



GAPS AND FINDINGS IN MAJOR POLICIES OF NEPAL

GREENING THE SHELTER RESPONSE

APRIL 2023

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Report by:



NHSRP National Housing and Settlements
Resilience Platform

GAPS AND FINDINGS IN MAJOR POLICIES OF NEPAL

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**Greening the Shelter Response:
Gaps and Findings in Major Policies of Nepal**

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ABBREVIATIONS AND ACRONYMS

DDMC	District Disaster Management Committee
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DUDBC	Department of Urban Development and Building Construction
ECHO	European Commission Humanitarian Aid & Civil Protection
EPA	Environmental Protection Act
GoN	Government of Nepal
GTR	Greening the Shelter Response
IWRM	Integrated Water Resource Management
LLR	Lands and Land Resources
LUP	Land use Policy
MoFSC	Ministry of Forests and Soil Conservation
MoSTE	Ministry of Science, Technology and Environment
MoUD	Ministry of Urban Development
NDRRMA	National Disaster Risk Reduction and Management Authority
NFI	Non-Food Items
NHSRP	National Housing Settlement Reconstruction Platform
PDMC	Provincial Disaster Management Committee
PDNA	Post Disaster Needs Assessment
PDRF	Post Disaster Risk Framework
PHP	People Housing Program
REA	Rapid Environmental Assessment
RRR	Reduce, Reuse & Recycle
SLUZ	Specific Land Use Zone
UNHCR	United Nations High Commissioner for Refugees
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

Aligning with Environmentally Sustainable Shelter Response- Greening The Shelter agenda- Of Global Shelter Cluster, NHSRP with CRS and ECHO/UNHCR launched research to study the incorporation of greening shelter solutions in the policies and laws of Nepal and to further identify the gaps to address any such issues.

The objectives of the research carried out were as follows:

- To identify relevant laws, regulations, and other documents that justify the greening of the shelter response at federal and provincial levels.
- To outline any gaps, findings, and recommendations regarding the green shelter response.

For the research following acts and policies on national and provincial level were studied:

- Nepal Constitution (2015)
- Disaster Risk Reduction and Management Act, 2074
- Disaster risk reduction national strategic Plan of action 2018 – 2030
- Right of Housing Act
- The Environment Protection Act, 2076 (2019)
- Local Government Operation Act, 2074
- Land use policy (2015)
- Solid Waste Management Act, 2068 (2011)
- Province Disaster Management Act, 2075, Bagmati province
- Environment Protection Act, 2077, Bagmati province

These policies and existing guidelines were mapped following below mentioned criteria covering various aspects of shelter and settlement:

- Criteria 1. Roles and responsibilities of different level government authorities and others concerned stakeholders on environmental purposes and green shelter response.
- Criteria 2. Provisions for sourcing of materials used or consumed (Reduce).
- Criteria 3. Stipulations on carbon emissions.
- Criteria 4. Provision to minimize impact on natural resources (Reuse).
- Criteria 5. Specifications for safe waste management and sanitation (Recycle).
- Criteria 6. Provision of energy uses and consumption.
- Criteria 7. Provision for safe and environmentally safe shelter construction.
- Criteria 8. Provisions for other facilities.

The role division of local, provincial, and federal level has been established in the policies and acts concerning shelter and environment. The Land Use Policy facilitates the identification of zones related to extraction. The EPA has provisions that relate to planning and reducing negative impact on the environment. The Solid Waste Management Act has limitations to connect construction waste to safer disposal, and the duties/implications for private sector and individuals. The EPA has some minor provisions relating to control of pollution or management of hazardous waste. The Local Government Operation Act indicates a municipal role in collecting waste and sanitation but has limitations in indicating its link and processes to RRR.

Furthermore, to capture the learnings and experiences from 2015 Gorkha Earthquake for greener response, Post Disaster Needs Assessment (PDNA), Rapid Environmental Assessment (REA) and Post Disaster Recovery Framework (PDRF) were also reviewed and major findings from this review were:

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- Land use planning, including zoning, before finalizing the locations of resettlement areas to minimize risks from landslides and floods, and ensure adequate land and natural resources to meet community needs, while minimizing environmental impacts.
- Ensure that building design and construction is environmentally sustainable, appropriate to the region, and will withstand future disasters.
- Ensure that fuel wood collection complies with existing forest management plans and promote alternative energy and energy efficient technologies to reduce pressure on forests.
- Recycle and reuse debris as much as possible and ensure that solid waste disposal during the reconstruction phase is managed using environmentally sound practices.
- Prioritize support for rapidly restoring livelihoods to take pressure off forests and biodiversity after the earthquake.
- Enforce environmental impact assessment/initial environmental examination regulations during reconstruction to avoid future disasters; and ensure enforcement.
- Build capacity for green recovery and reconstruction and ensure consultation/coordination with relevant stakeholders in recovery and reconstruction.

Some of the gaps identified in the review are as follows:

- No provisions for creating legislation connected to housing development & planning that clearly reference employing green building techniques.
- The housing acts and policies simply mention the support of shelters; they make no mention of environmentally friendly shelter construction.
- There are no such guidelines governing the reuse of salvaged materials and the production of alternative construction materials.
- None of the documents has clearly outlined any guidelines and checklists for the environmentally friendly recovery and reconstruction considering the different phases of the aftermath of the disaster.

The report concludes by recommending a set of provisions and way forward that can be implemented to address the gaps identified throughout the research.

- Policy relating to the green recovery and the shelter response must be developed to address the gaps in a comprehensive manner.
- As identified by the government from the findings of 2015 Nepal earthquake for the need of promoting use of safe and green building materials and reuse of disaster debris as a key principle for environmentally sound reconstruction but as there are no practical guidelines for the sourcing of sustainable building materials, they can be developed based on that principle.
- Under the provision of Local government operation act to provide the provincial and local levels the ability to develop DRRM-related acts and regulations, documents connected to green reconstruction and recovery can be produced as there is no such guideline and procedures. Such guidelines can be an Environmental checklist for shelter response for better and effective implementation of the shelter program targeting provincial and local governments.

