



IDA13

Measuring Outputs and Outcomes in IDA Countries

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Measuring Outputs and Outcomes in IDA Countries

Introduction

1. In the course of the IDA13 discussions, the importance of measuring the effectiveness of IDA's work in poverty reduction has been discussed in depth by donors. Also a theme of the OED review of IDA10-12, it was felt that systematic and more comprehensive measurement of IDA and country inputs and country outputs, would be an important element as IDA embraced the PRSP process, and sought to assist countries in implementing, and measuring the effectiveness of their poverty reduction strategies. The IDA13 report reflects several ways in which such measurement -- especially as they relate to the Millennium Development Goals (MDGs) -- will be implemented over the IDA13 period.
2. At the Montreux meeting of IDA13 Deputies, the US also raised the possibility of donors providing additional contributions linked to specific milestones related to measuring and monitoring inputs and outputs, and also suggested the possibility of estimating and targeting selected outputs in advance. Many donors agreed that further exploration of this issue was warranted. (Traditionally, donors review IDA's performance and policies and country results every three years in the course of replenishment discussions and base their replenishment contributions on this assessment. The suggested approach would endeavor to shorten the time-frame over which IDA reported on its performance.) Management agreed to do further work on how a measurement and monitoring system could be established over the course of IDA13, and milestones set that could be reviewed by donors (and possibly linked to additional donor contributions) during the IDA13 period.
3. IDA provides its assistance to its borrowing countries through policies and programs, which are IDA inputs to country-owned development strategies. Such inputs include credits, country dialogue and analytical economic and sector work (ESW). Inputs from IDA (and other development partners) influence reform programs undertaken by countries, which are country inputs. Country inputs include, for example, programs and development investments undertaken by countries to improve fiduciary management, initiatives to improve the quality of education, policy reforms to improve the investment climate, etc. These reforms, or country inputs, in turn lead to outputs, such as, for example, reduction of barriers to private investment, school enrollment, and immunization. Ultimately, these outputs, over a period of time, lead to outcomes -- which are overall country measures such as gains in literacy, increased life expectancy, and lower infant mortality. To complete the circle, IDA's strategic choice of its own inputs is driven by an analysis of their likely impacts -- via country inputs, outputs, and outcomes. Management looks to leading indicators that are correlated with final outcomes to help ensure IDA's strategy is on track, and to guide adjustments to that strategy as necessary.
4. IDA's own inputs are obviously under the control of the institution, and are immediately measurable. They represent the only set of instruments at IDA's disposal to influence outputs, and are for that reason the primary focus of donor deliberations and guidance during the replenishment process. Country inputs are influenced by IDA inputs, and those of other development partners, but they depend on borrower government commitment and actions and, subject to the latter, tend to follow IDA inputs with short lags. Outputs, which result from this process, are generated with lags of several years after IDA and country inputs are undertaken and

are to an even lesser degree attributable solely to IDA inputs; they are dependent on many exogenous factors over a longer period of time which sometimes mitigate or even reverse IDA's own efforts. Finally, the relationship between outputs and outcomes is multi-dimensional. For instance, lowered infant mortality is at least as much a function of access to safe water and education of women as it is of immunization.

5. IDA's inputs are already subject to measurement through a number of reports that track the quality of its interventions and the volume of lending, and the linkage of IDA lending to country performance. In addition, the recent OED review of IDA also evaluated the extent to which IDA complied with the policy guidance of its donors in implementing its programs. Outcomes are measured by the World Bank and partner organizations on a periodic basis, and are reported annually in well-known reference publications such as the World Development Indicators. Within that broader context, the approach taken in this paper is to explore the possibility of establishing (a) a phased approach to measurement of country inputs and outputs, (b) a basis for estimating some key output indicators that could be expected to be achieved over the next two years or so, and (c) a framework for reviewing progress.

Establishing a Measurement System

6. In order to focus the measurement system on key aspects influenced by IDA's work, it would be appropriate for the system to concentrate initially on indicators related to fiduciary management, private sector development, health and education. These areas are of critical importance to poverty reduction through good governance, pro-poor economic growth, and improved social well-being. Within these broad areas, the indicators to be measured need to be set up with due regard to issues such as attribution (the direct correlation to IDA's actions), the time lag between IDA and country inputs, and even more so the time lag between investments or policy changes by IDA and IDA countries, and measurable outputs. The system will also need to take account of difficulties in measuring and defining quality -- especially with regard to outputs, and especially as data is aggregated across countries, regions, and globally.

