THE ENABLING ENVIRONMENT FOR DISASTER RISK FINANCING IN NEPAL

COUNTRY DIAGNOSTICS ASSESSMENT

AUGUST 2019

ASIAN DEVELOPMENT BANK

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In this publication, "$" refers to United States dollars.

On the cover (*from left to right*): A woman from Singla village extract her belongings from the rubble. Nepali woman carrying her belongings when crossing flooded water in the premises of Boudhanath Stupa, a UNESCO World Heritage Site in Kathmandu, Nepal (photos by Samir Jung Thapa and Narayan Maharjan).

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Acknowledgments

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The report was produced by a team comprising international consultants Rodolfo Wehrhahn (team leader, insurance and capital market regulatory specialist), Arman Oza (agriculture and microinsurance insurance specialist), Lawrence Savage (insurance regulation specialist), and Richard Walsh (public sector disaster risk specialist); national consultant Udaya Raj Adhikari (insurance industry specialist); and ADB consultant Maria Cristina Pascual (project coordinator).

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Government Agencies
Employees Provident Fund Nepal
Department of Hydrology and Meteorology
Insurance Board
Ministry of Agriculture, Land Management and Cooperatives
Ministry of Culture, Tourism and Civil Aviation
Ministry of Finance
Ministry of Forest and Soil Conservation
Ministry of Home Affairs
Ministry of Information and Communications
Ministry of Irrigation
Ministry of Land Management, Cooperatives and Poverty Alleviation
Ministry of Peace and Reconstruction
Ministry of Physical Infrastructure and Transport
Ministry of Women, Children and Social Welfare
National Planning Commission
National Reconstruction Authority

Nepal Rastra Bank
Nepal Stock Exchange
Office of the Prime Minister and Council of Minister
Securities Board of Nepal

Private Sector
Asian Life Insurance Company Limited
Citizen Investment Trust
Federation of Nepalese Chambers of Commerce and Industry
Hathway Investment
Independent Hydro-Power Producers Association
Microfinance Banks Association
National Society of Earthquake Technology
Nepal Agriculture Co-operative Central Federation Limited
Nepal Federation of Savings and Credit Cooperative Union
Nepal Reinsurance Company Limited
Premier Insurance Company Limited
Sagarmatha Insurance Company Limited
Secure Securities Limited (Broker No. 36)
Shikhar Insurance Company Limited
Siddhartha Insurance Company Limited
Stock Brokers Association of Nepal
Surya Life Insurance Company Limited

Bilateral and Multilateral Agencies
Japan International Cooperation Agency
World Bank

Currency Equivalent

(as of 31 March 2018)

Currency Unit	–	Nepalese rupee/s (NRs)
NR1.00	=	$0.009579
$1.00	=	NRs104.39

Abbreviations

ADB	–	Asian Development Bank
APEC	–	Asia-Pacific Economic Cooperation
CAT	–	catastrophe
DRF	–	disaster risk financing
DRM	–	disaster risk management
FSP	–	financial service provider
FY	–	fiscal year
GDP	–	gross domestic product
ILS	–	insurance-linked security
IRCM	–	insurance, reinsurance, and capital market
MFI	–	microfinance institution
NDRMF	–	National Disaster Risk Management Fund
NEFSCUN	–	Nepal Federation of Savings and Credit Cooperative Union
NEPSE	–	Nepal Stock Exchange Limited
NGO	–	nongovernment organization
NRA	–	National Reconstruction Authority
NRB	–	Nepal Rastra Bank
OECD	–	Organisation for Economic Co-operation and Development
S&L	–	savings and loan
SACCOS	–	Savings and Credit Union Cooperative Societies
SEBON	–	Securities Board of Nepal
SFC	–	small farmers' cooperative
SFDB	–	Small Farmers' Development Bank
TA	–	technical assistance

Note: The fiscal year (FY) of the Government of Nepal ends on 15 July. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2017 ends on 15 July 2017.

Executive Summary

This country diagnostics assessment reviews the current disaster risk financing (DRF) landscape and enabling environment in Nepal, with a particular focus on risk transfer instruments—insurance, reinsurance, and capital markets.

The assessment is based on a modified version of the W&W Development Framework for accommodating international best practice as well as public and private sector stakeholders' inputs. This framework allows insight into existing or perceived demand and supply barriers shaping and, in part, restricting the development of an enabling environment for DRF in Nepal. Within this framework, six areas relevant for the development of insurance and capital market solutions for DRF are reviewed: government policy; social protection policy; unlicensed competition; economic conditions; credibility of the insurance, reinsurance, and capital market providers; and product appeal.

A risk-layered structure is proposed for the stimulation, development, and implementation of financially sustainable and scalable DRF strategies and solutions in Nepal. The assessment identifies gaps and opportunities for enhancing the enabling environment for public sector DRF instruments, insurance, reinsurance, and insurance-linked securities through the capital markets. The table below recommends improvements to the DRF enabling environment.

The diagnostics tool and a toolkit that describes proposed enabling environment actions and their importance as well as the DRF tools and instruments of general use, including a glossary of technical terms, complete the suite of documents for this technical assistance.

Table: Key Recommendations for Strengthening the Enabling Environment for Disaster Risk Financing

Recommendations	Responsible Body	Timing[a]	Reference in the Report
1. Develop a DRF strategy following a risk-layered approach	Ministry of Finance, Ministry of Home Affairs, National Planning Commission	Near term	section 1.2
2. Develop a comprehensive register of all government-owned infrastructure and other assets with current replacement values, geographic position, and condition report.	Financial Comptroller General Office	Near term	para. 60
3. Develop national disaster risk models building on available hazard, exposure, vulnerability, and loss data to prioritize DRF options based on a national DRF strategy.	Ministry of Home Affairs, Ministry of Finance, Department of Hydrology and Meteorology, Department of Mines and Geology	Near term	para. 60
4. Enhance budget execution capabilities for disaster response.	Ministry of Finance	Near term	para. 60
5. Develop capacity on DRF for local governments and support enhanced practice.	Ministry of Federal Affairs and General Administration, Ministry of Finance, Beema Samiti	Medium term	para. 54
6. Improve the earthquake insurance product for homes for medium- and low-income populations. Excluding the underinsurance clause would be an easy fix. Eventually, universal coverage should be considered.	Beema Samiti, Ministry of Finance	Near term	paras. 60, 85
7. Establish a specialized lending facility capitalized by the private financial sector and donors to provide loans for reconstruction of homes destroyed by the 2015 earthquake.	Nepal Rastra Bank, National Reconstruction Authority, Nepal Bankers Association	Near term	para. 87
8. Enable the microfinance network and the farmers' cooperatives network to become licensed insurers when providing insurance.	Beema Samiti, Department of Cooperatives, Microfinance Banks Association	Medium term	para. 129
9. Explore the role that cooperatives can play in agriculture risk management, including as value chain players.	Department of Cooperatives, Nepal Agriculture Co-operative Central Federation Ltd.	Medium term	section 3.1.7

continued on next page

Table *continued*

Recommendations	Responsible Body	Timing[a]	Reference in the Report
10. Consider establishing an agricultural insurance pool.	Ministry of Finance, Ministry of Agriculture and Livestock Development, Beema Samiti, Agricultural Development Bank Ltd.	Medium term	paras. 168–170
11. Consider the establishment of a multihazard catastrophe insurance pool with Nepal Re as pool manager, to help manage the demand for disaster insurance and/or reinsurance.	Ministry of Finance, Nepal Reinsurance Company Ltd., Beema Samiti, Insurance Industry	Medium term	para. 86
12. Equip Nepal Re sufficiently to take on mandatory cessions from the market and enhance Beema Samiti's capacity to supervise reinsurance.	Beema Samiti, Nepal Reinsurance Company Ltd., Ministry of Finance	Near term	para. 119
13. Strengthen Beema Samiti by modernizing its regulation and supervisory approach through a new insurance act.	Beema Samiti	Near term	paras. 116–118
14. Develop customized insurance awareness and education for disaster risk insurance schemes and products.	Beema Samiti, Insurance Industry	Medium term	para. 120
15. Develop a comprehensive strategy for upgrading social protection into social insurance using market-based microinsurance.	Ministry of Labor Employment and Social Security, Beema Samiti, Insurance Industry	Medium term	para. 181
16. Consider insurance-linked securities, including catastrophe bonds, as additional DRF instruments.	Ministry of Finance, Nepal Stock Exchange, Nepal Rastra Bank, Beema Samiti	Medium term	para. 176

DRF = disaster risk financing, Nepal Re = Nepal Reinsurance Company Ltd.

[a] "Near term" is within 1 year; "Medium term" is 1–3 years.

Source: Asian Development Bank.

1

Introduction

1.1 Background

1. **Disasters delay long-term development and hamper efforts to reduce poverty in the developing member countries of the Asian Development Bank (ADB).** Disasters set back development, directly damaging and destroying infrastructure and disrupting related economic activities and the provision of services. They place countries on lower long-term growth trajectories, push vulnerable communities deeper into poverty, and force adjustments in both short and longer-term development targets and goals. They can place significant fiscal strain on governments, businesses, and individual households, particularly if financial preparedness arrangements are limited. Delays and shortages in the availability of funding can significantly exacerbate the consequences of direct physical losses, extending the time taken to rebuild. Government officials, policymakers, and insurance regulators from developing countries across Asia and the Pacific have therefore expressed the need to strengthen their financial preparedness for disasters, smoothing the cost of disasters over time and ensuring the timely availability of post-disaster funding.[1] A strong enabling environment for disaster risk financing (DRF), including for the stimulation of commercial risk transfer markets and reliable reinsurance protection, is a priority prerequisite for achieving these objectives.

2. **Enhanced financial preparedness for disasters is an ADB priority.** The ADB technical assistance (TA) project, *Strengthening the Enabling Environment for Disaster Risk Financing* (ADB 2015), under which this document is prepared, is consistent with ADB's *Operational Plan for Integrated Disaster Risk Management, 2014–2020*, which supports "the development of DRF instruments and wider DRF strategies for households, businesses, and governments, enhancing the public and private financial management of residual disaster risk."[2] It is also consistent with the 2017 *Review of the 2011 Financial Sector Operational Plan* (ADB 2017d), which calls for building capabilities in emerging and innovative finance areas such as DRF.

3. **ADB's holistic approach to DRF is reflected in this TA.** ADB strongly advocates an integrated approach to disaster risk management (DRM), seeking to strengthen disaster resilience, both through disaster risk reduction and the enhanced management of residual risk. ADB is seeking to enhance financial preparedness for disasters as part of broader efforts

[1] For example, these views were expressed at two events that ADB organized in partnership with the Organisation for Economic Co-operation and Development (OECD) to exchange knowledge and practices on financial protection against disaster risks among officials and experts from ADB, Asia-Pacific Economic Cooperation (APEC), the Association of Southeast Asian Nations, governments in Asia and elsewhere, and the insurance industry. These events comprised (i) an ADB-OECD Forum on Disaster Risk Financing for Inclusive Development, 15–16 September 2015, Manila, Philippines; and (ii) an ADB-OECD Global Seminar on Disaster Risk Financing: Developing Effective Approaches to the Financial Management of Disaster Risks, 17–18 September 2015, Kuala Lumpur, Malaysia.

[2] ADB. 2014. *Operational Plan for Integrated Disaster Risk Management, 2014–2020*. Manila. page 15.

to strengthen disaster resilience. It is doing so in close coordination with governments; global and regional DRF initiatives;[3] national financial authorities and standard-setting bodies such as the International Association of Insurance Supervisors, the International Organization of Securities Commissions, the Basel Committee on Banking Supervision, and the Financial Stability Institute; and the insurance industry. Disaster risk reduction efforts should be the first option for consideration in addressing disaster risk, tackling the root causes of the issue. DRF solutions should also conform to international financial standards and be designed around the context of broader disaster resilience, financial stability, and financial inclusion, incorporating incentives for disaster risk reduction. This approach should lead to the development and implementation of financially sustainable, scalable DRF strategies and solutions. ADB applies a risk-layered approach to support the appropriate selection of DRM options, including DRF instruments (section 1.2).

4. **This country diagnostics assessment identifies areas of improvement to promote an enhanced enabling environment for DRF in Nepal.** The country diagnostics assessment is expected to facilitate the development and implementation of appropriate instruments for different layers of risk. It identifies areas of improvement to enhance the enabling environment for public sector DRF solutions as well as for insurance, reinsurance, and capital market (IRCM) solutions.

5. **Recommendations based on the assessment are comprehensively presented at the end of each section on a particular area of relevance.** The recommended activities and measures to enhance the enabling environment for key public sector DRF instruments, as well as IRCM solutions, are presented at the end of each section on public sector instruments and on the particular area of relevance.

1.2 Risk-Layering Approach

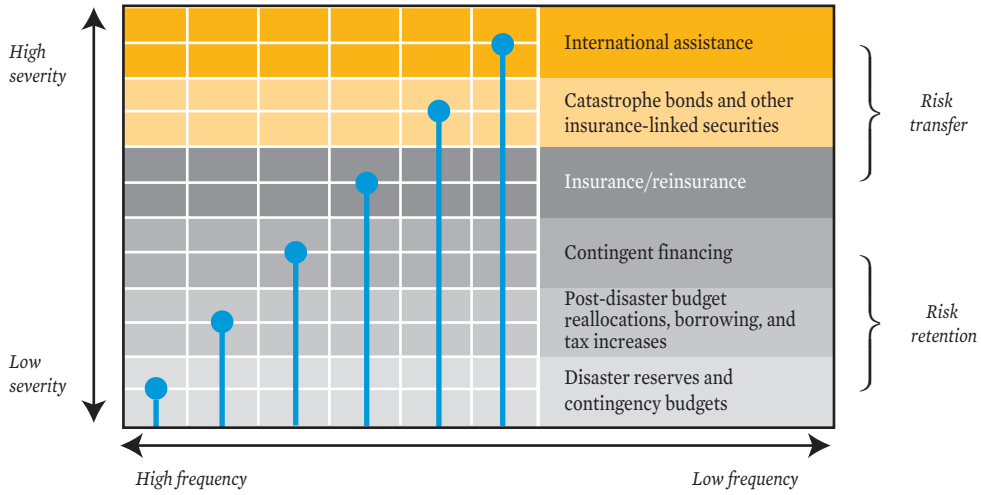
6. **Disaster resilience begins with risk reduction, that is, acting to reduce levels of loss in the event of natural hazards.** However, disaster risk cannot be eliminated, so financial preparedness for disasters needs to be enhanced, seeking to ensure that sufficient financing is available to support timely relief, early recovery, and reconstruction efforts.

7. **Governments can draw on an array of instruments to support enhanced financial preparedness.** These instruments are ideally applied using a risk-layering approach, breaking disaster risk down according to the frequency of occurrence of different types of hazard events of varying severity and associated levels of loss, and designing bundles of instruments targeting differentiated layers of risk (ADB 2014b). Governments should select the most appropriate instruments for each layer of risk, based on a range of factors including the scale of funding needed, the speed with which disbursement is required, and the relative cost-effectiveness of alternative instruments for specific layers of risk.

[3] Vulnerable Twenty (V20) Group; Disaster Risk Financing and Insurance Program of the World Bank, Market Global Practice and Global Facility for Disaster Reduction and Recovery; Pacific Disaster Risk Financing and Insurance Program; G20/OECD initiative for development of Methodological Framework for Disaster Risk Assessment and Risk Financing for G20 Finance Ministries; APEC/OECD initiative on the conduct of surveys on disaster risk financing practices and implementation challenges in APEC economies.

8. **DRF instruments for residual risk begin with risk retention instruments for more frequent, less damaging events (Figure 1).** These include annual contingency budget allocations, disaster reserves, and contingent financing arrangements, all of which are put in place before disasters strike. After a disaster strikes, governments can also reallocate budgets, increase borrowing, and raise taxes to provide additional resources.

Figure 1: Layered Approach to Disaster Risk Financing



Source: Asian Development Bank (2013b).

9. **Market-based risk transfer solutions provide more cost-efficient financing for medium-level risks, generating higher levels of loss but less frequently.** These include insurance, reinsurance, and insurance-linked securities (such as catastrophe bonds), and are taken out in anticipation of disasters. In the event of major disasters, governments also appeal to the international community for assistance.

10. **DRF is not only a government responsibility: the private sector and individuals should be encouraged and enabled to be financially prepared for potential disasters.** A similar risk-layering approach is applicable. Decisions on reduction, retention, and transfer of disaster risk should be made by households and businesses within the structure of this broader framework, selecting appropriate instruments for each layer of risk. The insurance sector is called on to play an important role in this by developing tailor-made products suitable to the Nepal context.

11. **The availability and assortment of instruments selected for a DRF strategy depend on a range of factors.** The most appropriate bundle of instruments depends on (i) the scale of resources required at each layer of loss relative to the scale of resources to which each instrument can facilitate access to; (ii) the speed with which funds are required relative to the disbursement speed of each instrument; (iii) the marginal cost of each instrument; (iv) individual country circumstances, including prevailing macroeconomic circumstances; (v) the scale of potential events relative to gross domestic product (GDP); (vi) government

economic, fiscal, and monetary goals and objectives; (vii) access to international finance markets; and (viii) the market-based cost of borrowing (ADB 2013b). For example, if probable maximum losses from extreme events are low relative to GDP, then a country is better able to retain risk. A country with a low level of indebtedness can rely on post-disaster borrowing than one with a higher level of indebtedness. The effectiveness of disaster risk transfer instruments also depends crucially on the availability of well-developed and sound domestic insurance and capital markets. Cultural and religious dimensions are important, while it should also be noted that government policy can potentially crowd out the private insurance sector.

1.3 Country Diagnostics Methodology

1.3.1 Diagnostics Tool

12. **A diagnostics tool was developed to conduct both the Nepal diagnostics assessment and diagnostics for three additional countries under the TA.** The tool, a series of questions, seeks to identify gaps between international best practice and the country situation. It assesses the current state of the enabling environment for DRF in each country, gaps in best practice, and opportunities for enhancement.

13. **The diagnostics tool draws on a modified version of the W&W Development Framework.**[4] This framework was refined to provide a methodology for assessing the DRF landscape and its enabling environment. It focuses on six areas of relevance for the development of disaster insurance and capital market solutions:

(i) **government policy in the development of risk transfer instruments for DRF**, including the introduction of mandatory insurance protection, risk-pooling structures, and insurance-linked securities,[5] pertinent regulations, and the creation of a level playing field for IRCM activities;
(ii) **economic conditions** and other support functions that influence the decision for retaining the risk, rather than purchasing IRCM products (e.g., legal framework, data availability);
(iii) **disaster risk product availability and affordability**, including products for large corporates; micro, small, and medium-sized enterprises; the agriculture sector; individual households; and low-income populations;
(iv) **credibility of the private sector offering risk transfer solutions**, covering aspects such as the regulatory environment, the solvency of risk carriers, the reputation of

[4] The W&W Framework has been used on several occasions by Rodolfo Wehrhahn, one of the assessors, to determine barriers to an enabling environment in work done for ADB, the International Monetary Fund, and the World Bank. The relevant areas for an enabling environment as determined in this framework follow Wehrhahn (2010).

[5] Insurance-linked securities bonds, including catastrophe bonds and other risk-linked securitization, represent assets whose value is largely driven by the occurrence of events not correlated to the financial markets, allowing a high degree of diversification. With an ILS bond, the investor is exposed to a well-defined catastrophic or insurable event in addition to the credit risk of the issuer. For this additional exposure, investors are compensated with higher coupons, but if no covered event occurs during the risk period the bonds are redeemed at 100% of face value. When a covered event meets the thresholds in the risk transfer contract, investors stand to lose coupon payments and/or a percentage of the principal. The redemption price of the bonds is reduced accordingly. For more details, see the companion report entitled *Toolkit for Insurance, Reinsurance, and Capital Market Solutions for Disaster Risk Financing*.

insurance and capital markets, and the availability of infrastructure (e.g., financial transaction platforms; use of technology; and support from professionals such as actuaries, risk assessors, auditors, dealer brokers, and stockbrokers);

(v) **social protection policy**, recognizing that low-income populations should enjoy social protection or support in obtaining insurance coverage, while insurance solutions for people and businesses who can afford the premium should not be crowded out, as well as exploring the degree to which social protection complements or crowds out market-based solutions; and

(vi) **unlicensed competition**, recognizing that insurance credibility and resilient insurance providers are important, and examining the licensing and supervision of insurance providers by the regulator.

14. **The diagnostics tool generates an overview of current policies and mechanisms for DRF**. It identifies enabling conditions for the effective use of well-established DRF instruments and existing related barriers or gaps; sets policy priorities for implementing reforms and introducing new DRF instruments; and provides the basis for new or deeper engagement on DRF by governments, regulators, and development partners, as part of broader DRM and/or public financial management dialogue. The findings of the diagnostic can feed directly into the development of DRF strategies to enhance financial preparedness.

15. **The tool focuses on assessment of disaster risk transfer instruments, covering both sovereign and nonsovereign instruments.** Governments can play an important role in providing an adequate enabling environment for nonsovereign insurance, such as homeowner and commercial property insurance, business interruption cover, and crop insurance. In the process, these instruments can reduce the contingent liability falling on government in the event of a disaster. Tools used for self-insurance or disaster risk retention by government are mentioned in this assessment, but are not addressed in any depth as these are covered in a complementary tool developed by ADB and the World Bank in 2017 (Box 1).

16. **A more comprehensive description of the tool, including the questions under each of the six areas of relevance, is presented in a companion document produced under the TA** (ADB forthcoming). The document also presents a generic tool kit for disaster IRCM solutions. The tool kit focuses on actions to strengthen the enabling environment to support potential DRF instruments, and includes a glossary of technical terms.

1.3.2 Application of the Diagnostics Tool

17. **The diagnostics tool is used to determine and confirm current DRF practices and gain insights into existing or perceived barriers hindering the development of DRF tools.** The diagnostics tool is applied through a combination of desk work, stakeholder questionnaires, interviews, and group discussions. This wide-ranging approach is taken to accommodate the international best practice of countries with successful results and to incorporate expert judgment on the actions needed to better enable effective use of DRF instruments. The basic steps are the following:

(i) Background information on the DRF strategy of the country is gathered. This information is drawn from extensive publications, government websites, insurance and reinsurance industry documents, and capital market analyses.

Box 1: Examining the Full Landscape for Sovereign Disaster Risk Financing

The disaster risk financing diagnostic developed by the Asian Development Bank and the World Bank assesses levels of financial protection against disasters to identify opportunities for enhancement. It contains questions for finance ministries drawn upon to extend and expand on country analyses performed under technical assistance projects. This helps build up a more complete picture of the state of sovereign disaster risk financing arrangements, including risk-retention mechanisms. The questions within the diagnostic cover the following issues:

1. Assessment of fiscal shocks associated with disasters:
   (i) contingent liability of the government,
   (ii) fiscal risk assessment of disaster shocks, and
   (iii) public disclosure of disaster-related fiscal exposure.

