovery Status | as of October 2020 | HRRP
Dhading
Rasuwa
Kathmandu
Sindhupalchowk
Makwanpur
Lalitpur
Bhaktapur
Kavrepalanchowk
Kispang RM
Meghang RM
Bidur UM
Tarkeshowr UM
Belkotgdhi UM
Kakani RM
Liku RM
Suryagadhi RM
Tadi RM
Dupcheshwor RM
Panchakanya RM
Shivapur RM
Legend
Conservation Area/National Park
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 500
501 - 1000
1001 - 1400
1401 - 1462
Note
This map highlights urban ward of Nuwakot district and also highlights third tranche beneficiaries per ward.
The figures in the map denotes ward number of different urban and rural municipalities of Nuwakot district.
Map Doc Name: Nuwakot District Urban Recovery Status
Map Creation Date: 17 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 35 70 140 Kilometers
Disclaimer: The boundaries and name shown and designation used in the map do not imply official endorsement or acceptance by the United Nations.
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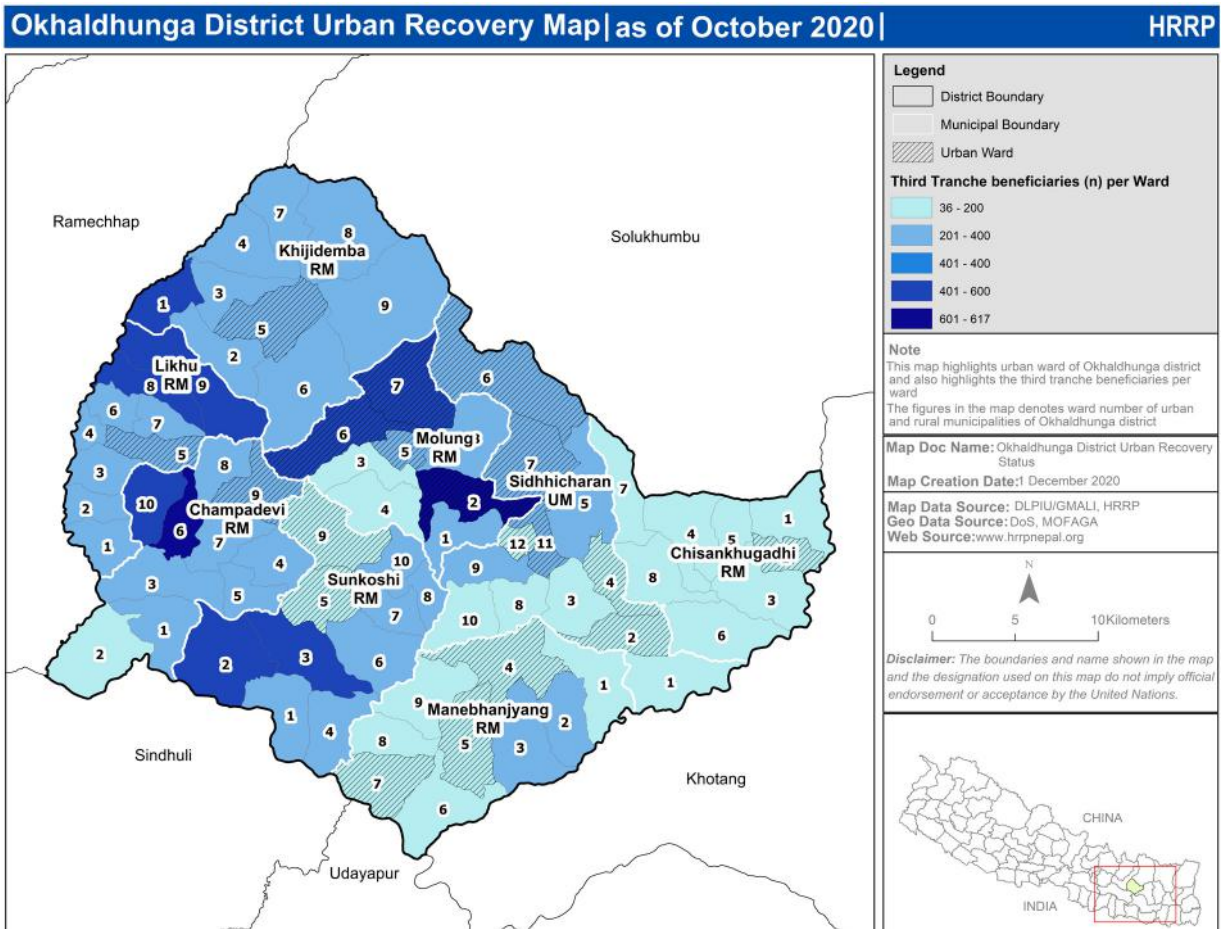
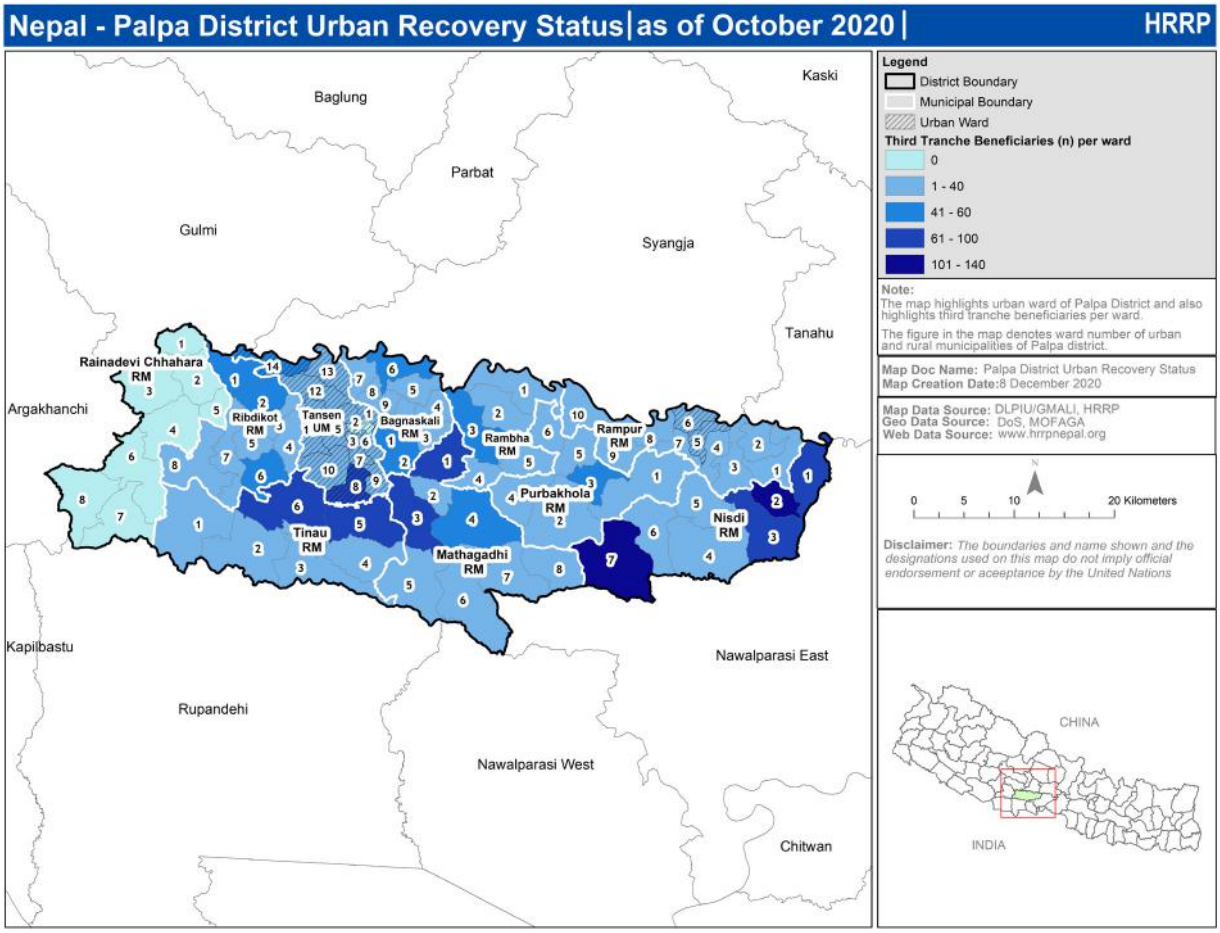
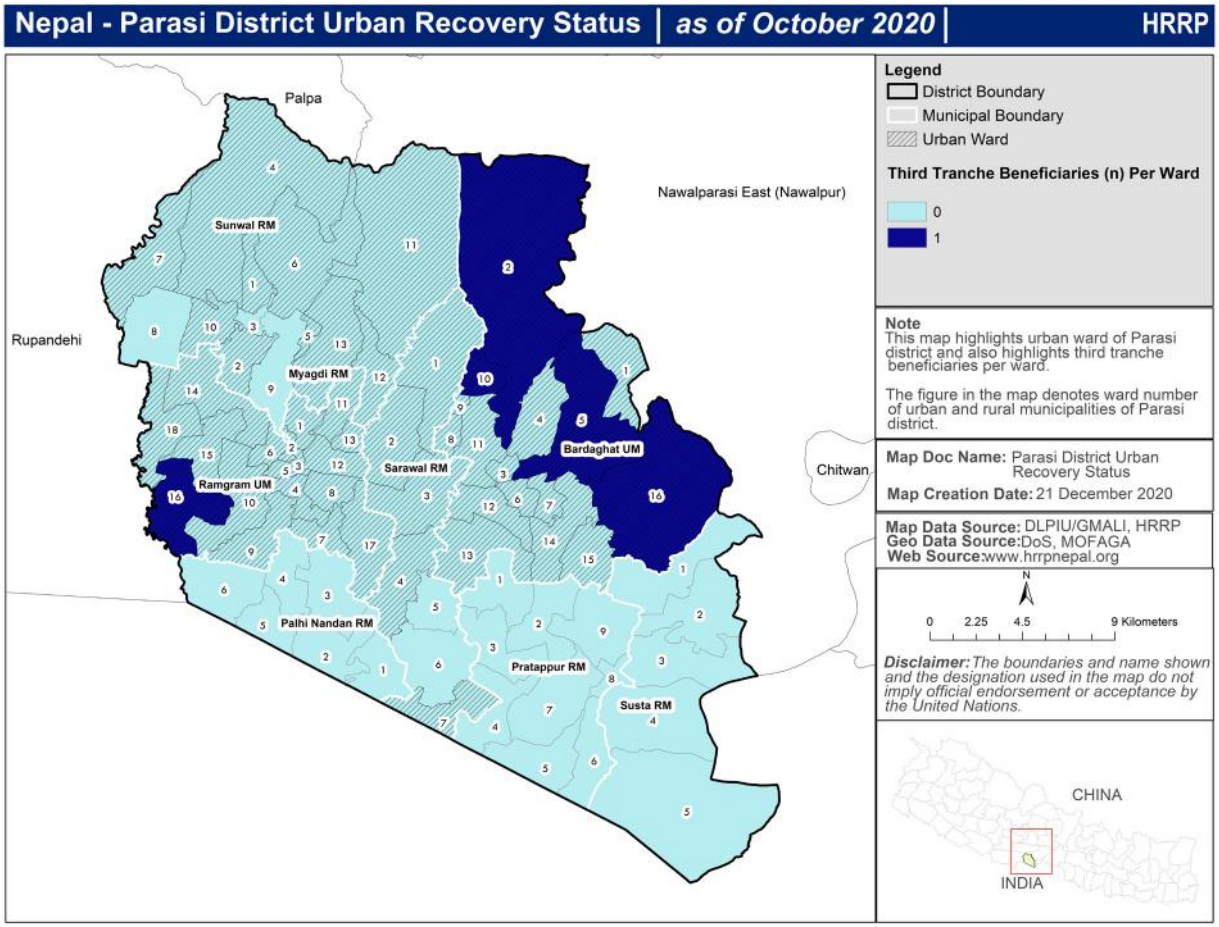
INDIA


Okhaldhunga District Urban Recovery Map | as of October 2020 | HRRP
Ramechhap
Solukhumbu
Khijidemba RM
Likhu RM
Molung RM
Sidhhicharan UM
Champadevi RM
Chisankhugadhi RM
Sunkoshi RM
Manebhanjyang RM
Sindhuli
Khotang
Udayapur
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche beneficiaries (n) per Ward
36 - 200
201 - 400
401 - 400
401 - 600
601 - 617
Note
This map highlights urban ward of Okhaldhunga district and also highlights the third tranche beneficiaries per ward