7. Moreover, in measuring outputs, IDA needs to coordinate its efforts with individual monitoring efforts by countries that are being established as they implement PRSPs, and in the context of the MDGs which are being targeted by countries as they formulate their strategies. Thus IDA's own measurement system should be geared to measuring outputs which are related to and support these objectives, and to tracking indicators that are broadly viewed as key to development effectiveness.

8. With regard to country outputs, moreover, the availability of data on results will be to a large extent driven by periodic and often infrequent country survey results carried out by IDA's partners. For example, data on education outputs is based on surveys conducted by UNESCO, which are often 5-7 years apart in any given country. Similarly, the Joint Monitoring Program (JMP) utilizes the combined resources of UNICEF and WHO to monitor water and sanitation coverage in all UN member states. JMP has reported outcomes in 1990, 1992, 1993 and 1996, and in addition in the year 2000 it published a comprehensive review of progress since 1990 in coverage of safe drinking water and sanitation. The data is now available on a database (although some of it remains contentious) and is updated on a triennial basis.

9. The choice of the indicators to be measured will undoubtedly influence the way in which the development process assigns priorities. The process will also, unless managed carefully, detract from the importance of quality improvements of the inputs which are the basic instrument at the disposal of IDA to influence country outputs. Thus a system measuring country inputs and outputs should be looked at in the context of the broader development effort undertaken by IDA through its policies and programs.

10. On the basis of the above, a measurement system that has as a first phase the measurement of country inputs, and is extended gradually in the second phase to country outputs could be established. The first phase, for selected country inputs, could be put in place during the course of 2002 and the second phase, to gradually extend the system on the basis of further work to include selected country outputs, could be put in place by end-2003.

Phasing of a Measurement System

Phase 1 To be established by end-2002.	Establish a Measurement System that would report on <u>country inputs</u> in Fiduciary Management, PSD, Health and Education.
Phase 2 To be established by end-2003.	Extend Measurement System to report on country <u>outputs</u> in Fiduciary Management, PSD, Health and Education.

11. Specifically, the measurement system will be set up to begin measuring the following country inputs in IDA countries with active programs by the end of 2002.

Fiduciary Management: number of public expenditure, financial management and procurement systems improvement programs being implemented;

Private Sector Development (PSD): number of programs designed to improve invest climates;

Education: number of education initiatives underway; and

Health: number of health sector programs underway.

12. The measurement system would be extended to begin measuring country outputs in countries with active IDA programs by the end of 2003. Indicators to be measured could be, for example, as follows:

Fiduciary: effective use of and accountability for public funds through appropriate public expenditure, procurement and financial management systems. Specific measures, such as budget comprehensiveness, financial input and control systems and internal and external transparency will need to be defined building on, but not necessarily limited to, the indicators being established for the HIPC tracking system;

Private Sector Development (PSD): policy reform indicators such as the extent of procedural impediments and time/cost measures on business startups and collateral

registration; and growth indicators, such as productivity and share of private credit in GDP.

Education: completion rates for primary school, gross and net enrollments, secondary enrollment, secondary completion rates, measures of learning, ratio improvement -- student-teacher, pupil-textbook, pupil classroom;

Health: immunization rates, indicators such as children sleeping under insecticide treated bednets, children under age 5 who are underweight, proportion of births with skilled attendant, share of population with access to improved water sources.

13. Over time, it would be expected that the output indicators being defined would be further refined and revised to include other outputs that are viewed as central to economic and social development in IDA countries. Moreover, the CPIA process which assesses country inputs (both policy and institutional) should continually be assessed to ensure a tight linkage to the outputs being viewed as important, and thus the annual update of the CPIA system should take into account the country output indicators being tracked.

