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Crisis mitigation and resilience-building for the least developed countries

Report of the Secretary-General

Summary

The present report is submitted pursuant to General Assembly resolutions 70/294 and 71/238, in which it was decided that an in-depth analysis would be undertaken on crisis mitigation and resilience-building for the least developed countries, at the national and international levels, and would be submitted to the Assembly at its seventy-second session. In the present report, various shocks and their impacts on sustainable development in the least developed countries are highlighted; the current national, regional and international landscapes of various risk management mechanisms are reviewed; and recommendations are made for further action to strengthen the resilience of the least developed countries. Details are provided on how the international community, including developed and developing countries, the United Nations system and other international and regional organizations, are supporting and can deepen support for resilience-building for the least developed countries, and the ways in which various stakeholders, such as the private sector, civil society and academia, as well as local knowledge and community involvement, can contribute to resilience-building for the least developed countries through preparedness measures, the creation of employment, awareness-raising, the provision of insurance and other measures are examined.

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I. Introduction

1. The 47 least developed countries represent the poorest and most vulnerable segment of the international community. Extreme poverty, structural weaknesses, poor infrastructure and acute susceptibility to external shocks constitute a set of enduring challenges for those countries. Adverse effects of those challenges are compounded by a variety of systemic shocks, including economic crises, commodity price volatility, health epidemics, and natural disasters and other environmental shocks, which occur disproportionately in the least developed countries.

2. These shocks not only halt the pace of economic progress and exacerbate poverty, but also undermine the capacity of the least developed countries to achieve the 2030 Agenda for Sustainable Development. Thus, not only are those countries exposed to extreme shocks, but they are also severely affected by them, given their weak economies and poor resilience. It is therefore vitally important to reduce their vulnerability to economic, health and environmental shocks, including natural disasters and climate change, strengthen their resilience and enhance their ability to meet those challenges and others.

3. In this context, the Istanbul Programme of Action for the Least Developed Countries for the Decade 2011-2020 is aimed at helping the least developed countries to overcome their structural challenges in order to achieve the Sustainable Development Goals. One of the objectives of the Istanbul Programme of Action is to enable half of the least developed countries to meet the criteria for graduation by 2020, which include structural vulnerability to economic and environmental shocks. To achieve this ambitious goal would warrant sustained and inclusive economic growth in those countries, reducing their vulnerability to various shocks and crises and strengthening their resilience.

II. Multiple shocks in the least developed countries

4. All economies are subject to various systemic shocks. In the least developed countries, such shocks occur more frequently and cause greater economic instability than those in advanced and emerging market economies. According to the International Monetary Fund (IMF), the frequency of shocks increases sharply and monotonically as the income level of the country group decreases. In particular, large terms-of-trade shocks occur almost six times as often in poorer countries than in advanced countries.

5. The high frequency of external shocks in some least developed countries is due in part to their greater exposure to such shocks, as those countries often have topographies with geological fault lines (with the risk of earthquakes), floodplains and coastal areas at high risk of cyclones and typhoons. They are also subject to a greater degree of economic instability because they are predominantly dependent on primary commodities and less diversified exports. Primary commodity prices experience considerable short-term variability relative to the prices of other tradable and industrial goods. The least developed countries also rely largely on climate-dependent sectors, such as agriculture and tourism, for generating economic output and employment. Climate change and increasing globalization make the least developed countries vulnerable to external shocks.

A. Natural disasters in the least developed countries

6. The risk of natural disasters is a universal challenge. However, given their geographical vulnerability, limited fiscal and financial capabilities and various institutional weaknesses, the least developed countries remain the most vulnerable to natural hazards. In the World Risk Index 2016,[1] an analysis of 171 countries, it was found that 6 of the 15 countries that are most at risk are least developed countries.[2]

7. According to the EM-DAT International Disaster Database, in the past two decades (1995-2016), the vast majority (around 70 per cent) of natural disasters in the least developed countries were weather-related, owing largely to a continuous rise in the numbers of floods and storms. Of all weather-related disasters, flooding accounted for almost 40 per cent; it affected around 178 million people and was responsible for the deaths of more than 28,000 people. Storms (which include hurricanes, cyclones and storm surges) accounted for around 14 per cent of the total weather-related disasters in those countries. Storms affected over 40 million people and, despite occurring less frequently than floods, were responsible for the deaths of almost 155,000 people. A disproportionate burden of the deaths is borne by poorer countries and the least developed countries. As reported in 2015 by the Centre for Research on the Epidemiology of Disasters and the United Nations Office for Disaster Risk Reduction, although lower-income countries experienced about a quarter of all storms, the vast majority (almost 90 per cent) of storm-related deaths occurred in those countries.

8. Among recent major disasters and shocks in the least developed countries, Cyclone Pam, which struck Vanuatu in March 2015, affected two thirds of its population and damaged or destroyed much of the housing stock, causing around 65,000 people to be displaced from their homes. The tropical cyclone disrupted the food and water supply, cut off electricity and communications and forced many schools and medical facilities to close. The total economic cost of the effects caused by Cyclone Pam was estimated to be approximately $449.4 million, equivalent to 64.1 per cent of the country's gross domestic product (GDP).[3]

9. In April 2015, Nepal was struck by a devastating earthquake with a magnitude of 7.6, followed by more than 300 aftershocks with magnitudes greater than 4.0, including one with a magnitude of 6.8 two weeks after the initial shock. More than 8 million people, equivalent to one third of the population, were adversely affected. There were more than 9,000 casualties and 23,000 injuries. Over 500,000 houses were destroyed and more than 250,000 were partially damaged. In some areas, landslides and avalanches swept away entire settlements, which also contributed to the risk of flooding. Damage and losses were estimated at around one third of GDP,

[1] Prepared by the Alliance Development Works and the United Nations University, the World Risk Index examines the risk of each country becoming victim to a disaster resulting from an extreme natural hazard, where "risk" comprises exposure to natural hazards and the vulnerability of a society.

