

*Part 2 —***Learning Objectives**

- Understand how economic analysis can be applied in a disaster situation to identify policy options on a case by case basis
- Understand some of the economic differences between different types of disasters
- Increase your ability to devise interventions for different types of disasters

General multi-sectoral disaster

Earthquakes, volcanic eruptions, and tropical storms cause:

- death and injuries
- damaged and destroyed assets
- inadequate local supplies
- insufficient foreign exchange to purchase all needed imports
- damaged physical and market infrastructure
- disruption of marketing activities

Resulting in:

- reduced personal income
- large proportion of labor force unemployed
- decreased exports
- increased imports
- decreased government revenues and increased government expenditure



Questions

- Are there services and assets that should not be replaced?
- Can functions be transferred to the private sector?
- Which economic development programmes should be designed?
- How will basic services be provided during reconstruction?
- Which assets need to be replaced first?
- Which incentives and regulations are necessary to ensure mitigated construction?
- Which subsidies and credit schemes are required to finance private sector recovery?

Disasters caused by economic mismanagement

Conditions

- overvalued currency
- cheap imports
- excess government expenditures
- increasing poverty
- limited production incentives
- shortages of goods and services



Structural adjustment strategies

- promoting market-oriented economy
- rehabilitating growth in key sectors
- removing infrastructural bottlenecks
- strengthening national economic management
- raising government revenues
- cutting government expenses
- implementing comprehensive social policies



Structural adjustment planning guide

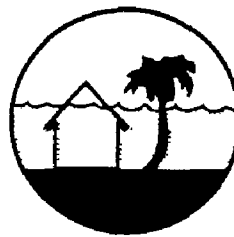
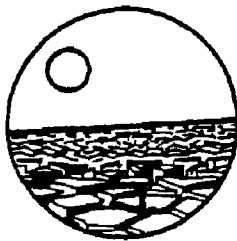
Key areas of structural adjustment	Timetable for priority actions									
	Year	1	2	3	4	5	6	7	8	9
1. Macroeconomic stabilization										
2. Price and market reform										
Price reform										
Goods and services										
Trade reform										
Distribution										
Labor market deregulation, wage bargaining										
Banking system										
Other financial and institutional markets										
3. Ownership reform										
Restructuring, demonopolization, privatization										
Small scale private sector development										
Revision of foreign investment regulations										
4. Reform of state responsibilities										
Tax reform, property and commercial law										
Institutional, macro, budget, regulatory reforms										
Unemployment insurance, other safety nets										
Other emergency, long term social areas										



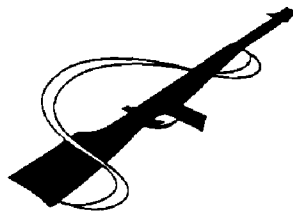
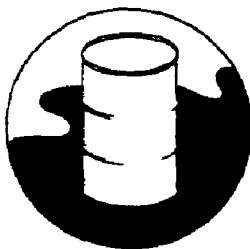
Some policy targets in structural adjustment

- flexible and realistic monetary exchange rates
- effective interest rates
- tax rates which promote export
- prices which promote production and a return on investment
- public utility rates which cover costs of providing service
- an efficient and appropriately staffed civil service
- reduced publicly owned and controlled enterprises
- social programmes which protect vulnerable groups during transition

Displaced populations and refugees



Natural causes



Human-made causes



Strategies to settle people

- repatriation
- local settlement
- resettlement

What are the economic consequences?

Disasters resulting from food insecurity

- inadequate price and trade regime
- inadequate domestic production
- insufficient foreign exchange to purchase imports
- relief food is not long-term solution
- household income levels inadequate for market prices
- hidden pockets of vulnerability



Key questions for policy review

- What crops can be produced?
- Local consumption or export?
- How much can be produced?
- How can imports be limited?
- What prices result in profit for farmers?
- What costs should be involved in establishing prices?
- Self sufficiency or self reliance?
- Largescale farming or smallholder production?