The figures in the map denotes ward number of urban and rural municipalities of Okhaldhunga district
Map Doc Name: Okhaldhunga District Urban Recovery Status
Map Creation Date: 1 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 Kilometers
Disclaimer: The boundaries and name shown in the map and the designation used on this map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Palpa District Urban Recovery Status | as of October 2020 | HRRP
Baglung
Kaski
Parbat
Gulmi
Syangja
Tanahu
Argakhanchi
Rainadevi Chhahara RM
Ribdikot RM
Tansen 1 UM
Bagnaskali RM
Rambha RM
Rampur RM
Purbakhola RM
Nisdi RM
Tinau RM
Mathagadhi RM
Kapilbastu
Nawalparasi East
Rupandehi
Nawalparasi West
Chitwan
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
0
1 - 40
41 - 60
61 - 100
101 - 140
Note:
The map highlights urban ward of Palpa District and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Palpa district.
Map Doc Name: Palpa District Urban Recovery Status
Map Creation Date: 8 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Data Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Disclaimer: The boundaries and name shown and the designations used on this map do not imply official endorsement or aceeptance by the United Nations
CHINA
INDIA


Nepal - Parasi District Urban Recovery Status | as of October 2020 | HRRP
Palpa
Nawalparasi East (Nawalpur)
Rupandehi
Chitwan
Sunwal RM
Myagdi RM
Sarawal RM
Bardaghat UM
Ramgram UM
Palhi Nandan RM
Pratappur RM
Susta RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1
Note
This map highlights urban ward of Parasi district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Parasi district.