INTRODUCTION

BACKGROUND

With a long history of earthquakes, Nepal is a country that is especially vulnerable to disasters. Due to its severely dissected topography and significant elevation variation, it is also quite vulnerable to floods and landslides. Periodic droughts are common in some areas of the nation. Increasingly intense weather events and global warming increase the risk of several hazards (e.g., avalanches, drought, landslides, and floods). Many people in Nepal are highly dependent on locally available natural resources and ecosystem services for their livelihoods and security. Natural resources include firewood, building materials, forest foods, grazing, and medicines. For Nepal to become more resilient to future disasters and reconstruct in a way that will not over-exploit natural resources or damage ecosystem services, it is essential to reflect on 'build back safer and greener' solutions after disasters, ensuring environmentally responsible practices.

GREENING THE SHELTER RESPONSE

"Greening the shelter response" (GTR), funded by ECHO/UNHCR, is an initiative by the Global Shelter Cluster to ensure environmentally responsible practices. It seeks adopting environmentally sound construction practices after a disaster that do not place additional pressure on the environment. Practices that mitigate impacts on ecosystems and encourage transformative building practices, consequently safeguarding livelihoods and reducing disaster risks. It supports the environmental elements of the "Do No Harm" principle, the Sphere Handbook, the Code of Conduct for Disaster Relief, the Sendai Framework, Environment Community of Practice initiated by Global Shelter Cluster and the Sustainable Development Goals.

OBJECTIVE OF THIS LITERARY REVIEW

As part of the GTR examination in Nepal, a literary review was conducted to identify relevant aspects found and/or missing in various documents. The documents reviewed were national, provincial, and municipal laws, regulations and guidance, existing project documents, and others along these lines, especially related to the 2015 earthquake.

The following objectives have been accomplished by this review:

- To identify relevant laws, regulations, and other documents that justify the greening of the shelter response at federal and provincial levels.
- To outline any gaps, findings, and recommendations regarding the green shelter response.

METHODOLOGY

The methodology used for this review was the following:

- Development of a checklist of criteria to guide the review process.
- Identification of 10 key documents to be examined.
- Triangulation with lessons learnt from the 2015 Nepal earthquake.

To identify good practices, opportunities, and gaps in the documents, the subsequent standard criteria have been determined:

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Table 1. Document Review Criteria

Criteria	Criteria	Components
Criteria-1	Roles and responsibilities of different level government authorities and others concerned stakeholders on environmental purposes and green shelter response	Roles and responsibilities of federal Roles and responsibilities of: a) Federal government b) Province government c) Local government d) Organized communities
Criteria-2	Provisions for sourcing of materials used or consumed (Reduce)	a) Extraction and use of natural materials such as water, timber, stone, sand, aggregate etc. b) Use and provision for manufactured materials, such as steel, plastic, burnt bricks, etc. c) Use of multiple sources, the reuse of salvaged materials and the production of alternative materials. d) Reduce the consumption of construction materials and debris management
Criteria-3	Stipulations on carbon emissions	a) Carbon emission in production phase, transport, and consumptions of materials b) CO ₂ emission mitigation
Criteria-4	Provision to minimize impact on natural resources (Reuse)	a) Deforestation and vegetation removal b) Soil erosion c) Degradation of water quality d) Provisions for the protection of ecologically sensitive areas e) Debris Management, Reusing scrap materials
Criteria-5	Specifications for safe waste management and sanitation (Recycle)	a) Safe management of toilet and wash facilities b) Collection and environmentally sound disposal of household and construction waste
Criteria-6	Provision of energy uses and consumption	a) Lightening provision b) Cooking fuel provision c) Energy for winterization support
Criteria-7	Provision for safe and environmentally safe shelter construction	a) Selection of site b) Size and height of shelter c) Window, roofing & ventilation provisions d) Flood, earthquake & fire-resistant provisions e) Insulation and Energy Saving
Criteria-8	Provisions for other facilities	a) Rainwater harvesting b) Greywater reuse systems for sanitary purposes c) Vegetation and plants around facilities d) Others

REVIEW OF ACTS, POLICIES & REGULATIONS IN NEPAL

According to the predetermined criteria listed in the table. 1, Ten significant policies have been examined, as shown in the table below

Table 2. Review and findings of major documents

Document Name & Introduction
<p>NEPAL'S CONSTITUTION OF 2015</p> <p>Introduction: Article 31 of Nepal's constitution, which deals with the right to housing, states that every citizen has the right to sufficient housing and that no one may be evicted from or encroached upon while residing in housing that they have purchased, unless required by law. Also, provisions are included in article 51, which requires governments to develop and implement plans for disaster preparedness, rescue operations, relief efforts, and rehabilitation to reduce the risk of natural disasters.</p> <p>Green/Environment related Findings:</p> <p>Criteria-1</p> <p>I. Role of federal government:</p> <ul style="list-style-type: none"> • National and international environment management & carbon control • Land use policies, human settlement development policies, environment adaptation <p>II. Role of province government:</p> <ul style="list-style-type: none"> • Use of forests and waters and management of environment within the province • Management of land • Exploration and management of mines <p>III. Role of local government:</p> <ul style="list-style-type: none"> • Environment protection and biodiversity • Disaster management • Conservation of watersheds, wildlife, mines, and minerals • Local Level development plans and projects <p>IV. Concurrent Powers of Federation and Province</p> <ul style="list-style-type: none"> • Preparedness for, rescue and relief during, and recovery from, natural and non-natural disasters • Environment protection • water supply and sanitation <p>V. Concurrent Powers of Federation, Province, and Local Level</p> <ul style="list-style-type: none"> • Disaster management • Forests, wildlife, birds, water uses, environment, ecology, and biodiversity. • Mines and minerals <p>Criteria-2</p> <ul style="list-style-type: none"> • The constitution has provisioned to formulate policy to protect, promote, and make environmentally friendly and sustainable use of, natural resources available in the country. • It has been envisioned to form National Natural Resources and Fiscal Commission for the carry out necessary study and research work about environmental impact assessment required during distribution of natural resources and make recommendations to the Government of Nepal. <p>Criteria-3</p> <ul style="list-style-type: none"> • The constitutional function of the federal government includes the power over carbon services. The federal government can take the required actions to reduce carbon emissions. <p>Criteria-4</p> <p>It has been envisioned to formulate policy on</p> <ul style="list-style-type: none"> • Use of forests, vegetation, and biodiversity, by mitigating possible risks to the environment from industrial and physical development. • To maintain forest area in territory required for ecological balance. • To adopt appropriate measures to abolish or mitigate existing or possible adverse environmental impacts on the nature, environment or biological diversity. • Conservation and multiple uses of water resources