Disasters involving environmental challenges

- earthquake-mitigated construction
- dams and other flood-control devices
- sea walls
- others?



The case of the Maldives

- 1200 small islands in the Indian Ocean
- 25% of population on one island and increasing population pressure
- reclaimed land
- vulnerable to high tides
- a sea wall proposed by outside consultants



The alternatives

1. Should Male be the only island to be protected?
2. Should the other islands be developed and protected?
3. Is it better to pay for expensive mitigation investment, or take a chance that global warming will not occur?
4. Should Maldives become grant dependent on a single country?
5. Do the advantages of surrounding Male with a sea wall outweigh locating the wall at selected sites?



The alternatives *(continued)*

6. Should Male's population pay a specially introduced tax or insurance premium to contribute to the cost of the mitigating investment?
7. As tourism is now the main foreign exchange earner, (superseding tuna fishing and exporting), should mitigation projects be financed by a tax on tourism?



Summary

- Disasters are unique events
- Each situation has its own internal dynamics and potential solutions
- Each situation can inspire alternatives
- Each alternative has its own set of consequences
- The role of economic analysis is to help decision-makers be as informed as possible about options and their outcomes

*Part 3 —***Learning Objectives**

- Describe eight different types of creative financing tools that can be used to enhance disaster recovery and pay for recovery project financing
- Identify some of the counterproductive aspects of various creative financing tools



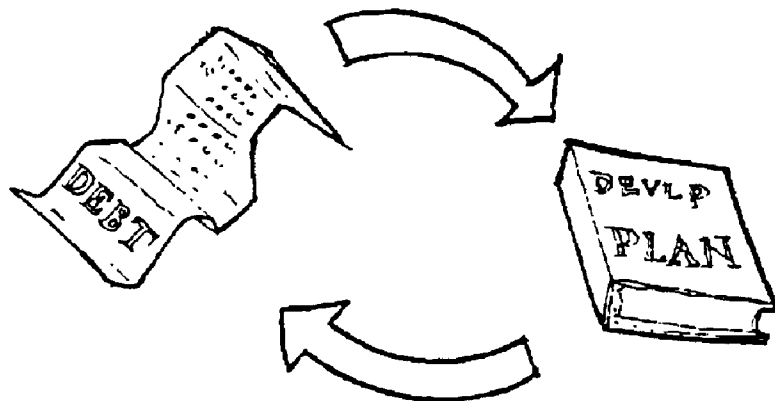
Types of creative financing

- debt swaps & blocked funds
- trust funds
- triangular food aid
- disaster insurance
- revolving funds
- central bank assistance



Debt swaps

- Commercial bank debt is purchased at discounted rates
- Debt instrument is transferred to NGO or international agency
- Debt is repaid in local currency at a favorable conversion rate
- Proceeds are used to provide programme funding
- Desirable government policies are implemented





A debt swap in Bolivia

- Conservation International buys US\$650,000 of Bolivian debt at 85% discount
- Conservation International agrees to cancel debt in exchange for government agreement to:
 - Protect 4 million hectares of forest and grasslands
 - Create an operating fund to manage area
 - Establish national commission to implement environmental programme
 - Administer the operating fund in collaboration with a Bolivian NGO



Problems associated with debt swaps

1. Be consistent with existing short- and long-term expenditure priorities
2. Avoid additional ongoing or recurrent costs
3. Be compatible with participating NGOs and international agencies
4. Generate enough additional resources to justify switching scarce staff
5. Requires economically sophisticated personnel at several different stages

Problems associated with debt swaps *(continued)*

6. Clarify the tax implications for banks, NGOs, and international agencies
7. Swaps may be inflationary
8. Creditor commercial banks don't want to become entangled in costly administrative issues
9. The use of experts is likely to be expensive



Blocked funds

- similar to debt swaps
- appropriate for countries without large commercial debt
- debt held by private individuals and corporations



