

Operation of Building Permit Studio (BPS) in Waling Municipality

Urban Resilience initiative in Waling municipality, Nepal

September 2022



Waling Municipality, located in Syangja district of Gandaki Province, is one of the growing secondary cities of Nepal. Spread over an area of 128.41 sq.km., the municipality has total population of 50,932 and population density of 4 persons per hectare (ppha). Its improved connectivity with two major cities of the country (Pokhara and Lumbini) enhances its strategic linkages with the surrounding hinterlands and other municipalities.

Waling Municipality is prone to multi-hazards such as land erosion, landslides, flood, drought, earthquakes and lightning/storm and has been affected by cascading effects of such hazards. This has put many vulnerable settlements and building stock at risk and disproportionately affected marginalized groups of people. To address these issues through safer building construction practices, Waling Municipality has integrated building bye-laws and National Building Code (NBC) into the municipal building permit system. But the awareness level of the general public on the importance of complying with these regulations is poor. At the same time, technical capacity of the municipality is inadequate to monitor the building permit system. This has impacted formalizing building permit process in the municipality.

To address these issues, UNDP envisaged a special mechanism to strengthen and institutionalize the building permit system in Waling Municipality under its Urban Risk Management and Resilience Strategy. A **Building Permit Studio (BPS)** was thus set up as an extended wing of the Building and Settlement Development Sub-section of the Waling Municipality Office and was operated from 20 December 2021 until 8 April 2022. The BPS team included three personnel (structural engineer, architect and draftsman), while the Chief Engineer of the municipality office was assigned as a focal person who oversaw different activities conducted by BPS.

Activities conducted

The Building Permit Studio (BPS) mainly conducted three activities. The first included preparation of municipal drawings for building permit process and archiving of five houses belonging to marginalized beneficiaries affected by landslides. This activity also included orientation on the overall building permit system to the practicing engineers/architects of the municipality to enhance their understanding on workflow of the process. The second activity included preparation of design catalogue of vernacular housing types of Waling which are built by local people using local materials and are closely related to the specific geographic features and socio-cultural milieu. The design catalogue illustrates two prevalent vernacular housing typologies through architectural drawings which can be used for a more detailed housing typology study in future.

The third activity included conducting orientation and training programs. The BPS team conducted two training programs that focused on two aspects – ‘earthquake resistant design of buildings through application of software’ and ‘building bye-laws, National Building Code and retrofitting of buildings’. The participants included engineers/architects and sub-engineers from municipality, ward offices and private consulting firms. The training programs aimed to transfer knowledge on seismic vulnerability assessment and retrofitting design with different retrofit technologies. The BPS team also conducted ward-level orientation programs to enhance the understanding of the local people on National Buildings Code (NBC), mandatory rule of thumb for construction and basic criteria of safer construction practices.



Figure 1: Participants of training program (left) and ward-level orientation program (right)

Outputs achieved

The training programs and orientation programs were aligned with the concept of knowledge transfer in order to disseminate applicable knowledge and skills on structural design and construction of buildings following NBC, retrofitting techniques and building bye-laws. The training programs have strengthened technical capacity of the staff of municipality and ward offices to supervise the submitted municipal drawings in compliance with NBC and approve building permits accordingly. The programs have further enhanced technical capacity of practicing engineers/architects on earthquake resistant design of RCC buildings and retrofitting techniques. Similarly, the orientation programs have enhanced local awareness on NBC and basic construction practices which will be effective in enforcing compliance of NBC and building bye-laws.

Working closely with the municipal officials, BPS has imparted technical skills to facilitate and monitor building permit and archiving process in the municipality. These attributes will have a bearing on implementing effective building permit system and enforcing safer construction practices in the future. Operation of units such as Building Permit Studio (BPS) in municipality offices enhances service delivery to the beneficiaries. BPS can also act as a gateway to share prior information on different aspects such as stages of building construction approval process, construction methods and selection of safer sites to the general public.