[2] The least developed countries deemed most at risk are Vanuatu, Bangladesh, Solomon Islands, Cambodia, Timor-Leste and Guinea-Bissau.

[3] International Monetary Fund, "With external support, Vanuatu's recovery builds on prudent past", 6 July 2015, available from www.imf.org/en/News/Articles/2015/09/28/04/53/socar070715a; and Vanuatu, Prime Minister's Office, *Post-Disaster Needs Assessment: Tropical Cyclone Pam, March 2015* (Port Vila, 2015).

which is more than 100 per cent of gross fixed capital formation. GDP growth for 2015, previously forecasted to be 4.6 per cent, dropped to 3 per cent.[4]

10. In October 2016, Hurricane Matthew cut a path of destruction across Haiti, causing widespread damage in the south-west of the country. The death toll from Hurricane Matthew was around 550. An estimated 2.1 million Haitians (more than 20 per cent of the population) were affected by the crisis.[5] In January 2010, a devastating earthquake with a magnitude of 7.3 struck Haiti, affecting around 3.5 million people, including the entire population of 2.8 million living in the capital, Port-au-Prince. The government estimate suggests that more than 220,000 people were killed and over 300,000 injured.

11. Densely-populated Bangladesh is highly disaster-prone and often affected by storms, floods and landslides. Between 2013 and 2015, riverine floods affected more than 4 million people and killed 90. The total damage from these flood occurrences was around $200 million. In June 2017, heavy rainfall and onrushes of water from upstream triggered a series of landslides and floods in Bangladesh. Torrential monsoon rains in south-eastern Bangladesh triggered heavy mudslides, which claimed at least 135 lives.

12. In 2015, Myanmar experienced its worst floods in several decades. The floods began in July and continued into September, affecting 12 of the country's 14 states, resulting in around 100 deaths and affecting up to 1 million people. The most severely affected sector was agriculture, which accounts for nearly one third of the country's GDP and a quarter of its merchandise exports. As a consequence, rice production suffered, domestic prices went up and exports plummeted.

13. The floods in Malawi in 2015 were the most devastating in terms of geographical coverage, severity of damage and extent of loss. While 15 districts were directly affected, the entire country suffered from the effects. The country suffered an estimated $335 million in damage, while the total cost of recovery and reconstruction was $494 million.[6]

14. Intense Tropical Cyclone Enawo hit Madagascar in March 2017, affecting around 500,000 people and destroying more than 40,000 houses. Cellule de prévention et gestion des urgences, an organization for the prevention and management of emergencies, and the World Bank estimated economic losses at around $400 million, corresponding to around 4 per cent of annual GDP. The agriculture sector recorded losses of $207 million. In the most affected areas, up to 85 per cent of planted subsistence crops were lost.

15. In 2016, Ethiopia faced one of the worst droughts in decades, contributing to a loss of $1.4 billion (2.5 per cent of GDP) and a serious shortage of food owing to failure of successive harvests.[7] Around one tenth of the population — over 10.2 million people — were in dire need of food, while around 0.5 million children needed treatment for severe acute malnutrition. Furthermore, more than 1.7 million

[4] Nepal, National Planning Commission, *Nepal Earthquake 2015: Post-Disaster Needs Assessment (Vol. A: key findings)* (Kathmandu, 2015), available from http://www.moudclpiu.gov.np/public/filesmanager/30.pdf; and "Mid-term review report of the Istanbul Programme of Action", March 2016.

[5] Food and Agriculture Organization of the United Nations, "Haiti: Hurricane Matthew situation report — 16 March 2017", March 2017. Available from www.fao.org/emergencies/resources/documents/resources-detail/en/c/852828/.

[6] Malawi, "Malawi 2015 floods post-disaster needs assessment report", March 2015.

[7] United Nations, "State of the least developed countries 2017: follow-up of the implementation of the Istanbul Programme of Action for the Least Developed Countries", 2017.

children, pregnant women and lactating women were in need of supplementary feeding.[8]

16. The humanitarian situation in Somalia is deteriorating rapidly. Out of 14.3 million Somalis, 6.7 million are acutely food insecure and in need of humanitarian assistance as of May 2017. Of those, 3.2 million are expected to face crisis and emergency levels of food insecurity.

17. In South Sudan, between June and July 2017, in addition to the approximately 45,000 people estimated to be facing a humanitarian catastrophe, an estimated 1.7 million people are likely to be facing a food security emergency, one step below famine.

18. With an estimated 17 million people in "emergency" or "crisis" levels of food insecurity, Yemen is experiencing one of the worst hunger crises in the world.

B. Economic shocks and commodity price volatility

19. The economic and financial crises of 2008 had little initial impact on the least developed countries, as those countries had limited linkages with global financial markets. However, as the financial crisis deepened, it brought about a sharp reduction in global output and trade and a rapid decline in commodity prices, both of which adversely affected the least developed countries. The impact of the global economic shocks, combined with that of natural disasters, is particularly harsh for some of the most vulnerable island least developed countries.

20. The flow of foreign direct investment into the least developed countries, as well as the growth of remittances, declined during the crises. As unemployment in the advanced countries increased as a result of the financial crisis, there was a significant decline in the demand for migrant labour, thereby slowing down the flow of remittances to labour-exporting least developed countries.