2. Ex ante disaster risk financing:
   (i) annual contingency budget,
   (ii) dedicated budget lines for disaster risk reduction,
   (iii) dedicated disaster reserve funds,
   (iv) line agency funding,
   (v) contingent financing arrangements,
   (vi) insurance of public assets,
   (vii) any other forms of sovereign insurance, and
   (viii) risk transfer arrangements through capital markets.

3. Ex post disaster risk financing:
   (i) post-disaster budget reallocations,
   (ii) external assistance, and
   (iii) other ex post mechanisms.

Source: Asian Development Bank and World Bank (2017).

(ii) The background information is complemented using extensive questionnaires with open questions on areas relevant to the DRF strategy and instruments used in the country. These questionnaires—which are integral to the diagnostics tool—are sent to the relevant stakeholders for their responses. The insights gained are critical for a robust assessment and, as such, questions to the stakeholders are explained carefully, stressing the importance of providing comprehensive and open answers.
(iii) On-site interviews are conducted with selected stakeholders from the public sector and the IRCM sector, including nongovernment organizations (NGOs), actuaries, brokers, loss adjusters, and auditing firms. These interviews enhance and complete the information gathered through the analysis of paperwork and the questionnaire responses.
(iv) The comprehensive information is analyzed, and gaps between international best practice and current country practices are identified.
(v) The recommended actions are discussed with the stakeholders, and the feasibility and relevance of these recommendations are confirmed before the country diagnostic is finalized.
(vi) Implementation of the recommendations should follow.

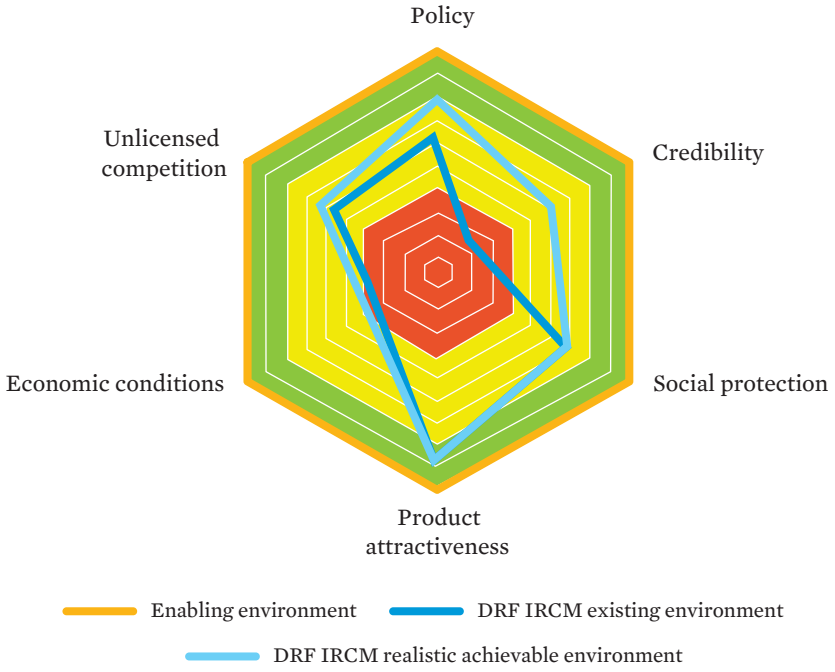
18. **There is, nonetheless, an expectation that not every stakeholder will respond to all questions.** Experience shows that the questionnaire will provide a wide range of responses, including some contradictory statements, and that some questions will remain unanswered. The assessors judge and filter the information to draw conclusions, but these conclusions are then verified with the stakeholders repeatedly. Only after verification are recommendations provided.

1.3.3 Presentation of the Diagnostic Results

19. The country diagnostics assessment begins by presenting findings on the broad public sector DRF landscape, including related recommendations. The results of the diagnostic analysis are then presented in a diagram depicting country scoring for each of the six areas of relevance for the development of disaster insurance and capital market solutions: government policy, economic conditions, product availability and affordability (attractiveness), credibility of IRCM providers, social protection policy, and unlicensed competition (Figure 2). For each area, the diagram depicts an ideal scenario, a realistic scenario, and the current state of the enabling environment.

20. **The ideal enabling conditions for the development of IRCM solutions for each of the six areas are defined.** The assessors define this environment based on international best practice and expert judgment, while also taking into account a country's political, cultural, and religious contexts.

Figure 2: The W&W Insurance, Reinsurance, and Capital Markets Solutions Development Framework (Hypothetical Example)



DRF = disaster risk financing; IRCM = insurance, reinsurance, and capital market.
Source: Asian Development Bank.

21. **A reality check defines the next-best enabling environment that can be achieved for IRCM solutions.** The ideal enabling environment may never be achieved, so a realistic or aspirational enabling environment for each of the six areas is also determined. These targets are developed by drawing on local expertise gained from the project's national consultants, as well as through extensive consultations with stakeholders and analysis of the completed questionnaires. These measures help identify likely impediments to achieving the ideal enabling environment. However, the ideal and realistic enabling environments may not differ significantly. This proved to be the case for Nepal for all areas of relevance, except for unlicensed competition because this competition is currently needed to help ensure an effective risk transfer environment.

22. **The current environment is then populated.** Using local expertise and comments from relevant national stakeholders (government authorities, private sector providers, and professional bodies), the current environment for each area of relevance is determined.

23. **The resulting diagram depicts the gaps between the current enabling environment and the ideal and realistic alternatives for disaster IRCM solutions.** The comparison enables ready identification of areas for action, leading to the development of a strategy and road map to address the gaps. Actions to address the gaps should be prioritized depending on the scale of need and reflecting time frames for completion. Urgent actions are recommended to strengthen the enabling environment in the areas of relevance achieving scores of four or below (red); medium-term actions are needed for scores between four and six (yellow); and no immediate actions are required for higher scores (green). Where the realistic enabling environment differs from the ideal scenario, that difference is considered when determining the urgency of the actions needed. The absolute scores have no further meaning and should not be used for cross-country comparisons.

2

Public Sector Disaster Risk Financing

2.1 Landscape Overview

24. **Overall economic growth in Nepal was expected to remain satisfactory in fiscal year (FY) 2018.** According to the Research Department of the Nepal Rastra Bank (the central bank of Nepal) in early 2018, the tempo of nonagricultural activities was gathering momentum, while growth in farm output was likely to be lower than expected. Steady growth in uninterrupted electricity supply, and a pick-up in construction activity were expected to help maintain pace in nonagricultural activities. The inflation rate in Nepal was 4% in January 2018. The *Asian Development Outlook 2017 Update* noted that

> ..."Growth in Nepal surged in fiscal 2017 on earthquake recovery, but is slowing as the pace of reconstruction eases and agriculture struggles following floods." ... and ... "Nepal's growth forecast for FY2018 is downgraded to 4.7% as excessive rain along its southern tier depresses agriculture and implementation delays curb planned government capital expenditure"...[6]

25. **Federalism, with a decentralization program, is currently being implemented in Nepal, following local-level elections for the first time in 20 years.** The local-level elections were held in May, June, and September 2017 in 6 metropolitan cities, 11 submetropolitan cities, 276 municipalities, and 460 rural municipalities. Elections for the provincial assemblies and federal government were held in late November and early December 2017. Capacity development and mobilization of organizational and technical resources are challenges being faced by the central government following the selection of temporary provincial government capitals. The FY2018 budget committed NRs225 billion to be transferred to the local level in equalization grants and conditional grants to flow to municipalities, along with support for specific projects and programs. The budget also allocated NRs63.14 billion for provincial government and NRs109.85 billion for local government. Grants were associated with a transfer of responsibilities for agricultural services, road construction services, natural resources management, and the delivery of health and education services (Ministry of Finance 2017).

26. **Nepal is exposed to a wide range of natural hazards, including floods, glacial lake outburst floods, landslides, windstorms, hailstorms, droughts, and earthquakes.** The country is located in a seismically active zone with a high probability of a major earthquake. Globally, Nepal ranks fourth in terms of its relative vulnerability to climate change, and 11th to earthquake. Out of 21 cities around the world that lie in similar seismic hazard zones, Kathmandu is at the highest risk in terms of impact on people. Every year, Nepal suffers

[6] ADB. 2017. *Asian Development Outlook 2017 Update – Sustaining Development Through Public–Private Partnership*. Manila. pages xiii, xiv, and 154.

an average of 500 natural hazard events, resulting in loss of lives, damaged properties, and disrupted livelihoods (Ministry of Home Affairs 2016).

27. **Climate change is expected to bring about changing hazard patterns (e.g., more frequent occurrences of extreme events) and increase disaster risk.** Based on Government of Nepal estimates, 1.9 million people are highly vulnerable to the potential impacts of climate change, while an additional 10 million are increasingly at risk. Water resources, food security, and ecosystem health have been identified as most at risk (Ministry of Environment n.d.). Climate change impacts are already evident through watershed degradation, dehydrating water sources, and the increasing frequency and severity of droughts, forest fires, and water-induced disasters (ADB 2013a, ADB 2014a). The economic cost of climate change to agriculture, hydropower, and industries affected by water-induced disasters is estimated to be equal to 2%–3% of GDP per year by 2050 (Ministry of Population and Environment 2016).

28. **The social, economic, and fiscal impact of disasters in Nepal has been considerable.** Between 1980 and 2017, disasters in the country have caused about 21,000 deaths, affected the lives and livelihoods of almost 13 million people, and resulted in approximately $5.9 billion in direct physical losses (Guha-Sapir, Below, and Hoyois 2018). The impact on people, and the damages and losses, caused by these events since 2008 are outlined in Table 1. Annual damage and loss relative to GDP are indicated in Table 2.

29. **Nepal suffered a massive loss of lives and property on 25 April 2015, when a magnitude 7.6 earthquake struck the country.** Aftershocks, including one of magnitude 7.3 near the border with the People's Republic of China on 12 May 2015, resulted in additional loss of life and properties. The events caused 8,790 fatalities and injured over 22,300 people. The Government of Nepal's Post Disaster Needs Assessment determined that total damages and losses amounted to about NRs706 billion (NPC 2015). The highest losses were experienced in the housing sector, with 755,000 houses destroyed or significantly damaged, accounting for NRs303 billion or almost half of the total reconstruction needs (Table 3). At least 499,000 private houses and 2,656 government buildings were destroyed, with another 257,000 private houses and 3,622 government buildings partially damaged. In addition, school buildings were also not spared, with 19,000 classrooms destroyed and 11,000 damaged. GDP growth fell to 2.3% in FY2015 from 5.7% in FY2014; growth in services declined to 3.6% from 6.2%; agriculture expansion decreased to 0.8% from 4.5%; and industry growth slowed to 1.5% from 7.1% (ADB 2016). GDP growth slowed further in FY2016, to an estimated 0.01%, reflecting loss of incomes and productive capacity as a consequence of the earthquake and its aftershocks, as well as delays in post-earthquake reconstruction (ADB 2017a).

30. **While earthquakes have caused the most significant loss of life in Nepal, significant major disaster events are also caused by floods, landslides, and lightning-ignited fires.** The country's extremely weak economic growth of just 0.01% in FY2016 was partly attributed to 2 successive years of unfavorable monsoon rains, as well as to the 2015 earthquakes. Torrential monsoon rainfall in August 2017 triggered massive flooding and landslides in 21 districts in the Terai belt of Southern Nepal (Rural Reconstruction Nepal 2017). More than 80% of the belt's agricultural land and approximately 35,000 houses were inundated, with 11.5 million people affected. Transportation, communication, and electricity supply were all disrupted in many districts.

Table 1: Impact of Disasters in Nepal, January 2008 to December 2017

Year and Disaster	Total Damages and Losses (NRs million)	Loss of Life	Injuries	Persons Displaced or Evacuated
2008 floods and landslides	3,774	134	2,350	70,000
2008 lightning	–	16	–	–
2009 floods and landslides	–	135	62	47,300
2009 lightning	–	7	–	–
2010 floods and landslides	1,789 (all)	240	–	–
2010 lightning	–	70	–	–
2011 floods and landslides	1,452 (all)	263	9	22
2011 lightning	–	95	14	14
2012 floods, avalanches, and landslides	1,294 (all)	121	21	170
2012 lightning	–	119	267	35
2012 earthquake	–	1	0	0
2012 windstorm	–	18	20	102
2013 floods and landslides	189	219	517 (all)[a]	2697 (all)
2013 lightning	3	146	–	–
2014 floods and landslides	14,592	241	473 (all)	39,812 (all)
2014 lightning	15	96	–	–
2015 earthquake	706,461	8,790	22,302	1,072,093
2015–2016 floods and landslides	858	377	249	9,077
2015–2016 lightning	5	185	369	415
2017 floods and landslides	60,717	160	32	21,000

– = not available, NRs = Nepalese rupees.

[a] The injuries data are for all disaster types: flood, landslide, windstorm, snowstorm, earthquake.

Sources: International Federation of Red Cross and Red Crescent Societies (2009 and 2010); Ministry of Home Affairs and Disaster Preparedness Network (2011, 2013, 2015, and 2017); National Planning Commission (2015 and 2017); United Nations Educational, Scientific and Cultural Organization (2009).

Table 2: Damages and Losses Caused by Disasters in Nepal, 2008–2017

Year	Damages and Losses (NRs million)	Proportion of GDP (%)
2008	3,774	0.39
2009	947	0.10
2010	1,789	0.15
2011	1,452	0.11
2012	1,294	0.08
2013	192	0.01
2014	15,143	0.77
2015	706,893	33.19
2016	432	0.02
2017	60,717	2.34

GDP = gross domestic product, NRs = Nepalese rupees.

Sources: International Federation of Red Cross and Red Crescent Societies (2009 and 2010); Ministry of Home Affairs and Disaster Preparedness Network (2011, 2013, 2015, and 2017); National Planning Commission (2015 and 2017); Nepal Rastra Bank (2017); United Nations Educational, Scientific and Cultural Organization (2009).

Table 3: Disaster Effects and Distribution of 2015 Earthquake
(NRs million)

	Damages	Losses	Total	Private	Public	Losses in Personal Income
Public social sectors	**355,028**	**53,597**	**408,625**	**363,248**	**45,377**	
Housing and settlements	303,632	46,908	350,540	350,540	–	–
Health	6,422	1,122	7,544	1,394	6,150	–
Education	28,064	3,254	31,318	2,365	28,953	–
Cultural heritage	16,910	2,313	19,223	8,948	10,274	–
Productive sectors	**58,074**	**120,046**	**178,121**	**158,079**	**20,043**	**17,124**
Agriculture	16,405	11,962	28,366	25,813	2,553	4,603
Irrigation	383	–	383	–	383	–
Commerce	9,015	7,938	16,953	16,953	–	2,667
Industry	8,394	10,877	19,271	19,271	–	3,654
Tourism	18,863	62,379	81,242	75,105	6,137	6,200
Finance	5,015	26,890	31,905	20,937	10,969	–
Infrastructure sectors	**52,460**	**14,323**	**66,783**	**17,281**	**49,502**	**–**
Electricity	17,807	3,435	21,242	15,569	5,673	–
Communications	3,610	5,085	8,695	1,712	6,983	–
Community infrastructure	3,349	–	3,349	–	3,349	–
Transport	17,188	4,930	12,118	–	22,118	–
Water and sanitation	10,506	873	11,379	–	11,379	–
Cross-cutting issues	**51,872**	**1,061**	**52,933**	**1,755**	**51,178**	**–**
Governance	18,757	–	18,757	–	18,757	–
Disaster risk reduction	155	–	155	–	155	–
Environment and forestry	32,960	1,061	34,021	1,755	32,267	–
Total	**517,434**	**189,027**	**706,461**	**540,362**	**166,100**	**17,124**

– = not available, NRs = Nepalese rupees.
Source: National Planning Commission (2015).

31. **Average annual losses over the long term are high.** Available analysis estimates that Nepal experiences an average annual loss of $173 million (equivalent to 0.88% of the country's GDP in 2014) as a consequence of natural hazards (i.e., $143.5 million for floods and $29.5 for earthquakes). The 100-year probable maximum loss is estimated at $1.4 billion for earthquakes (UN 2015).

2.2 Sovereign Disaster Risk and Contingent Liability

32. **Available studies indicate that disasters pose significant fiscal risks and associated funding gaps in Nepal.** A 2010 economic analysis of two earthquake and three flood scenarios—based on existing reports, studies, analyses, and assessments regarding vulnerability and natural hazards—found that "in terms of fiscal vulnerability, events as (in)frequent as 20-year events may lead to a fiscal gap, an inability to service key relief and reconstruction requirements post disaster. Also, when factoring in disaster risk and considering a 10-year planning horizon, budgetary resources may be about 30% lower compared to a case without consideration of disaster risk."[7]

33. **The fiscal consequences of the 2015 earthquake were particularly significant, in part because the government assumed liability for part of the uninsured household losses.** The earthquake and its aftershocks resulted in the loss of NRs33 billion in revenues (NPC 2015). The Government of Nepal committed NRs838 billion to the recovery efforts over a period of 5 years (NRA 2016), equivalent to 39% of the country's GDP in 2015. While the government incurred an explicit liability for NRs166 billion as a consequence of the 2015 earthquake and its aftershocks—the amount being the sovereign risk proportion of the total post-disaster needs—it also accepted an implicit liability for housing and human settlement reconstruction, including much of the uninsured private sector proportion arising from needs in other sectors.

34. **Of the total NRs838 billion recovery program, 45% was for rural and urban housing, 26% was private sector responsibility, and 24% belonged to the public sector, based on the public–private sector split of losses and damages outlined in the Post Disaster Needs Assessment (Table 4).** Cash compensation of NRs100,000 was provided to households for loss of family members, NRs40,000 for funeral costs, NRs5,000 for immediate shelter support where homes had been destroyed, NRs3,000 for immediate shelter support where homes had been damaged, NRs2,000 for the purchase of food for immediate consumption, NRs25,000 for managing temporary shelters, and NRs10,000 for rugs and blankets. A housing reconstruction grant program was also established. Under this program, an initial advance of NRs50,000 was provided to affected households. Following government engineer certification of the quality of the foundations, householders were eligible for a second tranche of NRs150,000. Once the stage of construction reached roof level, a final tranche of NRs100,000 was disbursed, following further government engineer certification of the quality of the work to date. However, the cost of constructing a basic house was in the order of NRs500,000 to NRs1 million, depending on its location. Most households were unable to access credit to supplement the government grants and, as such, the government's earthquake scheme has not proved to be easily accessible.

35. **The *Nepal Earthquake 2015 Post Disaster Recovery Framework 2016–2020* outlined five strategic recovery objectives.** It also summarized policy settings, institutional arrangements, and financial management approaches for recovery and reconstruction. The strategic recovery objectives were to

[7] Asian Disaster Preparedness Center, Norwegian Geotechnical Institute, and Centre for International Studies and Cooperation. 2010. *Nepal Hazard Risk Assessment*. Bangkok. page 108.

Table 4: Post-Disaster Recovery Framework Consolidated Financing Requirements by Sector and Year
(NRs million)

Sector	Total	2016	2017	2018	2019	2020
Agriculture, livestock, and irrigation	26,894	6,724	6,724	5,379	5,379	2,689
Commerce and industry	11,000	3,000	2,500	2,000	2,000	1,500
Communications	4,939	2,801	1,813	300	25	–
Cultural heritage	33,800	7,802	8,018	7,151	5,821	5,007
Disaster risk management	4,248	940	980	940	705	683
Education	180,628	67,152	52,851	52,485	5,912	2,229
Electricity and renewable energy	15,028	3,613	5,196	3,406	2,198	615
Employment and livelihoods	5,878	1,470	1,469	1,175	882	882
Environment and forestry	28,451	12,014	11,622	1,790	2,175	850
Finance	33,472	21,972	8,283	3,217	–	–
Gender and social inclusion	4,642	1,419	2,143	798	140	142
Governance	3,065	655	655	610	560	585
Government buildings	29,778	7,981	9,493	6,610	1,735	3,959
Health	17,493	2,084	4,088	4,865	4,033	2,423
Housing (rural)	286,060	73,340	77,460	68,430	39,245	27,585
Housing (urban)	90,059	19,814	19,475	17,694	17,569	15,507
Nutrition	7,461	1,504	1,504	1,504	1,504	1,444
Social protection	7,758	4,634	2,576	548	–	–
Tourism	917	338	313	144	66	56
Transport	24,924	3,674	5,770	7,742	5,659	2,079
Water and sanitation	21,247	6,453	7,585	3,104	3,103	1,003
Total	**837,742**	**249,384**	**230,518**	**189,891**	**98,711**	**69,238**

– = not available, NRs = Nepalese rupees.
Source: National Reconstruction Authority (2016).

(i) "restore and improve disaster resilient housing, government buildings, and cultural heritage in rural areas and cities;
(ii) strengthen the capacity of people and communities to reduce their risk and vulnerability, and to enhance social cohesion;
(iii) restore and improve access to services and improve environmental resilience;
(iv) develop and restore economic opportunities and livelihoods and reestablish productive sectors; and
(v) strengthen the capacity and effectiveness of the state to respond to the people's needs and to effectively recover from future disasters."[8]

[8] National Reconstruction Authority. 2016. *Nepal Earthquake 2015 Post Disaster Recovery Framework 2016–2020*. Kathmandu. page 4.

36. **Budgeted public expenditure for 2017–2018 was NRs1.279 billion.** Revenues amounted to NRs730 billion, including grants of NRs72.1 billion. The resulting budget deficit was equivalent in size to 17.7% of GDP, partly financed by existing cash balances (NBSM and Associates).

37. **The government has managed to spend only 73% to 88% of its total budget in recent years.** In theory, this provides a significant sum of underutilized resources that could be used to meet substantial disaster recovery needs. Total capital expenditure of NRs335 billion was allocated in the FY2018 budget, representing 26% of projected spending. However, available data as of March 2018, covering the first 9 months of the fiscal year, indicated that only 29% of the capital expenditure budget had been spent. This increased to 44% in early June and 53% in early July.[9] Underspending of this nature has been a recurrent problem for the government, with only 76% of the capital budget spent in FY2015, 59% in FY2016, and 67% in FY2017 (Financial Comptroller General 2017). There has consistently been low spending in the first 3 quarters of each year, followed by extraordinary spending levels in June and July, prior to the end of the fiscal year in mid-July. The problem is not associated with untimely release of financial appropriation. According to various central agencies, the problem is attributed to failures to fill senior positions, limited technical capacity in government, slow performance of construction work by contractors, an overly ambitious earthquake reconstruction plan (in the context of capital spending plans since 2016), slow management of land title changes, insufficient administration, and poor project selection.

38. **If it had greater capacity to manage disaster reconstruction efforts, the government could increase public borrowing to meet post-disaster spending requirements more rapidly, reducing the social and economic consequences of recent disasters.** According to the International Monetary Fund Article IV Consultation Staff Report, Nepal recorded government debt equivalent to 18.4% of the country's GDP as of March 2017, implying potential financial capacity to incur further debt to finance reconstruction. The government could also finance spending at a faster rate through disaster risk financing instruments such as sovereign insurance (section 2.4), catastrophe bonds, and contingency financing (section 3.4.4).

