



Assessing Investment & Financial flows for Adaptation in the **HEALTH** Sector

UNDP I&FF Methodology Guidebook

Impact of climate change on the health sector

IPCC AR4, Working Group 1:

- The health status of millions of people is projected to be affected through, e.g.:
 - Increases in malnutrition
 - Increased deaths, diseases & injury due to extreme weather events
 - Increased burden of diarrhoeal diseases
 - Increased frequency of cardio-respiratory diseases due to higher concentrations of ground-level ozone in urban areas related to climate change
 - Altered spatial distribution of some infectious diseases

1. Establish key parameters of the assessment

- Define scope for the assessment
- Define the institutional framework
- Specify the time horizon for the analysis: 2015-2030 recommended, base year 2015 recommended
- Build on existing model for the sector where possible

1. Establish key parameters of assessment

Define boundaries for the assessment

Possible health sub-sectors

- Infectious Diseases
 - Airborne: air quality, aeroallergens
 - Food- & water-borne
 - Diarrhoea
 - Dysentery
 - Vector- & rodent-borne
 - Malaria
 - Kala-azar
 - Encephalitis
- Thermal extremes: heat/cold stress
- Natural disasters & extreme weather events (floods, high winds, droughts)
- Malnutrition & Food security
- Occupational health

1. Establish key parameters of assessment

Adaptation options in health sector

General Adaptation measures in the health sector

By institutional nature	
a. Governance & institutional elements	<ul style="list-style-type: none">• Governance & coordination arrangements• Institutional mechanisms• Resource allocation
b. Legal elements	<ul style="list-style-type: none">• Legislation• Enhancement of tenure & ownership• Regulatory tools, including regulations standards
c. Policy & planning elements	<ul style="list-style-type: none">• Climate-change health risk assessments & monitoring Analysis• Strategy formulation• Links with disaster management & risk reduction planning

2. Compile historical I&FF data and other input data for scenarios

- Data collection, rely on national accounts data
- The **System of National Accounts** (SNA) constitutes the primary source of information about the economy
- System of **National Health Accounts** useful source
- **Systems of integrated environmental & economic accounts** (SEEA) were developed to address statistical gaps
- Other sources: **National health plans, National Communications** etc.

2. Compile historical I&FF data and other input data for scenarios

Data collection, rely on national accounts data

Examples of I&FF data disaggregation in each sub-sector

Category of Investment Entity	Source of I&FF Funds	Investment Flows (2005 \$)		Financial Flows (2005 \$)	
		Facility / Technology Type 1	Facility / Technology Type 2	Practice / Measure Type 1	Practice / Measure Type 2
Households	Domestic				
	Total Household Funds (all domestic)				
Corporations	Domestic (e.g. Business investments in hotels, restaurants)				
	Foreign (e.g. Int'l service industry- travel agencies, tourism info centers)				
	Total Corporation Funds				
Government	Domestic (e.g. Physical infrastructure- roads, communication)				
	Foreign				
	Total Government Funds				

Data sources complementing national sources

- WHO: database WHOSIS
- National Health Accounts: <http://www.who.int/nha/en/>
- Global Health Atlas: Tuberculosis database, FluNet, DengueNet, RabNet etc.
- Statistics from WHO regional offices
- WHO Global InfoBase
- Commission on Macroeconomics & Health
- ...

3. Define Baseline Scenario

- Define the physical basis for the Baseline Scenario
- **A baseline scenario:** description of what is likely to occur in the absence of ADDITIONAL policies to address climate change; expected socioeconomic trends (e.g., population growth & migration, economic growth), technological change (if relevant), & expected business-as-usual investments in the sector

Baseline scenario reflects

- Current sectoral & national plans
- Expected socioeconomic trends
- Expected investments in the subsectors

Information should be disaggregated by

- Year (starting 10 years before the Base Year)
- Source (by corporations & government)
- Type (national funds, foreign direct investment, official development assistance)

4. Derive I&FF for baseline scenario

- Compile annual estimates, disaggregated by investment entity, source, investment flow type, & financial flow type
- Calculate the **total investment cost** in real, unannualized terms over the planning period
- Estimate **annual investment costs** associated with the new plan
- Develop a **breakdown of total investments** into major categories (e.g., ODA, FDI, domestic funds)

4. Derive I&FF for baseline scenario

Estimate annual I&FF

Adding costs to baseline scenario

Funding entity category	Source of funds	Cumulative investment* (2015-2030)	
		(billion 2015 \$)	(%)
Households	Domestic funds		
Governments	Domestic funds (budgetary)		
	Foreign borrowing (loans)		
	Foreign aid (ODA)		
Corporations	Domestic equity		
	Foreign investment		
	Domestic debt		
	Foreign borrowing		
	Government support		
	Foreign aid (ODA)		
	Total		

*Education/Training programs (2015 \$/program), Hospitals (2015 \$/site), Rural clinics(2015 \$/site) ...