21. As the fiscal positions of all advanced economies deteriorated, there was significant pressure to reduce official development assistance budgets. Although the impact of the global economic crisis on the least developed countries was multidimensional, it affected different countries in distinct ways, depending on the structure of their domestic economies as well as their degree of global integration and aid dependence.

22. After rising dramatically for almost a decade, the prices of all commodities began to decline from the second half of 2014. This sharp price fluctuation affected the least developed countries differently, depending on their commodity dependence. In general, growth was more resilient in countries with more diversified commodity export portfolios.

23. Of the 47 least developed countries, 39 are commodity-dependent, with at least 60 per cent of their revenues coming from commodities and relying on only one or two commodities. Angola, Yemen and South Sudan derive at least 97 per cent of export earnings from commodities. There is a very strong association between commodity prices and GDP growth in developing countries, with a correlation coefficient of 0.79. When commodity prices are high, the countries usually do well in terms of economic growth, and vice versa. The shocks in commodity markets should be considered seriously because they could be devastating for many of the least developed countries.

[8] United Nations Children's Fund, "Ethiopia humanitarian situation report No. 7", 19 May 2017.

24. Food price volatility has important consequences for livelihoods, and especially for hunger and poverty. The impact depends on the net selling position of a household. High food prices are of significant concern in poor countries because the poorest have been shown to usually spend three quarters of their budget or more on food. There are also macroeconomic consequences for low-income food-importing countries. These are all significant obstacles to development.

25. At the macroeconomic level, the low commodity prices experienced in recent years, in particular those of fuel, led to slow growth, fiscal imbalances, dwindling foreign reserves and currency depreciation. The fuel-producing least developed countries, in particular Angola, Chad, Equatorial Guinea, South Sudan and Yemen, were adversely affected by the decline in oil prices. Growth also decelerated in a number of commodity exporters, including Zambia and Mozambique. Compounding the effect of commodity price shocks, Chad, South Sudan and Yemen, as well as other least developed countries, were subject to elevated domestic political uncertainties. In Chad, the depletion of oilfields exacerbated the negative effects of low oil prices on output.

26. Many of the least developed countries are now less well situated to cope with commodity price shocks than they had been prior to the global financial crisis, owing to the erosion of their fiscal policy buffers.

C. Pandemic shocks

27. In recent years, there have been outbreaks of a number of pandemics, including HIV/AIDS, avian influenza, severe acute respiratory syndrome and Ebola virus disease. The Ebola epidemic had a devastating impact on the economies of three of the least developed countries: Guinea, Liberia and Sierra Leone. According to an analysis conducted by the World Bank, the countries were expected to lose at least $2.2 billion in forgone economic growth in 2015 as a result of the epidemic.[9] The outbreak of the virus eroded consumer and investor confidence and disrupted travel and cross-border trade in the region.

28. Managing pandemic risk is an important challenge for the least developed countries as it requires robust investments in public health systems for detection, diagnosis and rapid response. However, these investments are woefully insufficient in the least developed countries owing to severe resource constraints.

III. Consequences of disasters and shocks

29. Disasters and shocks entail multiple socioeconomic consequences in the least developed countries. In a highly interconnected and globalized world, the spillover effects of disasters and shocks often reach beyond the territory of the country concerned and may have an impact on the peace, security and stability of the country and the region.

30. Natural disasters often cause the loss of lives and the destruction of capital, such as productive assets, property and infrastructure, which interrupts or slows down the production process and adversely affects the prices of essential goods. In the least developed countries, natural disasters expose the poor to a multitude of risks and threaten the loss of livelihoods and food security as a result of disruption in food production and supply. When confronted with such risks, poor people have few risk management mechanisms at their disposal. The establishment of coping

[9] See www.worldbank.org/en/topic/health/brief/world-bank-group-ebola-fact-sheet.

strategies and risk management tools by poor people are often detrimental to their productive investment, affecting their ability to generate increased income in the future and to improve their well-being in the long term.

31. In most of the least developed countries, formal social protection systems are weak or almost non-existent. Poor and vulnerable people have to rely mostly on informal and group-based coping mechanisms. However, these informal safety nets are ineffective and insufficient in the face of large covariate shocks.[10] Thus, without a comprehensive social protection system, the vast majority of the poor must decrease their food consumption. This in turn reduces their productivity and increases their vulnerability to longer-term malnutrition and both physical and psychological illness. Some families reduce education expenditures and send their children to work rather than to school. Additionally, many families curtail their health expenditures, which makes them more vulnerable to health risks.

32. Natural disasters and other shocks also lead to a decrease in government revenue and an increase in expenditure on account of emergency relief, reconstruction work and social welfare. This leads to a significant increase in the budget deficit. When a natural disaster leads to a sharp increase in the fiscal and current account deficits, it is likely to result in a rise in price level and interest rates, along with an appreciation of the real exchange rate. However, none of those outcomes are automatic, as much will depend on government policies, private sector expectations and the response.

33. Most of the losses in the least developed countries are uninsured, and governments do not have the financial reserves or access to contingency financing that would allow them to absorb losses, recover and rebuild quickly. At the same time, countries with large budget deficits are usually unable to divert funding to absorb disaster losses and therefore need to use other mechanisms, including taxation, national and international credit, foreign reserves, domestic bonds, aid and risk financing instruments. All of those elements either are difficult to realize or have negative consequences.

34. In some cases, natural disasters attract increased inflows of foreign assistance, especially when they occur in high magnitude, but this is often offset by a decrease in development assistance in subsequent years.[11] The disaster relief assistance is also fragmented, which poses difficulties in managing the flows.