39. **Recovery needs after the 2017 floods totaled NRs73 billion and the Nepal Earthquake 2015 Post Disaster Recovery Framework required NRs838 billion.** In the year to July 2017, the government spent NRs837 billion, of which NRs209 billion was capital expenditure (with a significant proportion for reconstruction). The combined recovery requirement stood at over NRs900 billion as of July 2016, so the funding gap was significant.

40. **Development partners are supporting Nepal in overcoming these funding challenges.** Many of Nepal's development partners have engaged over the long term to promote improvements to the country's DRM, focusing on post-disaster response. A series of major disaster events since 2008 has increased the emphasis on disaster risk reduction and preparedness, including financial preparedness. With regard to the latter, ADB has been particularly engaged in several countries. One strong example is Pakistan, where ADB approved a $200 million loan in December 2016 to support the establishment of a National Disaster Risk Management Fund, which will conduct disaster risk modeling, develop a national DRF strategy, and design and pilot reinternments (Box 2).

[9] According to the daily reports posted by the Government Financial Comptroller General at www.fcgo.gov.np.

Box 2: National Disaster Risk Management Fund in Pakistan

The National Disaster Risk Management Fund (NDRMF) was established in 2017 as a government-owned not-for-profit association to reduce Pakistan's socioeconomic and fiscal vulnerability to natural hazards, climate variability, and climate change.

The Government of Pakistan has contributed $25 million to the fund, while the Asian Development Bank (ADB) has made a $200 million financial intermediary loan and piggybacked capacity development technical assistance to fast-track implementation. Further ADB assistance is proposed for 2019 and 2020. Additionally, bilateral donors have provided cofinancing grants and other donors have expressed interest in contributing to the NDRMF.

The fund is incorporated under section 42 of the 1984 Companies Ordinance and intended to provide financial and technical support to government and nongovernment partners to implement the National Disaster Management Plan and the National Flood Protection Plan-IV.

ADB loan proceeds have been used, in part, to capitalize the NDRMF through the establishment of a $123.3 million endowment fund to ensure the NDRMF's long-term financial viability and sustainability. The remainder of the loan will be on-granted through the fund for disaster risk reduction and disaster risk financing (DRF) purposes. The disaster risk reduction component will provide funding through matching grants of up to 70%, with interventions carried out by public sector entities or nongovernment organizations at the federal, provincial, district, or community level. The DRF activities include disaster risk modeling, the development of a national DRF strategy, and the design and piloting of several DRF products.

Source: Asian Development Bank.

2.3 Disaster Risk Management in Nepal

41. **Nepal's constitution assigns disaster risk management as a collective responsibility of all tiers of government, particularly local government.** The constitutional provisions also combine with the Disaster Risk Management and Reduction Act 2017 to legally institutionalize the disaster management system of Nepal. The 2017 act replaces the Natural Calamity Relief Act of 1982 with a more holistic one addressing disaster risk reduction and preparedness, as well as response. It provides for a national Disaster Risk Reduction and Management National Council chaired by the Prime Minister, and outlines a multitier institutional structure of disaster risk reduction and management for the federal, provincial, district, and local tiers of government. The act also provides for disaster management funding at the federal, provincial, district, and local levels. Regulations associated with the act are currently being drafted.

42. **The Central Natural Disaster Relief Committee, chaired by the Minister for Home Affairs, coordinates effective and efficient relief operations by both government and nongovernment agencies.** The committee holds at least two regular meetings annually as well as ad hoc meetings in response to significant disasters at any time. The Cabinet declares a state of emergency if recommended by the committee. The Ministry of Home Affairs carries out rescue and relief measures through disaster relief committees at central, regional, district, and local levels. Security forces are given the responsibility for search and rescue under civilian command.

43. **A new National Disaster Risk Reduction and Management Authority will oversee the National Disaster Risk Reduction and Management Centre at the Ministry of Home Affairs, and operate as the implementing arm of government in DRM.** The center will be headed by a secretary as the chief executive and will work under direct supervision of an executive committee headed by the Minister for Home Affairs (Ministry of Home Affairs 2017).

44. **Many other agencies are involved in DRM and disaster risk reduction.** The Office of the Prime Minister and the Council of Ministers coordinate, direct, and facilitate the preparation of national policy and strategy to reduce disaster risk. The National Planning Commission is mainstreaming disaster risk reduction into long-term, periodic, and annual development plans, as well as developing multisectoral DRM guidelines. Reflecting this, the 14th Development Plan accords priority to DRM in its sectoral plans. All 77 districts have formulated Disaster Preparedness and Response Plans, although many of these date back to 2011. The Water and Energy Commission makes recommendations for disaster risk reduction by identifying disaster-prone rivers and streams. The Ministry of Federal Affairs and Local Development raises the technical and functional capacity of local authorities on disaster risk reduction and facilitation, ensuring that disaster risk reduction is part of local development plans and that authorities have issued a model local law for DRM. The Ministry of Irrigation works to minimize future disaster risk through the appropriate design and construction of irrigation schemes and the formulation of policy on water-induced disaster management, flood management, and river training. The Ministry of Education raises awareness of disaster risk reduction through programs for teachers, students, and school management committees. Other ministries working in the field of DRM in Nepal include Forests and Soil Conservation; Science, Technology and Environment; Health and Population; Industries; Agriculture Development; Water Resources; and Urban Development (Ministry of Home Affairs 2017).

45. **The Department of Hydrology and Meteorology generates and disseminates hydrological and meteorological information for water resources, agriculture, and energy.** It also issues hydrological and meteorological forecasts for the public, mountaineering expeditions, civil aviation, and for DRM purposes. The department also develops operational flood forecasting and early warning systems for major flood-prone rivers of Nepal. The Department of Mines and Geology operates the National Seismological Centre, which monitors seismological shocks throughout the country through its network of 21 short-period seismic stations and 7 accelerometer stations (Ministry of Home Affairs 2017).

46. **The National Reconstruction Authority (NRA) oversees and coordinates the 2015 earthquake reconstruction work.** The NRA was established in late 2015. It identifies priorities for reconstruction (based on damage assessments); allocates resources from the National Reconstruction Fund to ministries and implementing agencies to carry out recovery and reconstruction activities (based on agreed priorities and plans); and identifies sites to acquire land for reconstruction, integrated settlement, rehabilitation, and relocation. The NRA is responsible for collaboration with the government, individual districts, the private sector, NGOs, and community and international organizations, all with the objective of delivering effective reconstruction. The NRA also oversees repairs to 700 national monuments.

47. **The Office of the Auditor General (OAG) increases confidence and assurance in relief, recovery, and reconstruction expenditures.** It conducts real-time audits of relief

expenditure immediately after disasters; disaster preparedness audits on various agencies; and audits of economy, cost-efficiency, and effectiveness on the reconstruction expenditures overseen by the NRA. In 2017, an audit report by the OAG drew attention to failures by the Ministry of Urban Development to purchase tarpaulins economically; failures of countries and agencies providing aid to deliver food supplies to Kathmandu Airport prior to product expiry dates; and the failures of these countries and agencies in delivering oversize clothing and inedible rice. Auditors have conducted focus-group discussions with victims' families and identified shortcomings with the Home Reconstructions Grant Scheme. The OAG has also issued a directive for disaster risk audits (section 2.4.2).

48. **A National Strategic Action Plan for Disaster Risk Reduction: 2018–2030 has been prepared by the Ministry of Home Affairs, including measures to enhance DRF arrangements for post-disaster response.** The action plan's four priority areas are (i) understanding disaster risk; (ii) strengthening disaster risk governance at federal, provincial, and local level; (iii) promoting comprehensive risk-informed private and public investments in disaster risk reduction for resilience; and (iv) enhancing disaster preparedness for effective response and to "build back better" in recovery, rehabilitation, and reconstruction (Ministry of Home Affairs 2018). Objectives under the third priority area comprise the establishment of arrangements for disaster risk insurance for people and all assets at risk; the development of the National Risk Financing and Insurance Strategy; a review of existing practices of risk transfer on agriculture and livestock insurance products; and the development of regulations for risk transfer mechanisms (e.g., microinsurance, contingency funds, low-interest credit schemes etc.). An in-depth consultative process with key stakeholders was undertaken in preparing the strategy, which was developed in line with *Sendai Framework for Disaster Risk Reduction 2015–2030*. One municipality was consulted on their approach to DRM and disaster risk response (Box 3). Lalitpur Municipality manages local-level government for some 500,000 residents within metropolitan Kathmandu.

Box 3: Local-Level Government Approach to Disaster Risk Management and Disaster Risk Response

Disaster Risk Management
Appointed one Disaster Risk Management Officer
Accepted nominations for disaster risk management volunteers in all 29 wards
Established one 27-member Municipal Disaster Risk Management Committee
Propose to establish Ward Disaster Risk Management Committees
Propose to establish community-level Disaster Risk Management Committees

Disaster Risk Response
Focuses on immediate humanitarian relief, providing access to medicines and safe drinking water.
Clearing water and sanitation systems, including drains, and enabling access to health centers.

Source: Ministry of Home Affairs (2017).

2.4 Disaster Risk Financing Mechanisms and Instruments

49. **The Government of Nepal retains nearly all public sector disaster risk and relies predominantly on financing arrangements only established in the aftermath of disaster events.** The government has become accustomed to reallocating its proposed capital works program appropriation to disaster emergency assistance, recovery, and rehabilitation. Individual ministries also reallocate appropriations from programs to disaster relief and recovery.

2.4.1 Ex Ante Disaster Risk Financing Mechanisms

50. **The government currently has very limited ex ante DRF instruments in place, relative to the emergency response, recovery, and reconstruction requirements after major disasters.** Moreover, contingent budget allocations are very limited relative to total public expenditure of around NRs1 billion per annum. Appropriation of around NRs1 million is provided to all district treasuries to enable their immediate response in the event of fires, floods, and landslides. If more funds are required, the central government can transfer additional funds. Insurance for public assets is understood to have only been purchased in respect of Tribhuvan International Airport and, in that case, for public liability coverage only.

2.4.2 Ex Post Disaster Risk Financing Options

51. The Prime Minister's Disaster Relief Fund is the primary source of financial resources for disaster relief in Nepal. The fund, also known as the Prime Minister's Fund, is used for the rescue, treatment, relief, and rehabilitation of victims, as well as the restoration of physical infrastructure damaged by natural hazards and calamities. After major disasters, the government launches an international appeal for donations to the fund. For instance, NRs239 billion was received in response to the 2015 earthquake and NRs304 million in response to the 2017 floods. Monies received into the fund from the Government of Nepal and any other national or international sources are solely used to provide relief to affected people. The fund cannot be spent on any other overheads, including facilities and allowances to civil servants, or used to provide donations. At the Central Relief Fund level, a committee, headed by the Vice Chairperson of the National Planning Commission and comprising the secretaries of eight different ministries, coordinates the activities of the fund. This committee must make a unanimous decision on funding before monies are released to the office of the Chief District Officer (who is the coordinator of the District Relief Fund) through the Ministry of Home Affairs. Expenditures by both the Central Relief Fund and the District Relief Fund are audited by the Auditor General of Nepal, to ensure maximum accountability and transparency.

52. Post-disaster budget reallocations, which the government has carried out after each of Nepal's major disasters, focus largely on stopping capital works programs where contracts are not already functioning.

53. Nepal appeals for international assistance in the event of major disasters. Following the 2015 earthquake and its aftershocks, pledges totaling $4.4 billion were made at the International Conference on Nepal's Reconstruction in June 2015 (Ministry of Finance 2015).

Of the total amount, donors pledged $2.2 billion in grants and $2.2 billion in loans. ADB provided $231 million in disaster response assistance after the 2015 earthquake.

2.5 Diagnostic and Recommended Actions

54. **Financial arrangements for disaster response in Nepal urgently need to be strengthened, including through greater use of IRCM solutions.** The Government of Nepal's fiscal strategy in responding to disasters triggered by natural hazards has involved (i) suspending capital works programs for rehabilitation work, (ii) borrowing from multilateral institutions to finance the repair and/or reconstruction of infrastructure and housing for the economically vulnerable, and (iii) enabling loans of retirement savings for housing rehabilitation work. These measures all reduce Nepal's financial strength, its ability to implement development objectives, and its capacity to withstand future disasters and/or other economic shocks. Additional tools are needed and analysis should be undertaken to determine the most cost-efficient bundling of instruments in accordance with a risk-layered approach (section 1.2). The Ministry of Home Affairs has indicated the importance of addressing the country's disaster risk assessment and modeling gaps to enhance the government's financial preparedness in times of disaster. The disaster risk assessment and modeling work carried out by various international agencies and government departments needs to be consolidated to identify remaining gaps and pave the way for an objective, consistent, and coherent approach to disaster risk assessment that will facilitate robust decision-making and action.

2.5.1 Sovereign Risk

55. **The Government of Nepal should consider taking out insurance on its assets that are exposed to more intense and less frequent disaster events.** The insurance of these public assets and infrastructure should be at replacement cost, with minimum excess or deductibles after collecting information on hazards, probability of events, and risk.

2.5.2 Humanitarian Response

56. **The immediate humanitarian response to the earthquake in 2015 required NRs42 billion and the floods in August 2017 required some NRs1.2 billion.** While multilateral and bilateral support are likely to be available for humanitarian relief in times of disaster, the government would be better placed if it could fund some of this requirement through DRF instruments such as contingency financing and/or catastrophe bonds.

2.5.3 Rehabilitation

57. **To date, progress with the rehabilitation program after the 2015 earthquake has fallen well short of target.** The total rehabilitation requirement of NRs838 billion over 5 years following the earthquake and its aftershocks, combined with the NRs73 billion required after the 2017 floods, has presented significant financial challenges for the Government of Nepal. Suspension of further capital works programs and concessional loans will continue to be the main sources of funding for rehabilitation. There may be scope to increase borrowings and expand the rehabilitation program, without compromising Nepal's fiscal sustainability. However, while suspending capital works programs for rehabilitation work and borrowing

from multilateral institutions significantly addresses rehabilitation requirements, it also slows planned implementation of ongoing development objectives. Alternate sources and options for funding rehabilitation, such as catastrophe bonds and/or contingency financing, should be evaluated.

2.5.4 Building Resilience

58. **The degree to which building resilience and reducing future risk exposure have become part of the Government of Nepal's total disaster recovery, reconstruction, and resilience program is commendable.** For example, the Budget Speech in May 2017 announced that technical testing of the quality of building works on reconstruction projects would be managed by the National Vigilance Center. The center awards this construction work only to engineers with a bachelor's degree in engineering and a minimum of 10 years' experience in the industry (Ministry of Finance 2017).

2.5.5. Nonsovereign Risk Exposure

59. **Nonsovereign risk exposure includes the rehabilitation of housing for low-income populations.** The main nonsovereign disaster risk the government has explicitly accepted as its own contingent liability is the responsibility to rehabilitate the housing structures of the economically vulnerable proportion of the population, and to provide some immediate income support. The government also accepts a considerable contingent liability for family and funeral expenses after deaths of citizens caused by disaster-related events. To reduce its nonsovereign risk exposure, the government has already commenced programs that encourage the insurance of agricultural crops and livestock. These programs should be widened and deepened to include insurance of the homes of lower-income earners, as well as life and funeral insurance.

60. **Following the diagnostics, the following actions are recommended to strengthen Nepal's public sector DRF instruments:**

(i) **Develop a DRF strategy following the risk-layered approach**, supporting pilot programs to introduce layered DRF (including agriculture insurance) at the local government level. Local governments could be selected based on risk profiling and consultations with municipal governments on DRM priorities for piloting selected DRF instruments and agriculture insurance products that can be readily demonstrated and scaled up, e.g., parametric insurance.

(ii) **Compile comprehensive disaster risk data.** The Government of Nepal should obtain all available data and information underlying the hazard risk profile of Nepal, the probability of events of varying magnitude occurring and the characteristics of such events, and the exposure and vulnerability of populations and assets in affected areas. This should include updating the analysis done in 2010, which represented the country's first multihazard risk and vulnerability assessment. This analysis described disaster risk in terms of the asset value lost when affected by hazards of varying magnitudes and the direct impact on human lives. However, this assessment was incomplete and a more current review should be available to the government, public sector, and private sector. This process should be led by the National Disaster Risk Reduction and Management Centre, in partnership with Beema Samiti (the Insurance Board of Nepal) and the country's insurance industry.

(iii) **Establish a complete register of all government-owned infrastructure and assets.** The Financial Comptroller General's Office is developing a statement of assets and liabilities, based on the book value of its assets. This will represent a meaningful contribution to compiling exposure data. The office expects to have a complete asset register before the end of 2020. In the medium term, a study to determine and catalog replacement values of assets should be initiated and include the recording of geographic positioning and condition reports for all infrastructure and major assets.[10]

(iv) **Manage the risk exposure of infrastructure and other assets through a risk management plan.** Develop a risk management plan by performing a risk assessment and risk accumulation analysis of all government-owned infrastructure and assets exposed to natural hazards. This should include the identification, assessment, prioritization, and clear definition of all risks, followed by a coordinated and cost-effective application of resources to minimize exposure and vulnerability.[11]

(v) **Support the development of national disaster risk models based on available hazard, exposure, vulnerability, and loss data to prioritize financing options based on a national DRF strategy.** Preliminary discussions with Beema Samiti, Nepal Re (the government-owned national reinsurance company), and the Nepal Insurers' Association indicated that they will be prepared to cofund this exercise. However, the involvement of the Ministry of Finance and the Ministry of Home Affairs/National Disaster Management Authority (once notified) will be important to drive this process. The insurance sector representatives can provide technical advice on data requirements. Initially, the focus should be on the main hazards affecting Nepal, i.e., earthquakes and floods. The initiative would require working closely with relevant government and other national and international agencies to determine the existing scope of flood and earthquake modeling and mapping in Nepal and related gaps before finalizing the detailed scope of further modeling and mapping work required. It could also outline the steps required to engage and train national and local stakeholders in these analyses, leaving behind a sustainable disaster risk information system, as well as accessible and sustainable data platforms that can be used by all relevant stakeholders. National disaster risk models should help the government prioritize the financing options it wants to develop based on a national DRF strategy. Such a strategy, containing sovereign solutions and actions to support local government in enhancing their individual financial preparedness, would be in line with Nepal's move to federalism.

(vi) **Increase the annual appropriation funding for humanitarian response and improve the disbursement process under emergency declaration.** Consideration should be given to restoring appropriation for recovery to the Central Relief Fund. Funding for the Disaster Relief and Rehabilitation Fund should be increased to a level that would allow a greater proportion of humanitarian response and recovery needs to be attended to immediately.

[10] The registration of all government-owned infrastructure and assets is being carried out and will be completed by the end of 2019 as reported by the Financial Comptroller General's Office during the ADB-organized DRF Workshop on 3 October 2018 in Kathmandu.

[11] The risk management plan should establish context and include a complete risk assessment covering the identification, analysis, evaluation, and treatment of each risk as well as a monitoring and review process. It should follow a prioritization process whereby the assets most at risk are addressed first, with other assets handled in descending order according to associated levels of disaster risk. The risk management plan should propose applicable and effective measures for managing the risks and a schedule for implementation, along with identification of the persons or positions responsible for each measure. The plan should also include a complete cost–benefit analysis with regard to the insurance of public assets.

(vii) **Consider universal insurance coverage for nonsovereign risk exposures, including the rehabilitation or reconstruction of housing for low-income populations.** The universal coverage could follow an index-based insurance approach, whereby the government would be the insured party and also the party triggering the payout after declaring a calamity. The total payout would be determined as a fixed amount to be paid to each resident of the disaster-affected area. The government would have to bear the first loss up to a predetermined amount. For calamities resulting in a higher amount, a copayment of 20% would still be borne by the government. Losses higher than that amount would then be fully covered by the insurers or reinsurers. In the short run, large-scale pilot projects on insurance should be conducted in municipalities already tackling DRM matters in a positive manner. Such projects could implement universal coverage in nominated areas through an agreement between the municipality, a development partner, the insurance industry, and the national government.

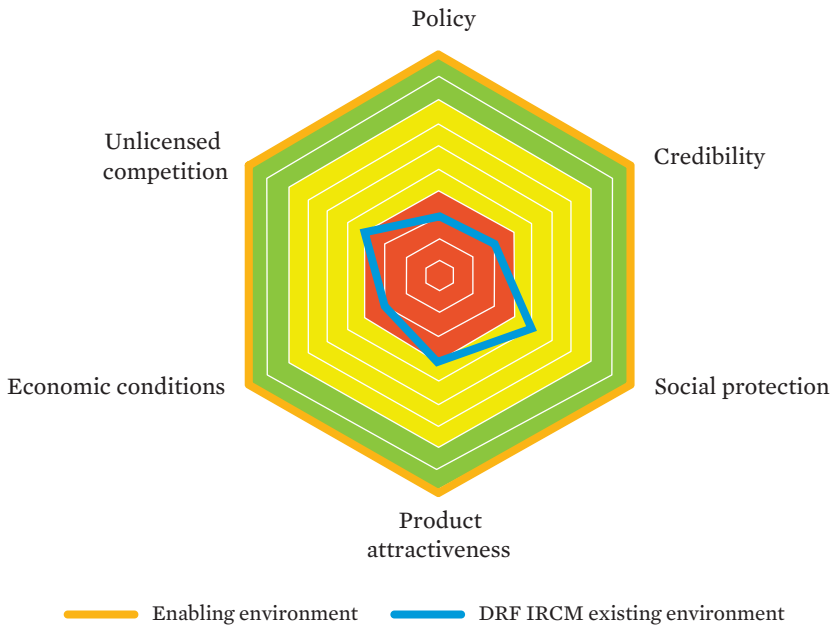
3

Diagnostic on Insurance, Reinsurance, and Capital Markets for Disaster Risk Financing

61. **Enhanced use of disaster risk transfer instruments in Nepal requires significant improvement in the associated enabling environment for the IRCM sector.** Using the diagnostics tool presented in section 1, several areas of improvement with respect to the use and development of disaster risk transfer instruments have been identified for the six areas relevant to the development of IRCM solutions (Figure 3). It should be noted that, in the case of Nepal, the ideal scenario substantially coincides with the achievable scenario. For this reason, the assessors decided to focus on the ideal scenario and formulate recommendations aimed at achieving that level of enabling environment.

62. **Given that economic conditions impact on other areas of relevance, the related diagnostic and recommendations for this area of relevance have been incorporated into the discussions for other areas.** However, the scoring for economic conditions is summarized in section 4.

Figure 3: The Rating Results for Nepal



DRF = disaster risk financing; IRCM = insurance, reinsurance, and capital market.
Source: Asian Development Bank.