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Document Name & Introduction

Criteria-5

- The constitution has ensured the right of access to clean drinking water, sanitation & clean and healthy environment.

Criteria-6

- The constitution has envisioned to formulate policy to ensure reliable supply of energy in an affordable, and easy manner, and make proper use of energy, for the fulfillment of the basic needs of citizens, by generating and developing renewable energy. The local government have power to take necessary measures on alternative energy.

Criteria-7

- It has ensured that every citizen has the right to appropriate housing.

Criteria-8

- Do not apply

DISASTER RISK REDUCTION AND MANAGEMENT ACT, 2074

Introduction: In the Disaster Risk Reduction and Management (DRRM) Act, 2074 (BS) It has been mentioned to formulate different bodies at the federal, province, district & local level to look after disaster risk reduction and management activities. At federal level it has been mentioned to form

- National Council for Disaster Risk Reduction and Management to discharge disaster related functions effectively.
- Executive Committee for the purposes of implementing policies and plans laid down by the Council.
- National Disaster Risk Reduction and Management Authority under the Ministry to effectively carry out and manage disaster management activities.

At province level it has been mentioned to form

- National Disaster Risk Reduction and Management Authority under the Ministry to effectively carry out and manage disaster management activities.
- Disaster Management Executive Committee chaired by the Interior Minister for disaster management.

At district level it has been mentioned to form

- District Disaster Management Committee for the purposes of the implementation of disaster management activities at district level

At local level it has been mentioned to form

- Local Disaster Management Committee for the purposes of the implementation of disaster management activities at local level.

Green/Environment related Findings:

Criteria-1

Role of federal government

- Mobilize or cause to mobilize local communities and volunteers for the construction of temporary rehabilitation shelters for the citizens of disaster affected areas.

I. Role of province government

- Lay down provincial level medium-term and short-term policies, plans and programs.
- Make or cause to make temporary shelters and other temporary structures for disaster affected people during emergency.

II. Role of local government

- Can formulate and implement local policies and plan.
- Manage shelters for the disaster affected peoples who are in the disaster threatening areas.

Criteria-2

- Do not apply.

Criteria-3

- Do not apply.

Criteria-4

- It has been mentioned under the roles of PDMC and DDMC to manage essential supplies such as drinking water, food, clothing, and medical care in the disaster affected areas.

Criteria-5

- Under the duties of Public Enterprise and Business Establishment it has been mentioned to apply measures to reduce the negative impacts on the environment and human lives through the proper management of waste and pollution

Document Name & Introduction

Criteria-6

- Do not apply.

Criteria-7

- Do not apply.

Criteria-8

- Do not apply.

The act places a lot of emphasis on disaster management and response. The act seems to be deficient in terms of ecofriendly reconstruction and rehabilitation. However, the act has provided the provincial and local levels the ability to develop DRR-related acts and regulations. As a result of this provision, documents connected to green reconstruction and recovery can be produced.

DISASTER RISK REDUCTION NATIONAL STRATEGIC PLAN OF ACTION 2018 – 2030

Introduction: The strategic action plan for disaster risk reduction is a national document of the Government of Nepal with commitment for disaster risk reduction and management to support accomplishing Sustainable Development Goals by building disaster resilient communities. It is made in line with Sendai Framework. There are listed 4 prioritized pillars within those 18 sectoral tasks along with 271 specific activities showing the 32 indicators. It is clearly mentioned one dedicated sectoral provision of recovery, rehabilitation, and reconstruction part along with listed out 18 prescribed activities must be done by concerned ministries and agencies.

Green/Environment related Findings:

Criteria-1

The following strategic activities have been stated in Priority Area 2, which is Strengthening Disaster Risk Governance at Federal, Provincial and Local Levels

- Promote the local resource based Green Infrastructure at province and local level.
- Pursue the principle of green development and “build back better” in reconstruction.

Criteria-2

- It has been identified to develop a culture of supplying standard construction materials and rendering disaster resistant construction to realize the possibility of “Build Back Better” in reconstruction and rehabilitation after disasters.
- It has been mentioned in strategic activity to Promote research and development of construction technology, materials, infrastructure design, and management for “Build Back Better” in disaster risk reduction and reconstruction.

Criteria-3

- Do not apply.

Criteria-4

- Under the strategic activities, it has been intended to encourage the incorporation of disaster risk reduction into various programs and action plans relating to natural resources and management.
- Assessment of soil erosion and mapping of significant watersheds are included in the strategic activities.

Criteria-5

- It has been mentioned that search, rescue, relief, emergency health services, temporary shelter, safe drinking water and sanitation, and food arrangement are the priority activities under priority area 4, which is improving disaster preparedness for effective response and to “build back better” in recovery, rehabilitation, and reconstruction.

Criteria-6

- It has been mentioned to Promote alternative energy at the Federal, Province and Local level to reduce environmental degradation and disaster risk in strategic activities.