IV. Emerging international consensus

35. There is now broader global awareness of the danger of multiple crises that threaten the development prospects of the least developed countries. This is reflected in the agreements that the international community has adopted in recent years, which are set to build resilience against risks and achieve sustainable development.

36. The 2030 Agenda for Sustainable Development was adopted to take bold and transformative steps towards improving lives by achieving sustainable development and leaving no one behind. Through the 2030 Agenda, the international community

[10] Covariate shocks (community shocks, such as natural disasters or epidemics) are shocks in which neighbouring households suffer to a similar degree. Idiosyncratic shocks (household-level shocks, such as death, injury or unemployment) are shocks in which one household's experience is unrelated to that of neighbours.

[11] *Building Resilience to Natural Disasters and Major Economic Crises* (United Nations publication, Sales No. E.13.II.F.3).

has agreed to provide focused and scaled-up assistance to the least developed countries.

37. The Paris Agreement under the United Nations Framework Convention on Climate Change provides an action plan to put the world on track and, inter alia, avoid dangerous rises in temperatures, which affect the least developed countries the most. Parties to the Paris Agreement set a global goal on enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response. The parties also agreed to take action and extend support for the resilience of communities, livelihoods and ecosystems and to engage in building the resilience of socioeconomic and ecological systems, including through economic diversification and the sustainable management of natural resources.

38. Through the Sendai Framework for Disaster Risk Reduction 2015-2030, the aim of which is to achieve a substantial reduction in disasters and loss of lives and livelihoods, Member States reiterated their commitment to address disaster risk reduction and foster capacity-building and resilience with a renewed sense of urgency. They also committed to link the framework to the 2030 Agenda and to integrate, as appropriate, both disaster risk reduction and resilience into policies, plans, programmes and budgets at all levels. The Sendai Framework also outlines the need to further strengthen disaster preparedness for emergency response, including by integrating disaster risk reduction and mitigation into national policies and programmes, taking early action in anticipation of crises and ensuring that capacities are in place for effective response and recovery at all levels.

39. The Addis Ababa Action Agenda addresses various sources of finance and covers cooperation on a range of issues, including technology, science, innovation, trade and capacity-building. It also recognizes the fact that the past successes and future prospects of the least developed countries are threatened by a host of economic and environmental risks and underscores the need to ensure resilience in the face of such external shocks.

40. The Istanbul Programme of Action highlights the vulnerability of the least developed countries to a variety of shocks and disasters, as well as climate change. It elaborates on a set of priority areas for action, including building the resilience of the least developed countries to withstand natural hazards and economic shocks and mitigate their adverse effects, and strengthening the ability of those countries to cope with climate change, enhance sustainable growth and protect biodiversity.

41. In the Political Declaration of the Comprehensive High-level Midterm Review of the Implementation of the Istanbul Programme of Action, it was reiterated that the high vulnerability of the least developed countries requires strengthened international cooperation and ensuring genuine, durable regional and international partnerships to improve their resilience. The importance of adopting and implementing national and local disaster risk reduction strategies and plans aimed at preventing and reducing risks and strengthening economic, social, health and environmental resilience was highlighted. It was also emphasized that building resilience at the national level, as well as the subnational, community and individual levels, is critical to sustaining hard-won development gains and accelerating progress towards achieving the development goals set in the Istanbul Programme of Action, as well as those in the 2030 Agenda. The design of appropriate policies for crisis mitigation and resilience is therefore critical to achieving sustainable development in the least developed countries.

V. External shocks and risk management by actors

A. Households and communities

42. Households adopt various risk management strategies to cope with external shocks, including the use of savings, credit, asset sales, additional employment and migration, and assistance from friends, family and community members. Use of savings is a common coping strategy, but requires a degree of ex ante preparation.

43. Migration, both internal and international, has become a common coping mechanism in most of the least developed countries, particularly among rural households. Remittances tend to rise in times of economic downturn and natural disasters, as migrants abroad send more money to meet their families' emergency needs in their countries of origin. This can break down, however, if the shocks are global or affect the migrants' host countries, causing them to lose their jobs or income.

44. Informal insurance through communities and families is frequently the only form of coverage available to poor households in the least developed countries. However, these informal coping and insurance mechanisms generally do not provide adequate risk management and therefore need to be complemented by comprehensive social protection mechanisms from local authorities and national Governments. The 2030 Agenda recognizes the importance of universal social protection in mitigating the impacts of shocks, both at the macroeconomic and household levels.

B. Private sector and civil society organizations

45. It is now increasingly recognized — as reflected in the Sendai Framework — that the private sector and civil society organizations can play an important role in supporting Governments in both risk management and emergency response.

46. A small portion of the private sector, in particular major firms operating in the formal sector, is covered against shocks through insurance, contingency plans and access to credit, among other things. There may also be an opportunity for the private sector, in risk management industries such as insurance, research and development, and others, to play a key role in crisis prevention and mitigation. The private sector can also play a significant role in a number of risk reduction measures, including through compliance with land-use planning and building codes and other resilient infrastructure protocols. Public-private partnership in insurance and risk transfer can also be an important element in risk reduction strategies.

47. The involvement of civil society organizations in risk reduction activities has proven to be beneficial for a number of reasons. These organizations can respond faster and more efficiently to local priorities and build on local capacities. They are often also good interlocutors for vulnerable people affected by crises.

C. The State

48. States have a central role to play in crisis mitigation and resilience-building. Their risk management frameworks need to cover a continuum from preventive measures and resilience to risk preparedness and post-disaster recovery, in line with the Secretary-General's vision on prevention.