3.1 Government Policy Gaps

63. **Using the diagnostics tool, several areas where government policy could help nurture the growth of disaster IRCM solutions have been identified.** The Nepali insurance industry and capital markets are still emerging and insurance penetration is low by international standards. In view of Nepal's significant disaster risk, there is huge potential to make more effective use of IRCM solutions as vehicles for the management of disaster risk by government, businesses, and households. However, adjustments in government policy to remove barriers and encourage an enabling environment for the development of these risk transfer instruments is a key first measure. The government could also develop specific products and help enhance the distribution, underwriting, and claims administration of disaster insurance. Such actions could lead to the provision of considerably greater disaster risk protection at manageable cost levels. Although the following suggestions might require further analysis and discussion within the industry and by regulators, the concepts themselves are sound.

3.1.1 Tourist Industry Disaster Risk Protection

64. **Despite the importance of tourism to Nepal's economy, this vital sector remains unprotected against disasters.** The tourism sector accounted for 56% of Nepal's total value of merchandise exports in 2016 (Ministry of Culture, Tourism and Civil Aviation 2016). However, at the time of this assessment, no comprehensive disaster insurance was available to tourism operators, who have been hard hit as a result of recent natural hazards in Nepal. According to the Government of Nepal's Post Disaster Needs Assessment, 9 out of every 10 planned foreign arrivals to Nepal were cancelled in the aftermath of the 2015 earthquake and its aftershocks, which occurred during the first of the two major tourist seasons of the year.

3.1.2 Disaster Risk Protection for Migrant Workers

65. **Migrant workers are affected by disasters that occur in Nepal and impact on their families, but the current mandatory insurance for overseas workers does not include natural hazards.** Worker remittances from overseas are an important pillar of Nepal's economy. When a disaster occurs in Nepal, overseas workers are often under extreme pressure to generate additional funds that can be sent back to their families to support the well-being of relatives and community recovery efforts. However, cover for disaster risk is not part of the mandatory insurance package for overseas workers, which instead only provides protection against events such as death and critical illness. Salary advances to cover disaster support may leave workers heavily indebted and vulnerable, with sickness and exhaustion being common side-effects of overwork. The risk of disaster-induced losses at home should be added to the standard insurance policy for overseas workers.

3.1.3 Earthquake Insurance for Homeowners

66. **At the time of this assessment, there was no mandatory earthquake insurance product for homeowners in Nepal, beyond the compulsory insurance required by banks on collateralized houses and other assets.** In a low-income country such as Nepal, it is particularly important to provide the greatest amount of insurance protection for the lowest possible cost. The lowest-cost model always involves mandatory coverage to secure

maximum sharing of risk. Under voluntary coverage, homeowners with more hazard-resilient residences will inevitably decide not to buy insurance, so the pool of covered properties will have a higher average risk. Inclusion of properties with lower risk profiles reduces premium costs.

3.1.4 Ineffective Post-Disaster Financing Arrangements

67. **The reconstruction of homes destroyed as a consequence of the 2015 earthquake and its aftershocks has stalled due to insufficient financing availability.** Although owners of damaged properties are receiving grants for reconstruction (section 2.2), the amounts provided are typically less than the full replacement cost, especially if the goal is to build back better. Banks in Nepal are not well positioned to make reconstruction loans to low-income property owners to cover the shortfall, because this type of subprime lending requires special skills and knowledge that are currently lacking in the country's banking sector. Moreover, the country's commercial banks often do not have branches in areas where the loans are most required. Attempting to make such loans without the proper fundamentals would likely lead to significant loan losses for the banks, adversely affecting their credit ratings and other operational parameters. Moreover, the interest rates required on these loans would likely make them unaffordable to the low-income borrowers in need of financing.

3.1.5 Insufficient Enforcement of the Building Code

68. **Limited enforcement of Nepal's building code and limited availability of construction workers trained to build in conformity with the code are hindering property insurance availability.** There is a building code in place in Nepal and, based on comments made during this assessment, the code is reasonable for Nepal's requirements. However, interviewees also stated that the code it is not properly enforced and workers are not trained to build according to the code. Insurers are only able to underwrite and price coverage effectively when they are dealing with risks that can be analyzed and quantified. When construction work does not comply with the building code, the risk exposure for the insured property cannot be reliably assessed. Accordingly, good business practice by insurers will see either many properties being declined coverage or premiums being raised substantially to take account of the risk uncertainty. The latter, of course, has the effect of making insurance unaffordable for many potential buyers.

3.1.6 Agriculture Sector Disaster Risk Protection

Overview

69. **Nepal is a landlocked country bordering the People's Republic of China to the north and India to the south, east, and west. The country is comprised of three broad agro-ecological zones: Terai, hills, and mountains.** The Terai region consists of southern plains bordering India, while the mountains are in the north, bordering the People's Republic of China. About half of Nepal's population lives in the Terai region, which is dominated by agriculture and hence is known as Nepal's breadbasket. Nepal and India share 1,750 kilometers of open border and, in addition to formal trade, there is a considerable volume of unrecorded trade in goods, exchange of labor, remittances, and, consequently, a close correlation of inflation.

70. **Agriculture occupies a predominant position in Nepal's economy.** It is the main source of food, income, and employment for more than 65% of the Nepali population. Although the contribution of agriculture to the country's GDP fell from 36.6% in FY2005 to 33.1% in FY2015, it remains the largest sector of the economy. Agricultural produce also constitutes more than 50% of Nepal's exports. Of the country's total land area, only about 20% can be cultivated, but cultivation actually takes place in only about 75% of the cultivable land. Cereal crops dominate agriculture GDP in value terms, contributing 49.4%, followed by livestock (25.7%) and vegetables (9.7%). High-value crops, such as apples and almonds, are now being grown on a significant scale at higher altitudes (Ministry of Agriculture 2015).

71. **However, real growth in Nepal's agriculture sector has been low and volatile, with increases in agriculture GDP generally driven by higher commodity prices and favorable monsoons, rather than any growth in productivity.** Crop incomes in Nepal increased 21% between FY2004 and FY2011, of which 19% was on account of price rises, while enhanced yield contributed just 2% (World Bank 2018). The agriculture growth rate in Nepal has averaged 2.9% per annum over the past 10 years, but annual growth rates have varied significantly, from a high of 5.8% in FY2008 to a low of just 1% in FY2007 (Ministry of Agriculture 2015). This variance reflects the sector's high dependence on weather conditions and the prices of various commodities. Another factor influencing the low productivity in agriculture could be the number of smallholder farmers in Nepal. Almost 60% of the country's farmers are smallholders engaged in subsistence farming (Ministry of Agriculture 2015). The share of crops produced for market is low, averaging about 10% in the hills and mountains and 20% in the Terai. The result is two overarching constraints for agriculture in Nepal: (i) underdeveloped markets and limited post-production value addition, which make prices too low and volatile to encourage investment; and (ii) lack of year-round irrigation, particularly in the Terai (World Bank 2018).

72. **Nepal also has its share of unique advantages for the development of agriculture.** The country's per capita water availability and forest cover is more than twice the South Asia average (World Bank 2018). Its agro-ecological diversity provides opportunities to cultivate diverse varieties of high-value crops, vegetables, and fruits. Being a net food importer, Nepal has a huge domestic demand for food grains, to be fulfilled from both an economic and food-security perspective. Profitable commercialization of agriculture through a sustainable transformation of subsistence farming should be a key area for future interventions (Ministry of Agriculture 2015).

73. **Another unique feature of Nepal's agriculture sector is the increasing feminization of agriculture.** Heavy migration of male workers out of Nepal has resulted in 26% of rural households being led by women, who take care of the agricultural work and farm management in addition to other household chores. Moreover, over 70% of agricultural labor is contributed by women (NPC 2015).

Disasters and Their Impacts on Agriculture

74. **Nepal has been regularly struck by major and minor natural disasters.** This frequency of natural hazards makes the already-fragile farming and livestock sector all the more vulnerable to losses.

75. **The 2015 earthquake and its aftershocks inflicted widespread damage to life and property across many districts in Nepal.** Damages and losses in the agriculture sector were prominent, affecting around 1 million poor farming households in 24 districts. Apart from direct damages, production losses were especially evident in the crop and livestock subsectors: specifically for animal fodder, fruit, potatoes, mushrooms and vegetables, livestock, poultry, fish and fingerlings, cash crops, stock for seed and animal feed, egg and honey production, and stored food grains. The production losses included the value of production of the lost crops, increased costs of production following the disaster, and estimated production losses in subsequent seasons. Small and vulnerable farming households—in particular those with an average landholding of fewer than 0.7 hectares and 3–5 head of livestock, and those managed by the elderly and women—suffered the most. Nearly 1,000 hectares of land were rendered useless due to landslides and landslips, and this farming land will most likely not be recovered. The earthquake and its aftershocks severely affected the vegetable and mushroom production value chain in Bhaktapur, Dhading, Gorkha, Kathmandu, and Nuwakot districts due to damage to poly houses. This, in turn, seriously impacted agricultural livelihoods in the affected districts, increasing vulnerability to hunger and food insecurity. The overall cost of recovery and reconstruction of Nepal's agriculture sector was estimated at NRs15.6 billion. The total estimated losses and damages to the livestock sector was estimated at NRs10.12 billion (NPC 2015).

76. **Floods in Nepal have historically resulted from a combination of natural factors such as continuous rainfall, cloudbursts, snowmelt, glacial lake outburst floods, and *bishyari* (the breaking of dams caused by landslides falling directly into rivers).** The monsoon is both beneficial and a potential hazard for agriculture in the country. When it brings the right amount of rain at the expected time, agriculture productivity soars; when there is too much rain, it causes tremendous loss of life and property. Floods in August 2017 affected the entire southwestern, south-central, and southeastern part of Nepal bordering India. Physical construction along river embankments interfered with traditional patterns of surface water flow and caused drainage congestion. This resulted in flooding even in regions where such calamities had never occurred. The total damage caused by the floods was NRs61 billion, which amounts to almost 3% of Nepal's GDP. Of the total, the damage to the agriculture sector was estimated at NRs7.2 billion or 11.9% of the overall damage, while losses to the livestock subsector were estimated at NRs10.7 billion or 17.6% of the total (NPC 2017).

77. **As a result of climate change, Western Nepal has experienced worsening drought conditions since 2000.** The 2009 drought in particular was extremely harsh, causing food shortages in a country that relies heavily on food imports from India. Wheat production was reduced by 14% and barley by 17%, with harvests of some crops in the Western regions were cut by more than half, putting more than 2 million people at high risk of food insecurity (CEDMHA 2015).

Institutions Involved in the Agriculture Sector

78. **Ministry of Agriculture, Land Management and Cooperatives (previously known as Ministry of Agriculture Development):** The ministry is the apex agency for framing policies on agriculture and livestock development. It also collects agriculture statistics and publishes them annually. It administers the payment of subsidies to insurance companies for crop and livestock insurance. In the aftermath of a disaster, the ministry provides assistance to farmers in the form of seeds and fertilizer, and supports the repair and reconstruction of

irrigation systems and markets. It is also increasing the coverage of forests to reduce the risk of further landslides and the concreting of river banks. According to the ministry's Nepal Portfolio Performance Review 2015, "the future directions for the development of agriculture in Nepal will be on governance in terms of improved credibility of policy commitment and engagement of leading stakeholders (government and civil society); increased productivity through effective research and extension, efficient use of agricultural inputs, efficient and sustainable use of natural resources and increase resilience to climate change and disasters; encouraging commercialization of agriculture; increase competitiveness by capturing increase innovation of private sector and cooperatives; and recovery and reconstruction from the recent disasters on the principle of build back better."[12]

79. **Commercial banks:** As per the guidelines of Nepal Rastra Bank, all commercial banks are mandated to direct at least 5% of their total lending to deprived sectors, which include agriculture. Despite this, commercial banks' lending to the agriculture sector has remained below 5%, reaching only 4.6% in 2015 (NRB 2015). Moreover, the majority of loans to the agriculture sector tend to be in processing areas such as rice and lentil mills, tea and coffee processing, sugar, poultry, animal feeds, fishery, dairy products, cold storage, compost fertilizer, etc. Commercial bank loans for the purpose of production are nominal. As the majority of agricultural production in Nepal is for subsistence, there has been very low demand for loans to support medium- and large-scale investments in production (Dhakal 2016). As a result of the low exposure of banks to basic farming enterprises, disaster losses in the sectors have not impacted banks significantly.

80. **Microfinance institutions (MFIs):** Microfinance development banks are MFIs registered under the Banking and Financial Institutions Act 2006 and supervised by Nepal Rastra Bank. At the time of this assessment, there were 56 microfinance development banks functioning in Nepal. Their total deposits were NRs40.97 billion, while loans and advances were NRs121.72 billion as of 2017.[13] Apart from MFIs, Nepal also has financial intermediaries registered under the Financial Intermediary Act 1998. MFIs are highly exposed to poor households, whose repayment capacity is heavily affected after disasters.

81. **Cooperatives:** By virtue of their local presence, cooperatives are well suited to addressing issues related to isolated and dispersed populations. They have the comparative advantage of operating in remote rural areas, where it is difficult and expensive for financial institutions to open branches and serve and monitor clients. Cooperatives are characterized by engagement in rural areas and even in small markets. They offer their shareholder-customers individual loans, savings accounts, and payment transactions, and have the potential to provide services to farmers in their proximity. Some cooperatives reduce the cost of lending by using group methodologies, such as involving farmers' associations and technical operators through value chain finance. Compared to banking and financial institutions, cooperatives have invented several collateral substitutes that enable small-scale enterprises to access finance. Group lending, character-based lending, savings-linked lending, and use of cosigners are some of the collateral substitutes that most cooperatives utilize to provide their mostly impoverished shareholders with access to finance. In Nepal, agriculture cooperatives follow a tiered and federated structure with small farmers' groups, inter-groups, small

[12] Ministry of Agricultural Development. 2015. *Nepal Portfolio Performance Review*. Presentation dated 11 September. http://nepalagritech.com.np/wp-content/uploads/2016/10/Agriculture_NPPR-2015.pdf.

[13] Nepal Rastra Bank. 2018. *Sources and Uses of Microfinance Financial Institutions [2074/09/30]*. https://www.nrb.org.np/mfd/mfdindex.php?&vw=4.

farmers' cooperatives (SFCs), district federations, and a national federation called the Nepal Agriculture Cooperative Central Federation Ltd. (NACCFL). At the time of this assessment, the NACCFL had 915 members and SFCs had almost 860,000 individual members, 82% of whom are women.[14] Cooperatives often have to reschedule their loan repayments from farmers and rural households following a disaster.

82. **The Small Farmers' Development Bank (SFDB):** The SFDB is a wholesale finance bank formed to refinance agriculture and small cooperatives in Nepal. SFCs hold 39% of the share capital of the SFDB. The Agriculture Development Bank, a couple of commercial banks, and members of the general public are other shareholders. With a view to extending and increasing the impact of microfinance services to rural women, Dalits,[15] the poor, and other underserved communities, the SFDB provides wholesale credit to SFCs and other microfinance institutions. Those institutions, unable to meet demand for microcredit with their internal resources, can obtain wholesale credit from the SFDB. Between its establishment in 2001 and July 2015, the SFDB invested NRs26.3 billion in microfinance, collected NRs18.2 billion from 446 institutions, and had an outstanding amount of NRs8.1 billion.[16]

3.1.7 Diagnostic and Recommended Actions

Indexed Tourism Insurance

83. **To protect the tourism industry from disasters and other shocks, the government should consider the introduction of an indexed insurance product.** A comprehensive tourism index, based on tourist arrivals, could easily be constructed and used as the basis for payouts under a parametric insurance product. Tourists are already required to pay various fees for trekking, climbing, and other activities in Nepal. With a slight addition to those fees, insurance premiums could be covered. A payout under the policy would occur if the index fell by some predetermined amount over a set period of time. The insurance payout would be made to the government and used to fund an income support program for tourism operators, so that livelihoods could be maintained until the tourist situation improved again. This product would not only protect the tourism industry against major disasters in Nepal, but also against other external events that could lead to a reduction in tourist arrivals. For example, an economic slump in North America or a changed situation in People's Republic of China (currently the most significant source of tourists to Nepal) could result in a drastic reduction in tourist numbers and, consequently, severe impacts on the incomes of many in the local industry.

Disaster Risk Protection for Migrant Workers

84. **A disaster risk rider should be included in insurance policies covering migrant workers.**[17] A supplementary insurance benefit could easily be added to the mandatory migrant worker insurance policy. In the event of a disaster of a predetermined magnitude occurring

[14] Overview presentation provided by NACCFL.
[15] Dalits are marginalized communities present across South Asia. They have faced discrimination for centuries and have thus remained socially and economically disadvantaged.
[16] Sana Kisan Bikas Bank Ltd. www.skbbl.com.np.
[17] A rider is an option offered under an insurance policy providing additional benefits or amending the terms of the basic policy.

in Nepal, the policy would provide a payout, on a parametric basis, to the workers' families living in disaster-affected communities. Details would need to be formulated to minimize basis risk.

Mandatory Homeowners' Earthquake Insurance

85. **A mandatory earthquake insurance product should be introduced for homeowners.** Earthquakes represent Nepal's biggest nonsovereign risk liability and, without mandatory earthquake insurance, the government would most likely need to finance such risk. Successful models from other countries should be carefully examined as a basis for designing and introducing a mandatory catastrophe insurance scheme for Nepal, including careful assessment of cost benefits. In France, for example, it is mandatory to have a catastrophe extension on property insurance policies provided by the private sector. Policyholders are required to pay an additional 12% of the property insurance premium for coverage against natural hazards. A declaration of a state of disaster by the Government of France is required before compensation is provided to claimants. Turkey provides another example, whereby homeowners are required to participate in a compulsory earthquake insurance scheme for private homes. Purchase of policies has been incentivized by linking the uptake of insurance to real estate purchase or sale, or the contracting of utilities such as water or electricity. Discounts of 20% are also offered at the time of annual renewal, and there are substantial discounts for buildings that have been erected after 2007 (with evidence of an existing insurance policy). Another successful model is the Spanish Consorcio de Compensacion de Seguros, which is owned by the insurance industry, but is managed by the Government of Spain. The Spanish scheme covers all extraordinary risks, including disaster risk, and the government provides a guarantee and a line of credit.

86. **The development of a multihazard catastrophe insurance pool with Nepal Re as pool manager could help manage the demand for disaster insurance and/or reinsurance.** Demand for disaster insurance and/or reinsurance is expected to expand with the new focus on prioritizing DRF in the National Strategic Action Plan for Disaster Risk Reduction, 2017–2030 for the management of residual risk (both sovereign and nonsovereign). While disaster risk models will be useful in identifying risk accumulation and loss severity and frequency, Nepal Re, as the national reinsurer, should be fully equipped to meet the new demand as domestic direct insurers may not have the capacity to underwrite the risk. A multihazard catastrophe insurance pool can help offer insurance coverage at affordable but actuarially sound rates, limit the government's financial exposure to natural hazards by using reinsurance and alternative risk transfer instruments, build long-term catastrophe reserves to finance future losses, and encourage risk reduction practices. A public–private arrangement could be considered. Direct insurers in Nepal are already agreeable to contributing capital to such a pool.

Specialized Lending Facility

87. **A specialized lending facility, providing homeowners with loans for the reconstruction of houses damaged during the 2015 earthquake and its aftershocks, should be established.** To better service the needs of those affected by the earthquake, this facility could be separate from the commercial banks but capitalized by the private finance sector and development partners. Funds for loans could be obtained through the issuance of debentures by the government, with additional credit enhancement from development partners. Such a

facility would provide a low-cost source of funds that would be attractive to needy borrowers and greatly enhance access to credit for house reconstruction (section 2.2). Additional forms of government assistance could be considered for those who are unable to afford even the low-cost borrowing from the facility.

Enforcement of the Building Code

88. **The building code should be properly enforced and construction workers trained to build according to code requirements.** The building code was initiated in the 1990s, but it has been difficult to enforce because much of the building activity in Nepal is of an informal nature. Construction workers are not trained to work according to the code and, worse still, pressure is often applied to builders to cut costs by not following the code. While such issues cannot be fully addressed in the immediate term, the allocation of additional resources to enforce the building code, as well as more formalized training for construction workers (including apprenticeship and licensing programs), could have a beneficial impact on building code compliance even in the short term.

Agriculture Insurance

89. **The impact of natural hazards on farmers in Nepal would be significantly mitigated by the use of insurance solutions and these need to be encouraged.** Notwithstanding the importance of agriculture to Nepal's economy, the country has limited crop and livestock insurance. The entire agriculture value chain, from procurement of inputs to the sale of produce, is fraught with a variety of economic and physical risks—and climate change and natural hazards have created additional risks. The resilience of farmers, especially smallholders, to these many complex risks is quite limited. As a result, more and more farmers are becoming vulnerable to natural hazards and other shocks. Nepali farmers, like their counterparts across the developing world, are also confronted with issues such as lack of technology, shrinking landholdings, aging farming populations, declining productivity, and absence of alternative or off-farm income opportunities. All of these ultimately result in farmer distress and an exodus into petty and unremunerated urban vocations. The delicate nature of Nepal's agriculture sector, coupled with natural hazards hitting the country with regularity, requires a comprehensive discussion on the protection of agricultural assets, crops and livestock, and farming livelihoods through risk transfer.

90. **In 2013, the Crop and Livestock Insurance Directive began promoting agriculture insurance as a good first step toward making farmers more resilient to various risks, including disasters.** The experience, along with the data collected since 2013, should be used to improve products and processes in the short term and create a more sustainable platform for the longer term. The *Crop and Livestock Insurance Report 2018* discusses several challenges and possible solutions. Some of those challenges and possible interventions for the short to medium term are discussed below:

(i) **The Crop and Livestock Insurance Directive was aimed at promoting crop and livestock insurance among poor farmers.** Both classes of insurance currently enjoy a flat subsidy of 75% of the total premium. Specific crop insurance products have been developed for many food grains, horticultural, and fruit crops. Despite this, the uptake of crop insurance has been minimal, with livestock insurance policies contributing more than 75% of total premiums under the program. Among the various reasons for such a low uptake of crop insurance are lack of awareness and

proper promotion of the products. These issues can easily be overcome by designing an effective communications strategy using audio, video, print, and social media to promote the benefits of crop insurance. Crop insurance could also be made mandatory and linked to crop loans, with subsidies still offered by the government. It could otherwise remain voluntary, but be offered with incentives under crop loans, for example, lower interest rates for those who opt for crop insurance.

(ii) **The basis of indemnity currently being offered for crop insurance is input cost.** This has been cited as a major cause of dissatisfaction among farmers. While farmers want coverage on yield value, it is quite difficult in Nepal to ascertain the prices offered for various commodities in an objective manner. This is because almost the entire agricultural market in Nepal is informal. In order to overcome this issue, a cost-plus formula could be adopted to ensure an indemnity level that is higher than the actual input costs. Various approaches for determining input costs are being adopted across the world. The approaches used in India are briefly described in Box 4. Pilot projects could be undertaken in Nepal to test the cost-plus method of indemnification, both in terms of value to the client and sustainability for the insurer. Efforts to offer insurance coverage on output or yield value have already commenced in Nepal.