5. Define Adaptation scenario

- Adaptation scenario: a description of what is likely to occur in the sector, over the assessment period, in the presence of **additional** policies to address climate change
- The adaptation scenario should include previously identified adaptation options, such as those used in a national communication or in a national NAPA

5. Define adaptation scenario

Examples of I&FF in health adaptation scenario

Investment Flow	Financial Flow
Capital costs of construction of high elevation rural clinics in areas previously unaffected by malaria.	Expenditures for an expanded surveillance program to identify & respond to outbreaks of infectious diseases
Capital cost of materials, bed nets, vaccines, other inputs for public awareness campaign.	Education campaigns
Capital costs purchasing trucks for mosquito spraying	Vector eradication programs

6. Derive I&FF for Adaptation Scenario

- Compile annual estimates, disaggregated by investment entity, source, investment flow type, & financial flow type
- Estimate annual investment costs associated with the alternative management plan
- Calculate the total investment cost in real, unannualized terms over the planning period
- Develop a breakdown of total investments into major categories (e.g., ODA, FDI, domestic funds)

6. Derive I&FF for adaptation scenario

Project I&FF associated with the Adaptation Scenario

Adding costs to adaptation scenario

	Cumulative infrastructure (2015-2030)	Unit cost
Facility/Technology		
High elevation rural clinics	(# clinics)	(2015 \$/clinics)
Bed nets	(# nets)	(2015 \$/net)
Vaccines	(# units)	(2015 \$/unit)
Trucks for mosquito spraying	(# trucks)	(2015 \$/truck)
<i>Total</i>		

Adding costs to adaptation scenario

Funding entity category	Source of funds	Cumulative investment (2015-2030)	
		(billion 2015 \$)	(%)
Households	Equity & debt		
Governments	Domestic funds (budgetary)		
	Foreign borrowing (loans)		
	Foreign aid (ODA)		
Corporations	Domestic equity		
	Foreign investment		
	Domestic debt		
	Foreign borrowing		
	Government support		
	Foreign aid (ODA)		
	Total		

7. Estimate changes in annual I&FF needed to implement adaptation

- Subtract the baseline annual I&FF, by entity & source, from the annual adaptation I&FF, by entity & source
- Subtraction of the Baseline Scenario from the Adaptation Scenario
- Sum incremental amounts over all years, by entity & source

7. Estimate changes in annual I&FF needed to implement adaptation

Subtract the baseline annual I&FF from the adaptation annual I&FF

- For each chosen health adaptation option, the analysis should identify the incremental investment (total dollars) by source (domestic funds, ODA, FDI etc.) up through 2030 to support the respective health management option

7. Estimate changes in annual I&FF needed to implement adaptation

Summarizing incremental investments

		Investment (billion 2015 \$)		
		Cumulative (2015-2030)		Incremental
Funding entity category	Source of funds	Baseline scenario	Adaptation Scenario	
Households	Equity & debt	Baseline value	Adaptation value	Baseline minus Adaptation value
Governments	Domestic funds (budgetary)			
	Foreign borrowing (loans)	...	...	...
	Foreign aid (ODA)	...	...	...
Corporations	Domestic equity	...	..	...
	Foreign investment	...	...	...
	Domestic debt	...	...	...
	Foreign borrowing	...	...	...
	Government support	...	...	...
	Foreign aid (ODA)	...	...	...
	<i>Total</i>	Sum (Baseline)	Sum (Adaptation)	Sum (Baseline minus Adaptation)

8. Evaluate policy implications

- Determine policy instruments & measures to encourage changes in I&FF
- Identify the entities that are responsible for the significant incremental changes in I&FF
- Determine the predominant sources of their funds, particularly important to distinguish between public & private sources of finance

8. Evaluate policy implications

Assess policy options and summarize the projected I&FF for the key sector

- Public health sector policies are likely to be needed to induce the relevant entities to implement the proposed measures
- Adaptation can occur quickly in some sectors, but is slower in sectors with long-lived infrastructure
- These characteristics suggest a mix of adaptation policies

9. Synthesize results and complete report

- For more information on synthesizing results, documentation & the completion of the report, please refer to the Reporting Guidelines

Q&A CLARIFICATIONS

