PDNA
POST-DISASTER NEEDS ASSESSMENT
DRF
DISASTER RECOVERY FRAMEWORK

Macro-economic impact

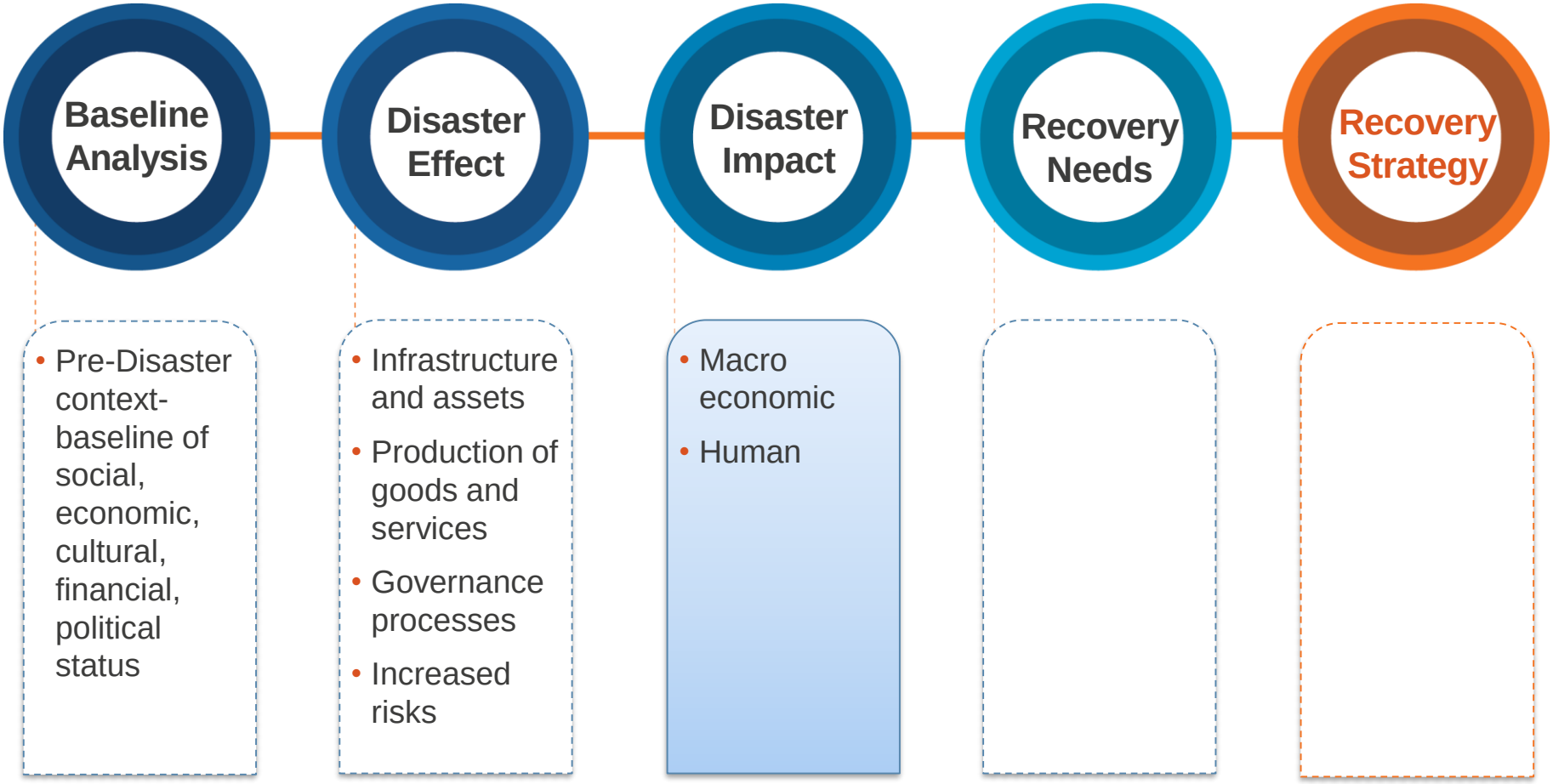
WORLD BANK GROUP

GFDRR
Global Facility for Disaster Reduction and Recovery

Objectives of this session

- Appreciate the differences and complementarities between the economic and human impact assessments
- Identify key macro economic variables for the economic impact assessment
- Analyse examples of past economic impact assessments

The PDNA Process



Differences and Complementarities: macro-economic and human impact assessments

A GAP analysis undertaken at the national and regional levels for all sectors and all social groups

1. Economic Impact

Measures the temporary macroeconomic imbalances as well as temporary decline in employment, income and well being of affected individuals and households

2. Human Impact

Represents the disruption of the population's normal livelihoods and income, as well as the access to basic commodities and social services.