1. Ex ante preparations for risk reduction

49. The ex ante risk reduction framework has four distinct components. The first component relates to the identification of risks and social vulnerabilities. The second component relates to risk mitigation, which includes structural and sectoral reforms with regard to land planning, the strengthening of building codes, investments in retrofitting buildings and the construction of dams in drought-prone areas. The third component relates to risk preparedness, which includes early warning systems, contingency planning and public training on risk prevention. The fourth component relates to financial preparation with two distinct dimensions: self-insurance, which entails the accumulation of savings and foreign reserves in normal times from which to draw in the event of a natural disaster, and risk transfer.

50. Self-insurance, which entails the intertemporal transfer of resources, can have a high social opportunity cost, as it requires contingency provisioning and the diversion of scarce resources from investments in physical and social infrastructure to building reserves. On the other hand, risk transfer entails the purchase of commercial insurance that transfers risks externally to capital markets and investors. Commercial insurance is also the best mechanism for reducing the costs of natural disasters and provides rapidly available capital for reconstruction. As the level of insurance penetration in a country increases, the output and welfare losses experienced by the country as a result of natural disasters tend to decrease. However, even for developed countries, insurance penetration remains limited.

51. For the least developed countries, indemnity-based commercial insurance is not available for most natural disasters, as the market is simply non-existent or insufficiently developed. This market failure is usually attributed to two principal reasons. First, natural disasters pose high covariant risks leading to prohibitively high premiums. Second, insurance involves dynamic incentive issues for the Government. A Government today may purchase insurance but the benefit may accrue in the future when the Government that procured the insurance is not in power. In addition, Governments are typically not blamed for natural disasters, which are considered to be circumstances beyond control. All of those elements make disaster insurance a low priority for many Governments.

52. In recent years, the emergence of more efficient risk-sharing procedures that use capital markets to spread the exposure over a larger number of investors in catastrophe bonds has been seen. These multi-year bonds, which are inherently risky, are sold to a dispersed set of investors. They are issued by the insurance company or the Government through investment banks. The proceeds from the bonds are then invested in risk-free securities, with the spread between the two situations representing the recurring cost of insurance. If a catastrophe does not take place, the insurance company or the Government (the issuer) pays a coupon to the investor. On the other hand, should a catastrophe occur, it would set off the "parametric triggers". These triggers are based on easily verifiable parameters measured by technology in real time.

53. The National Smallholder Farmers' Association of Malawi, in close collaboration with the World Bank, developed an index-based crop insurance contract in 2005 that utilizes rainfall data and provides cover for outstanding agricultural loan amounts for farmers in the event of a drought. The basis of the contract is the correlation between rainfall, as measured by weather stations, and crop yields. When a covered drought occurs, rainfall levels drop below historical levels and payments under the contract are made to the financial institution offering the agricultural loan to write off the farmers' debt. The insurance has been offered through the private insurance market in consortium with the involvement of the

Insurance Association of Malawi. This increased access has, in turn, allowed farmers to invest in higher yield and higher return activities.

54. There is also evidence of successful multi-country risk pooling to hedge against various shocks and crises. The Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company is the world's first multi-country risk pool that is based on parametric insurance, and has been providing parametric catastrophe insurance for Caribbean Governments since 2007. It offers hurricane, earthquake and — since 2013 — excess rainfall coverage. The company operates as a not-for-profit organization and currently provides its products and services to 17 Caribbean and Central American countries. Unlike indemnity insurance, the company's parametric insurance products are insurance contracts in which payments are made on the basis of the intensity of an event and the amount of loss caused by these events, which is calculated using a pre-agreed model. The company represents a cost-effective way to pre-finance short-term liquidity to begin recovery efforts for an individual Government after a catastrophic event, thereby filling the gap between immediate response aid and long-term redevelopment. Since its establishment in 2007, the company has made 22 payouts to 10 member countries totalling around $70 million. All payments were made within 14 days. Haiti, the only least developed country in the Latin America and Caribbean region, is a member of the company and receives financial support after being affected by natural disasters.

55. Building on the Caribbean experience, similar insurance schemes are at various stages of development in the Pacific and in Africa. Initiated in 2013, the Pacific catastrophe risk insurance pilot is a regional risk-pooling facility for the Pacific island countries, including two of the least developed countries, Solomon Islands and Vanuatu.

56. In May 2014, African Risk Capacity Insurance Company Limited (a financial affiliate of the African Risk Capacity, a specialized agency of the African Union) launched a catastrophe insurance pool for Africa to improve responses to climate-related food security emergencies. Eight countries have taken out insurance contracts with the company.[12] It plans to expand its coverage against droughts, floods and cyclones to 30 countries by 2020, which would include virtually all of the African least developed countries.

57. Parametric insurance does not, however, mean automatic success, which is contingent on a number of factors. First, further expansion of this type of programme depends on client education and outreach activities. Lack of understanding and literacy about insurance can lead to resistance to its purchase. Second, effective index-based weather insurance contracts require timely, reliable and high-quality data and weather station networks, which may not be available in many of the least developed countries. Third, index-based weather insurance is not a panacea. Weather insurance has a limited role in managing the wide spectrum of risks and serves as a first step, but the insurance programmes must cover multiple risks related to agricultural production.

58. The above caveat notwithstanding, experience suggests that in most countries that are exposed to significant natural disaster risks, government investment in disaster prevention can be highly effective in averting high post-disaster expenditures for relief and reconstruction. It is therefore important to make the difficult choice about an optimal mix between government investments in pre-disaster risk prevention and post-disaster relief and reconstruction.

[12] Including least developed countries such as the Gambia, Malawi and Mali.