Criteria-7

- Establishing adequate shelters for humans and livestock at the local level has been considered as a strategic initiative.
- It has been mentioned to pursue construction methods that are earthquake, flood, landslide, and other natural catastrophe resistant in reconstruction in strategic activities.

Criteria-8

- Do not apply.

In priority areas, the action plan explicitly states that reconstruction should “build back better” and adhere to the green development principle. However, producing documentation that supports the premise is not mentioned in the action plan. The action plan makes no mention of such a document.

Document Name & Introduction

RIGHT OF HOUSING ACT

Introduction: In accordance with Nepal's Constitution, this act was created to offer homeless people suitable and secure housing options. According to the act, the government of Nepal may offer housing assistance to citizens who meet one criteria: (1) Do not own a home or land in the State of Nepal or are unable to secure housing through their own or their family's income generation, resource, or effort; & (2) Have been displaced permanently due to a natural disaster and meet the criteria in clause (1).

Green/Environment related Findings:

Criteria-1

- To implement the suitable housing program, it has been stipulated that the federal government, the provincial government, and the local government should work together.

Criteria-7

- It has been mentioned the Government of Nepal, Provincial Government and Local Level shall have to abide by the standards regarding settlement development, use of land, building code and building construction, prescribed by the federal law.

Only criteria 1 through 7 are covered under the act. Other criteria-related provisions are not mentioned in the act.

THE ENVIRONMENT PROTECTION ACT, 2019 (2076)

Introduction: The act has been formulated to protect the fundamental right of each citizen to live in a clean and healthy environment, provide the victim with compensation by the polluter for any damage resulting from environmental pollution or degradation, maintain a proper balance between environment and development, mitigate adverse environmental impacts on environment and biodiversity and face the challenges posed by climate change.

Green/Environment related Findings:

Criteria-1

- It has been mentioned that the Government of Nepal or Provincial Government may, on its own, map out any area or place and make the environmental study of that area to execute construction works or projects that can be executed in such area in the future and work that is not appropriate for execution in such area.
- To avoid adverse impacts and risks of climate change, the Ministry, Provincial Ministry and Local Level may make and implement an adaptation plan at the national, provincial and local levels, respectively.

Criteria-2

- Do not apply.

Criteria-3

- It has been provisioned the government of Nepal may identify areas emitting green-house gas and determine their national reference level.
- It has been provisioned that the Ministry of Forest and Environment of the Government of Nepal may make, or cause to be made, measurement of green-house gas emission.

Criteria-4

- It has been mentioned that the government of Nepal in consultation with the Provincial Government and concerned Local Level and by a notification in the Nepal Gazette, maintains as an environment protection area any place containing a natural heritage or aesthetic place which is considered extremely significant from the point of view of environmental protection or any place of historical or cultural importance.
- In making any road, building, river management or other physical infrastructures, the Government of Nepal may, in coordination with the concerned body and by a notification in the Nepal Gazette, specify any specific area as an open or green area with a view to protecting the environment of such area.
- It has been mentioned In cases where it appears that adverse impacts have been caused, are likely to be caused, on public health or environment of any specific area or place as a result of excessive environmental pollution, soil erosion, excessive exploitation of natural heritages or occurrence of a natural calamity in such area or place, the Government of Nepal may, in consultation with the concerned Local Level, issue any appropriate order for the balance, management or restoration of the environment, upon specifying such an area or place as a sensitive area from the environmental viewpoint

Document Name & Introduction

Criteria-5

- It has been envisioned to formulate an environmental protection and climate change management national council chaired by the Prime Minister, for the carrying out of acts relating to environmental protection and climate change at the national level, in functions of council it is mentioned that the council can set policy for the development of a national system for the control of pollution, management of wastes and protection of national heritages.
- It has been provisioned the Government of Nepal may specify any place in which any injurious or hazardous substance or wastes are stored or disposed or there is excessive pollution for other reasons as a polluted area and prevent the movement of public there.

Criteria-6

- Do not apply.

Criteria-7

- Do not apply.

Criteria-8

- Do not apply.

The act has provisions for many environmental issues, however its implementation and management in the field is poor as it is not properly detailed in the document. After the earthquake disaster, the act's management of environmental issues was notably deficient.

LOCAL GOVERNMENT OPERATION ACT, 2074

The act has been formulated to implement the provisions related to the powers of the local level as per the Constitution of Nepal, promote cooperativeness, co-existence and coordination between the federation, province and local level and deliver efficient and quality services by ensuring people's participation, accountability, and transparency.

Green/Environment related Findings:

Criteria-1

- The importance of rural municipalities and municipalities in protecting the environment and biological variety at the local level has been discussed in terms of their functions, obligations, and rights. The municipality has the right to develop local environmental protection and biodiversity-related policies, regulations, standards, and plans, as well as to oversee their implementation, monitoring, and regulation.

Criteria-2

The following roles and responsibilities of the municipality and rural municipality have been mentioned:

- Implementation and regulation of local policies, laws, standards, and plans related to watershed, wildlife, mines, and minerals preservation.
- Information and data collection related to mines and minerals.
- Registration, permit, renewal, dismissal and management of survey, extraction, and use of mined goods like boulders, pebbles, sand, salt, soil, slates, graphite, etc.

Criteria-3

- Adopting low-carbon and environmentally friendly development within the tasks and responsibilities of the municipality

Criteria-4

- The municipality can form Local policy, legislation, standard, plan related to Forest, wildlife, birds, water use, environment, ecology and biodiversity, implementation, and regulation.

The role of local governments in

- Managing groups of forest users and preserving, promoting, using, and regulating communal, rural, urban, and lease forests
- Afforestation, maintenance, use and management in the public barren land, stop and area at the local level & Greenery promotion at the local level.
- Determination of environment protection area at the local level and its management & Local dams, river and landslide control and management and regulation of rivers.