The Macro-economic Impact

The **damages** and the **losses** caused by any disaster may have an impact on the value and growth of the economy of the affected country.

This depends on the extent of the affected area, and the economic value of the effects in the specific sectors.

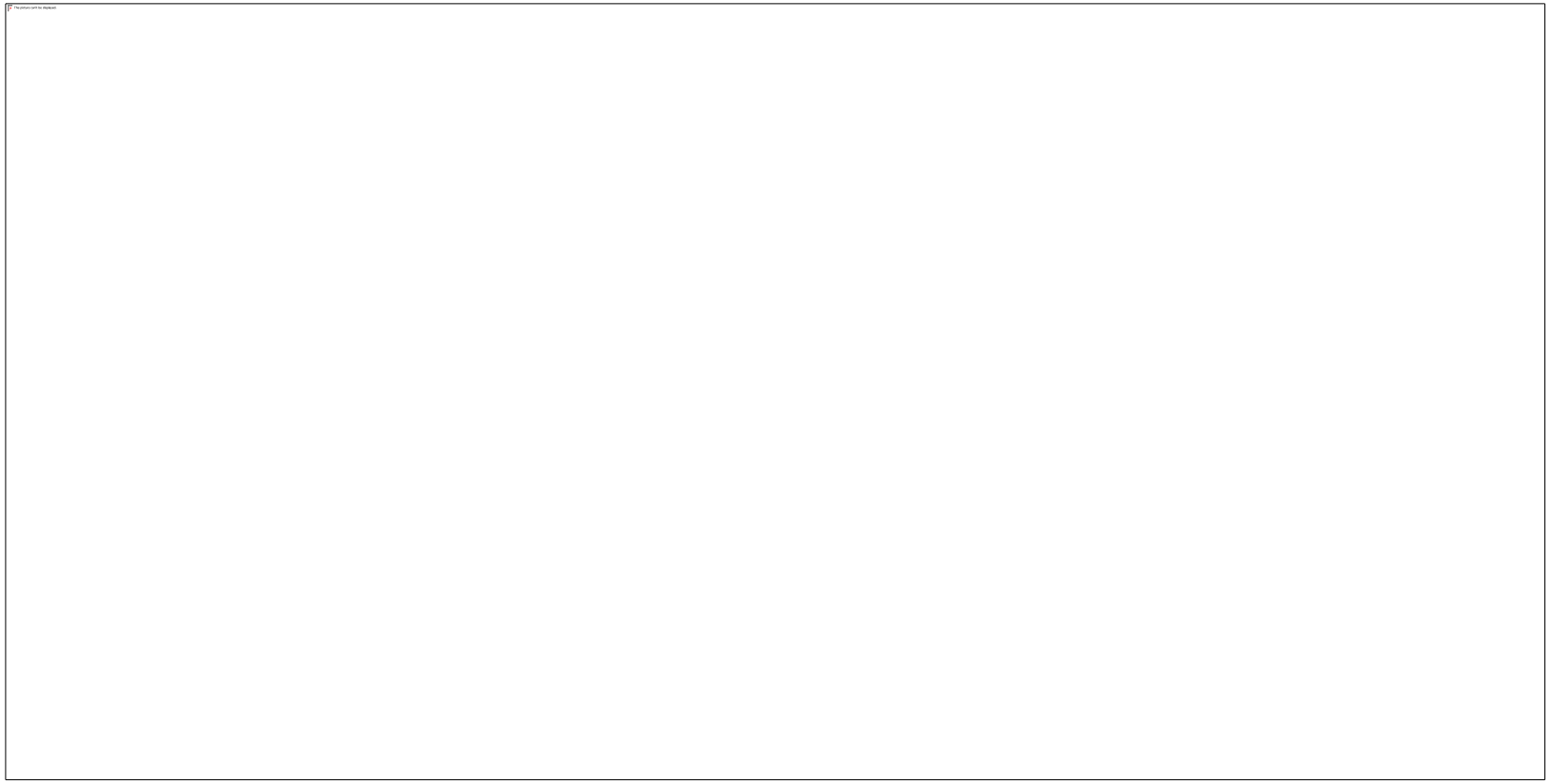
Macro-economic Variables Analyzed

The macroeconomic impact analysis is done by **comparing**:

- National account statistics of economic performance **(GDP)**.
- **External effects** (balance of payments, imports, exports): estimating the possible increase in imports and the decline of exports in each sector of analysis, as well as possible reinsurance payments from abroad and relief donations.
- **Public finances** (tax revenue and expenditure and fiscal deficit): estimating increased expenditures associated with higher operational costs and recovery-related investments and repairs vs. lower revenues. Combination of a decline in tax revenues and an increase in spending will put pressure on the fiscal balance in the medium term.
- **Price fluctuations** estimated through consumer's price index or inflation.

Examples: Disaster Impact on GDP

It has been observed that after a disaster GDP growth tends to decline but then increases due to, among others, recovery interventions…



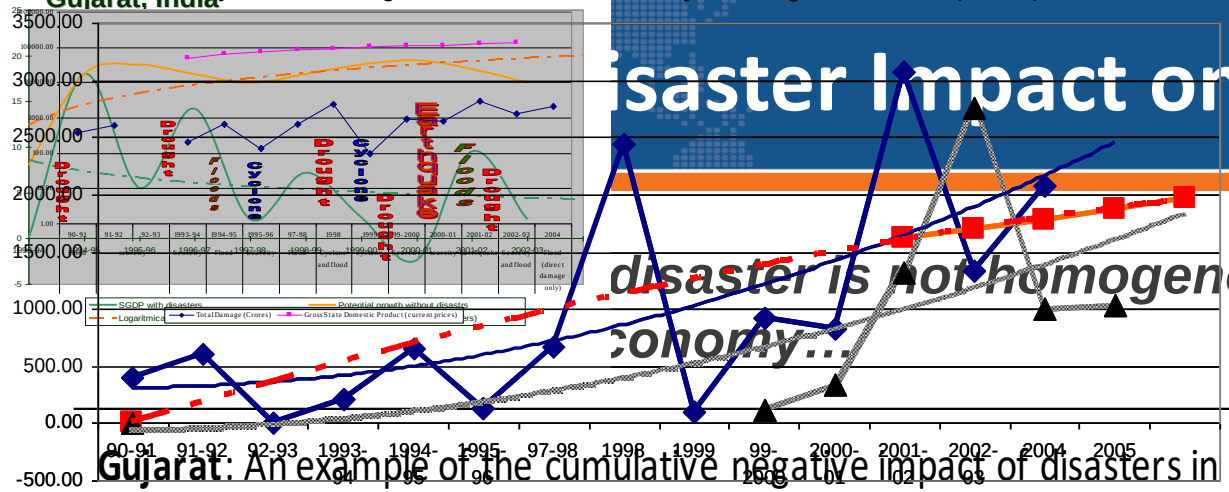
Hurricane Mitch (1998), Honduras

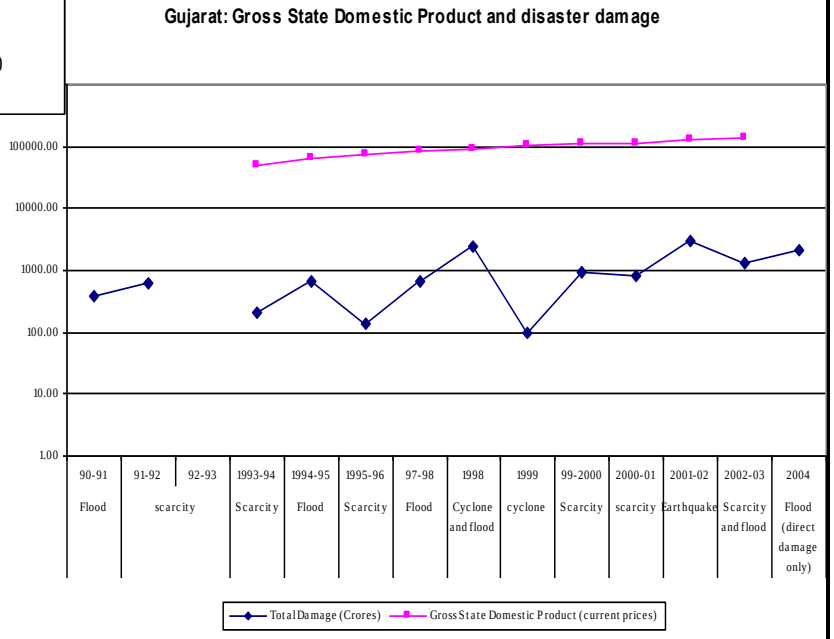
Impact of disasters on GDP: State of Gujarat, India