2. Ex post risk reduction strategy

59. The ex post risk management agenda needs to strike a balance between development and economic stability. While the former would require the mobilization and efficient allocation of public investments, the latter would require the creation of macroeconomic buffers for "self-insurance" against future external shocks, whether economic or natural. The exact balance depends on individual country specificities. Furthermore, the important elements of the ex post risk reduction agenda ought to include a number of policy innovations.

60. Fiscal policy needs to support public investments to build up resilience in social and physical infrastructure, subject to the availability of fiscal space. Monetary and financial policies should be targeted at the provision of affordable credit to enhance production in agriculture and manufacturing.

61. Lastly, it should be noted that formulating efficient macroeconomic policy or implementing efficient risk management requires robust institutions and analytical capabilities that may not exist in many Governments of the least developed countries. This lacuna partly explains why the recovery process from an external shock may be somewhat more delayed in the least developed countries.

VI. Review of selected tools and mechanisms

62. United Nations system agencies are playing specific roles in risk mitigation and resilience-building against various types of shocks and crises in their respective fields of competence, including the United Nations Development Programme, the United Nations Children's Fund, the secretariat of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, the Inter-Agency Secretariat of the International Strategy for Disaster Reduction, the World Food Programme, the World Health Organization (WHO) and a number of other entities.

63. The multilateral development banks, both global and regional, are uniquely positioned to further advance the global disaster risk mitigation agenda. In addition to integrating risk consideration into their own operations, these banks have the opportunity to use their convening power to build strategic partnerships between Governments, donor agencies, civil society and the private sector. They are now developing a wide array of financial and non-financial mechanisms and tools to build disaster and climate resilience. In addition to enhancing the flexibility and speed of their ex post efforts, multilateral development banks now offer investment and policy-based loans, grants, technical assistance and knowledge services for ex ante support.

64. The Global Facility for Disaster Reduction and Recovery is a financing mechanism that is focused exclusively on disaster risk reduction. It was launched in 2006 to support the implementation of the Hyogo Framework for Action, and is funded by 43 national Governments (from developed, emerging and developing countries) as well as 9 international organizations. The Global Facility is managed by the World Bank on behalf of the participating donor partners and other partnering stakeholders. Its business model emphasizes disaster risk reduction on the basis of ex ante support for high-risk countries and ex post assistance for accelerated recovery after a disaster. The World Bank Global Expert Team on Disaster Risk Management provides high-quality, rapid advisory support to Governments.

65. The Disaster Risk Financing and Insurance programme is a partnership between the Global Facility and the World Bank to improve the financial resilience of governments, businesses and households against natural disasters. It is the leading

partner of developing countries seeking to develop and implement comprehensive financial protection strategies. The programme supports governments in implementing comprehensive financial protection strategies by bringing together sovereign disaster risk financing, agricultural insurance, property catastrophe risk insurance and disaster-linked social protection programmes.

66. The eighteenth replenishment of the International Development Association (IDA), with funding provisions of around $75 billion, can expand financing to promote resilience through crisis preparedness and response, including through its Crisis Response Window. In addition to a proposal to scale up support under the Window, options to adjust the financing terms are being considered for countries where natural disasters cause significant damage and, when warranted, a change in a country's debt distress risks in the aftermath of a disaster. The replenishment also contains options for contingent financing for crisis preparedness and response by introducing the catastrophe deferred drawdown option for IDA countries.

67. IMF plays an important role in facilitating resilience-building in the least developed countries against external shocks, including commodity price shocks. The Fund also plays a limited but vital role in disaster recovery by providing emergency financing and policy support to the affected country. The Rapid Credit Facility provides rapid financial support without conditionality in a single, up-front payout to low-income developing countries[13] with urgent balance of payments needs, including from commodity price shocks, natural disasters and domestic fragilities, and offers repeated disbursements over a limited period in case of recurring or ongoing balance of payments needs.

68. Other key post-shock instruments in the global shock-financing portfolio include trade finance (for example, the guarantees of the International Finance Corporation that cover the payment risk in trade transactions) and central bank swap lines, which have been used extensively since the global financial crisis as a means for central banks to obtain foreign currency to boost reserves, ease liquidity constraints and increase on-lending to domestic banks and corporations.[14]

69. At the sixteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, the Green Climate Fund was established with a view to raising climate finance of $100 billion per year by 2020. Access to Green Climate Fund resources to undertake climate change projects and programmes is limited to accredited national, regional and international entities. There are mechanisms to address urgent and immediate needs for climate change adaptation in the least developed countries, known as national adaptation programmes of action. As of November 2016, approximately 231 such projects had been implemented with funding from the Green Climate Fund and the Least Developed Countries Fund, total cumulative donor pledges to the Least Developed Countries Fund amounted to $1.22 billion and total paid contributions amounted to $1.12 billion.

70. The pandemic emergency financing facility has been developed by the World Bank Group in collaboration with WHO, and offers coverage to all countries eligible for financing from IDA. The facility has two windows: an "insurance" window of $425 million consisting of bonds and swaps, which covers the cost of the premiums and bond coupons; and a "cash" window to complement the insurance window and provide more flexible funding to address a larger set of emerging pathogens that may not meet the activation criteria for the insurance window. The

[13] An IMF category of countries.

[14] Council on Foreign Relations, "Spread of the central bank currency swaps since the financial crisis", 2015. Available from www.cfr.org/international-finance/central-bank-currency-swaps-since-financial-crisis/p36419#!/.

insurance window was opened in July 2017 and the cash window will be operational in early 2018.