The Yemen Case

US AID PL480 Grain Sale

- surplus grain loaned to Yemen
- proceeds from grain sales financed self help housing reconstruction program
- funds are in local currency – 70,000,000 YR
- administrative requirements may limit responsiveness



Exercise

*Choose a country
you are familiar with.*

*Identify a project that
might be appropriate for
a “debt swap” or
“blocked fund.”*



Triangular food aid

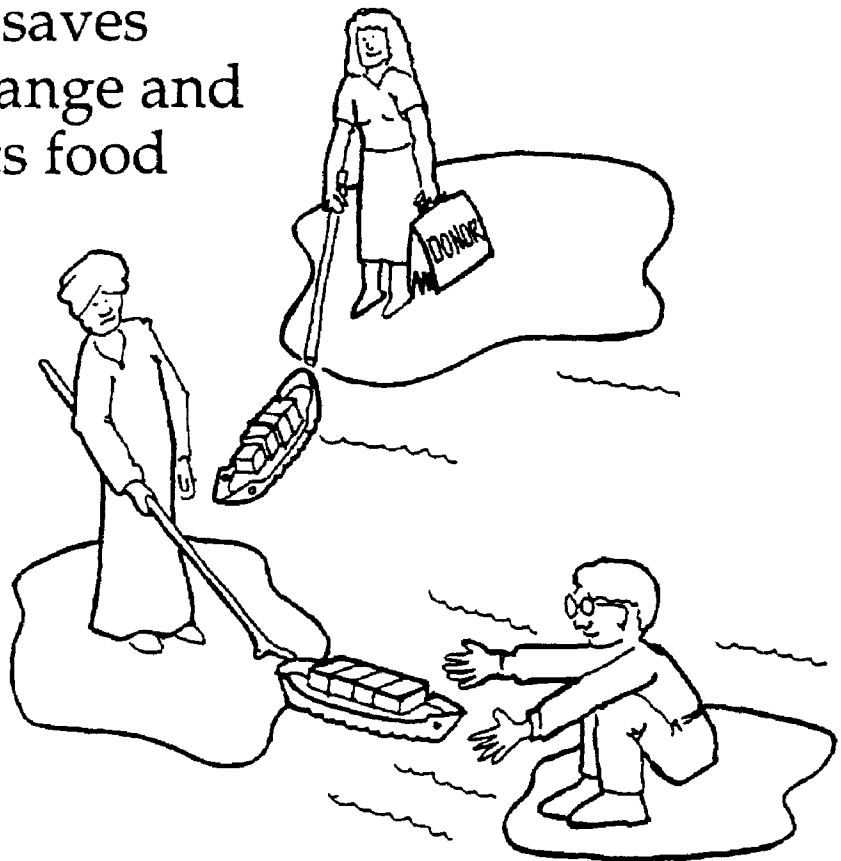
- a donor buys food from a developing country
- the food is provided to another developing country
- one country gets foreign exchange and the other gets food





Trilateral food aid

- a donor gives food to one country
- in exchange, that country gives a different kind of food to another country
- one country saves foreign exchange and the other gets food





Benefits of triangular and trilateral transactions

- stimulates food production
- promotes exports
- fosters trade
- helps countries manage food surpluses
- encourages system level improvements
- strengthens food management and administration
- aids in market restructuring and liberalization