Disaster Impact on Sectorial GDP

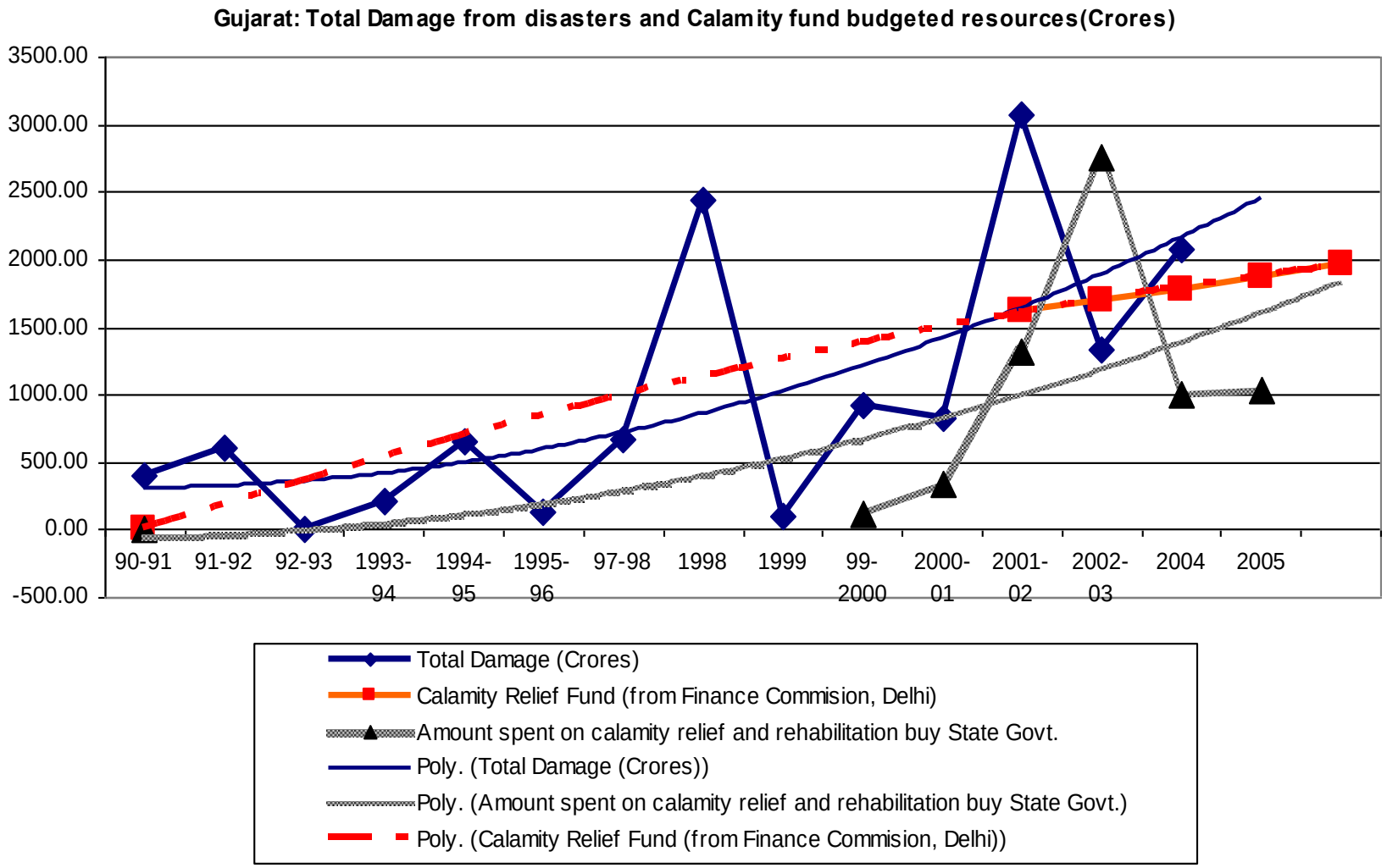
disaster is not homogenous across different economy…

Gujarat: An example of the cumulative negative impact of disasters in the State of Gujarat:





Gujarat: Economic impact flows over time



Nepal: Disaster Impact

After a disaster numerous macoeconomic indicators suffered alterations

The economic activity has been the hardest hit specially real estate, renting and business services, with annual growth projection revised downwards from 4.8 percent to 0.8 percent .