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Document Name & Introduction

Criteria-5

The local government has a role in

- Collection, recycling, processing and disposal of health-related wastes, and determination and regulation of these services.
- Management of waste produced by the sanitation and health sectors through coordination, collaboration, and partnerships with business and non-governmental sectors.
- Sanitation and waste management at local level

Criteria-6

- The local government has a role in formulation, implementation, and regulation of local level policies, laws, standards, and plans related to alternative energy.
- Has role in technology development and handover, capacity development and promotion related to alternative energy at the local level.

Criteria-7

The municipality has role in

- Approval to build construction and regulation as per the national building code and standards & nobody shall construct buildings without having the design approved from the rural municipality or municipality.
- The rural municipality or municipality may designate the standard of building construction by specifying the height, set back, roof, façade, type of construction materials, color or artisan of any historical, touristic or archaeologically important settlement or building to be constructed in the area, without contradicting with the prevalent law and the standards set by the Government of Nepal
- Approval to build construction and regulation as per the national building code and standards.

Criteria-8

- Do not apply.

The act gives local governments the authority to formulate policies and manage resources following a disaster. The local level can create its own DRRM act and include DRR elements, including such green sections.

LAND USE POLICY, 2015

Introduction:

Land use Policy (LUP) is a policy document relating to limits and protection of Land and Land Resources (LLRs), optimum use and effective management there too. Legal and institutional management for Lands and Land Resources (LLRs), and protection, use and management thereon are done under this Policy. This Policy shall bring about benefits of using Lands and Land Resources (LLRs) by creating a situation of distributing lands in a just manner.

Green/Environment related Findings:

Criteria-1

- To assure a sanitary, lovely, well-facilitated, and safe human settlement, as well as a sustainable and planned urbanization of the country, the development of land use plans has been mentioned in policy.

Criteria-2

- Land Use Zone identification has become part of policy. This policy has adopted the identification of the Excavation Zone for Building Materials (Stone, Sand, and Concrete) among other zones.

Criteria-3

- Do not apply.

Criteria-4

- Different Land Use Zones have been used to categorize the land.
- Identification of sensitive zones has been adopted in policy to keep a balance between development and the environment for the mitigation of natural and human-created hazards.

Criteria-5

- Do not apply.

Criteria-6

- Do not apply.

Document Name & Introduction

Criteria-7

- It has been mentioned that by identifying secured and appropriate fewer sloping places in every Provincial/ Regional and Local levels within a Specific Land Use Zone (SLUZ), a geologically, geographically, and ecologically safe human settlement shall be encouraged.
- It has been mentioned that controlling the trend of unmanaged settlement, a hygienic, beautiful, well-facilitated and safe human settlement in a planned ways with infrastructure shall be encouraged for a planned and sustainable urbanization of the country in line with the prescribed Building Guides and Codes & Standards.

Criteria-8

- Do not apply.

The usage and management of property in normal circumstances are very clearly outlined in the policy. The usage of land following a disaster is not addressed in the strategy since it puts a huge amount of pressure on natural resources.

SOLID WASTE MANAGEMENT ACT, 2068 (2011)

The act has been formulated to make the management of the solid waste in a systematic and effective way by reducing at its source, re-use, processing or discharge and for maintaining a clean and healthy environment through the reduction of adverse effects that may be caused to the public health and environment by amending and consolidating the laws relating to the Management of solid waste like most essential services laws.

Green/Environment related Findings:

Criteria-1

- The local government is responsible for the Management of Solid Waste, Segregation of Solid Waste, Discharge of Solid Waste, and Solid Waste Collection Centre to be Prescribed, Transportation of Solid Waste, Reduction, Reuse and Recycling Use of Solid Waste.

Criteria-5

It is mentioned that:

- Local bodies may take necessary steps to encourage the reduction, re-use and recycling use of solid waste, by issuing necessary directives for its effective implementation.
- Local Body may coordinate with the concerned industry in the works to encourage the reduction of quantity of solid waste by making re-use of the material used for packing industrial products.

Only criteria 1 and 5 are covered under the act. Other criteria-related provisions are not mentioned in the act. The acts defined how solid waste should be managed under typical conditions. The act makes no mention to waste management following a disaster. In recent disasters, managing solid waste has shown to be a major challenge

PROVINCE DISASTER MANAGEMENT ACT, 2075, BAGMATI PROVINCE

By effectively coordinating and managing all activities on disaster risk reduction and management, this act has been created to protect human lives and properties owned by the public, private, and individual citizens, to preserve natural and cultural heritage, and to keep physical infrastructures safe from natural and non-natural disasters in the province.

Green/Environment related Findings:

The lead ministry for disaster preparedness and management initiatives at the provincial level is the ministry of internal affairs & law. The statute has given the provincial disaster management executive committee the authority to regulate the provision of NFI items and shelter following a disaster. The act is not specific regarding greening the shelter response checklists.

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ENVIRONMENT PROTECTION ACT, 2077, BAGMATI PROVINCE

The law has been formulated to protect the fundamental right of each citizen to live in a clean and healthy environment, provide the victim with compensation by the polluter for any damage resulting from environmental pollution or degradation, maintain a proper balance between environment and development, mitigate adverse environmental impacts on environment and biodiversity and face the challenges posed by climate change at province level.

Green/Environment related Findings:

Criteria-2

- For the extraction of stone, sand, aggregate, and soil, the act stipulates that a brief environmental study report must be prepared.
- It has been stated that the provincial government may compensate businesses for recycling plastic garbage.

Criteria-4

- It has been mentioned that In cases where it appears that adverse impacts have been caused, are likely to be caused, on public health or environment of any specific area or place as a result of excessive environmental pollution, soil erosion, excessive exploitation of natural heritages or occurrence of a natural calamity in such area or place, the Government of Nepal may, in consultation with the concerned Local Level, issue any appropriate order for the balance, management or restoration of the environment, upon specifying such an area or place as a sensitive area from the environmental viewpoint.