Map Doc Name: Parasi District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 2.25 4.5 9 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
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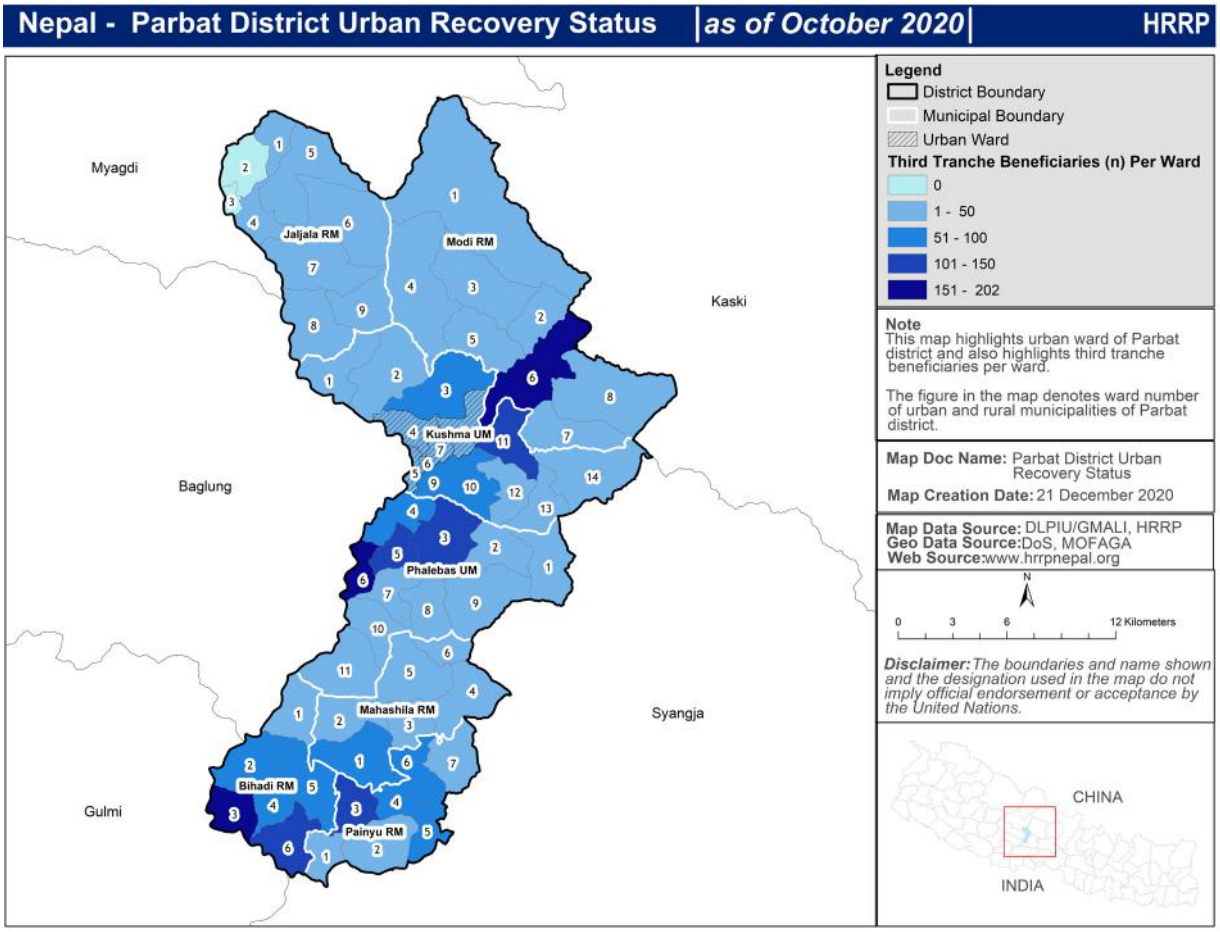
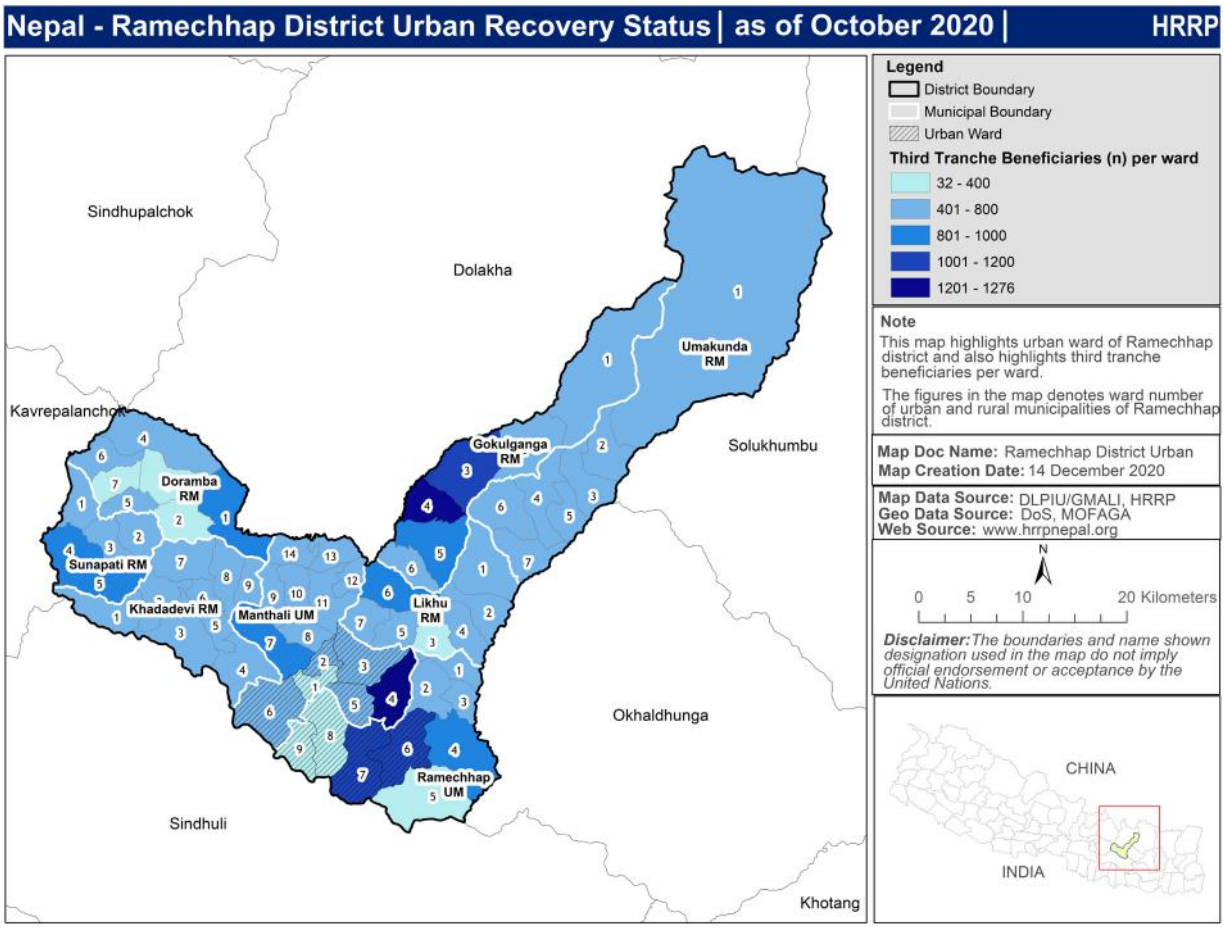
INDIA


Nepal - Parbat District Urban Recovery Status | as of October 2020 | HRRP
Myagdi
Kaski
Baglung
Syangja
Gulmi
Jaljala RM
Modi RM
Kushma UM
Phalebas UM
Mahashila RM
Bihadi RM
Painyu RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1 - 50
51 - 100
101 - 150
151 - 202
Note
This map highlights urban ward of Parbat district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Parbat district.