(iii) **Apart from the limited indemnity offered by agriculture insurance products, a lack of transparency in arriving at the sum insured (input cost in the case of crops and market value in the case of livestock) could also be a major cause of discontent among farmers.** With no objective criteria for determining the sum insured, it is the local agriculture or livestock technician who decides the sum insured, based on his own understanding of the market and other economic factors, which could be arbitrary and thus a major cause of dissatisfaction for the farmer. The subjectivity involved in determining the sum insured could be removed if the Ministry of Agriculture, Land Management and Cooperatives was able to design and implement a series of tables outlining regional input costs for various crops across the country. Similarly, regional tables for market values of cattle of various breeds and age groups could be prepared. These tables should be made public and be available at all government offices, bank branches, post offices, etc., so as to make the entire system fully transparent. Once the tables go public, and are revised from time to time, disputes regarding input costs or market values—and therefore the determination of sum insured—will be minimized.

Box 4: Input Costs in Agriculture

Central and state governments in India offer a minimum support price (MSP) to farmers for specified commodities, to protect them against price risk. The MSP is recommended by the Commission for Agricultural Costs and Prices. The commission analyses the following three types of input costs in order to recommend an MSP for each specified commodity.

(i) A_2 ***costs*** basically cover all paid-out expenses, both in cash and in kind, incurred by farmers on seeds, fertilizers, chemicals, hired labor, fuel, irrigation, etc.
(ii) A_2***+FL*** costs cover actual paid-out costs plus an imputed value of unpaid family labor.
(iii) C_2 ***costs*** are more comprehensive, accounting for the rentals and interest forgone on owned land and fixed capital assets respectively, on top of A2+FL.

Source: Commission for Agricultural Costs and Prices. www.cacp.dacnet.nic.in.

(iv) **Using basic technology at the underwriting and claims assessment stages will not only improve the turnaround time for enrollment and claims settlement, but will also help in reducing moral hazard.** The current system relies heavily on junior technicians for critical functions such as determination of sum insured, inspection of risk (farm site for crop growing or livestock grazing and handling), verification of loss, assessment of the size of the loss, etc. These purely manual processes can be replaced, or at least supplemented, by basic mobile technology solutions that capture pictures and feed the necessary data into the insurer's system. Complementing the human element with technology can go a long way toward improving efficiency.

91. **Alongside the agriculture insurance schemes under the Crop and Livestock Insurance Directive, other similar schemes (such as the Deposit Credit Guarantee Fund) and mutual insurance schemes of farming cooperatives are also being offered.** To avoid the confusion for farmers caused by overlap, efforts should be made to merge all the schemes into one. These schemes have been ongoing for some time, so they may be able to provide good data on loss experiences, which could be used to fine-tune products and pricing within a united scheme.

92. **Insurance as a risk transfer tool can, however, take care of only some of the risks faced by farmers.** Agriculture is an activity that is inherently exposed to a diverse set of risks with varying degrees of frequency and severity (Appendix 1). "Agricultural crop insurance is a restricted instrument in that it only addresses production and yield losses because of weather and natural risks, providing limited coverage for the growing crop from the time of sowing or crop emergency through to completion of harvest. It does not, however, usually address downstream sources of risks including post-harvest storage losses, or market price risk. It (insurance) can only address part of the losses resulting from some perils and is not a substitute for good on-farm risk management techniques, sound production and farm management practices, early weather forecasts, and investment in technology."[18]

93. **This being the case, the latent demand for crop insurance as a stand-alone product is likely to remain weak, despite all incentives, including heavily subsidized premiums.** Bundling insurance with agriculture credit will also have a limited impact, since a large part of the sector in Nepal lacks access to credit. In the longer term, a total risk management solution should be developed for agriculture. Such a solution could take the form of a product that includes the following two elements in addition to the conventional risk transfer:

(i) **Risk reduction** activities such as soil testing, rotation of crops, avoiding excessive use of chemical fertilizers, complementary livelihood activities, using technology to improve forecasting of natural phenomena and adjusting farm activities accordingly, and better information and access to national and/or international markets for pricing purposes and timely inputs for preventing localized damage.

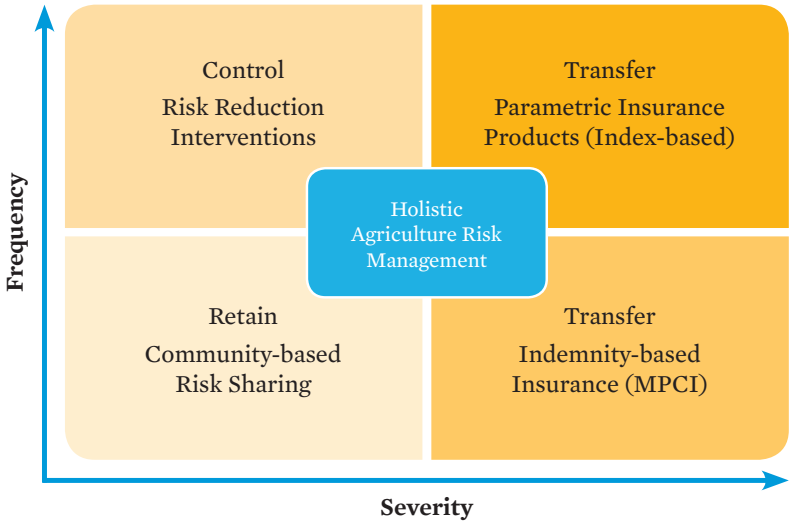
(ii) **Risk-sharing** at the community level through farmers' collectives, using a mutual insurance approach to idiosyncratic risks. This will develop better risk management practices and solidarity among farming communities. Nepal already has an established structure for agriculture cooperatives, including small farmers' cooperatives (SFCs), which are already carrying some risk on a mutual insurance basis. As a part of a formalization plan, described later in this assessment, these SFCs can be encouraged

[18] Meekha Tuladhar. 2015. Need for Sustainable Service Model to Promote Agriculture Insurance. *New Business Age*. 2 April 2015. http://www.newbusinessage.com/MagazineArticles/view/1138.

(subject to required training and other inputs) to retain part of the total premiums and carry some simple risks on behalf of their members.

94. **A combination of incentives and disincentives can be designed to reduce, or even eliminate, risks in agriculture.** Such a product package can be strategically used to transform subsistence agriculture. Incentives could include discounted inputs and/or greater access to formal credit and farm-specific risk management inputs for those who buy crop insurance. The structure necessary to support a total risk management solution can also support the entire chain of activities—response, relief, recovery, reconstruction, reduction—in the event of disasters. Adding value to crop insurance through risk reduction, risk-sharing, and other elements (such as discounted inputs) will make crop insurance more attractive and will ensure stable growth in agricultural output and productivity (Figure 4).

Figure 4: A Hybrid Agriculture Insurance Product



MPCI = multi-peril crop insurance.
Source: Asian Development Bank.

95. **Exploring the role that cooperatives can play in agriculture risk management.** While there is consensus that agricultural and livestock insurance programs need to be customized to beneficiaries, and that the emerging commercial agriculture sector needs more standardized insurance products, the opinion is mixed in terms of the role that cooperatives can play. Traditional farming is not geared toward commercial insurance and the government may, therefore, need to explore the role cooperatives should play for increasing agriculture insurance penetration among smallholder farmers based on international experience and best practices.

96. **Establishing formal agriculture markets across Nepal is another medium- to long-term initiative that may be necessary.** Most agricultural produce in Nepal is being sold informally, making it impossible to have accurate and consistent selling prices for various commodities across various localities within the country. This can result in exploitation

of farmers by intermediaries, transporters, downstream value chain participants, etc., and prevents the offering of crop insurance on a yield-value basis. Availability of accurate price data is also essential for the framing of farmer-friendly agriculture pricing and subsidy schemes. As a first step, Nepal could consider the market yard (*mandi*) concept followed in India, which not only provides farmers with a well-developed and regulated common marketplace, where produce is sold through open auctions, but also enables capturing of correct production and price data.[19] A second step could be to establish commodity and mercantile exchanges at the national level to enable forward trading in commodity futures and options. This will, again, enable farmers to mitigate their price risk, while also providing them with vital inputs on national and/or international demand trends, so they can pursue efficient cropping plans. In the context of disasters, price trends offered by formal markets can facilitate better estimation of production losses and, consequently, a more accurate targeting of post-disaster relief packages.

3.2 Credibility of the Private Sector Offering Risk Transfer Solutions

97. **Insurance remains a significantly underutilized product in most countries with emerging markets.** This can be attributed, more generally, to a widespread lack of knowledge and awareness on financial products. However, the situation is even more pronounced in the field of insurance, with its mathematical underpinnings and often-complex policy provisions. This lack of knowledge and awareness is more critical in Nepal than in most other countries because Nepal is exceptionally exposed to many natural perils, including earthquakes, floods, landslides, and wildfires.

98. **For the earthquake and its aftershocks in 2015, the Government of Nepal's Post Disaster Needs Assessment indicated that the damage to property and infrastructure amounted to NRs517 billion.** However, less than 3% of this damaged property and infrastructure was covered by insurance (Sharma 2017). Most government-owned property remains uninsured, and a number of the interviewed in course of the TA report that as much as 80% of Nepal's population has no form of property insurance. This means there is great scope for increased risk transfer, which would be beneficial to citizens and the government provided low-cost insurance options can be designed and made available. This potential is beginning to be recognized, as evidenced by the rapid growth of premium volumes in Nepal.

3.2.1 Regulation and Supervision

99. **The insurance regulatory authority for Nepal is Beema Samiti (Insurance Board of Nepal), which was established under the Insurance Act of 1992.** It is a 5-member board comprised of (i) a government nominee as chairperson; (ii) a representative of the Ministry of Law, Justice and Parliamentary Affairs; (iii) a representative of the Ministry of Finance; (iv) a knowledgeable insurance professional nominated by the government; and (v) a government nominee to represent the insured. The Insurance Act indicates that the government may replace any person on the board "if it deems necessary." Terms of board members are for 4 years and may be renewed twice. The board of Beema Samiti is required to meet at least

[19] For further information, please visit www.dmi.gov.in, the official website of the Directorate of Marketing and Inspection, Ministry of Agriculture and Farmers' Welfare, Government of India.

8 times per year. The Insurance Act is supplemented by a regulation from 1993. The regulation authorizes the appointment of an executive chair of the board, which is then charged with responsibility for the day-to-day operations of Beema Samiti. At the time of this assessment, the organization had 73 staff members, of whom 51 were permanent and at the officer level. The organization also had six professional contract staff, and the authorized staff complement was fully utilized. Compared with other emerging market supervisory agencies, the staffing of Beema Samiti appears to be reasonable for the size of the market in Nepal.

100. **The main objective of Beema Samiti is to oversee the insurance profession in Nepal, including the framing of an investment policy for insurers.** The agency registers insurers and renews registrant licenses, including those of agents and surveyors. Under the Insurance Act, it is also responsible for arbitrating disputes between insurers and policyholders and for investigating and making decisions on consumer complaints.[20] Beema Samiti is funded by a levy on insurance premiums, currently 1% of the direct premium. The investment policy specified by the board is very conservative, requiring that most funds be invested in government securities and bank deposits.

101. **A common solvency risk for insurers in countries with emerging markets is that premium amounts are not collected from policyholders.** This is not a problem in Nepal because section 27 of the Insurance Act requires that insurers have actually received the premium before assuming the risk.

102. **Insurers are required to file audited financial statements, and life insurers are required to have an actuarial valuation annually.** Beema Samiti has issued a directive for life insurers to have an actuarial valuation every year, and for insurers to prepare a financial condition report once every 3 years. Overall, Beema Samiti has quite strong powers to gather information for supervisory purposes. Section 39 of the Insurance Act authorizes the board to make investigations and enquiries "for any reasonable cause" and it is the duty of every registrant to respond to such enquiries. Costs of such investigations fall to the registrant.

103. **Off-site inspections of insurers by Beema Samiti, making use of financial analysis, have been underway for some time.** On-site inspections are soon to be instituted and the approaches will be used together to assess risk levels for insurers. It is important to mention that the on-site inspection work should be accompanied by proper training, so that the work does not merely consist of rechecking information that has already been assessed by the independent auditor. The task of the on-site inspector should be to make an independent assessment of the riskiness of an insurer's position and the quality of its risk mitigation processes, with the objective of ensuring that residual risk is well understood and properly contained. On-site inspections can be targeted in nature: to take a close look at particular risk areas identified by off-site analysis, to follow up on points raised during previous on-site visits, or to look into particular business aspects that may have been highlighted by consumer complaints. It is vital that Beema Samiti's on-site work is not delayed, because it is not possible to reliably assess risk levels in insurers without visiting the company and discussing business operations with senior officers and, from time to time, board members as well.

[20] Making binding decisions on complaints by an insurance regulatory office is a very unusual provision. In most countries, only a court of law can render binding decisions on contract disputes, i.e., the payment of claims. The concern in many countries would be that the insurance regulator could, as a result of consumer pressures or other influences, require that claims be paid, regardless of the detailed provisions in the insurance contracts. This could have significant implications for reinsurers as well.

104. **Overall, Beema Samiti's insurance supervisory framework is dated, with insurance legislation that was adopted in 1992 and has since been subject to only relatively minor amendments.** Corporate governance, which is a centerpiece of most modern insurance supervisory legislation, is not dealt with at all in the Insurance Act. Instead, provisions governing boards of directors and their responsibilities are set out in the Nepal Corporations Act and are the same as those applicable to all types of corporations. As mentioned, insurer investments are mandated to be in bank deposits and government paper.

105. **New insurance legislation for Nepal is under discussion and its enactment is urgently required.** This is because insurers are growing rapidly in terms of premium volumes for both life and nonlife policies, with insurance becoming a more important risk transfer mechanism for Nepali citizens and businesses. This is a positive trend for the country in terms of higher levels of protection being provided, as well as the general economic stimulus that arises from the reinvestment of premiums. However, if this trend is to be sustained over time, the supervisory system must be able to provide confidence that consumers will be protected by financially sound insurers, who pay claims on a fair and reliable basis. At this stage in Nepal's development, any insolvencies resulting in the inability of insurers to honor their obligations—although this has not been the case to date[21]—would severely undermine the positive developments that are underway, negatively impacting the potential for insurance to protect the people of Nepal from the catastrophic events that are all too common in their part of the world. Modern approaches are required to ensure that the rapid growth being witnessed continues to sustain a solvent and reliable insurance industry.

106. **To more closely adhere to international standards and best practices, it will be important for new insurance legislation to include the following key attributes:**

(i) Modern insurance legislation requires insurers to have strong boards of directors, which are responsible for overseeing the insurers' operations and for maintaining high standards of corporate governance, effective systems of risk management, and reliable internal controls.
(ii) Although it is prudent for insurance regulatory legislation to impose some high-level investment constraints, specific investment policies, taking account of the particular characteristics of Nepal's capital markets, should be decided by the insurers' board. These board-imposed investment policies should be tailored to match the underlying risk profile of the insurance products being sold, i.e., to achieve proper asset–liability matching. One size does not fit all.
(iii) Other key risk areas should be subject to a board-approved risk appetite statement, so that risks in one area do not become out of balance with risks in other areas.
(iv) Board responsibilities must be subject to supervisory review, with supervisors having the power to insist that board policies be modified if they are deemed to be contrary to the interests of policyholders.
(v) Risk-based capital requirements should mandate increasing amounts of capital to protect policyholders, in line with increasing levels of risk in the insurer. So-called

[21] None of the insurers became insolvent as a result of the 2015 earthquake and its aftershocks. The reason could be attributed to effective reinsurance programs adopted by the insurers, as well as the fact that insurance was not much utilized in Nepal at the time. Moreover, there is significant underinsurance of certain properties in Nepal, thus lowering the size of insurance payouts. In addition, the severity of the earthquake and its aftershocks was low in the country's industrial areas.

"factor-based" approaches to risk-based capital do not require significant levels of actuarial input.

(vi) When a new insurance law is adopted, suitable transition periods should be provided to allow insurers to adapt to the new approaches.

3.2.2 Insurance Providers

107. **At the time of this assessment, Nepal had 38 licensed insurers, of which 18 were life insurers and 20 were nonlife insurers.** With the exception of two insurance companies that were joint ventures between Nepali and foreign shareholders, three are the branch offices of foreign insurers and the rest of the companies are owned in Nepal.[22]

108. **While the insurance industry has been growing rapidly in Nepal, it is starting from a low base and is still not well-developed.** Although only about 20% of Nepal's population has any insurance coverage at all, the uptake of policies is on the rise. From 2010 to 2014, gross premiums written for nonlife policies grew at an average annual rate of 13.5%. Meanwhile, the growth rate for life insurance premiums was an extraordinary 25% per annum for the same period (footnote 22). According to Swiss Re, "the average rate of growth in life insurance premiums worldwide in 2016 was 17%, compared to 9.6% for nonlife business."[23] Similarly in Nepal, premium growth in life insurance has been outstripping the growth rate for nonlife business. In fact, total life insurance premiums in Nepal are about double the level of premiums being generated from nonlife policies.

109. **Insurance accounting in Nepal does not comply with International Financial Reporting Standards.** At the time of this assessment, insurance financial data reported on the Beema Samiti website did not appear to be in compliance with international standards, although new standards were expected to be implemented across the industry by accounting and auditing firms, and by Beema Samiti, in the near future. It is, therefore, difficult to compare the figures reported by Beema Samiti with those used elsewhere, especially for life insurance business, which currently uses a fund basis of accounting.

110. **For nonlife business, the industry has recorded stable performance and solid underwriting results, with a claim ratio of almost 50% for each year from 2010 to 2014.** Even for 2015, with major property losses caused by the earthquake and its aftershocks, the claim ratio remained stable—resulting from the fact that most earthquake losses were not within the industrial zone of the country, that insurance penetration is low in Nepal, and that reinsurers paid out as per the reinsurance contracts.

111. **Traditional products are sold in both the life and nonlife categories.** For nonlife, this means the main classes of business are compulsory third-party motor liability, motor physical damage, and fire coverage. In the life business, the main products are traditional endowment and term life insurance. There appears to be virtually no unit-linked life business, which would be more or less precluded because Nepal's insurance regulations require almost all insurer investments to be placed in bank deposits and government securities.

[22] Industry statistics provided by Beema Samiti.
[23] Swiss Re Institute. 2017. Sigma No. 3/2017. Zurich, Switzerland. page 36.

112. **From the data that are available, both the life and nonlife insurance categories appear to be solvent.** The ratio of assets to liabilities for the nonlife category is 1.61:1,[24] which indicates that, on an aggregate basis at least, the nonlife category is quite solvent. The corresponding ratio for the life category is 1.12:1, which is satisfactory for life insurance. The financial positions of individual insurance companies could, of course, be quite different from the average, so these statistics should not be taken to imply that each individual insurer is solvent.

113. **Nepal Re represents a policy decision that could have both positive and negative impacts for the insurance industry in Nepal.** There are discussions underway to require a mandatory cession to Nepal Re on every reinsurance contract. At the time of this assessment, nonlife insurers in Nepal ceded 47% of their business to reinsurers, which would not generally be considered an unduly high level in an emerging market economy. The impact of a policy of mandatory cession to Nepal Re could be somewhat positive if insurers in Nepal were having difficulty obtaining reinsurance coverage from high-quality international reinsurance companies. However, based on interviews with such insurers, this did not seem to be the case. The requirement for mandatory cessions to a national reinsurance company could help develop reinsurance capacity and expertise among Nepal's insurance personnel, which would be beneficial to the country as a whole. The potentially negative aspect of the Nepal Re concept is that reinsurance is a sophisticated business, requiring substantial investment in human expertise and systems and an established contacts on a worldwide basis. In a region where catastrophic events are all too frequent, it will be critically important to ensure that a government-owned reinsurer does indeed possess these attributes, so that there is no decline in the quality of reinsurance protection being provided to the industry. Moreover, if Nepal Re is only acting as an intermediary, it would be adding a layer of cost to the system, with little value added. Every system cost must ultimately be borne by policyholders. In a low-income country such as Nepal, where costs must be minimized in order to maximize the coverage that will be affordable to the public, any factor that gives rise to higher costs will be problematic.

3.2.3 The Capital Markets

114. **The Securities Board of Nepal (SEBON) was established by the Government of Nepal on 7 June 1993 to protect investors' interests and develop and regulate the country's capital markets.** The seven-member board regulates the market in accordance with the provisions of the Securities Act, 2006. SEBON has two departments: the Regulation and Management Department and the Supervision and Research Department. Under the Regulation and Management Department, there are three divisions: the Regulation Division, the Legal and Enforcement Division, and the Management Division. Likewise, under the Supervision and Research Department there are three divisions: the Securities Businesspersons' Supervision Division; the Capital Market, Central Depository Service and Fund Supervision Division; and the Policy, Research and Planning Division. Under each division, there are two sections. The 12 sections are supported by 25 subsections. The major financial sources of SEBON are government grants, transaction fees from stock exchange operations, and registration fees on corporate securities. Other financial sources include fees from the registration and renewal of stock exchange and market intermediaries and income from the mobilization of SEBON's revolving fund. SEBON became an associated member of International Organization of Securities Commissions in 2016.

[24] 2014 figures are the latest available on the Beema Samiti website, www.bsib.org.np.

115. **The major functions, duties, and powers of SEBON as per the Securities Act, 2006 are as follows:**

(i) provide advice to government on matters related to the development of the capital market;
(ii) issue necessary securities regulations and directives;
(iii) register the securities of public companies;
(iv) regulate and systematize the issue, transfer, sale, and exchange of registered securities;
(v) issue the license to operate the stock exchange;
(vi) issue licenses to stockbrokers, dealers, merchant bankers, and fund managers;
(vii) issue the license to the depository company, depository participants, and credit ratings agencies;
(viii) register mutual funds, grant permission to operate collective investment schemes, and supervise and monitor them;
(ix) approve the bylaws of the stock exchange and of the depository company;
(x) take necessary actions to prevent insider trading or any other offenses relating to transactions in securities in order to protect the interests of Nepali investors;
(xi) establish coordination and exchange cooperation with appropriate agencies in order to supervise and regulate matters concerning securities or companies; and
(xii) discharge, or make arrangements for discharging, such other functions as are necessary for the development of the capital market.[25]

3.2.4 Diagnostic and Recommended Actions

116. **Beema Samiti should continue to modernize its supervisory approaches.** With good management and well-trained supervisors, Beema Samiti has the potential to become a model for insurance supervision in countries with emerging markets. If new products are going to be successfully introduced to the market, if the market is going to continue its healthy pace of growth, and if risk is going to be more effectively transferred from the ordinary citizens and businesses of Nepal to entities that are designed to accept it, then the field of operations needs to be subjected to modern supervisory practices that have been proven in jurisdictions around the world.

117. **Nepal is a founding member of the International Association of Insurance Supervisors and, as such, Beema Samiti is an active member of the association.** As mentioned, new insurance legislation for Nepal has been in the works for several years and one of the goals of the new act will be to adhere more closely to the Insurance Core Principles. Using these principles as its model, it should be possible for Nepal's insurance industry and Beema Samiti to agree quickly on the basic requirements for the new law and for the Government of Nepal to introduce the required legislation.