The earthquakes have further sharpened the rate of decelerated growth from the pre-earthquake growth estimate of 4.6 percent. Post-disaster pre- liminary estimates show that the impact of the earthquakes is expected to wipe off over 1.5 per- centage points off GDP growth rate.

Nepal: Macroeconomic impact

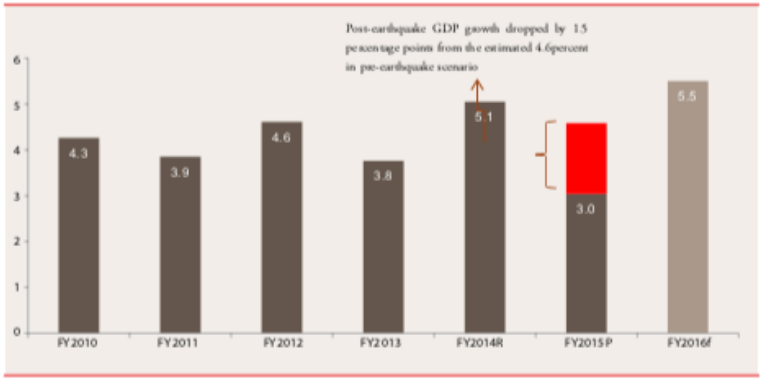
NEPAL EARTHQUAKE 2015: POST DISASTER NEEDS ASSESSMENT • VOL. B: SECTOR REPORTS

TABLE 23.1: MACROECONOMIC INDICATORS[52]

	FY2014 (actual)	FY2015 (pre-quake)	(FY2015 post-quake revised estimate)	FY2016 (projected)
Output and prices				
GDP (constant, basic price, NPR million)	669,980 (US$6836.53)	700,667 (US$7113.37)	690,349 (US$7008.62)	728,318 (US$7283.18)
GDP growth rate (percent) (basic prices)	5.05	4.58	3.04	5.50
GDP (current, basic prices, NPR million)	1,736,022 (US$17714.51)	1,924,705 (US$19540.15)	1,893,994 (US$19228.37)	
GDP (current market prices, NPR million)	1,941,624 (US$19812.49)	2,161,175 (US$21940.86)	2,124,650 (US$21570.05)	2,422,101 (US$24221.01)
CPI inflation (percent)	9.1	8.0	7.5	8.5
Fiscal indicators				
Total revenue (NPR million)	356,840 (US$3641.22)	422,900 (US$4293.40)	390,000 (US$3959.39)	460,810 (US$4608.10)
Tax revenue (NPR million)	311,800 (US$3181.63)	374,710 (US$3804.16)	349,000 (US$3542.15)	412,310 (US$4123.10)
Non tax revenue (NPR million)	45,040 (US$459.59)	48,190 (US$489.23)	41,000 (US$416.24)	48,500 (US$485)
Expenditures (NPR million)	434,420 (US$443.06)	618,000 (US$6274.11)	494,000 (US$5015.23)	840,000 (US$8400)
Money and credit				
Broad money (NPR million)	1,565,970 (US$15979.29)	1,815,755 (US$18434.06)	1,816,520 (US$18441.82)	2,143,490 (US$21434.90)
Growth rate (percent)	19.1	16.0	16.0	18.0
Private sector credit (NPR million)	1,150,825 (US$11743.11)	1,349,100 (US$13696.45)	1,335,120 (US$13554.52)	1,588,790 (US$15887.90)
Growth rate (percent)	18.3	18.0	16.0	19.0
External sector				
Exports (million NPR)	100,960 (US$1030.20)		94,900 (US$963.45)	95,850 (US$958.50)
Growth rate (percent)	17.4		(6.0)	1.0
Imports (NPR million)	696,370 (US$7105.82)		752,710 (US$7641.73)	889,960 (US$8899.60)
Growth rate (percent)	27.2		8.1	18.2
Grants and loans (NPR million)	69,650 (US$710.71)		62,860 (US$638.17)	108,730 (US$1087.30)
Growth rate (percent)	45.5		(9.7)	73.0
Remittances (NPR million)	543,300 (US$554.39)		589,470 (US$5984.47)	627,790 (US$6277.90)
Growth rate (percent)	25.0		8.5	6.5
Balance of Payments (NPR million)	**127,130 (US$1297.24)**		**71,380 (US$724.67)**	**35,260 (US$352.60)**