Map Doc Name: Parbat District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 3 6 12 Kilometers
Disclaimer: The boundaries and name shown and the designation used in the map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Ramechhap District Urban Recovery Status | as of October 2020 | HRRP
Sindhupalchok
Dolakha
Kavrepalanchok
Solukhumbu
Okhaldhunga
Sindhuli
Khotang
Umakunda RM
Gokulganga RM
Doramba RM
Sunapati RM
Khadadevi RM
Manthali UM
Likhu RM
Ramechhap UM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
32 - 400
401 - 800
801 - 1000
1001 - 1200
1201 - 1276
Note
This map highlights urban ward of Ramechhap district and also highlights third tranche beneficiaries per ward.
The figures in the map denotes ward number of urban and rural municipalities of Ramechhap district.
Map Doc Name: Ramechhap District Urban
Map Creation Date: 14 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Disclaimer: The boundaries and name shown designation used in the map do not imply official endorsement or acceptance by the United Nations.
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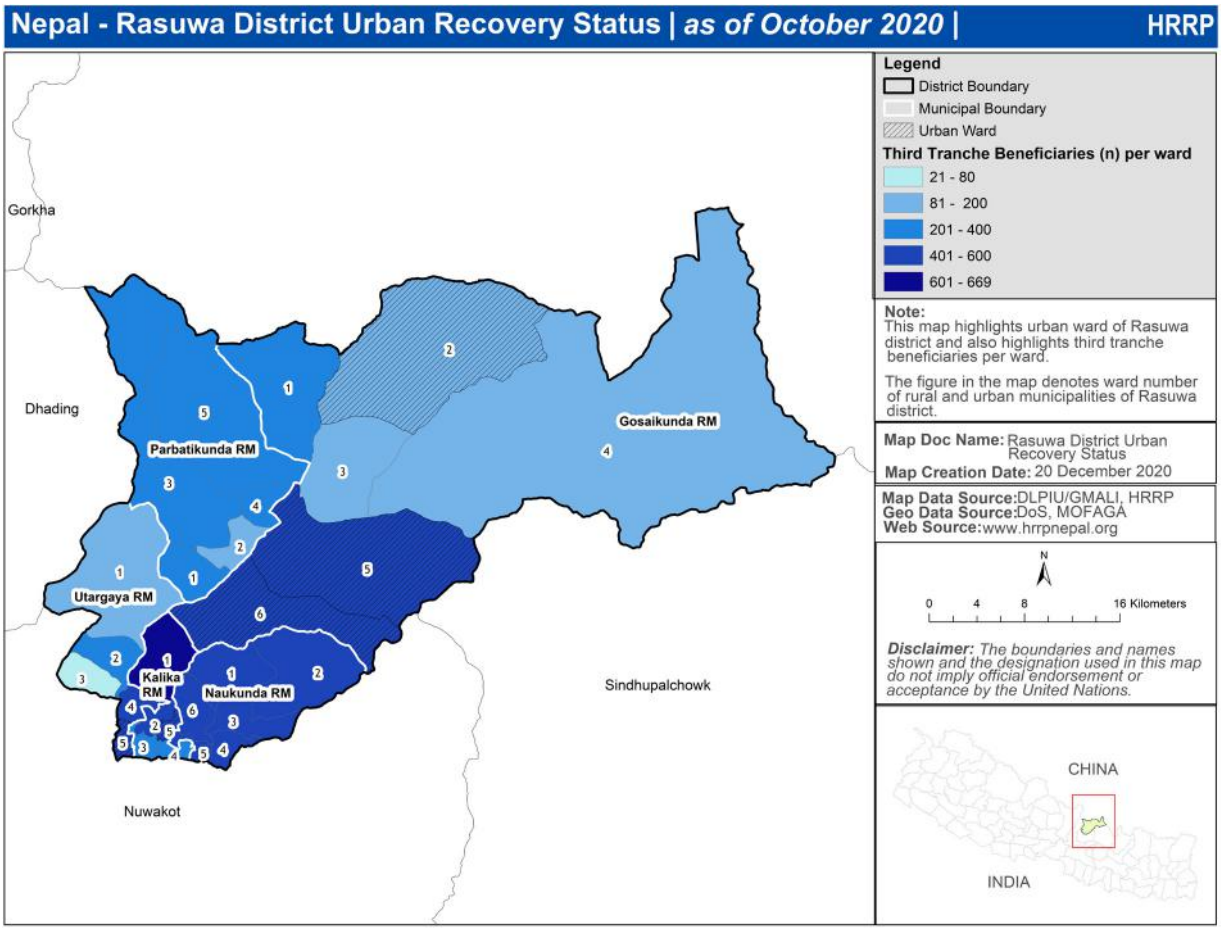
INDIA


Nepal - Rasuwa District Urban Recovery Status | as of October 2020 | HRRP
Gorkha
Dhading
Nuwakot
Sindhupalchowk
Parbatikunda RM
Gosaikunda RM
Utargaya RM
Kalika RM
Naukunda RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
21 - 80
81 - 200
201 - 400
401 - 600
601 - 669
Note:
This map highlights urban ward of Rasuwa district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of rural and urban municipalities of Rasuwa district.
Map Doc Name: Rasuwa District Urban Recovery Status
Map Creation Date: 20 December 2020
Map Data Source:DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 4 8 16 Kilometers
Disclaimer: The boundaries and names shown and the designation used in this map do not imply official endorsement or acceptance by the United Nations.