118. As discussed, the important features of modern supervisory frameworks are well established. The key factors are:

(i) requirements for strong corporate governance, systems of risk management, and internal controls;

[25] The Securities Board of Nepal, www.sebon.gov.np.

(ii) risk-based capital, which will compel insurers to proportionately increase their capital resources as their corporate risk profile increases;[26]
(iii) strong preventive and corrective powers for supervisors;
(iv) supervisory practices that include both on-site and off-site inspection, all for the purpose of assessing risk levels of insurers and applying escalating powers of intervention as risk levels become higher;
(v) access to the funding required to operate a modern supervisory agency (usually based on an industry levy to cover the costs of supervision, which is already in place for Beema Samiti); and
(vi) independence for the supervisory office (as is well established for central banks) so as to avoid any politicization of the supervisory process.

119. **The mandatory cession to Nepal Re is only recommended if Nepal Re is able to secure sufficient expertise and reinsurance capacity to adequately serve the current market, without diminution in the quality of security.** The market appears to be adequately served by professional reinsurers so, while the introduction of mandatory cessions to a government-owned entity may be beneficial in terms of developing greater reinsurance expertise within the country, the fundamental purpose of reinsurance is to provide security in times of great need. Care must, therefore, be taken to ensure there is no compromise of security.

120. **It is necessary to increase insurance awareness and to encourage the industry to serve the whole population with insurance products, including strengthening disaster-related insurance, reinsurance, and capital markets.** Several joint actions between Beema Samiti and the industry are suggested:

(i) Simply remind insurance companies of the need to design policies in ways that cost-effectively respond to the disaster risk needs of Nepal's property owners, including those who are not relatively wealthy. Bulletins and guidance from Beema Samiti could help to stimulate innovative thinking and the development of new products.
(ii) The industry association could work with the government to publicize developments in consumer-friendly disaster insurance products and solutions. Insurance companies that make special efforts along these lines could even be recognized by the government. For example, Beema Samiti might sponsor an annual insurance conference, featuring new insurance products and highlighting insurance innovations, with the presentation of a special insurer achievement award. Members of the business community and general public could also be invited to attend and to participate in the discussions about insurance-related issues.
(iii) The government and the insurance industry could cooperatively develop brochures for the public and material for the media, with the objective of raising awareness around disaster insurance.
(iv) Developing awareness of DRF instruments at the local government level is also necessary. With the devolution of power, local governments have increased responsibility for the financial management of disaster risks, with the responsibility

[26] Risk-based capital greatly reduces the need for strict rules of compliance, such as those that exist with regard to the investment practices of Nepali insurers. This is because insurers who wish to make riskier investments (or engage in other somewhat riskier activities than are presently permitted) will automatically have to increase their capital resources to compensate for the increased risk.

to manage the contingent liabilities of disaster within their fiscal frameworks. Local governments need to be made aware of DRF instruments that will ensure the availability of finances for disaster response, recovery, and reconstruction, to enhance financial resilience. ADB could support the development of training modules with international experts and conduct the education of trainers, who in turn would build the capacity of officials at the local government level. Although Beema Samiti has established an insurance institute, and indicates that it carries out such training programs, an evaluation should be conducted to see which approach may provide the best fit.

3.3. Unlicensed Competition

121. **Most jurisdictions prohibit the placing of domestic insurance risks with foreign insurers not licensed in the country.** This requirement protects domestic consumers and insurers, which are subject to the requirements of the Nepali court system, the insurance supervisory system, and other laws of the country. Uncontrolled flow of primary business to other jurisdictions would leave consumers unprotected by domestic laws which, for example, require licensed insurers to meet appropriate standards for solvency. Nevertheless, individuals and businesses in Nepal will sometimes require coverage that is simply not available in the country, so there must be access to foreign insurance markets. This is usually accomplished by permitting overseas placements only on a controlled basis, i.e., with the direct approval of the supervisor or the approval of an entity that is licensed and overseen by the supervisor.

122. **Neither the Insurance Act nor the Insurance Regulation seem to have any provisions for dealing with unlicensed placements of primary business by brokers.** This situation may exist because of Nepal's more or less open border with India. Although no statistics are available, it is likely that insurance risks in Nepal are frequently placed with Indian insurers not licensed in Nepal. It is also likely that insurance agents and brokers come into the country and actively generate new business for their insurance company sponsors in India. It is almost impossible to block these activities while Indian residents have open access to the marketplace in Nepal. In the meantime, it may be the case that Nepali insurers may lose some business to unlicensed competitors. Although there have apparently been few cases where the sale of fraudulent insurance policies has led to policyholder losses, the insurance regulatory requirements of a sovereign country such as Nepal should be sacrosanct.

123. **Because it originates from a government entity, the health insurance program established within the Ministry of Health does not require formal licensing by Beema Samiti.** While this may be a beneficial program overall, the government should recognize that it is taking business away from the private insurance market, as is the case with other unlicensed insurers. It is well established that private insurers, like other financial institutions, stimulate the economy by taking on risk, enabling reconstruction when losses occur, and reinvesting premium flows into other sectors of the economy. The health insurance initiative does not contribute to strengthening the viability of the private insurance industry. However, if it can provide health insurance in an efficient and effective way, the trade-off may be worthwhile.

3.3.1 Unregulated Insurance in Agriculture

124. **The Agriculture Development Bank Limited and the Deposit Credit Guarantee Fund jointly run an insurance-like program for securing credit extended to purchase cattle.** The sum insured is calculated on the amount of the loan, not the value of the animals. When the loan is repaid, the insurance contract stops. The animals must be inspected by a veterinarian and issued a health certificate. The animals must also be ear-tagged. This type of policy indemnifies the insured livestock owner against the death of an insured animal or the loss of use of an animal determined by an authorized technician. The compensation levels are 80% of the sum insured in the event of the death of an animal, and 40% of the sum insured in the event of the loss of use of an animal. The premium is set at 8% of the value at risk, with 3% paid by the farmer and 5% paid by the Government of Nepal. The high cost of administering the scheme, due to the need for expert assessments at each step, generates a negative balance for this program. The Deposit Credit Guarantee Fund does not offer crop insurance, considering it too risky because of input supply issues and weather variability (Dhakal 2016).

125. **The small farmers' cooperatives (SFCs) also have an insurance-like program for covering the risk on cattle financed through them.** The risk is carried by the SFCs on a mutual insurance basis. This insurance program is restricted to farmers who are members of an SFC. An insurance committee is formed within each SFC or partner cooperative. This insurance committee is in charge of claim verification. The program is also available to vegetable farmers through the Agricultural Development Bank Limited. Participating farmers must be members of a group and they pool the premiums collected on a group account. In the case of livestock, premiums are set at 10% (5% paid by the farmer and 5% paid out of the government insurance subsidy). In the case of vegetables, the premium is set at 15% (7.5% paid by both the farmer and the government). Indemnity is offered up to 80% of the insured value of the losses. However, because indemnities are paid by the premiums collected within the group and supplemented with the government subsidy, if all the farmers in one group experience a shock loss due to epidemic disease or hail storm, the premiums collected are insufficient to cover an 80% indemnity for every farmer. In such cases, coverage will be available only on a partial basis, subject to the availability of funds. Furthermore, when no catastrophe occurs, the premiums paid by the farmers are transferred to a savings account, so that the group can decide to reinvest the amount the following year in insurance or any other asset (Dhakal 2016).

3.3.2 Diagnostic and Recommended Actions

126. **Unleash the potential for insurance and agriculture insurance by formalizing insurance programs through cooperatives and credit unions.**

127. **Nepal is among the countries in which the international credit union and cooperative movement constitutes an important part of the economy.** The Nepal Federation of Savings and Credit Cooperative Union (NEFSCUN) is the member-based organization of the Savings and Credit Union Cooperative Societies (SACCOS), active in all 76 districts of the country and with coverage of 25 million individuals (NEFSCUN 2017). The Nepal Agricultural Cooperative Central Federation has 820,000 members working through 860 cooperatives and representing small farmers in the country (NEFSCUN 2017). Of all the

federation's members, 82% are female,[27] which partly reflects the significant proportion of males working overseas.

128. **Each of these organizations has been informally providing microinsurance products to members.** However, because they are not incorporated as insurance companies and are not subject to the Insurance Act, they have no legal authority to transact insurance and have been advised to discontinue these operations.

129. **Beema Samiti has been calling all organizations doing informal insurance business to encourage them to join with insurance entities registered under the Insurance Act.** The objective is for the cooperative organizations to act as authorized agents for properly incorporated insurance companies. In this way, NEFSCUN and SACCOS are becoming instrumental in delivering the insurance policies of formal insurers. Accordingly, the Micro Finance Association of Nepal and the Nepal Insurance Association have executed memoranda of understanding and are procuring business into the microinsurance pool formed by the insurance association. Beema Samiti has reported that the scheme is progressing well.

130. **Should NEFSCUN and SACCOS be interested in taking more insurance risk, there are a number of supervision models that take account of the unique organizational and membership characteristics of these types of entities.** In Ontario, Canada, there are more than 50 tiny mutual insurance companies,[28] known as "farm mutuals," operating at the district level. All of these mutuals were established as members of the credit union and cooperative movement. Although they are ultimately subject to supervision by the provincial insurance supervisor, the provincial authority has delegated its powers to a board of retired mutual insurance company managers. The board is chaired by an experienced, professional supervisor, who is retired but receives a small stipend for the time invested. Each mutual is risk-assessed on the basis of internationally accepted financial ratios for insurance. Any one of the mutual insurance companies that exhibits a potentially higher risk on the basis of the ratios is subject to additional review by the board. The board requires the mutual in question to provide a plan indicating how it will modify its practices so as to reduce risk. If progress is not apparent, the manager of the mutual in question may be required to appear before the board to explain the lack of progress. The power of peer review is very strong and it is extremely rare for any manager to have to come before the board. Over the years, the farm mutuals have built up strong capital positions relative to their liabilities, and it is rare for one of these institutions to get into financial difficulty.

131. **Larger insurers can also be part of the credit union and cooperative movement.** An insurance company could be established[29] and owned individually or jointly by organizations such as NEFSCUN and the Nepal Agricultural Cooperative Central Federation (and possibly with participation by foreign shareholders). These insurers could be supervised directly by the country's insurance supervisor, such as Beema Samiti in Nepal, although

[27] As stated on the website of the Nepal Agricultural Cooperative Central Federation Limited. For more information, visit http://www.naccfl.org.np/.

[28] A mutual insurance company has no capital stock or common shares; it is owned by its policyholders.

[29] It is possible to establish either a stock insurance company or a mutual insurance company. In the latter case, it is first "owned" by its sponsors. This is accomplished by means of an initial cash infusion by the sponsors to form a guarantee fund for the new company. The guarantee fund is in lieu of a capital account in a stock company. The guarantee fund is later supplemented by retained earnings, which, in mutual insurers, is typically designated as policyholders' surplus, and the policyholders gradually become the primary owners of the insurer.

that does not necessarily have to be the case. The United States provides the precedent of a framework where any insurer that is a member of a corporate group that includes a savings and loan (S&L) company is subject to supervision by the S&L supervisory agency.[30] In the Nepal context, this could mean that any insurance company (mutual or stock) that is part of the credit union or cooperative movement could be subject to direct supervision by Nepal's credit union supervisory agency. To avoid the difficulties experienced with the United States model (refer to footnote 27), knowledgeable insurance supervisors could be involved by means of a joint oversight committee that would include officers from Beema Samiti as well as credit union supervisory members.

3.4 Product Availability and Affordability

132. **Product development is hindering disaster risk transfer to the insurance industry and the capital markets.** Although the general insurance industry in Nepal has the potential to assume a greater proportion of property and agriculture-related disaster risk, appropriate products need to be developed. Sophisticated securities also need to be introduced to take full advantage of global capital markets to transfer disaster risk from the government and individuals.

3.4.1 Nonlife Insurance Products

133. **In Nepal, there is the potential for a much greater proportion of agricultural property and other agriculture-related risks to be protected by insurance.** However, the traditional general insurance industry is not ideally positioned to provide such coverage, because agricultural communities tend to be attuned to cooperative approaches, which are not aligned with Nepal's corporate insurance business. Nevertheless, there are ways in which insurance can be transacted, and soundly regulated, within a cooperative framework.

134. **The tourist market in Nepal is not a significant market for the insurance industry.** In countries where tourist income generates a significant portion of national income, nonlife insurance business is focused on providing coverage to large hotels and other tourism facilities, as well as filling other tourist-related insurance needs. For Nepal, although the tourism business is substantial relative to the country's economy, it tends to be dominated by trekkers and others traveling on lower budgets, so it is not very significant to the insurance industry. However, tourism could still provide the basis for an important insurance product in Nepal. By adding a small levy to fees for trekking, climbing, and other tourist activities, an insurance fund could be accumulated to offer critical economic support when tourist numbers decline due to earthquakes and other catastrophes.

[30] After the 2008/2009 financial crisis, it became clear that this particular supervisory model had some serious deficiencies. However, many would argue that these were mainly as a result of poor practice, rather than flaws in the model itself. In other words, the model might have worked if the S&L supervisory agency had paid more attention to the insurers it was supposed to be regulating. Famously, one of those insurers was the corporate giant, American International Group, which ultimately needed to be bailed out by taxpayers. In hindsight, most observers agreed that the supervisory model was devised with small S&L-owned insurance companies in mind, not a giant like American International Group, and that the S&L supervisor should have been more knowledgeable about insurance company supervision.

135. **Nonlife insurance premiums in Nepal are dominated by fire and motor insurance policies.** Table 5 shows the breakdown of income for Nepal insurers by class of business.

Table 5: Insurance Premium by Class of Business, 2017
(NRs)

Class of Business	2072/73 (FY2015/16)	Percentage of Nonlife Insurance (%)
Fire	3,221,247,270	23
Marine	872,875,236	6
Aviation	655,911,660	5
Motor	6,160,635,198	44
Engine and car	1,202,137,212	9
Miscellaneous	1,724,876,382	12
Cattle and crop	287,269,236	2
Total nonlife	14,124,952,194	100
Total life	29,491,345,093	
TOTAL	**43,616,297,287**	

NRs = Nepalese rupees.
Source: Beema Samiti (2017).

3.4.2 Agriculture Insurance in Nepal

136. **To protect the farmers from various risks associated with farming and livestock rearing, the Government of Nepal issued a Crop and Livestock Insurance Directive in 2013.** All insurance companies are encouraged by Beema Samiti to underwrite crop and livestock insurance products as prescribed under the directive, which provides the policy wordings for individual products to insure a range of crops and various breeds of cattle. Premium rates for the different products are also prescribed by the directive. Premium rates for crop insurance range from 1% to 8%, depending on the crop, and from 1% to 5% for cattle insurance. The directive, therefore, purports to act as a national tariff for crop and livestock insurance. Indemnity for crop and livestock insurance is offered on an agreed-value basis. In the case of livestock, the value is derived by the local livestock technician, based on the breed and age of the cattle, as well as the local market price. The maximum sum insured for various kinds of cattle has been specified in the directive. For crop insurance, the sum insured should represent the total input cost for the particular crop, in line with guidelines issued by the Ministry of Agriculture. In practice, the sum insured is decided by the insurance company and agreed by the insured in consultation with the local agriculture technician. The smallest insurable area for crop insurance is 1 *anna* (approximately 254 square meters) in hilly areas and 1 *kathha* (339 square meters) in the Terai. In the event of a claim, insurance companies can engage local veterinary and/or agriculture technicians to ascertain the factual loss as well as the quantum of loss. The role of local technicians attached to the Ministry of Agriculture therefore assumes significance at the underwriting stage as well as in the event of claims.

137. **The Crop and Livestock Insurance Directive also provides for recruitment of agents to promote and solicit crop and livestock insurance business.** Any individual or organization can become an agent under the directive. NGOs, cooperatives, and other organizations active in this space are encouraged to become agents of insurance companies. A commission of 15% on premiums can be paid to agents.

138. **A flat subsidy of 75% on total premiums is provided by the government for both crop and livestock insurance sold, as per the directive.** The insurance companies collect 25% of the total payable premium from farmers and claim the balance of 75% from the government after providing the necessary details.

139. **All 77 districts of Nepal have been equally allotted to participating insurance companies for the purpose of crop and livestock insurance.** The districts assigned to each insurer (five districts on average) become the priority areas for that particular insurer, although there is no restriction on underwriting business from other districts.

140. **After more than 5 years since the notification of the directive, the experience on the ground and the numbers reflect a positive outlook for the future.** According to the *Crop and Livestock Insurance Report 2018*, complied by Beema Samiti (Table 6), total premiums (farmers' contributions plus subsidies) for FY2018 stood at NRs426.37 million. Livestock insurance, at NRs352.57 million, commanded a share of more than 75% of total business transacted. Similar trends were observed for previous years. In terms of profitability, the incurred claims ratio on gross premiums averaged 54% for 2014–2018, which indicates a solid performance of the portfolio in terms of sustainability.

141. **Breaking down the data further, the claims ratio for cattle insurance has understandably been higher than for crop insurance.** The ratio for cattle insurance was 62% in FY2017 and 61% in FY2018. Moreover, gross premiums for crop insurance actually declined from NRs21.63 million in FY2017 to NRs13.49 million in FY2018. This shows that, while livestock insurance remains popular among farmers, the volume of crop insurance is not yet accelerating.

Table 6: Crop and Livestock Insurance Gross Incurred Claims Ratio, 2014–2018

Year	Gross Premium	Claims Paid (NRs)	Incurred Claims Ratio (%)
FY2015	34,049,124	12,989,428	38
FY2016	161,002,516	61,650,179	38
FY2017	278,745,080	159,582,878	57
FY2018	426,374,708	255,869,294	60
Total	**900,171,429**	**490,091,779**	**54**

FY = fiscal year, NRs = Nepalese rupees.
Source: Beema Samiti (2018).

3.4.3 Microinsurance Products

142. **Despite being a low-income country, Nepal is blessed with some unique natural advantages.** There are vast fertile plains (the Terai region) that constitute the country's breadbasket; hilly regions that yield high-value fruits and vegetables; and the Himalayan mountain range, which draws huge numbers of tourists. Nepal's per capita water availability and forest cover is more than twice the average in South Asia. However, these advantages also bring with them many developmental challenges. The country's topography limits domestic connectivity and increases exposure to floods, landslides, and drought. The Himalayan mountains are an area of intense seismic activity, which results from the tectonic collision of the Indian and Eurasian plates, making Nepal the 11th most earthquake-prone country in the world (World Bank 2018).

143. **Nepal has made good progress in reducing extreme poverty over the past 2 decades.** The proportion of Nepali households living in extreme poverty, as measured by the international extreme poverty line, fell from 46% in 1996 to 15% in 2011. A similarly impressive improvement in well-being is observed when the national poverty line is considered—the national poverty rate was 25% in 2011—with gains also made in other dimensions of welfare. Progress in reducing poverty, however, is not reflected in the growth statistics for Nepal. Growing at an average of 4% annually since the late 1990s, Nepal's economic expansion has been much slower compared to other countries in the region. Agriculture, which employs 67% of the country's total workforce, has been growing at a variable rate and is largely dependent on rainfall as well as prices. Services are growing and now comprise half of Nepal's gross value added, but most of the sector is dominated by wholesale and retail trade that is largely informal (World Bank 2018).

144. **Remittances are vital to Nepal's economy.** Officially recorded remittances increased from 2% of GDP in 2001 to 30% in 2015, one of the highest shares in the world. Remittances directly accounted for 27% of all poverty reduction from 1996 to 2011, and high rates of emigration also had indirect impacts on poverty. Emigration and the resultant remittances have positively affected rural areas more than urban centers. An increase in the migration rate of 10 percentage points reduces the village poverty rate by 7 percentage points. Emigration also led to real wage increases, particularly in agricultural and nonfarm wages for women. Remittances from Nepali migrants abroad substantially influence the economy within. Although departures of migrant workers from Nepal, as well as the inward remittances from abroad, show a decline since 2015, the fact remains that a large part of the country's domestic consumption is still driven by remittances (World Bank 2018).

145. **Welfare gains could be wiped out by natural disasters.** Nepal is highly exposed to disasters, which may be expected to increase as a result of climate change, and continues to depend on rain-reliant agriculture. The country's welfare gains have not been large enough to move poor households into the middle class, so they remain vulnerable to falling back into poverty should an uninsured natural disaster or economic shock occur (World Bank 2016). In fact, the proportion of households counted as vulnerable to poverty increased from 28% in 1996 to 45% in 2011 (Walker, Khadka, and Pandey 2017). The recent slowdown in remittance growth is likely to worsen the vulnerability of poor households to disasters.

146. **Nepal has interesting trends in financial inclusion and use of financial services by various segments of the population.** In Nepal, 61% of the adult population reported

using at least one financial service from a formal provider, while 57% reported the usage of informal financial services. This suggests that a significant proportion of the adult population might be using both formal and informal services. Available evidence points to the use of a range of financial services. Of adult consumers, 58% said they used more than one type of financial service. Of those using two types of financial service, the most popular combination was a savings service and a payments service, used by 12% of adult consumers (UNCDF and FinMark Trust 2014).

147. **The adult population of Nepal can be classified into six broad categories as target markets for financial services: farmers (32%); irregular earners (17%); dependents (17%); micro, small, and medium-sized enterprises (13%); remittance receivers (11%); and salaried workers (10%).** Farmers, irregular earners, and dependents are the largest target markets in Nepal. They are poorer on average, with a greater proportion living in rural areas compared to the overall population. They are also the target markets with the lowest levels of education. In terms of financial activity, 65% of farmers and 33% of irregular earners (informal sector workers) use informal financial services. Meanwhile, 51% of micro, small, and medium-sized enterprises use formal financial services, with 68% of them based in rural areas. Therefore, when absolute numbers are considered, more rural adults (7.2 million people) have financial access than do urban adults (1.1 million people). However, because such a large proportion of Nepal's population lives in villages and rural communities, financial access as a percentage of population is equal for rural and urban adults, at 82% for both groups. A high percentage (71%) of urban adults are formally financially included, while 58% of rural adults are formally financially included and proportionally more of them access informal financial services (UNCDF and FinMark Trust 2014).

148. **Nepal's hilly and mountainous terrain poses a significant challenge in terms of access to financial service providers (FSPs), especially in remote rural areas.** For the majority of Nepal's people, proximity to formal providers is limited, with 65% of the adult population having to travel more than 30 minutes to access a bank. This barrier is overcome by the presence of other formal and informal FSPs in local areas, although this often limits the range of choice and competition in localized markets. While these local FSPs are more able than their remote competitors to adapt product features to unique community needs, some products can become more expensive because it is not possible for providers to leverage economies of scale. Although the phenomenon of locally based FSPs eases access barriers for consumers, it also serves as a barrier for entry for larger, formal, and more remote FSPs (UNCDF 2014).

