

# Technical notes

## 1. Computing the human development index

The HDI for 1994 is calculated on a different basis from that in previous years. Maximum and minimum values have been fixed for the four basic variables—life expectancy (85.0 and 25.0 years), adult literacy (100% and 0%), mean years of schooling (15 and 0 years) and income (PPP\$40,000 and \$200). For income, the threshold value is taken to be the global average real GDP per capita of PPP\$5,120. Multiples of income beyond the threshold are discounted using a progressively higher rate.

To illustrate, take a pair of countries, one industrial, one developing—Greece and Gabon. Their basic variables are as follows:

Country	Life expectancy (years)	Adult literacy (%)	Mean years of schooling	Income (PPP\$)
Greece	77.3	93.8	7.0	7,680
Gabon	52.9	62.5	2.6	3,498

### Life expectancy

$$\text{Greece} \quad \frac{77.3 - 25.0}{85.0 - 25.0} = \frac{52.3}{60.0} = 0.872$$

$$\text{Gabon} \quad \frac{52.9 - 25.0}{85.0 - 25.0} = \frac{27.9}{60.0} = 0.465$$

### Adult literacy

$$\text{Greece} \quad \frac{93.8 - 0.0}{100.0 - 0.0} = \frac{93.8}{100.0} = 0.938$$

$$\text{Gabon} \quad \frac{62.5 - 0.0}{100.0 - 0.0} = \frac{62.5}{100.0} = 0.625$$

### Mean years of schooling

$$\text{Greece} \quad \frac{7.0 - 0.0}{15.0 - 0.0} = \frac{7.0}{15.0} = 0.467$$

$$\text{Gabon} \quad \frac{2.6 - 0.0}{15.0 - 0.0} = \frac{2.6}{15.0} = 0.173$$

### Educational attainment

$$\text{Greece} = 2(0.938) + 0.467 = 2.343 \div 3 = 0.781$$

$$\text{Gabon} = 2(0.625) + 0.173 = 1.423 \div 3 = 0.473$$

### Adjusted income

Greece's income is above the threshold, but less than twice the threshold. Thus,

$$\begin{aligned} \text{Greece} &= 5,120 + 2(7,680 - 5,120)^{1/2} \\ &= 5,120 + 101 \\ &= 5,221 \end{aligned}$$

Gabon's income is below the threshold, so it needs adjusting. To calculate the distance for income, use the maximum adjusted income (5,385) and the minimum (200).

$$\text{Greece} \quad \frac{5,221 - 200}{5,385 - 200} = \frac{5,021}{5,185} = 0.968$$

$$\text{Gabon} \quad \frac{3,498 - 200}{5,385 - 200} = \frac{3,298}{5,185} = 0.636$$

Country	Indexed life expectancy	Indexed educational attainment	Indexed adjusted income	$\Sigma$	HDI
Greece	0.872	0.781	0.968	= 2.621	0.874
Gabon	0.465	0.473	0.636	= 1.574	0.525

## 2. A new aid reporting system

While aid concerns have been changing in recent years, the ways in which statistics are recorded have remained largely unchanged. This makes analysing and accounting for aid extremely difficult.

Whether one uses the aid statistics produced in the reports of the Development Assistance Committee (DAC) of the OECD, or the Development Cooperation Reports produced by UNDP, the picture is more or less the same. Aid flows are recorded primarily according to country (donor and recipient) and by sector (such as agriculture, industry, transport, health or education).

If, on the other hand, one wants to know what proportion of available resources are going towards priority concerns such as poverty reduction, the integration of women in development, democratization or environmental protection and regeneration, it is usually possible to make only rough estimates. More accurate information requires special research.

Another shortcoming of aid reporting is that the statistics are presented in isolation from other resource flows, such as trade, foreign investment, debt payments or remittances from workers abroad.

Clearly, there is an urgent need for a new aid reporting system. This system should provide information on at least three sets of issues.

- *Human development priorities*—showing the allocations to such concerns as primary health care (including family planning), basic education, nutrition support, and low-cost rural and peri-urban water and sanitation.
- *Distribution by target groups*—showing how much aid reaches the poorest, and how much is spent at the local level.
- *Military spending*—allowing examination of the link between aid flows and reduction in military spending.

Aid should also be shown in the context of overall resource flows to each country—in effect, presenting a total financial resource flow balance sheet.

DAC is probably the organization best able to take the lead. It has already made a start on revising the existing system. And preliminary work shows that it is possible and useful to report on aid according to its objectives.

We suggest that the Annual Report of the Chairman of DAC should include tables along the lines of those below.

TABLE 1  
Human development aid profile of donor countries

Donor country	Official development assistance (ODA) given										
	US\$ millions	As % of GNP	As % of central government budget	As % of military exports	Per capita (US\$)	Per poor person (US\$)	Aid social allocation ratio (%)	Aid social priority ratio (%)	Aid human expenditure ratio (%)	Human priority aid (as % of total aid)	Aid to least developed countries (as % of total)

TABLE 2  
Human development aid profile of recipient countries

Recipient country	Official development assistance (ODA) received				Aid social allocation ratio (%)	Aid social priority ratio (%)	Aid human expenditure ratio (%)	Human priority aid (as % of total aid)
	US\$ millions	As % of GNP	Per capita (US\$)	Per poor person (US\$)				

TABLE 3  
Human development aid profile of multilateral donor agencies

Donor agency	Share of total ODA for human priorities		
	Aid social allocation ratio (%)	Social priority ratio (%)	Share of total ODA for human priorities (%)

TABLE 4  
Aid to human development priorities—overview of donor-country allocations

Human development priority	US\$ millions	As % of total aid
Primary health care (including family planning)		
Basic education		
Low-cost rural and peri-urban water and sanitation		
Nutrition support		
Total aid to social sector		
<i>Memo items</i>		
Income enhancement and other poverty alleviation activities		
Local environment and sustainable development activities		

TABLE 5  
**Aid to human development priorities—overview of recipient-country expenditure**

Human development priority	US\$ millions	As % of total aid
Primary health care (including family planning)		
Basic education		
Low-cost rural and peri-urban water and sanitation		
Nutrition support		
Total aid to social sector		
<i>Memo items</i>		
Income enhancement and other poverty alleviation activities		
Local environment and sustainable development activities		

TABLE 6  
**Aid allocations to human development priorities, by donor country**

Donor country	Primary health care (including family planning)		Basic education	Nutrition	Rural and peri-urban water and sanitation		Human development priorities
	(US\$ millions)	(US\$ millions)			(US\$ millions)	(US\$ millions)	

TABLE 7  
**ODA to the poor**

Recipient country	Number of poor (millions)	Poor as % of total population	ODA per poor person (US\$)	ODA to the poor as % of total ODA

TABLE 8  
**ODA de-concentration ratios**

ODA target groups in recipient countries	ODA (US\$)	Percentage of total
Government		
Central government		
State/provincial government		
Local government		
Private sector		
National NGOs		
<i>Memo items</i>		
ODA channelled through international NGOs		
ODA spent in donor countries—for example, on aid-related communication purposes		
Total		

TABLE 9  
**ODA and military spending**

Military spending	Number of countries in group	Share of total ODA (%)	Share of population (%)	ODA share as % of population share
Low (<2% of GDP)				
Medium (2–4% of GDP)				
High (>4% of GDP)				
Total				