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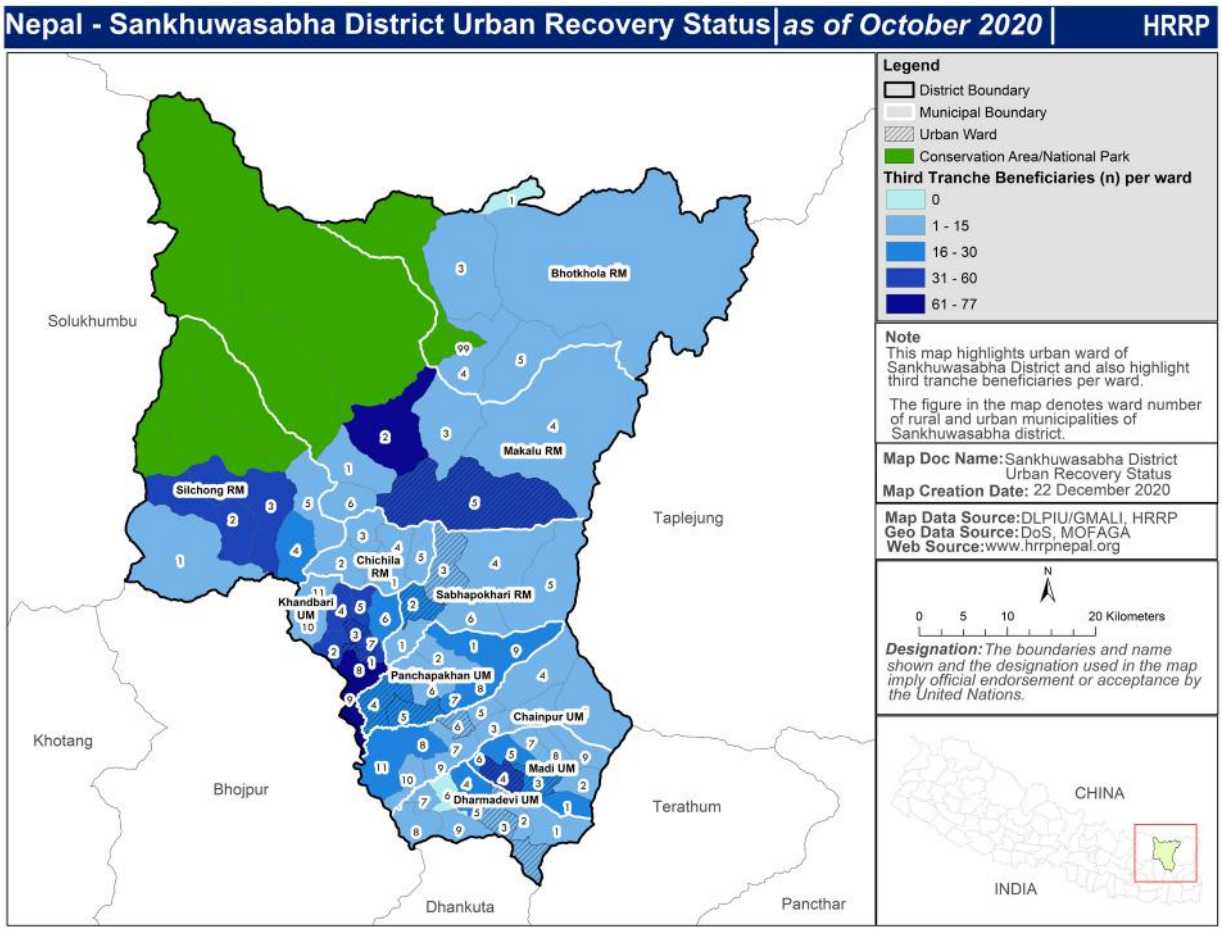
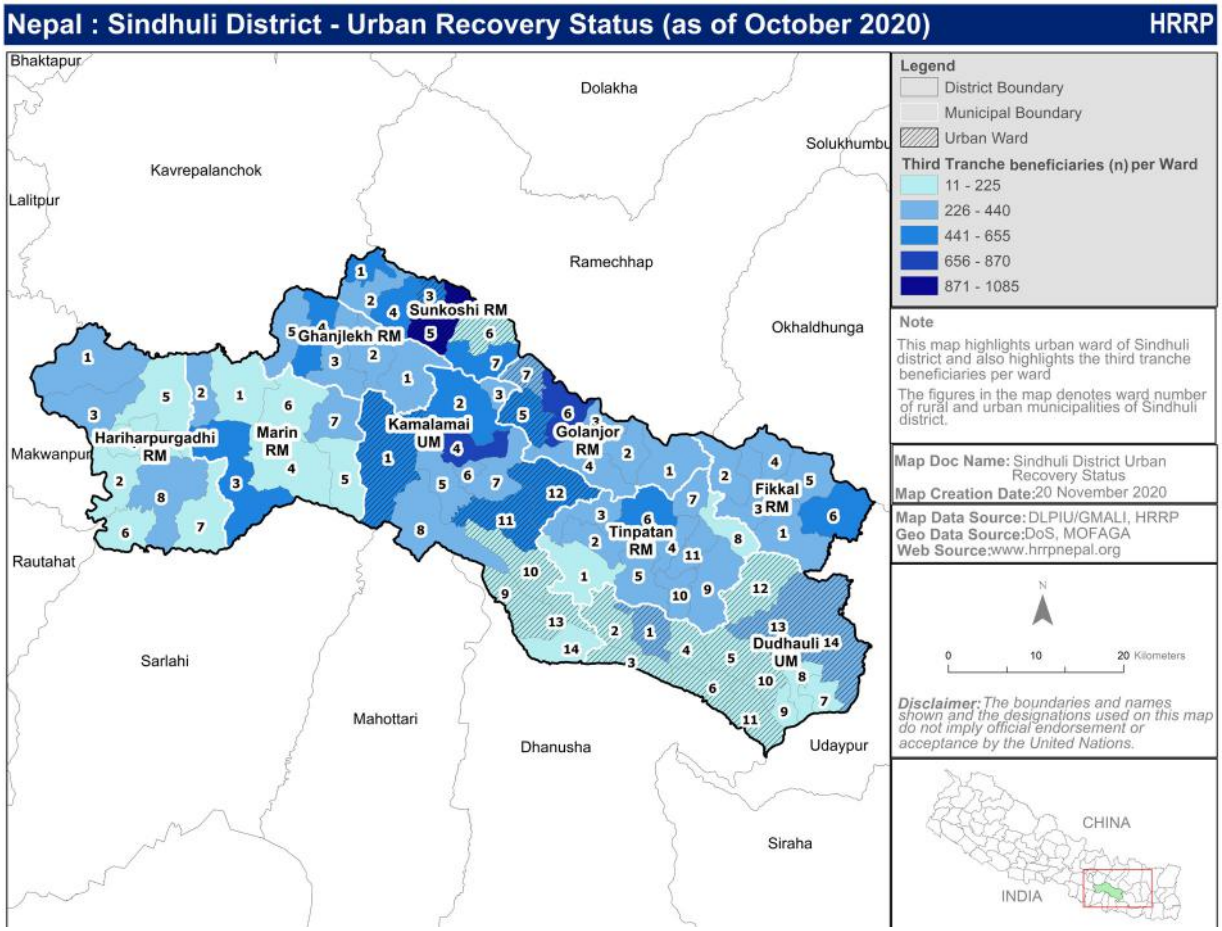
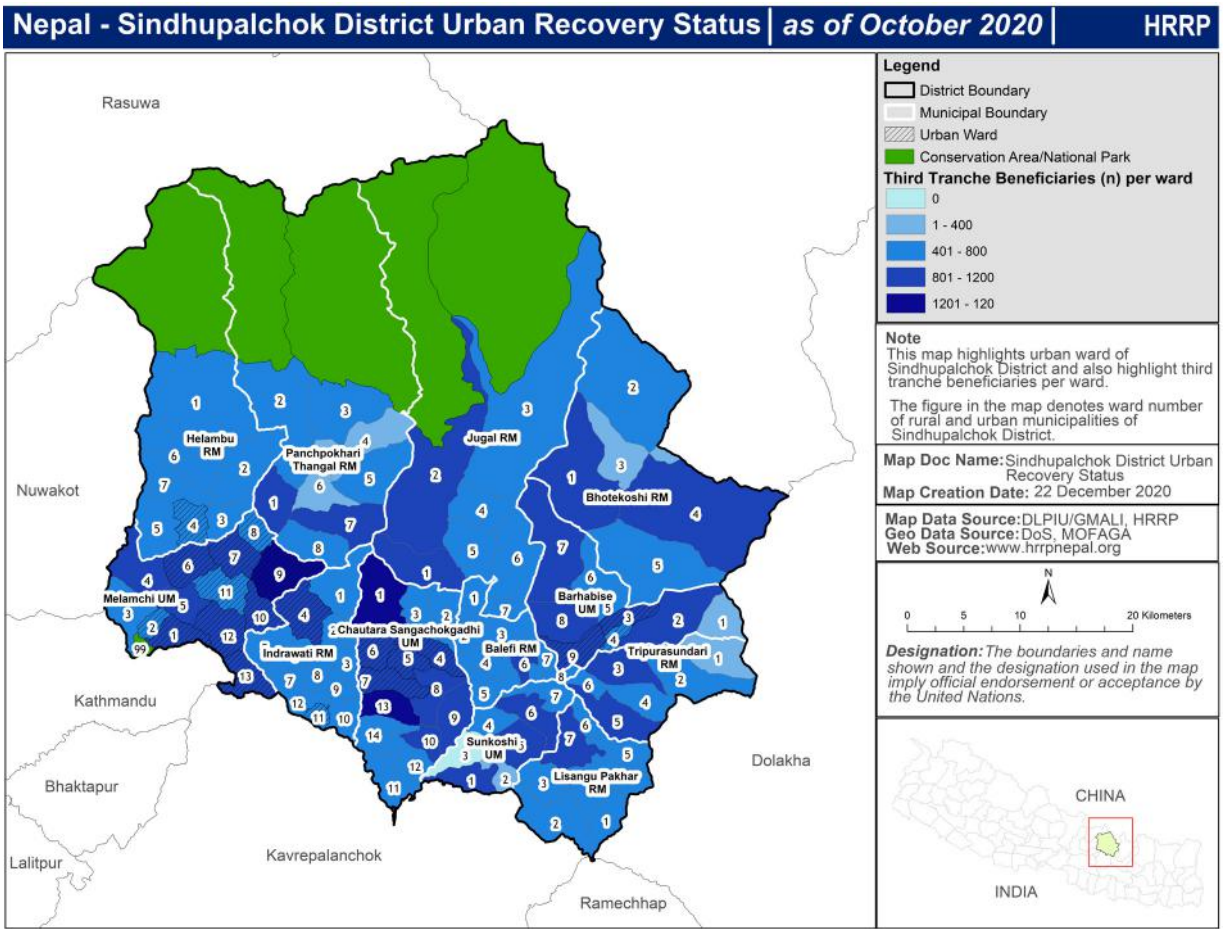
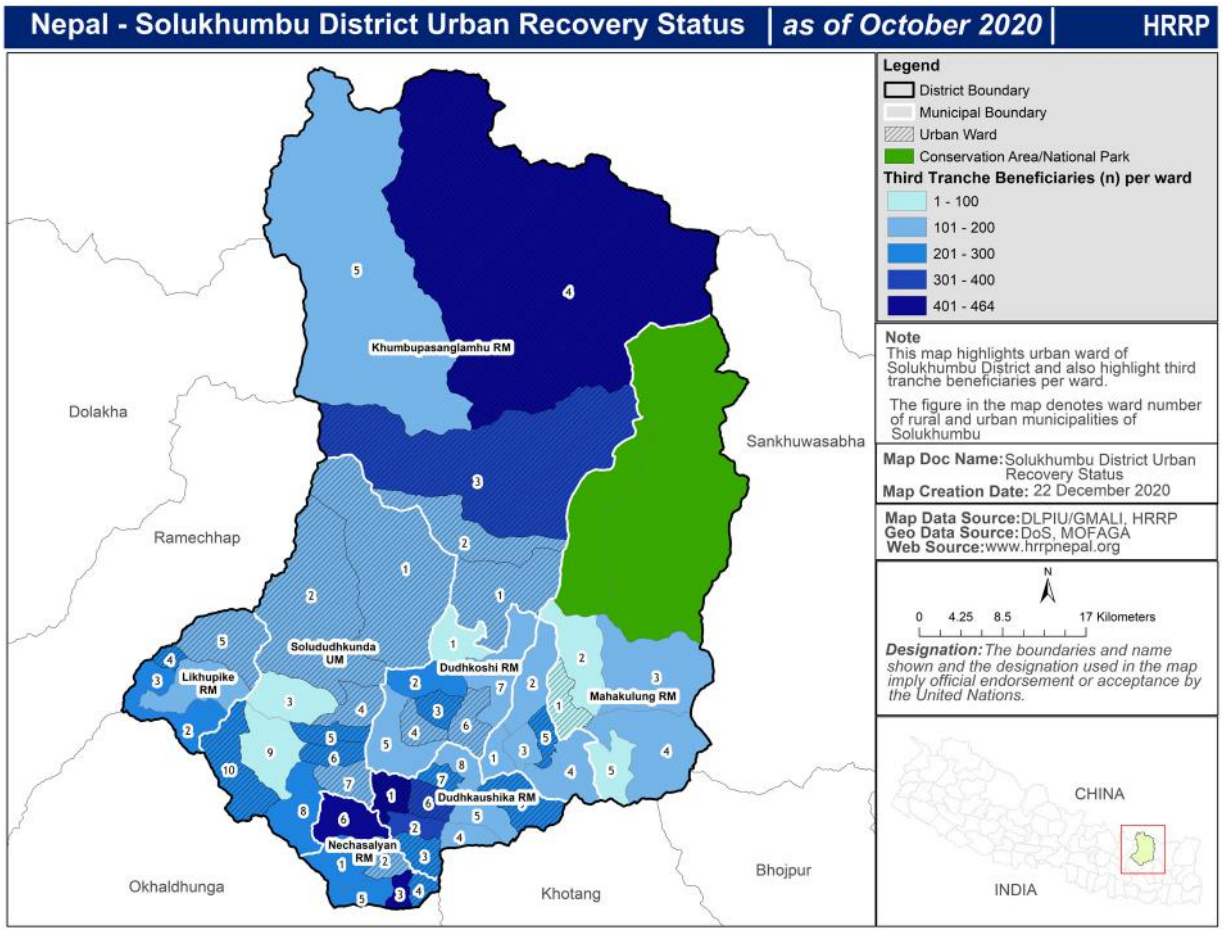
INDIA


Nepal - Sankhuwasabha District Urban Recovery Status | as of October 2020 | HRRP
Legend
District Boundary
Municipal Boundary
Urban Ward
Conservation Area/National Park
Third Tranche Beneficiaries (n) per ward
0
1 - 15
16 - 30
31 - 60
61 - 77
Note
This map highlights urban ward of Sankhuwasabha District and also highlight third tranche beneficiaries per ward.