Criteria-5

- The act has stated the local government is full responsible for the management of safe waste management and sanitation.

Only criteria 2,4, 5 are covered under the Act. Other criteria-related provisions are not mentioned.

There are provisions for many environmental issues. After the disaster, the Act's management of environmental issues was notably deficient. The adequate management of the environment following a disaster is not mentioned in the act.

GAPS AND FINDINGS IN MAJOR POLICIES OF NEPAL

Table 3. Summary of the Review Based on Eight Criteria

No.	Criteria Description	SUMMARY
Criteria 1	Roles and responsibilities of different level government authorities and others concerned stakeholders on environmental purposes and green shelter response	The Constitution establishes roles' division. The Environment Protection Act reinforces the decentralized roles to ensure application and avoid adverse impacts. The Local Government Operation Act identifies the roles of municipalities to take care of the environment and bio-protection. The Land Use Policy provides guidance on decentralized roles and responsibilities. The Solid Waste Management Act assigns decentralized responsibility to local governments.
Criteria 2	Provisions for sourcing of materials used or consumed (Reduce)	The Constitution has provisions to formulate policy, however it has limitations to practical application due to its own general nature. The Disaster Risk Reduction National Strategic Plan has certain limitations in the practical application for better sourcing. The Environment Protection Act does not state, suggest or influence the provisions for safer, greener sourcing. The Local Government Operation Act assigns responsibilities for the local governments to manage watershed, wildlife, mines and minerals. However, it seems limited in a general application sense. The Land Use Policy facilitates to identify zones related to extraction but does not cover the remains or debris.
Criteria 3	Stipulations on carbon emissions	The Environment Protection Act has provisions for the national government to take actions, but it is very limited in practical application and decentralization of responsibilities. The Local government Operation Act assigns responsibilities to the municipality, however, there is limitation on the regular training and updates required. The Solid Waste Management Act does not link the waste production to carbon emissions, which is connected as the treatment of waste very often uses a lot of energy.
Criteria 4	Provision to minimize impact on natural resources (Reuse)	The Constitution has provisions to formulate policy, however it has limitations to practical application due to its own general nature. The Disaster Risk Reduction National Strategic Plan seems to focus on soil erosion and watershed evaluation. The Environment Protection Act has many provisions that relate to planning and reducing negative impact on the environment. The Local Government Operation Act suggests a municipal role to determine protected areas and form preservation groups. The Solid Waste Management Act has limitations to connect construction waste to safer disposal, and the duties/implications for private sector and individuals.
Criteria 5	Specifications for safe waste management and sanitation (Recycle)	The Environment Protection Act has some minor provisions, but these relate to control of pollution or management of hazardous waste, not so much on Recycling. The Local Government Operation Act indicates a municipal role in collecting waste and sanitation but has limitations in indicating its link and processes to Recycling. The Land Use Policy does not facilitate the identification of areas for Reduce, Reuse and Recycle. It could provide considerations for these, and how decentralized governments could approach this. The Solid Waste Management Act has limitations as it assigns responsibilities to local governments but does not have provisions for higher level support on Recycling.
Criteria 6	Provision of energy uses and consumption	The Constitution delegates decision-making to local governments. The Disaster Risk Reduction National Strategic Plan mentions alternative energy and delegates responsibility to provincial and local levels. The Local Government Operation Act suggests a role in formulation of policies, plans standards related to alternative energy, but has limitations on how these would be updated regularly for the municipalities so that the staff is properly trained.
Criteria 7	Provision for safe and environmentally safe shelter construction	The Disaster Risk Reduction National Strategic Plan seeks to influence safer construction methods; however, it has limitations to the practical application. The Local Government Operation Act indicates a clear municipal role on construction standards and compliance to planning. It stresses the need for better local planning, and the need to be greener. The Land Use Policy enables the provincial and local authorities to ensure safer environments, aligning with the building guidance and code.
Criteria 8	Provisions for other facilities	Only the Right of Housing Act has provisions for additional facilities to complement housing





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Table 4. Analysis Table

No.	Nepal Constitution (2015)	Disaster Risk Reduction and Management Act, 2074	Disaster risk reduction national strategic Plan of action 2018 – 2030	Right of Housing Act	The Environment Protection Act, 2076 (2019)	Local Government Operation Act, 2074	Land use policy (2015)	Solid Waste Management Act, 2068 (2011)	Province Disaster Management Act, 2075, Bagmati province	Environment Protection Act, 2077, Bagmati province
Criteria 1	Green	Green	Yellow	Yellow	Green	Green	Green	Green	Yellow	Yellow
Criteria 2	Yellow	Grey	Yellow	Grey	Red	Yellow	Yellow	Grey	Grey	Yellow
Criteria 3	Green	Grey	Grey	Grey	Yellow	Yellow	Red	Red	Red	Red
Criteria 4	Yellow	Green	Yellow	Grey	Green	Green	Green	Red	Yellow	Green
Criteria 5	Yellow	Green	Red	Grey	Red	Yellow	Red	Yellow	Grey	Yellow
Criteria 6	Yellow	Grey	Yellow	Grey	Grey	Yellow	Grey	Grey	Grey	Grey
Criteria 7	Yellow	Grey	Yellow	Grey	Grey	Green	Green	Yellow	Yellow	Grey
Criteria 8	Grey	Grey	Grey	Green	Grey	Grey	Grey	Grey	Grey	Grey

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Table 5. Color Coding for Content Depth and Applicability

Color Code	Content Depth and applicability
	Very detailed description of the topic. Covers it from the perspective of multiple stakeholders (at least 3 of the following: households, community, private sector, local government, national government, etc.). Also includes guidance, references, examples. Links itself intentionally with other guidance and documents. Very applicable, with guidance for the use of multiple stakeholders (ie. households, community, private sector, local government, national government, etc.).
	Basic description of the topic. Allows an initial understanding. Covers it from the perspective of 1-2 types of stakeholders. Limited linkage to other guidance, and documents. Basic applicability for the use of 1-2 stakeholders.
	Very limited description. Requires other documentation to gain knowledge. Very limited practical application.
	Does not apply

The analysis table has been further developed based on the review to explain the coverage of criteria along the analyzed 10 policies using traffic light systems. It shows that yellow and red colors have higher values, indicating the topics or criteria that are less covered and requires more work. Green Color has lesser value indicating the topic has been covered moderately and therefore requires less work. Likewise, Grey Color identifies a topic which has been underrepresented and needs more guidance.