[52] Exchange rate used in this section is as follows: US$1=NPR98 for FY2014; US$1 = NPR98.47 for FY2015 and US$1=NPR100 for FY2016

FIGURE 23.1: GDP GROWTH (BASIC PRICES)



Source: CBS

Note 1: R (Revised); P (Projected); f (forecast)

torium by the government on building construction; and dearth of a skilled workforce available for reconstruction and rehabilitation activities for the remaining part of the fiscal year are few identified channels that will contribute to lower GDP growth during the remaining fiscal year. The services sector contributes the most to GDP growth (Figure 23.2). Furthermore, standard national accounts do not yet value the size of the household 'care economy', traditionally largely upheld by women in Nepal. However, women's role in the economy is increasing over the years – the share of women's paid employment in the non-agricultural sector has more than doubled, from just under 19.9 percent in 2009 to 44.8 percent in 2011. Amidst growing migration of men of working age, the share of women's paid and unpaid work is only likely to grow in the aftermath of the earthquakes.

AGRICULTURE

Pre-earthquake

The agriculture sector accounts for about one-third of GDP and is an important driver of

Economic Impacts of the Reconstruction (Preliminary Findings)

Preliminary projections of the 'general equilibrium' effects of reconstruction using the National Planning Commission's Computable General Equilibrium (CGE) model for Nepal[53] shows that reconstruction will not merely be about building infrastructure, but will also alter the structure of the economy. Real Gross National Income (GNI) will increase because of international transfers; real GDP increases because of the 'multiplier' effect of the additional income being spent in the country. There will be reallocation of resources, especially into construction, inducing a transfer of the factors of production away from other sectors by raising their wage and rent. Consequently, the cost of production in other sectors, especially tradables, will rise, possibly hurting export competitiveness. However, modelling results indicate that the private sector will acquire additional capital stock during reconstruction which can help sustain modest growth beyond this phase.

[53] The Computable General Equilibrium (CGE) model under development at the National Planning Commission (NPC) is titled General Equilibrium Model for Nepal and the World (GEMNW).

Example: Disaster Impact on Public Finance

Disasters alter the fiscal position of governments…

Changes in Government Spending		Pre-Disaster	Estimated Disaster Losses	Post-Disaster
Central Government Spending	**Tax Revenues**			
	In Million US$	*74.2*	*-22.1*	*52.1*
	As a Percentage of GDP	*0.40%*	*-0.12%*	*0.28%*
	Expenditures			
	In Million US$	*-97.2*	*-14.2*	*-111.4*
	As a Percentage of GDP	*-0.52%*	*-0.08%*	*-0.60%*
	Total	**-23**	**-36.3**	**-59.3**

Micro-economic Impact

- Analysis of impact on **personal or household** well-being: includes an estimation of **employment loss and income decline** due to the losses sustained in the productive and services sectors, as well as higher than normal family or personal expenditures.
- Attempt to estimate the impact on personal and household well-being is a **challenge** in contexts where productive activity is undertaken through the **informal sector, subsistence farming and unpaid family and reproductive work** (child-bearing/rearing responsibilities; domestic tasks often mainly performed by women).

The micro-economic impact analysis should be used when doing the human impact assessment.

Key take-away

- The disaster impact assessment has two complementary components:
  - The **macro-economic** impact
  - The **human impact**
- The macro-economic impact assessment measures the **temporary macroeconomic imbalances** along four main variables: Economic performance, external effects, public finances and price fluctuations.
- An **specialized team** undertakes the macro-economic analysis based on the damage and loss estimates provided by the sectors.
- The **micro-economic impact** of disaster is taken into **account by the human impact assessment.**


Questions?
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