The figure in the map denotes ward number of rural and urban municipalities of Sankhuwasabha district.
Map Doc Name: Sankhuwasabha District Urban Recovery Status
Map Creation Date: 22 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Designation: The boundaries and name shown and the designation used in the map imply official endorsement or acceptance by the United Nations.
CHINA
INDIA
Solukhumbu
Bhotkhola RM
Makalu RM
Silchong RM
Chichila RM
Khandbari UM
Sabhapokhari RM
Panchapakhan UM
Chainpur UM
Madi UM
Dharmadevi UM
Taplejung
Khotang
Bhojpur
Terathum
Dhankuta
Pancthar


Nepal : Sindhuli District - Urban Recovery Status (as of October 2020) HRRP
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche beneficiaries (n) per Ward
11 - 225
226 - 440
441 - 655
656 - 870
871 - 1085
Note
This map highlights urban ward of Sindhuli district and also highlights the third tranche beneficiaries per ward
The figures in the map denotes ward number of rural and urban municipalities of Sindhuli district.
Map Doc Name: Sindhuli District Urban Recovery Status
Map Creation Date: 20 November 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 10 20 Kilometers
Disclaimer: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
CHINA
INDIA
Bhaktapur
Dolakha
Solukhumbu
Kavrepalanchok
Lalitpur
Ramechhap
Okhaldhunga
Sunkoshi RM
Ghanjlekh RM
Hariharpurgadhi RM
Marin RM
Kamalamai UM
Golanjor RM
Fikkal RM
Tinpatan RM
Dudhauli UM
Makwanpur
Rautahat
Sarlahi
Mahottari
Dhanusha
Udaypur
Siraha


Nepal - Sindhupalchok District Urban Recovery Status | as of October 2020 | HRRP
Rasuwa
Nuwakot
Kathmandu
Bhaktapur
Lalitpur
Kavrepalanchok
Ramechhap
Dolakha
Helambu RM
Panchpokhari Thangal RM
Jugal RM
Bhotekoshi RM
Melamchi UM
Chautara Sangachokgadhi UM
Barhabise UM
Indrawati RM
Balefi RM
Tripurasundari RM
Sunkoshi UM
Lisangu Pakhar RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Conservation Area/National Park
Third Tranche Beneficiaries (n) per ward
0
1 - 400
401 - 800
801 - 1200
1201 - 120
Note
This map highlights urban ward of Sindhupalchok District and also highlight third tranche beneficiaries per ward.
The figure in the map denotes ward number of rural and urban municipalities of Sindhupalchok District.
Map Doc Name: Sindhupalchok District Urban Recovery Status
Map Creation Date: 22 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 5 10 20 Kilometers
Designation: The boundaries and name shown and the designation used in the map imply official endorsement or acceptance by the United Nations.
CHINA
INDIA


Nepal - Solukhumbu District Urban Recovery Status | as of October 2020 | HRRP
Dolakha
Ramechhap
Okhaldhunga
Khotang
Bhojpur
Sankhuwasabha
Khumbupasanglamhu RM
Solududhkunda UM
Likhupike RM
Dudhkoshi RM
Mahakulung RM
Dudhkaushika RM
Nechasalyan RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Conservation Area/National Park
Third Tranche Beneficiaries (n) per ward
1 - 100
101 - 200
201 - 300
301 - 400
401 - 464
Note
This map highlights urban ward of Solukhumbu District and also highlight third tranche beneficiaries per ward.
The figure in the map denotes ward number of rural and urban municipalities of Solukhumbu
Map Doc Name: Solukhumbu District Urban Recovery Status
Map Creation Date: 22 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source: DoS, MOFAGA
Web Source: www.hrrpnepal.org
N
0 4.25 8.5 17 Kilometers
Designation: The boundaries and name shown and the designation used in the map imply official endorsement or acceptance by the United Nations.
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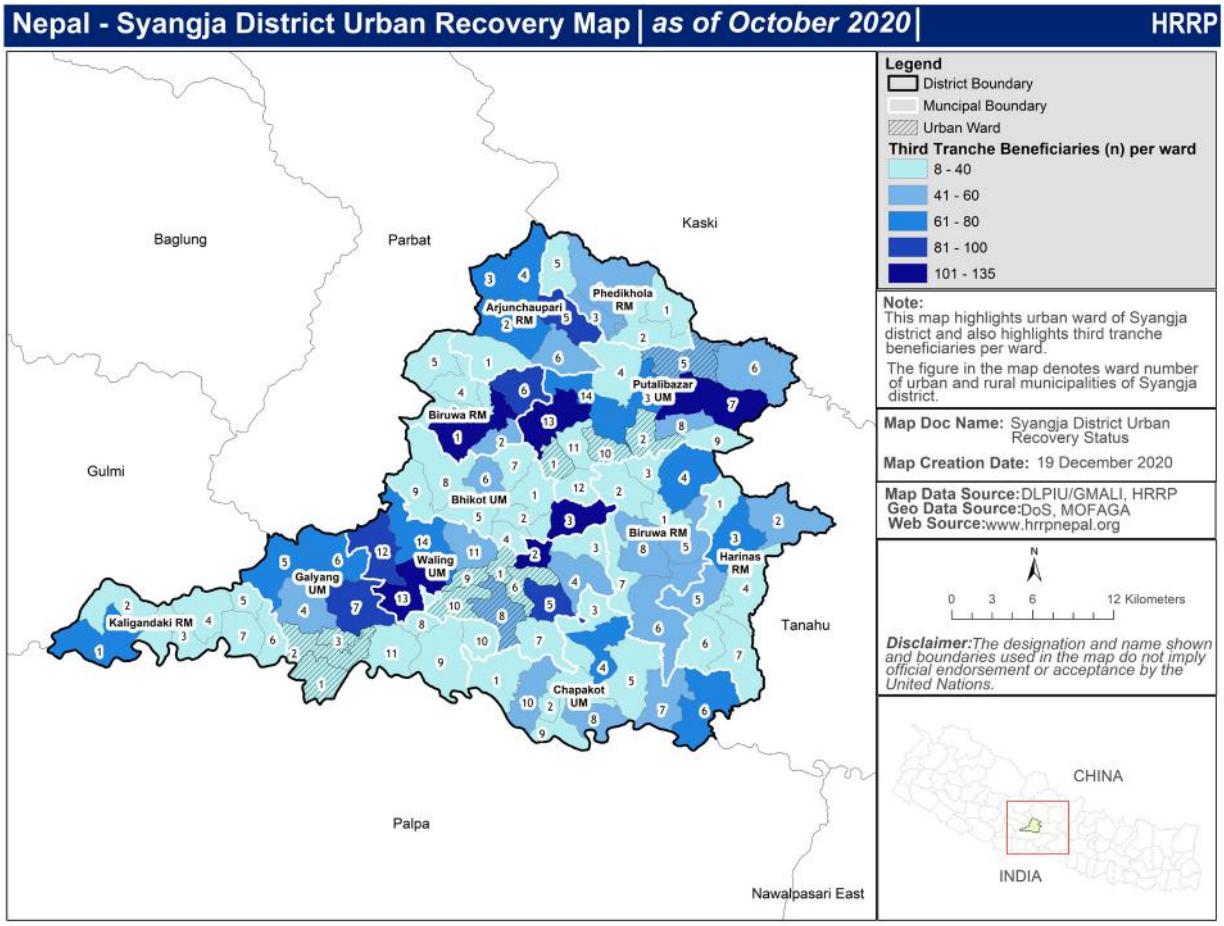
Nepal - Syangja District Urban Recovery Map | as of October 2020 | HRRP
Baglung
Parbat
Kaski
Gulmi
Tanahu
Palpa
Nawalpasari East
Arjunchaupari RM
Phedikhola RM
Putalibazar UM
Biruwa RM
Bhikot UM
Biruwa RM
Waling UM
Galyang UM
Harinas RM
Kaligandaki RM
Chapakot UM
Legend
District Boundary
Muncipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) per ward
8 - 40
41 - 60
61 - 80
81 - 100
101 - 135
Note:
This map highlights urban ward of Syangja district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Syangja district.