The analysis table shows that the document's criteria that have significant limitations include specifications for safe waste management and sanitation, stipulations on carbon emissions, and provisions for sourcing materials used or consumed. The topics that require more guidance are provisions for other facilities complementary to shelter and provisions of energy uses and consumption.

Further numerical values have been assigned to the colors: Green:0, Yellow:2, Red:4 and Grey: NA for relevance calculations assigning highest numerical value with low coverage in the policies based on the criteria and vice versa. This analysis table has been attached as Annex.

GREEN RECOVERY AND RECONSTRUCTION AFTER 2015 GORKHA EARTHQUAKE

Post-disaster Needs Assessment:

After the Nepal earthquake in 2015 a large team came together led by the Ministry of Forests and Soil Conservation (MoFSC) to produce the Environment and Forestry chapter in the post-disaster needs assessment (PDNA). Major efforts were made to rapidly obtain as much data as possible. This included damage and loss due to: forests destroyed in landslides; impacts on ecosystem services; damage to Government of Nepal (GoN) forestry and protected area installations and operations; impacts on community forest management; risk of encroachment and illegal extraction; risks from solid and hazardous wastes; and impacts on alternative energy and brick factories.

Rapid Environmental Assessment:

Since the PDNA was an extremely rapid process that mainly focused on quantifying loss and damage and estimating the cost of recovery in the run-up to a donor conference a couple of months after the earthquake, the Ministry of Science, Technology and Environment (MoSTE) led a separate assessment based on the rapid environmental assessment (REA) methodology, in partnership with WWF and Hariyo Ban Program. Through a multidisciplinary team, the environmental assessment reviewed direct damage to the environment, looked at how people were using the environment differently because of the earthquake, and assessed potential impacts of recovery and reconstruction. This REA and its Action Plan (MoSTE 2015) provided a strong base for subsequent green recovery and reconstruction efforts.

The Post Disaster Recovery Framework (PDRF):

Based on the PDNA, the PDRF was prepared almost a year after the earthquake. It aims to provide a structured and prioritized framework for implementing recovery and reconstruction by sector, for government, national and international partners, affected population and other recovery stakeholders. Preparation of the environment and forestry chapter was led by MoFSC, and major efforts were made to work with other sectors to mainstream environmental aspects. Strategic Recovery Objective 3 of the PDRF aims to restore and improve access to services and improve environmental resilience. This includes: *“Promoting environmentally sensitive measures across all sectors involved in recovery and reconstruction to build back better, safer and greener. It will also focus on restoring ecosystem functionality, improving the resilience and sustainability of ecosystems and the sound management of environmental hazards and risks. (NRA 2016)”*

Adopted principles for Green, Resilient Recovery and Reconstruction

The following principles applied across all sectors and clusters involved in the Nepal 2015 earthquake recovery and reconstruction. They were developed jointly by the PDNA Environment and Forestry team, and the Rapid Environmental Assessment team.

- Conduct land use planning, including zoning, before finalizing the locations of resettlement areas to minimize risks from landslides and floods, and ensure adequate land and natural resources to

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meet community needs, while minimizing environmental impacts.

- Ensure that building design and construction is environmentally sustainable, appropriate to the region, and will withstand future disasters.
- Ensure that fuel wood collection complies with existing forest management plans and promote alternative energy and energy efficient technologies to reduce pressure on forests.
- Recycle and reuse debris as much as possible and ensure that solid waste disposal during the reconstruction phase is managed using environmentally sound practices, including the introduction of new systems.
- Design water and sanitation interventions to reflect post-earthquake changes in water resources and future climate change scenarios and promote integrated water resource management (IWRM).
- Ensure that reconstruction of roads and hydropower take the opportunity to build back safer and greener and take account of increasing climate variability.
- Prioritize support for rapidly restoring livelihoods to take pressure off forests and biodiversity after the earthquake; in the longer term ensure livelihood restoration projects reflect principles of resilient development.
- Consider the specific rights, needs, and vulnerabilities of women and marginalized people in relation to natural resources during recovery, promote equitable access to recovery support, and strengthen community institutions and participation.
- Enforce environmental impact assessment/initial environmental examination regulations during reconstruction to avoid future disasters; and ensure enforcement.
- Build capacity for green recovery and reconstruction and ensure consultation/coordination with relevant stakeholders in recovery and reconstruction.

Current Housing Programs of Nepal Government:

Safe Citizens Housing Program:

The program is executed in line with Safe Citizen Housing Implementation Procedure to ensure arrangement of appropriate, safe and environment-friendly housing for people living below the poverty line and whose houses have thatched roofs. This requires the government to identify and select beneficiaries based on the recommendation letter of the concerned local level and district disaster management committee. Only the families living in a hut or house with thatched roof, which are vulnerable to fire, rain and storm will benefit from this scheme. As per the MoUD, the grant is used to replace the thatched roof or other vulnerable roofs with galvanized zinc sheets. Priority shall be attached to families with senior citizens, orphans, single women, and persons with disabilities.