71. The Contingency Fund for Emergencies was established by the World Health Assembly in May 2015 following a review of the WHO response to the 2014 Ebola crisis. The Fund is designed to provide funding during a critical gap, from the moment the need for an emergency response is identified to the point at which resources from other financing mechanisms begin to flow. The Fund addresses the whole cycle of health emergencies: preparedness; response and recovery; and support for local communities and national Government efforts. The Fund is to be financed through flexible voluntary contributions and is replenished through reimbursement from beneficiary WHO country offices or through new direct contributions.

VII. General review of existing arrangements

72. There are a number of specific measures, initiatives and tools available at the national, regional and global levels for crisis mitigation and resilience-building. However, the current disaster risk arrangements suffer from various weaknesses and shortcomings. Many of the least developed countries cannot afford to develop modern multi-hazard early warning systems at the national and regional levels. National strategies are often fragmented and unable to respond to unpredictable shocks and crises of a greater magnitude. The national policies and strategies are also underfunded owing to weak financial and technical capacities of the countries. Some countries have enacted comprehensive risk reduction strategies but have failed to undertake corresponding regulatory reforms and institutional and human capacity-building and to mobilize the necessary financial resources, technology and technical know-how.

73. It is also noteworthy that many of the least developed countries are struggling to meet their ongoing development needs while maintaining their current account balance, making it difficult for them to adopt and implement countercyclical macroeconomic policies. Many of the countries also lack a “resilience fiscal framework” based on a robust cost-benefit analysis, which tracks the allocation and expenditure towards reducing risks and achieving resilience. For many of the countries, the capital market is either non-existent or poorly developed, which disincentivizes capital-market-based risk financing tools and products.

74. The multilateral risk reduction strategies have also proven to be insufficient for the least developed countries. Some of the programmes and tools, particularly those tailored to those countries, are alleged to have inadequate funds for their growing needs. Some of the other global mechanisms governed by the multilateral development banks require cumbersome administrative procedures and regulatory reforms, which constrain the least developed countries in obtaining fast-tracked access, as this United Nations category of countries is not recognized by the international financial institutions and some United Nations system agencies. The least developed countries also face enormous difficulties in preparing the complex and technical proposals to gain access to various funds because of their capacity constraints.

75. The weak capital market, poor credit ratings and sometimes a lack of adequate regulatory regimes impede the least developed countries in introducing weather-related derivatives and insurance with low premiums. Those factors also constrain them in taking regional-level risk insurance measures.

76. In view of the above, the Political Declaration of the Comprehensive High-level Midterm Review of the Implementation of the Istanbul Programme of Action underscores the urgency of finding additional solutions to the major challenges facing the least developed countries in a concerted manner. It was recognized in the Political Declaration that the way forward for crisis mitigation and resilience-building requires that coordinated, balanced and integrated actions be taken at all levels, including through the strengthening of existing initiatives, with the aim of building the resilience of the least developed countries in overcoming their vulnerabilities.

VIII. Conclusions and recommendations

77. A resilient economy is a prerequisite for long-term sustainability, which enables a country to adapt to shocks swiftly and recover from their impacts without affecting development. It is therefore vitally important that all countries, in partnership with other actors, work together to further strengthen and implement concrete measures at the national, regional and international levels to build and strengthen the resilience of the least developed countries against various shocks, reduce risks and enhance sustainable growth in line with the 2030 Agenda for Sustainable Development and the Istanbul Programme of Action.

Multi-stakeholder resilience-building mechanism

78. Given the depth, breadth and complexity of challenges that the least developed countries have been facing in the context of disasters and shocks, there is no silver bullet that can address all of them. Therefore, the international community may consider establishing a comprehensive multi-stakeholder resilience-building mechanism for the least developed countries by leveraging existing measures and initiatives. The mechanism, which would entail a number of measures to be established or revitalized, as appropriate, at the national, regional and global levels, would cover the response to various types of disasters and shocks. This will enable those countries to save lives and money, speed up response times and bring more predictability and rigour to the global response to shocks and crises.

79. National-level initiatives can be focused on appropriate national policies and programmes; flexible and countercyclical macroeconomic policies; strong and dynamic social protection programmes; multi-hazard early warning systems; the diversification of production and access to global and regional value chains; labour productivity through education, training and technology; investment in resilient infrastructure; research and development; state contingency funds; and the hedging of risks through market-based disaster risk financing, such as different types of bonds, derivatives and options.

80. Regional and global initiatives include bringing expertise and knowledge to the least developed countries; establishing or strengthening composite, integrated and multi-hazard early warning systems at the regional level; introducing weather index insurance or parametric insurance; making available the standing capacity at the regional and global levels necessary to extend financial and in-kind support and a pool of volunteers; securing fast-tracked and easy access to various risk mitigation and resilience-building funds at the regional and global levels; and making available adequate bilateral financial and technical support for ex ante and ex post measures in the least developed countries.

National leadership and ownership

81. Crisis mitigation and resilience-building requires strong national leadership and ownership that can result in national strategies for preparedness and comprehensive service delivery mechanisms. Governments need to put in place appropriate policies to avoid the incidence of crises, where possible, and to efficiently adapt to the magnitude of the impacts. The policies should include technical, organizational, economic and social dimensions, as well as safety and security guidelines, protocols and standards for building critical infrastructure and the provision of high-quality maintenance. Ensuring the resilience of new and existing critical infrastructure would require that it remain safe, effective and operational during and after disasters in order to provide life-saving and essential services.

82. The promotion of climate-smart agriculture, which combines soil and water management, crop rotations and fertility control, will improve productivity and increase resilience in adapting to climate change with little impact on water resources. Significant investments need to be made by governments and donors on extension services and training efforts, with a particular focus on women and youth in rural areas.