149. **Available data indicate a low usage of digital financial services such as mobile money and plastic money.** Although mobile phone penetration in Nepal is 81.9%, there were just 55.6 active mobile money accounts per 1,000 adults in 2016. Similarly, only 6.7% of the adult population possessed a debit card. The low penetration of digital financial services, despite decent financial inclusion indices, suggests a lack of technological adaptation on the demand side and the supply side (Pant 2016). A few initiatives—such as the Branchless Banking Initiatives of the Sakchyam Access to Finance for the Poor Programme (Sakchyam) and the Mobile Money for the Poor program by the United Nations Capital Development Fund—are being implemented and these services could accelerate the pace of adoption of digital financial services. Likewise, Nepal Rastra Bank, through its monetary policy of FY2016, accorded due priority to the expansion of branchless banking and mobile banking services in areas of the country with low financial access. The Government of Nepal also announced in

its budget for FY2017 its intention to channel welfare payments, including pensions and other social security allowances, through digital channels (Pant 2016).

150. **Among all the financial services in Nepal, formal insurance is understandably the least accessed.** Only 11% of Nepali adults reported having any kind of formal insurance.[31] Of those with formal insurance policies, 41% reported having life insurance, making it the preferred product among insurance users. The intangible and long-term nature of insurance often discourages uptake, particularly in target markets where disposable incomes are low and awareness of the value of insurance is limited. Furthermore, affordability and accessibility remain key issues in Nepal. While the majority of adult consumers may not be able to understand, afford, or access insurance, they are nevertheless faced with a multitude of risks and need to be covered for unforeseen events. For most, this will likely be in the form of savings, although there is also the potential for the use of credit products, in which case repayment can occur over time (UNCDF 2014).

151. **Insurance appears to be slightly more popular with low-income individuals who are linked to microfinance.** Among clients of microfinance institutions (MFIs), as many as 44% of respondents had purchased some type of insurance policy, while the corresponding figure for low-income respondents not linked to microfinance institutions was a relatively significant 24%. This could be on account of the easiness to buy insurance through the microfinance distribution channel. Among MFI clients, 31% reported having loan insurance, while 21% of non-MFI respondents had life insurance. In terms of risk perceptions, health-related problems, death of livestock, and natural disasters were reported as the top three risks. Among risk-coping strategies, the top three were help from friends and relatives (34%), use of savings (33%), and loans from friends and family (22%). Of those who had not purchased an insurance policy, 60% of respondents cited lack of awareness as the major reason, closely followed by lack of capacity to pay premiums (51%). Lack of awareness was higher among non-MFI respondents (72%) compared to MFI respondents (48%). In addition, 29% of respondents without insurance said lack of trust was another reason for not purchasing, followed by lack of need for insurance, and lack of availability of an insurance company or agent (UK Aid 2018).

152. **The presence of microfinance institutions and cooperatives has ensured that microinsurance, in some form or other, has been adopted in Nepal.** The Nepal Federation of Savings and Credit Cooperative Union (NEFSCUN) began the Cooperative Member's Security Policy in 2008, offering a long-term savings and insurance product through their member cooperatives. NEFSCUN has received approval from the Department of Cooperatives to run this program, which is being promoted as a complementary service to traditional savings and credit services. This is similar to an endowment insurance product, which provides a sum insured in case of natural or accidental death, or at the time of maturity. NEFSCUN has received technical assistance from Agriterra, a Netherlands-based organization, and the Microinsurance Association of the Netherlands to develop and implement this product. NEFSCUN's member cooperatives act as the agents to sell the policy prepared under the program. The value of the policy ranges from NRs10,000 to NRs100,000. As of March 2017, 49 cooperatives had sold more than 2,500 policies and NEFSCUN had collected more than NRs25 million in premiums from the sale of this product (UK Aid 2018).

[31] Other sources cited a figure of 20% for the proportion of adults having any insurance coverage. The two figures could both be correct if the larger percentage includes adults covered by insurance-like products from informal providers.

153. **The Government of Nepal announced in the FY2017 budget that every insurance company's revenue from premiums should be comprised of at least 5% from microinsurance.** This announcement has further encouraged insurance companies to aggressively promote microinsurance products. The government also issued a Microinsurance Directive in 2014, which defines the products that can be classified as microinsurance for both the life and nonlife segments. The directive also sets out the parameters for these products in terms of sum insured, premium, commission rates, etc. Under the directive, only organizations such as NGOs and cooperatives can be enrolled as agents. All claims under microinsurance policies, as per the directive, must be settled within 10 days. The directive also stipulates provisions for the necessary training of agents.

154. **Sakchyam is an initiative funded by UK Aid as part of an agreement between the governments of Nepal and the United Kingdom.** The program works with the public and private sectors in Nepal to expand financial access and develop the country's finance sector. Sakchyam works with different stakeholders in the finance sector through the Challenge Fund. It provides technical support, product development, capacity building, and financial literacy education to all stakeholders in the microinsurance value chain.

155. **Sakchyam has been instrumental in encouraging partnerships within Nepal's private sector to develop microinsurance products.** The Nepal Insurers' Association and the Nepal Microfinance Banker's Association signed a memorandum of understanding to distribute microinsurance products to MFI clients. This was the first time a partnership between these associations has occurred. It is expected to help expand the outreach of formal microinsurance products to low-income households across Nepal.

3.4.4 Capital Market Products

Traditional Capital Market Products

156. **Nepal Stock Exchange Limited (NEPSE) is the only stock exchange in Nepal.** NEPSE opened its trading floor on 13 January 1994. On 15 September 2017, the equity market capitalization of the 230 companies listed on NEPSE—including commercial banks, hydropower companies, insurance companies, and finance companies among others— was approximately $17.3 billion. Trading on the floor of NEPSE is restricted to listed corporate securities and government bonds. The stock market is dominated by the common equities of finance sector companies, which together account for over 85% of the market capitalization of the entire exchange. At the time of this assessment, 299 companies had listed their securities to make them eligible for trading, while 50 brokers were registered for trading. The exchange facilitates the trading of common and preferred stock, corporate and government bonds, and mutual funds, and is supervised by the Securities Board of Nepal (SEBON). Key figures for NEPSE from 2012 to 2017 are outlined in Table 7. The capital market entities are the central depository service (1), the ratings agency (1), listed companies (299), depository participants (66), mutual funds (12), and merchant bankers (17), giving rise to an aggregated Net Asset Value as of July 2017 of NRs162.35 billion.

157. **Important shortcomings affect Nepal's security market.** There is a limited understanding of capital markets among the general public. Development of secondary market liquidity is slow, though this is improving. The float market cap, which is a major determinant of liquidity, is stagnating. Secondary market development is essential to raising capital. There

Table 7: Key Figures for Nepal Stock Exchange Limited, 2012–2017

Major Indicators	Fiscal Year				
	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017
Trading amount (NRs billion)	22	77	65	164	205
Number of shares traded (million)	81.6	214	159	302	393
Number of shares listed ('000)	1,298	1,468	1,631	2,105	2,966
Market capitalization (NRs billion)	515	1,057	989	1,890	1,856
Number of listed companies	230	235	232	230	208
NEPSE closing index	518	1,036	961	1,718	1,583
Trading amount to market cap %	4.29	7.3	6.6	8.7	11
Trading amount to GDP %	1.3	4	3	7.3	7.9
Market cap to GDP %	30.2	54.8	46.6	84	71.4

GDP = gross domestic product, NEPSE = Nepal Stock Exchange Limited, NRs = Nepalese rupees.
Source: Nepal Stock Exchange Limited.

is an important role for institutional investors in areas such as mutual funds, pension funds, and unit trusts, to provide the required capital through investments in the capital market. However, this is quite limited in practice. At the time of this assessment, foreign institutional investors were not permitted to buy in the secondary market and their participation in the primary market was low. Furthermore, there were no secondary market trades in debt securities (Bikash Rinpatra) issued by the Government of Nepal, even though most of these are listed on NEPSE. This scenario was also due to the limited issue of government bonds. Such bonds are the best securities for fulfilling various statutory requirements, but they are traded in limited numbers. The government's low budgetary capital expenditure led to a lesser capital requirement, resulting in a lower number of government bond issuances.

158. **The *Financial Sector Development Strategy 2017*, issued by the Ministry of Finance, suggests some major initiatives to develop the capital market as follows:**

(i) compulsory provision requiring companies in the real sector to issue shares to the general public, and to implement an independent pricing mechanism to issue shares to the general public;
(ii) provide tax benefits on income of mutual funds in line with international practice;
(iii) develop necessary regulations for open-ended mutual funds, venture capital, and private equity funds;
(iv) make provision to allow stockbrokers to lend for share purchases;
(v) develop a fully automated transaction system and make provision for online transactions through the internet;
(vi) enhance the awareness of the investors in the capital market; and
(vii) provide information for increasing access to the capital market.

Insurance-Linked Securities

159. **Not available in Nepal at the time of this assessment, insurance-linked securities (ILSs) are innovative financial products that transfer insurance risk to capital market investors** (ADB forthcoming). Catastrophe (cat) bonds remain the dominant type of ILS

globally. Cat bonds are bonds whose coupon and principal payments depend on a predefined catastrophic event not occurring. Other types of ILSs include those based on mortality rates, longevity, and medical claim costs. As of 28 December 2017, the global ILS issuance for 2017 had risen to $12.5 billion, up from $7 billion in 2016, and the outstanding market had increased from $26.8 billion in 2016 to $31 billion in 2017 (Artemis 2017).

160. **Typical investors include life insurers' pension funds, mainly adding catastrophe risk into their investments to diversify their market exposure to risk.** To a lesser extent, nonlife insurers are also investing in ILSs, assuming mortality and morbidity risks. Other institutional investors, including hedge funds searching for yield in a global environment of low interest rates, are looking at ILSs favorably.

161. **Insurers, reinsurers, and governments have been the traditional issuers of ILSs, seeking to transfer their underwriting exposure into global capital markets.** The Government of Mexico is an active issuer of catastrophe bonds for hurricanes and earthquakes (Llanos-Small 2017). The costs of those instruments can be as high as 9% over the London interbank offered rate, covering the frequent Atlantic hurricanes of category 4 or higher, with $210 million for 2.5 years issued in 2017. The trigger for earthquake protection relating to the bond issued in 2017 was set at magnitude 7.9 or higher, for a cost of 4.12% over the London interbank offered rate. This bond will pay $150 million following the 2017 Chiapas earthquake (magnitude 8.0). The devastating Puebla earthquake in central Mexico in 2017 did not trigger this bond as the magnitude was 7.1.

3.4.5 Diagnostic and Recommended Actions

Nonlife Insurance Products

162. **Property coverage required by banks to protect bank collateral needs to be enhanced.** As in all countries, banks in Nepal stipulate that the collateral used to secure property loans must be insured, so that their interest in the property is protected. For example, when an individual borrows to purchase a house, the bank will require the house to be insured against all perils, with the bank as the beneficiary to the extent of the loan amount. If there is a fire or other loss event, the insurance proceeds will flow to the bank to cover the loan. At the same time, it is an established legal principle in insurance contracts that, if a property is only partially insured, then the policyholder is in fact undertaking to share the risk with the insurer. This is sometimes referred to as the proportional coverage rule, or the co-insurance clause. So, if a house has a value of NRs1 million and is insured for only NRs400,000, then the insured is deemed to be retaining 60% of the risk and the insurance company is accepting 40% of the risk. If damage to the house is NRs500,000, then the insurance company will only pay 40% or NRs200,000. This clause has given rise to considerable underinsurance of properties, and caused much dissatisfaction for property owners in Nepal after the 2015 earthquake. Many owners had understood that their property was insured by the bank holding the mortgage on their property. However, because of the co-insurance clause, many found themselves with little or no coverage after the insurer had made payment to the bank.

163. **Another source of insurance dissatisfaction was the deductible clause in policies.** The deductible clause establishes an amount to be covered by the policyholder on the first portion of a claim, stated either as a percentage of the claim or as a fixed monetary amount (most typically the latter), sometimes known as an "excess." The deductible requirement

helps make the cost of insurance more affordable because, if policyholders were able to claim on small amounts, the number of claims would increase dramatically, with an associated increase in the expense of administering the insurance portfolio. Standard policies in Nepal apply a deductible of 2.5% to the value of the property insured, rather than to the amount of the claim. This means that, after the 2015 earthquake, large deductibles also reduced the amounts payable to policyholders and gave rise to dissatisfaction with the insurance coverage.

164. **Both of these difficulties can be easily remedied by changing the wording of the standard policy form.** Of course, if insurers are going to bear more risk, there would need to be a slight increase in the cost of the product, but it is estimated that this would not be substantial. The trade-off in terms of the quality of coverage and the associated increase in policyholder satisfaction would be well worth a slight increase in premium.

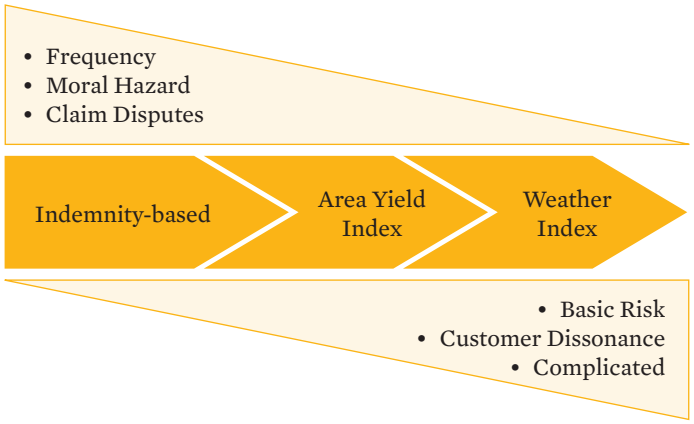
165. **Environmental liability insurance, which is linked with climate change and therefore with changing disaster risk, needs to be developed.** While no significant past events affecting the environment have been attributed to industry, climate change discussions have raised awareness of the need to purchase environmental liability insurance. Unfortunately, this type of insurance is not well-developed in Nepal, so the availability of coverage is limited. The introduction of mandatory insurance against damage by industries that have the potential to harm the environment would make available funds to repair the environmental damage and provide compensation to affected entities and/or individuals. It would also require the implementation of proper risk management measures by industry to avoid environmental accidents as a precondition to obtaining the mandatory liability insurance. The certification of proper risk management systems would have to be undertaken by a credible and knowledgeable institution. The mandatory character of such an insurance, together with the fact that Nepal's active industries are not considered to be high risk, would result in low insurance rates through a wide base and no adverse anti-selection effects. Mandatory environmental liability insurance, requiring its own legislative process, might also require the development of an additional environmental liability law.

Agriculture Insurance Products

166. **Agriculture insurance should evolve from a pure indemnity product involving farm-level loss assessment to an index-based product.** Crop insurance products in Nepal involve an assessment of losses by the local agriculture technicians at the farm level, hence offering full indemnity to the farmers. While this approach is ideal in terms of client value, as volumes grow, farm-level assessments can prove to be highly costly as well as time-consuming. A large part of the risks to which agriculture is exposed are shared across farming districts. These can result in losses to many insured farmers at the same time, creating logistical as well as cost issues for loss assessments at the farm level. Moreover, farm-level assessments also involve a considerable human element, making them vulnerable to moral hazard. To overcome these issues, various jurisdictions across the world have progressively moved from multi-peril crop insurance offering full indemnity, to an area-yield index, and, ultimately, to weather-indexed insurance (Figure 5). There are, however, difficult trade-offs to be considered in this process. As countries move from pure indemnity-based products to index-based coverage, a significant reduction in costs, moral hazard, and claims-related disputes is bound to be achieved. On the other hand, moving in this direction will result in potentially increased basis risk and consequent dissonance among insured farmers, as well as added product complications due to potentially different underlying indices and triggers. In the

context of Nepal, the pure indemnity approach may very well be continued while volumes are low. As volumes increase, transitioning to other index-based approaches may become more desirable, but such a transition may not necessarily be easy. An area yield is statistically the best predictor of individual farmer yields, so this would be the most accurate index for an insurance product and would provide the best protection for farmers. It would, however, be the most expensive option because adequate yield information can be quite costly to collect, even if a random sampling method is adopted. A satellite-based contract would be much cheaper to administer, but is less accurate in predicting the outcomes for individual farmers and therefore offers less protection. Efforts to develop a satellite-based area-yield index have not succeeded so far in Nepal. A study conducted in this field concluded that the remote-sensing data do not predict yield shocks accurately, indicating that the data would not work as an effective index for an insurance product (Barre et al. 2015). Further technical studies may be needed to explore options for deploying improved remote-sensing technology. At the same time, efforts can also be made to develop combination products that offer indemnity-based coverage for small and idiosyncratic risks and weather-index-based coverage for shared and catastrophic risks on a mutually exclusive basis.

Figure 5: Evolution of Crop Insurance



Source: Asian Development Bank.

167. **Technology should be piloted to enhance agriculture insurance.** In the medium term, pilot projects can be carried out to develop a model that complements satellite-based remote-sensing technology with aerial imagery through drones, as well as ground-level monitoring through specially developed mobile applications. It is quite possible that, together, these three levels of imaging techniques may overcome the limitations discussed and result in a more effective area-yield index.

168. **Nepal might consider creating a common risk pool for agriculture.** The risk for crop and livestock insurance products is carried by the respective insurers. Arranging effective reinsurance in Nepal for these product lines could be difficult, and placing it in the international market may not be commercially viable. So, as volumes grow, insurance companies in Nepal may find it increasingly difficult to retain the risk for these products on their net account.

Moreover, insurers often lack the necessary expertise to handle underwriting claims for crop and livestock risks. Agriculture insurance is a highly specialized business and may require substantial investments in technology, actuarial skills, and agriculture risk management expertise. With all these factors in mind, it might be worthwhile for Nepal to consider creating a common risk pool for ceding all crop and livestock risks underwritten by individual insurers. The pool could be jointly funded by the insurance industry, the Government of Nepal, and multilateral agencies. Commercial banks and farmers' cooperatives could also contribute to the capital of this fund. In the medium term, the respective insurance companies could keep underwriting crop and livestock insurance and cede the entire risk into the pool. As the pool's capacity grows, it could slowly start introducing technological and procedural innovations to the product. It can start piloting various product and process innovations, such as moving from the input cost regime to the input cost-plus mechanism, the three-tier experimentation for area-yield index, and the combination product offering coverage on both an indemnity and index basis. Over the long term, the pool could evolve into a fully-fledged crop and livestock insurance company. Nepal has had a similar successful experience with its terrorism pool. Such a pool could invest in the development of dedicated expertise for managing comprehensive agriculture risk management products and be instrumental in making Nepal's agriculture sector more resilient and capable of achieving stable and sustainable growth.

169. **An agriculture insurance pool could provide underwriting capacity to increase the penetration of such insurance and help establish robust links with agricultural credit providers.** The constraints of agriculture insurance supply need to be overcome with a focus on major stakeholders' such as insurers, reinsurers, agricultural extension services, farmers' cooperatives, contract farming groups, and so on. There must also be significant technical capacity and policy support. As crop insurance necessarily relies on large volumes of risk exposure, it would be appropriate to develop greater capacity—ratemaking, climate modeling, agronomy, meteorological infrastructure, and product design skills—for the main types of crops. If well designed, a pooling in which commercial insurers participate could provide a series of benefits, such as risk aggregation, which in turn can create greater underwriting capacity with relatively stable premium rates. It could increase penetration of agriculture insurance and strengthen financial resilience among farmers. Design of such a pool would need to take heed of the following factors:

Product design. Product design and ongoing support are more efficient when a centralized pool gathers information and assesses insured farmers' needs. Insurance skill sets and capacity need to be developed for key agricultural crops and agro-business activities along the entire value chain, and in respect of important crops that are vulnerable to extreme weather events.

Information. The pool would provide a repository of crop, livestock, and weather-related exposure and loss data for the agriculture sector, supporting in-depth analyses. For example, the data could guide decisions on ratemaking, support analysis on production and marketing (including the impact of changes in fertilizer use and equipment), inform policy on linkages with supply chains and financing, and enable decisions on risk transfer and/or reinsurance.

Agricultural competitiveness. Improving agricultural competitiveness is increasingly necessary in integrated commodity markets. The rationale is strong for providing public support to poor households through agriculture insurance, not

only on equity and efficiency grounds, but also as a tool to sustain incomes in the aftermath of disasters and to incentivize investments.

Leverage. A pool could help ensure broader coverage and more favorable insurance terms for members, including by underwriting multiple perils, developing ratemaking capacity for selected crops and livestock breeds, and linking to credit institutions that lend at better terms (especially when supported by insurance coverage).

Customization. A pool could offer member services, including risk control, claims management, and training. For instance, the private sector and agricultural extension services could get involved in loss assessment and the development of customized assessment methodologies for individual crops.

Innovation. A pool could support the insurance industry's development and offer unique coverage, particularly with respect to efficient and cheap technology for indemnity and area-yield index products.

Flexibility. A pool could respond to the needs of individual insurers through deductibles, varying self-insured retention levels, and special coverage.

Subsidy policy. A pool could generate consolidated data useful to guide policy on subsidizing premiums.

Credibility. A pool could generate greater credibility than insurance products offered by individual companies through the involvement and engagement of key public sector stakeholders, e.g., the insurance regulator (for solvency assessment), meteorological services (for data support), provincial agricultural government departments (for land and yield records), and agricultural extension services (for support in loss assessment).

Pricing stability. A pool could offer greater pricing stability through standardized policy wording and the purchase of higher limits at a lower cost.

Control. A pool could allow greater government control of agriculture insurance, particularly if supported by a public–private partnership that plays a role in key decisions such as checks and balances on services and funding levels.

170. **The precise structure and objectives of the pool would need to be determined by the government and the private sector.** When designing the pool, several issues need to be addressed to ensure its success in supporting increased uptake of agriculture insurance:

(i) How should the pool be established, e.g., as an association of participating insurers, as an arm of the national reinsurer, or as a dedicated reinsurer?
(ii) What should the pool's governance and legal structures be, e.g., with regard to entity type, administration, and board composition?
(iii) What core principles are envisaged, e.g., the frequency of communications, treatment of surplus, availability of credit lines (if the pool runs a deficit), and supervisory relationship with the insurance regulator?

(iv) How should the insurance regulator support the pool?
(v) Should the pool function as an independent underwriter that also runs its insurance business?
(vi) In what ways could the pool foster product innovation?
(vii) What role should the pool play in the provision of public goods, e.g., as a data repository?
(viii) What role is envisaged for subsidy-related policy advice?
(ix) Should the pool be dissolved once private sector capacity is enhanced?
(x) Should the pool transform itself into an agricultural insurer?

Microinsurance Products

171. **Nepal has a strong case for enhancing and leveraging locally based financial service providers (FSPs).** The development of the microinsurance market for the low-income segment, especially in the remote rural areas, is fraught with substantial supply side challenges in terms of cost and credibility. Even after all the efforts to promote microinsurance through the Microinsurance Directive, a large section of Nepal's population remains excluded from basic insurance coverage for personal property, life, health, and income, and therefore remains vulnerable to risks, especially of the catastrophic kind. The following challenges have been cited by UK Aid in regard to developing microinsurance:

(i) lack of cost-efficient distribution channels,
(ii) lack of awareness,
(iii) supply-driven market,
(iv) lack of human resources and technical know-how at insurance companies,
(v) lack of adequate auxiliary services, and
(vi) lack of trust.