People's Housing Program

The 'People Housing Program (PHP)' also known as 'Janta Awas Karyakram' was launched in 2009, by The Department of Urban Development and Building Construction (DUDBC), Ministry of Physical Planning and Works of Nepal Government. The article 33 of the Interim Constitution of Nepal, 2063(2007) guarantees the establishment of the right to housing to all citizens. It has been stated that it shall be the responsibility of the state to guarantee the provision of social and economic security including the land for those groups who are socially and economically backward. To fulfill this objective, the government of Nepal has implemented Janata Awas Karyakram- (People's Housing Program) from the Year 2009 in three districts to provide housing by constructing low-cost modern housing for marginalized poor families. Government would build cost-free modern housing for the marginalized poor families in the country under this scheme.

Post Disaster Housing Reconstruction:

NDRRMA under its response plan for various disaster occurring in the country such as earthquake,

flood, landslide, etc. has been working for disaster affected private housing reconstruction in all provinces where each province has their own preparedness and response plan, contingency plan in place incorporating promotion of “Build Back Better” Approach in Recovery, Rehabilitation and Reconstruction.

GAPS

- The government prioritized “build back better” and the green development approach throughout reconstruction, as stated in the Disaster Risk Reduction National Strategic Plan of Action 2018–2030. There aren’t any provisions for creating legislation connected to housing development & planning that clearly reference employing green building techniques.
- The housing acts and policies simply mention the support of shelters; they make no mention of environmentally friendly shelter construction.
- There are no such guidelines governing the reuse of salvaged materials and the production of alternative construction materials.
- Considering the different phases of the aftermath of the disaster, none of the documents has clearly outlined any guidelines and checklists for the environmentally recovery and reconstruction.
- The 3 Housing Programs of the Government have not highlighted any environmentally friendly measures for reconstruction incorporating eight of the criteria.

RECOMMENDATIONS & WAY FORWARD

- To address the difficulties in a comprehensive manner, policy relating to the green recovery and the shelter response must be developed.
- After 2015 Nepal earthquake the Post Disaster Needs Assessment (PDNA), Rapid Environmental Assessment (REA) and Post Disasters Recovery Framework (PDRF) carried out by the Government of Nepal identified promoting the use of safe and green building materials and reuse of disaster debris as a key principle for environmentally sound reconstruction. Since there are now no practical guidelines for the sourcing of sustainable building materials, they can be developed based on that principle.
- The local government operation act has provided the provincial and local levels the ability to develop DRRM-related acts and regulations. As a result of this provision, documents connected to green reconstruction and recovery can be produced as there is no such guideline and procedures.
- The document can be: Environmental checklist and development of a tool such as sustainability scorecard approach to also weight different issues in terms of their priority for different projects focusing on shelter response for better and effective implementation of the shelter program targeting provincial and local governments.
- Further Reconstruction and Housing Programs of the Government can incorporate the environmental checklist developed in the response and contingency plans.

GAPS AND FINDINGS IN MAJOR POLICIES OF NEPAL

ANNEX I. LITERARY REVIEW - RELEVANCE CALCULATOR

No.	Description	Nepal Constitution (2015)	Disaster Risk Reduction and Management Act, 2074	Disaster risk reduction national strategic Plan of action 2018 - 2030	Right of Housing Act	The Environment Protection Act, 2076 (2019)	Local Government Operation Act, 2074	Land use policy (2015)	Solid Waste Management Act, 2068 (2011)	Province Disaster Management Act, 2075, Bagmati province	Environment Protection Act, 2077, Bagmati province	Relevance Calc	NA Calc
Criteria 1	Roles and responsibilities of different level government authorities and others concerned stakeholders on environmental purposes and green shelter response	0	0	2	2	0	0	0	0	2	2	8	0
Criteria 2	Provisions for sourcing of materials used or consumed (Reduce)	2	NA	2	NA	4	2	2	NA	NA	2	14	4
Criteria 3	Stipulations on carbon emissions	0	NA	NA	NA	2	2	4	4	NA	4	16	4
Criteria 4	Provision to minimize impact on natural resources (Reuse)	2	0	2	NA	0	0	0	4	2	0	10	1
Criteria 5	Specifications for safe waste management and sanitation (Recycle)	2	0	4	NA	4	2	4	2	NA	2	20	2
Criteria 6	Provision of energy uses and consumption	2	NA	2	NA	NA	2	NA	NA	NA	NA	6	7
Criteria 7	Provision for safe and environmentally safe shelter construction	2	NA	2	NA	NA	0	0	2	2	NA	8	4
Criteria 8	Provisions for other facilities	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	0	9

GAPS AND FINDINGS IN MAJOR POLICIES OF NEPAL

ANNEX II: LIST OF POLICIES AND ACTS REVIEWED:

Policy/ Acts	Document Link
Nepal Constitution (2015)	Nepal's Constitution of 2015
Disaster Risk Reduction and Management Act, 2074	Disaster Risk Reduction and Management Act, 2074 And Disaster Risk Reduction and Management Rules, 2076 (2019)
Disaster risk reduction national strategic Plan of action 2018 – 2030	Disaster Risk Reduction National Strategic Plan of Action 2018 – 2030
Right of Housing Act	The Right to Housing Act, 2075 (2018)
The Environment Protection Act, 2076 (2019)	The Environment Protection Act, 2019 (2076)
Local Government Operation Act, 2074	स्थानीय सरकार सञ्चालन ऐन , २०७४
Land use policy (2015)	Land Use Policy, 2015
Solid Waste Management Act, 2068 (2011)	Solid Waste Management Act, 2068 (2011)
Province Disaster Management Act, 2075, Bagmati province	Province Disaster Management Act- _2075_ Bagmati Province
Environment Protection Act, 2077, Bagmati province	Environment Protection Act, 2077, Bagmati province
Post-disaster Needs Assessment	Post Disaster Needs Assessment : VOL A Post Disaster Needs Assessment : VOL B
Rapid Environmental Assessment	Nepal Earthquake 2015 Rapid Environmental Assessment
Post Disaster Recovery Framework	Post Disaster Recovery Framework



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