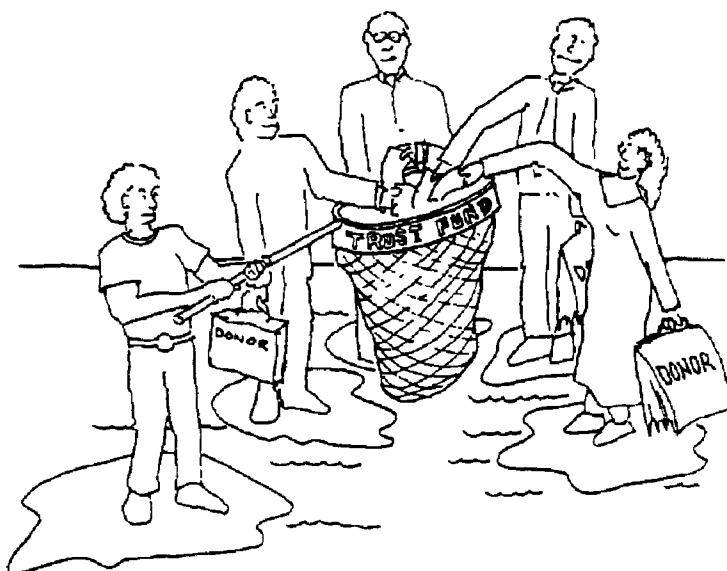


Drawbacks of triangular and trilateral transactions

- advance planning may be difficult
- infrastructure and management deficiencies make delivery unreliable
- may result in inadequate investment in storage and stocks
- operations are complex
- may result in inappropriate agricultural policies

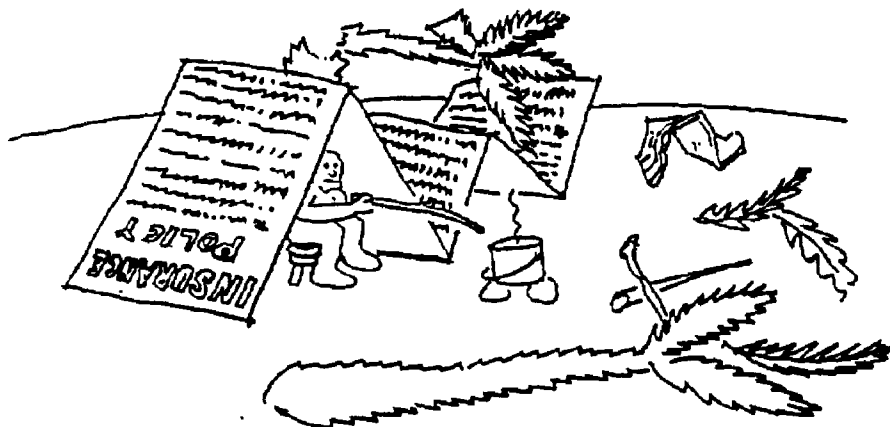
Trust Funds

- a flexible source of development finance
- appropriate for bilaterals with limited knowledge or funds
- provides a mechanism for cost sharing
- promotes multilateral and bilateral cooperation
- provides a sectoral or programmatic focus for international appeals



Disaster insurance programmes

- provide for private sector participation
- promote mitigation
- create responsive recovery financing mechanism
- spread risk over a larger community
- can cover a wide variety of potential losses
- frequently unavailable in disaster-prone developing countries





Key issues in crop insurance

- types of perils and crops covered
- individual, area or group coverage
- period of coverage
- voluntary or compulsory
- public, private, or mixed



Multiperil insurance schemes

Country	Crops Insured	Multiperil cover	Voluntary	Loss ratios for five years %				
ALBANIA	wheat, maize, rice	hail, storm, rainstorm, windstorm, flood, cyclone, snow, freeze	voluntary but compulsory for state enterprises	90	81	174	86	
BANGLADESH	wheat, rice, sugar cane, jute	flood, drought, cyclone hail, pest, disease	voluntary	441	596	61	879	321
BARBADOS	sugar cane	fire, hurricane, earthquake, flood, riot, strike, vandalism	voluntary	197	54	4	13	4
BRAZIL	cereals, pulses, vegetables, fruits, roots & tubers, sugar cane, wine grapes, fibre crops	fire, flood, windstorm, hail, excessive rain, drought, frost, pest, disease, dramatic temp. change	voluntary	172	81	81	13	
COSTA RICA	cereals, pulses, vegetables & melons, fruits, roots & tubers, fibre crops	drought, excess rain, flood, wind, volcanic ash, pest, disease, hail	semi-compulsory	79	37	80	692	247
CYPRUS	deciduous, grapes, cereals, potatoes, citrus, forage crops	drought, frost, flood, rust (cereals)	compulsory	135	90	10	61	
DOMINICAN REPUBLIC	rice, beans, maize, groundnuts, yucca, sorghum	cyclone, drought, earthquake, flood, excess rain, hail, tornado, fire, pests, disease	voluntary, but compulsory for those with loans					
HUNGARY	all standing field crops, vineyards, orchards	fire, hail, flood, frost damage	voluntary	92	125	82	191	
INDIA	wheat, maize, rice, millet, pulses	all risks	voluntary, but compulsory with credit	216	261	1034	896	826