172. **All these challenges could be effectively addressed through a seamless alignment of mainstream insurers with local organizations, life insurance cooperatives, and microfinance institutions (MFIs).** The proliferation in Nepal of locally based formal and informal FSPs—such as the Savings and Credit Union Cooperative Societies (SACCOS) and MFIs in the formal market, along with savings groups, hundis, and moneylenders in the informal market—has been among the key drivers of financial inclusion in the country. While more remote FSPs—such as commercial banks, insurance companies, and retirement funds—face proximity barriers and lack an understanding of the dynamics of potential target markets, local providers have been able to reach the majority of the population (across rural and urban areas). They have filled the gaps created by the inability and unwillingness of FSPs to reach some markets, partly because they have local community knowledge. There are three types of action that could further leverage the existing reach of locally based FSPs:

(i) bolstering and enhancing the effective functioning of the FSPs, such as more effective utilization of SACCOS and other community based FSPs;
(ii) linking remote FSPs with local FSPs by directly providing products to the local provider, or by enlisting the local FSP as a partner or agent to distribute services; and
(iii) allowing remote FSPs to gain an understanding of viable business models for reaching a broader market base by observing the value propositions that the local FSPs offer (UNCDF 2014).

173. **While Nepal's formal banking sector has been able to align itself with local FSPs through instruments such as wholesale lending to MFIs and cooperatives, insurance companies have yet to tap this channel in any significant way.** Although the Microinsurance Directive of 2014 allows these local FSPs to become agents of insurance companies for distributing microinsurance products, it appears this has not happened in practice. Some of the cooperative federations and MFIs are already offering mutual insurance products to their members, and may not be interested in becoming microinsurance agents. A solution to this impasse my lie in formalizing these informal mutual insurance schemes, so they can be leveraged to increase microinsurance penetration among the market segments they have been catering to.

174. **A national financial inclusion strategy could augment the gains already made in this area by Nepal.** Formal and informal services put together, Nepal enjoys a reasonable level of financial inclusion, especially when compared with other lower-income countries. A more formal strategy would help to consolidate those gains and harness opportunities to expand inclusion and improve services. Formulating a national financial inclusion strategy could be an effective way to prioritize goals, balance the development of financial services to attain greater financial inclusion, and align the roles and expectations of regulators. A national strategy could help augment awareness on issues around financial inclusion, build up trust among various stakeholders, determine the best modalities for coordination, and ensure relevance at the national level. This would need to be a detailed public document developed through broad consultation with private and public sector stakeholders associated with finance sector development (Pant 2016). In particular, market development for microinsurance requires demand-side issues to be addressed, apart from developing cost-effective products. Many behavioral issues can impede people from adopting new financial products. For example, some people consider payment of premiums for insurance to be a loss rather than a necessary expense. To these people, paying for insurance amounts to choosing between a big but infrequent loss and a small but certain cost. In these cases, diminishing sensitivity to infrequent losses causes risk to be assumed (Howard et al. 2013). Behavioral economics have been able to explain these tendencies in detail with evidence-based research. The learnings from these studies could be translated into a comprehensive consumer education program, forming an integral part of the national financial inclusion strategy. The insurance industry, the government, and international agencies could contribute to the establishment of a formal consumer education framework to ensure that financial inclusion is expanded in a sustainable manner.

175. **The increased usage of digital financial services is crucial to expanding financial inclusion into areas of difficult terrain.** Technology plays a pivotal role in the process of financial inclusion and the potential of mobile banking has not been tapped to any great extent in Nepal. With deeper penetration of mobile technology, mobile banking has great prospects for increasing the accessibility of financial services for the poor, particularly in remote areas where the cost of establishing and maintaining bank branches is prohibitive. Likewise, digital payment systems offer a promising platform to expand financial inclusion among the unbanked. Such systems increase the speed of making payments and lower the costs of disbursing and receiving them. Digital financial services allow customers to transact instantly, in tiny amounts, and to better manage unpredictable income and expense streams. Digital channels reduce transaction costs, promote transparency, and increase access to formal financial services. In Nepal's case, digital financial services can become a game-changer for financial inclusion of low-income households as well as micro and small enterprises in the

country (Pant 2016). To encourage the adoption of digital financial services as a credible alternative to hard cash, the necessary digital infrastructure must be developed and this may present a significant challenge. Another challenge may be developing a business model that can be sustained on an initially low volume of digital transactions charged at minimal cost. While there are plenty of international models that could help to overcome such challenges, it may be the behavioral barriers of moving from cash to digital money that pose the most difficult issues in Nepal. Effective incentives and communications may therefore be required to change behaviors. Adoption of digital financial services can also enhance access to credit for micro, small, and medium-sized enterprises—a substantial credit market in Nepal—by moving from collateral-based lending to financing based on cash flow. Here, again, the strengths and outreach of local FSPs need to be leveraged.

Capital Market Products

176. **The Government of Nepal could take advantage of insurance-linked securities (ILSs) as an addition to its set of disaster risk financing (DRF) instruments.** While the current level of sophistication of Nepal's capital markets and the country's risk rating do not allow for an efficient introduction of ILSs for catastrophic risks, the government could still take advantage of such instruments. The appropriate instruments would be ILSs issued by AAA-rated entities and including as triggers the types of disasters that affect Nepal, such as earthquakes and major floods. The government could contribute to the risk premium of an ILS in exchange for access to the funds if the designated trigger events occur. Precise specifications of the trigger events and associated return periods would be defined depending on the risk appetite of global markets and the government's disaster protection needs (ADB forthcoming).

177. **Nepal's security market would benefit from awareness campaigns, including around rating requirements, and a gradual opening up to allow foreign securities.** The development of the Nepal Stock Exchange Limited will depend on how the country tackles the shortcomings described in para 157.

3.5 Social Protection

3.5.1 Existing Social Protection Programs

178. **Social Protection in Nepal is a relatively new phenomenon.** In 1994, the Government of Nepal started a cash transfer program for senior citizens above the age of 75, widows above 60, and people with disabilities. Different administrations have since tried to launch other types of social security schemes. Social security schemes in Nepal are administered by the Department of Civil Registration under the Ministry of Federal Affairs and Local Development. This department is now administering 11 cash transfer programs to different groups. Senior citizens, single women, and those from marginalized communities are entitled to receive social security benefits. In addition, various in-kind transfers, social insurance, skills training, and livelihood programs are also administered by various government agencies and other stakeholders. Social security beneficiaries receive cash every 4 months from the local government authority. In some cases, banks have been used to disburse social security payments, while in other cases a local government authority directly

disburses cash. The Government of Nepal is planning to identify and introduce identity cards to poor households in 25 districts, so that social protection and assistance programs can be better targeted (ADB forthcoming).

179. **The new federal structure for Nepal could enable faster disbursement of assistance to affected households.** With a federal structure of governance being implemented in Nepal, the district and provincial governments are likely to inherit powers to disburse social protection payouts, especially in the event of disasters. This has the potential to enable faster disbursement of assistance to affected households.

180. **The Government of Nepal introduced health insurance targeting low-income households in April 2016.** The Social Health Security Development Committee, under the Ministry of Health, has been managing this insurance scheme. It started with three districts in the first fiscal year and has since expanded to eight districts. The premium is NRs2,500 per year for a family of five, with an additional NRs425 for each subsequent family member. The total sum insured is NRs50,000, with an additional NRs10,000 for each subsequent family member. In addition to free hospitalization for in-patient treatment, the insured person also receives benefits from the out-patient department and for surgeries, medicines, and laboratory tests. Except in the case of emergencies, all hospitalization referrals have to be obtained through designated primary healthcare providers. The government also provides a subsidy on the premium: the extremely poor receive a 100% subsidy, poor people receive 75% and the marginalized get 50% subsidies. The subsidy is based on classifications by the government using identity cards distributed to the poor households. More than 630,000 people were enrolled in the health insurance scheme as of April 2018.[32] For FY2017, against premiums collected totaling NRs60.34 million, the total claims payout was NRs10.97 million (Ministry of Health 2017). The government plans to gradually cover Nepal's remaining districts with health insurance by 2021. So far, health insurance is voluntary in Nepal, but the government is planning to make it mandatory for some sections of the population, starting with government employees and migrant workers. This scheme being managed by the Ministry of Health is not subject to insurance regulations and is therefore not supervised by Beema Samiti.

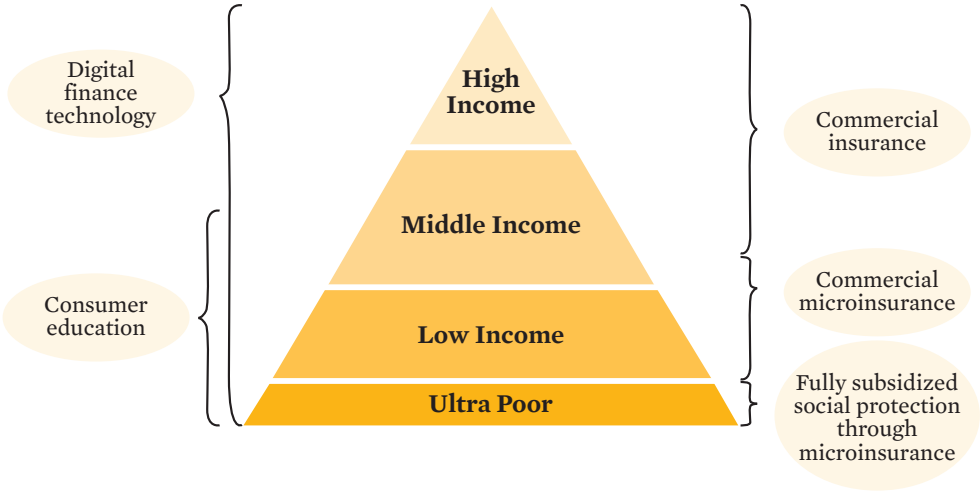
3.5.2 Diagnostic and Recommended Actions

181. **Develop a social protection strategy based on social insurance and microinsurance.** The cost of a disaster is disproportionately higher for households living on or below the poverty line, as compared to middle-income families. Compared to the rest of Nepal's population, low-income households are exposed to diverse risks that tend to be more frequent and have more severe effects on these households. Disasters aggravate this situation by inflicting potentially severe loss of life, homes, and livelihoods on low-income earners. Such losses can often lead to the distress sale of valuables, liquidation of any savings, and creation of high-cost indebtedness. All these consequences push poor households further into poverty. From a national perspective, such a situation exerts an added pressure on government finances in terms of post-disaster relief and the cost of addressing poverty. Any comprehensive strategy to address these issues should combine social protection through social insurance and innovative microinsurance products for households living on or below the poverty line, and by utilizing commercial insurance for households above the poverty line

[32] As listed on the website of the Health Insurance Board. For more information, visit www.shs.gov.nop.

(Figure 6). A similar approach has been adopted for the social health insurance scheme under the Ministry of Health, where insurance is offered at different levels of subsidy to various categories of disadvantaged households. Moreover, for crop and livestock insurance, a flat subsidy is available for all producers. This type of strategy could also be adopted for disaster insurance products designed to provide life and livelihood protection, where the categorized households also receive various levels of subsidy. The same products could be offered to middle-income households at market rates, while the microinsurance products developed under the Microinsurance Directive could be offered on the same basis. These approaches will help in generating scale to make social protection sustainable for insurers and to achieve a meaningful social impact in the event of disasters.

Figure 6: Combining Social Insurance and Innovative Microinsurance



Source: Asian Development Bank.

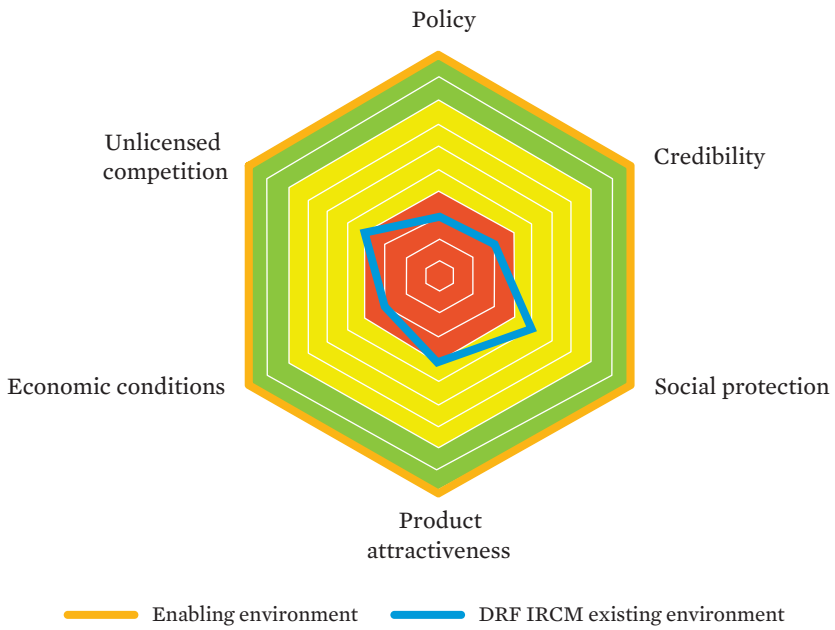
4

The Rating Summary and Recommended Main Actions

182. **In Nepal's context, an ideal scenario for insurance, reinsurance, and capital market solutions coincides with the achievable scenario.** Based on the insights gained by applying the diagnostics tool, no key differences were found between Nepal's ideal scenario and its realistic or achievable scenario for any of the six areas of relevance. The diagram presenting the ratings therefore shows only the current situation and the ideal scenario for the six areas of relevance (Figure 7).

183. For each of the areas of relevance depicted in Figure 7, the report study team has provided further explanation, identified gaps, and made recommendations to close those gaps.

Figure 7: The Rating Results for Nepal



DRF = disaster risk financing; IRCM = insurance, reinsurance, and capital market.
Source: Asian Development Bank.

4.1. Gaps in, and Recommendations for, Government Policy

184. The rating is in the red zone, implying an urgent need for action (sections 2 and 3.1).

185. *Main gaps identified:*

(i) Nepal only has an outdated macro assessment of disaster risk available, prepared in 2009 and covering only earthquake and flood hazard maps for seven rivers.
(ii) A detailed national hazard map (earthquake, flooding, and drought) does not exist.
(iii) The government has not taken up sovereign risk transfer mechanisms, with few public assets insured.
(iv) The reconstruction of houses damaged by the 2015 earthquake and its aftershocks has been delayed due to ineffective financing mechanisms.
(v) Important contributors to Nepal's economy, such as tourism operators and migrant workers, could benefit from effective insurance protection.
(vi) Enforcement of the building code, including expertise to comply with it, is lacking.
(vii) The complexity of agriculture insurance might require a pool structure.

186. *Main recommended actions to close the gaps*:

(i) develop a DRF strategy following the risk-layered approach;
(ii) develop a comprehensive register of all government-owned infrastructure and other assets, with up-to-date replacement values;
(iii) undertake an assessment of existing hazard and disaster risk data and modeling, and formulate an action plan to develop nationwide disaster risk models for key hazards, based on an open framework and open source approaches;
(iv) consider implementing universal coverage against catastrophic events (such coverage could follow an index insurance approach where the government would be the insured and, while retaining the first layer of risk, also be the party triggering the payout after declaring a calamity);
(v) consider the establishment of a multihazard catastrophe insurance pool, with Nepal Re as pool manager;
(vi) create a specialized lending facility, capitalized by the private financial sector and donors, to provide loans for the reconstruction of homes affected by the 2015 earthquake;
(vii) consider a tourism-indexed insurance product to support those dependent on tourism in the case of diminished tourism inflows due to catastrophe risk and other events;
(viii) include a disaster risk rider in the standard migrant workers insurance policy to avoid the need for salary advances in times of disaster;
(ix) implement vocational training programs for construction trades, include knowledge and understanding of the building code; and
(x) build on the current agriculture insurance scheme with a specialized pool structure and updated products to achieve sustainability and protect more farmers.

4.2. Gaps in, and Recommendations for, Credibility in the Insurance Sector and the Capital Markets

187. The rating is in the red zone, implying the urgent need for action (section 3.2).

188. *Main gaps identified:*

(i) There is very low awareness and understanding of insurance.
(ii) Regulation needs to be updated.
(iii) Mandatory cessions to Nepal Re could potentially reduce the quality of security being provided to the primary insurance market and raise the cost of coverage for consumers.

189. *Main recommended actions to close the gaps:*

(i) strengthen Beema Samiti by modernizing its regulation and supervisory approach through new insurance legislation, complemented by appropriate training for staff;
(ii) equip Nepal Re to take on a mandatory cession from the market to avoid creating systemic risk;
(iii) develop a customized insurance awareness program for disaster insurance; and
(iv) develop a consumer education strategy and framework to promote uptake of microinsurance and digital financial services.

4.3. Gaps in, and Recommendations for, Social Protection

190. The rating is in the yellow zone, implying a need for action (section 3.5).

191. *Main gaps identified:*

(i) Most of the responsibility for social protection of low-income households rests with the Government of Nepal.
(ii) There is untapped scope for enhancing the use of technology for improved efficiencies in social protection programs.

192. *Main recommended actions to close the gaps:*

(i) develop a comprehensive strategy combining social protection of households on or below the poverty line (through social insurance and innovative microinsurance products) with commercial insurance for those above the poverty line; and
(ii) conduct a comprehensive review of digital infrastructure in Nepal to enhance seamless and cost-effective digital payment systems (such an exercise may also reveal opportunities for public–private partnerships in the digital space).

4.4. Gaps in, and Recommendations for, Product

193. The rating is in the red zone, implying an urgent need for action (section 3.4).

194. *Main gaps identified:*

(i) Agriculture and livestock insurance would benefit from the use of technology.
(ii) Environmental liability insurance is basically nonexistent.
(iii) Insurance-linked securities (ILSs) are not available.
(iv) The earthquake product needs to be improved.

195. *Main recommended actions to close the gaps:*

(i) develop a hybrid agriculture insurance product with a combination of indemnity-based and index-based coverage;
(ii) introduce mandatory environmental liability insurance;
(iii) introduce ILSs as a DRF instrument; and
(iv) improve earthquake insurance products for low- and medium-income households (excluding the proportionality underinsurance clause would be an easy fix).

4.5. Gaps in, and Recommendations for, Economic and Other Preconditions

196. The rating is in the red zone, implying an urgent need for action (section 3.4)

197. *Main gap identified:*

(i) Around 26% of Nepal's households remain classified as poor. For this segment of the population, insurance has low priority because it competes with food, shelter, clothing, and other basic necessities.

198. *Main recommended action to close the gap:*

(i) With sustainable and equitable growth in the economy and corresponding growth in the purchasing power of the population, insurance will become more widely recognized as being important for the protection of lives, assets, and livelihoods.

4.6. Gaps in, and Recommendations for, Unlicensed Competition

199. The rating is in the red zone, implying the need for action (section 3.3).

200. *Main gaps identified:*

(i) There is significant potential to provide microinsurance through farmers' cooperatives.
(ii) The government's health insurance scheme is complex and needs to maintain its technical soundness.

201. *Main recommended actions to close the gaps:*

(i) initiate technical standards for the government's health insurance scheme in areas such as pricing and reserving requirements;
(ii) enable members of the microfinance network to become licensed insurance providers, with a suitable form of oversight to protect consumers;
(iii) enable farmers' cooperatives to become licensed insurers; and
(iv) explore the role that cooperatives could play in agriculture risk management, including in value chains.

4.7. Gaps in, and Recommendations for, the Public Sector

202. *Main gaps identified:*

(i) An updated assessment on the fiscal gap is not available.
(ii) Budget execution capabilities for disaster response are suboptimal.
(iii) DRF capacity in local governments is suboptimal.

203. *Main recommended actions to close the gaps:*

(i) conduct an updated assessment of the fiscal gap, similar to the 2009 assessment (this will guide the Government of Nepal in its disaster risk management and financing strategy);
(ii) take measures to enhance budget execution capabilities for disaster response; and
(iii) develop local government DRF capacity and support pilot programs in this area.

APPENDIX

Key Learnings from International Experience in Agriculture Insurance

1. Insurance should not be treated as a stand-alone solution, but as a package closely linked to wider risk management and adaptation efforts. These include social safety nets, early-warning and awareness-raising programs, disaster-proofing infrastructure, and investment in more sustainable livelihoods. Without a comprehensive response, there is a danger of creating a false sense of security, encouraging unwise risk-taking and a reluctance to adapt (Surminski et al. 2016).

2. There must be a sustained, predictable, and long-term financial support to pay the premiums for vulnerable countries (macro-level insurance) and individuals (micro-level insurance) noting that, in most rich countries, insurance (e.g., for agriculture or flooding) is heavily subsidized by the government (World Bank 2010).

3. Insurance is not efficient for many types of loss and damage, such as frequent catastrophic events (more than 1 in 5 years), slow onset phenomena, and social or cultural losses (Munich Climate Insurance Initiative 2012).

4. Agriculture insurance can only be fairly priced if reliable and granular data are available. Pricing with substandard data requires actuaries to put a credibility margin, thus adding to the costs of covering the claims a penalty for the uncertainty in the data.

5. Agriculture-related data are required for many government activities, like for food safety and security, land planning, etc. In addition, the costs to collect data can be very large, especially when looking at weather data. It has become a main activity for a government to collect agriculture and weather-related data to fulfill their obligations. The data collected by a government can be a good starting point to make data for insurance available. However, insurance pricing requires more granular data, including other aspects like average yield per land, etc. Dialogues and cost sharing between the public and the private sector on collecting data that are useful for both parties can be very beneficial for a country.

6. The need for reinsurance in an agriculture exposed to catastrophic risk is a reality. Only global reinsurers will have the capacity and ability to diversify the potentially large risks. Reinsurers will collect their data and use models to price their exposure. However, the data need to be complemented by local data. For instance, the availability of a dense set of weather stations is a requirement for some reinsurance programs. The need to develop this type of infrastructure is indispensable for reinsurance-supported agriculture insurance to progress.

7. By providing a layer of reinsurance, governments can support agriculture insurance programs over initial periods, when data sets are imperfect and while investments are being made in market data infrastructure (World Bank 2015). These governments can then offload the risk to reinsurance markets over time, as data quality improves and the coverage gap reduces.

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The Enabling Environment for Disaster Risk Financing in Nepal

Country Diagnostics Assessment

This country diagnostics assessment seeks to strengthen financial preparedness for disasters in Nepal, focusing on insurance and other risk transfer instruments. It explores the current application of disaster risk financing solutions by the government, businesses, and individual households; related demand and supply constraints; and opportunities for improvement. The assessment forms one of a series of country diagnostics undertaken using a common methodology to determine the state of the enabling environment for disaster risk financing.

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