83. Access to modern technology and knowledge is vitally important for building resilience, including resilient infrastructure, communications and industries. Autonomous innovations are crucial to build the agricultural sector and value chain networks so that they are highly buoyant against disasters and shocks. Research and development in disaster-resistant crops, tropical diseases and public health services can make significant contributions to resilience against the impacts of shocks and crises.

84. A country needs to enact an appropriate macroeconomic policy framework to create fiscal buffers against shocks. This framework should include: (a) a countercyclical fiscal policy with provisions on financial buffers for "self-insurance" to accumulate adequate resources during booms and to spend them during downturns; and (b) a flexible monetary policy to facilitate and regulate borrowing with a view to improving financial inclusion, preventing speculative activities and supporting productive investment.

85. There is also the need to strengthen other shock absorbers, including social protection measures and a strong domestic financial system. Fiscal policy needs to support public investments to build up resilient social and physical infrastructure. Importantly, the fiscal space in the least developed countries can be increased by improving domestic resource mobilization, exploring public-private partnerships with adequate measures for ensuring access and financial risk-sharing, enhancing the efficiency of public expenditure and creating an environment to promote foreign direct investment without engaging in damaging tax competition or lowering environmental or labour standards.

86. It is important for the least developed countries and their creditors to incorporate some of the contingencies directly into their sovereign debt contracts, so that when disasters and shocks occur, countries are able to postpone their payments or reduce them during recovery. State-contingent debts link contractual debt service obligations to a predefined State variable, such as GDP. GDP-linked bonds ensure that when a country's GDP is reduced, so too are the principal and interest payments on its sovereign debt.

87. The least developed countries also need to boost production, diversify exports and increase social sector spending for health, education and social safety nets, as

appropriate, which support the most vulnerable rapidly and efficiently in times of crisis.

International cooperation

88. At their current level of development, the least developed countries need support for resilience-building, including risk transfer mechanisms that could significantly reduce the fiscal burden on Governments. Those countries require increased international assistance, both technical and financial, from donor countries, multilateral development banks and financial institutions to build their resilience and gain access to capital-market-based risk transfer mechanisms in the form of insurance and catastrophe bonds, among others. They also need support to implement nationally appropriate social protection systems for all, including social protection floors, which will enable them to prevent further slides in income, consumption and economic growth and arrest the upsurge in poverty.

89. Traditional sources of finance can supplement the specific measures to hedge against various shocks and crises. Official development assistance and the leveraging of blended finance through public-private partnerships can bolster the resilience-building activities of the country. Depending on the magnitude of the crisis, debt moratoriums and debt swaps can also release resources for reconstruction and the rebuilding of infrastructure.

90. Sharing best practices and lessons learned is vitally important for capacity-building in taking appropriate measures against shocks and crises. Many countries have succeeded in effectively addressing risks and shocks through various measures and tools that other countries can implement. The Economic and Social Council can provide a credible platform for dialogue in order to exchange views among Member States and other stakeholders in this regard.

91. There are many disasters and crises that affect a number of countries simultaneously or have cross-border effects. The most efficient approach to these types of disaster is regional cooperation in managing risks across frontiers or reconstruction in the event of a cross-border disaster. The cooperation can take place in the form of early warning, data-sharing, risk financing and knowledge- and technology-sharing.

Addressing risks through various tools

92. Efforts could be made to widen the existing multi-country insurance mechanisms to include the least developed countries or to introduce similar mechanisms in those countries on a global, regional or subregional basis, as appropriate. Catastrophe insurance policies require a country to pay a premium that may be prohibitively expensive for the least developed countries. It will be necessary for developed countries and international organizations to provide initial capitalization to help reduce the cost of the premium for the least developed countries. The Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company and other agencies can assist in developing the country's risk profile, developing necessary instruments and procedures and securing donor commitments.

93. There are some risks that may not be concentrated in one country, subregion or even region. It is therefore important to go beyond the regional approach by exploring the possibility of diversifying the risks globally and by identifying a place in which this risk can be managed globally. That place has to be an international organization able to provide reinsurance, such as the World Bank or another organization that reinsures global risks.

94. Parametric catastrophe insurance requires extensive environmental data as well as sophisticated modelling technology. Most of the least developed countries do not have access to this information or the technical capacity to design parametric insurance programmes; technical assistance therefore needs to be provided to them to overcome those deficiencies. Information gathered by programmes should be shared internationally and should be made available through a clearing house, as these data can benefit multiple insurance programmes. International institutions can act as the clearing house to facilitate data-sharing and an exchange of technical best practices.

95. Since the least developed countries remain extremely vulnerable to the threat of pandemics, with very limited capacity to address them, they need special arrangements and support to deploy ex ante preventive measures and to afford ex post curative or remedial measures. They need to develop a comprehensive public health architecture with efficient humanitarian actors at the national level and beyond, as appropriate, from which all of their citizens can benefit. Development partners, including international financial institutions, can contribute to this architecture by investing in strengthening public health systems, improving coordination in an emergency and extending funding support to the neglected areas of research and development. Some recent initiatives of the World Bank and WHO, such as the pandemic emergency financing facility, are steps in the right direction. It is vitally important that humanitarian and development actors work together in line with the Secretary-General's vision on prevention, the sustaining peace agenda and the new way of working.

96. Lastly, there is an urgent need to improve global economic governance to prevent financial crises and strengthen regional and global financial safety net measures to deal with them when they do occur. This will mitigate the need for countries to accumulate reserves for self-insurance with large social opportunity costs.