Map Doc Name: Syangja District Urban Recovery Status
Map Creation Date: 19 December 2020
Map Data Source:DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 3 6 12 Kilometers
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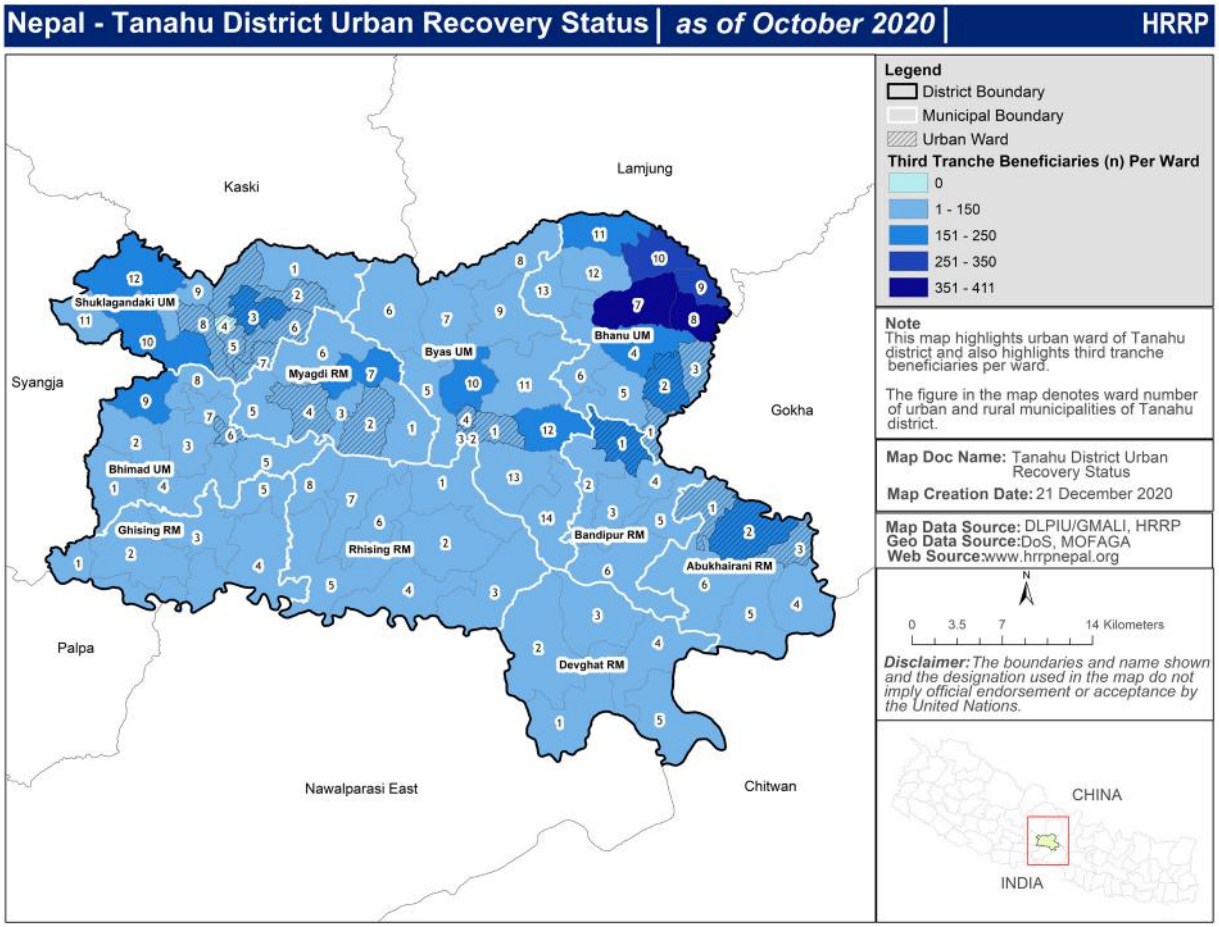
Nepal - Tanahu District Urban Recovery Status | as of October 2020 | HRRP
Kaski
Lamjung
Syangja
Gokha
Palpa
Nawalparasi East
Chitwan
Shuklagandaki UM
Byas UM
Bhanu UM
Myagdi RM
Bhimad UM
Ghising RM
Rhising RM
Bandipur RM
Abukhairani RM
Devghat RM
Legend
District Boundary
Municipal Boundary
Urban Ward
Third Tranche Beneficiaries (n) Per Ward
0
1 - 150
151 - 250
251 - 350
351 - 411
Note
This map highlights urban ward of Tanahu district and also highlights third tranche beneficiaries per ward.
The figure in the map denotes ward number of urban and rural municipalities of Tanahu district.
Map Doc Name: Tanahu District Urban Recovery Status
Map Creation Date: 21 December 2020
Map Data Source: DLPIU/GMALI, HRRP
Geo Data Source:DoS, MOFAGA
Web Source:www.hrrpnepal.org
N
0 3.5 7 14 Kilometers
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