Lessons Learned

- private sector implements
- limit the number of perils
- require small farmer participation
- target commercial crops
- use existing organizations
- practice sound loss adjustment
- maintain close contact with reinsurers
- stress public education



Question

*What makes
insurance programs
successful?*

*How did they help
reduce loss or
promote recovery ?*



Revolving funds

- channel funds to disaster-affected households
- provide ongoing development funds
- can provide economic development subsidies
- capture “relief funds”
- can be tied to mitigation requirements
- strengthen local control and administration



Central Bank assistance

- promotes regional and sub-regional cooperation
- creates short-term financing mechanism for cash-short central banks





Coordinating foreign disaster assistance

- preparedness activities establish protocols
- requires data base and data-handling procedures
- minimizes
 - aid surpluses
 - inappropriate aid
 - negative national economic consequences

Overall summary

- Key aspects of economic thinking as they relate to disasters
- Disaster scenarios
- Financing tools



The ultimate challenge

- Use the disaster as an opportunity to optimize

or

- Get the economy back to work as soon as possible



Unresolved issues

- Who gets the benefits
- How can the survivors be involved in programme design
- How can the recovery process be monitored
- How can international projects be coordinated to complement rather than compete with each other
- AND ????

Handout Section

The following four pages are to be used as handouts in conjunction with their corresponding overheads. Photocopy enough of each handout to distribute to everyone in the group and distribute them before using the overheads.



Estimating disaster losses

		Losses	
Consequences	Measure	Tangible	Intangible
Deaths	Number of people	Loss of economically active individuals	Social and psychological effects on remaining community
Injuries	Number and injury severity	Medical treatment needs, temporary loss of economic activity by productive individuals	Social and psychological pain and recovery
Physical damage	Inventory of damaged elements, by number and damage level	Replacement and repair cost	Cultural losses
Emergency operations	Volume of labor, workdays employed, equipment and resources	Mobilization costs, investment in preparedness capability	Stress and overwork in relief participants
Disruption to economy	Number of working days lost, volume of production lost	Value of lost production	Opportunities, competitiveness, reputation
Social disruption	Number of displaced persons, homeless	Temporary housing, relief, economic production	Psychological, social contacts, cohesion community morale
Environmental impact	Scale and severity	Clean-up costs, repair cost	Consequences of poorer environment, health risks, risk of future disaster



Disasters and economic interventions

1. SCENARIO: TYPE OF DISASTER		Natural			Human made			Economic
		Flood	Tropical Storms	Earthquake	War	Environmental Degradation	Drought	Severe Mismanagement
2. POLICY INSTRUMENT ALTERNATIVES		Mitigation or Recovery Focus						Structural Adjustment
		Domestic			International or Regional			
Domestic policy instruments affecting production, income, consumption, savings & investment decisions in the private sector	Direct taxes							
	Indirect taxes							
	Subsidies							
	Credit							
	Interest rates							
	Exchange rates							
3. INVESTMENT ALTERNATIVES								
Domestic investment in public infrastructure	Economic							
	Urban/rural							
	Services							
4. FINANCING ALTERNATIVES								
External and internal financing mechanisms	Concessional loan							
	Commercial loan							
	Grant assistance							
	Relief aid							
	Creative financing							
	Insurance payment							
	Debt rescheduling							

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