Establishing and Estimating Early Indicators of Country Output

14. The system proposed above would provide a basis to begin progressively measuring changes in country output indicators over time, and would be closely integrated into a broader World Bank program, which management is planning, to strengthen and improve the measurement of the Bank's development performance. To gain experience in making more timely performance assessments based on development outputs, Bank staff have been working to develop a limited set of early indicators of output performance which have good linkages, ultimately, to outcome objectives expressed in the MDGs. The objective is not to substitute a few headline numbers for the careful tracking of development performance. Rather, it is to identify a limited set of measurements which have, in the professional judgment of specialists, two characteristics: that they are reasonably reliable early indicators or proxies for important trends in a given sector or area of development effort; and that they are tracked, enumerated and reported with relatively good consistency, frequency and accessibility. The approach would be to focus on a sub-set of output indicators selected from the broader set of education, health and private sector development measures discussed earlier, and then try to push to develop early tracking results for this limited sub-set.

15. These quantitative estimates should not be construed as targets, per se. As noted earlier, achieving outputs will depend on several factors, and hence it is important to weigh progress toward the desired results in a country and global context. Moreover, country outputs will reflect considerable lags vis-à-vis both IDA and country inputs. Thus a short-term measure of outputs is a poor indicator of IDA's recent efforts, but will, more likely, reflect the result of resources provided many years earlier. Development outputs, such as those outlined below, which could be measurable in IDA13 during 2002 and 2003, for example, are already "set" and largely impervious to being affected by action now and in the immediate future: such results would need to be related to IDA funding and programs from replenishments prior to IDA12, as well as to the other factors affecting them in these earlier years.

16. Since IDA allocates its resources on the basis of performance, the linkage between IDA inputs and outputs would be strengthened by focusing the estimates for outcome measures on the group of countries that constitute the top three quintiles in the 2001 CPIA exercise.¹ Moreover, quantitative estimates for this purpose should be based on currently measurable outputs (using data for benchmarking as recent as possible to December 2001) that are central to developmental impact, and should be set at a level that is both challenging and realistic. As the first step in this exercise, the following output indicators could be targeted in Education, Health and Private Sector Development.

Education: *Achieve improvements in the primary education completion rate. This output indicator is increasingly being used by the World Bank and other agencies as a core indicator of education system performance. It is calculated as the total number of students successfully completing (or graduating from) the last year of primary school in a given year, divided by the total number of children of official graduation age in the population.*²

The average annual growth rate of the primary completion rate (population weighted) would be improved. The annual average growth rate, using currently available data is - 0.23%. Target improvement: the average annual growth rate would be increased to 0.5% using data available in December 2003. This would imply a turnaround of 0.73 percentage points.

The number of countries (that do not have universal primary education) where average annual growth exceeds 1%. On the basis of current data there are 10 countries in this group. Target improvement: at least a 50% increase -- to 15 countries based on latest available data in December 2003.

Health: *Achieve improvements in measles coverage. Measles immunization is one of the core intermediate determinants for achieving the MDG of child mortality reduction.*³

The overall coverage rate (population weighted) of measles immunization would be improved. The coverage rate (based on currently available data) is slightly below 60%. Target improvement: an increase to 62% on the basis of the latest available data in December 2003.

The number of countries where coverage has reached 80% -- a threshold beyond which measles can be contained. Currently there are 22 countries in this group. Target Improvement: increase the number of countries to 26 on the basis of the latest available data in December 2003.

PSD: *Achieve improvements in two measures that are key to investment climate reform and which will be evaluated in country investment climate assessments:*

¹ The countries are listed in Annex 1. Moreover, the outputs are calculated subject to availability of relevant data for these countries. As noted earlier, output data are not universally available in these countries.

² Annex 2 provides the available data in the selected IDA countries to calculate these statistics, and the current average annual growth rate.

³ Annex 3 provides data on immunization rates for the selected IDA countries.

Time required for business start-up (registration and licensing procedures): Measures the time required to obtain legal status to operate a firm, in business days. Time delays in registration are a major impediment to formal entry of private firms. Delay deters participation in the formal economy and increases the potential for corruption (“speed payments”). Further, time delays in business entry are associated with lower income growth. Baseline measure: 81 days in the specified IDA countries (see Annex 1). The corresponding measure for all OECD countries is 32 days. Target Improvement: 10% reduction in the number of business days in the specified IDA countries (weighted by population) from December 2001 to December 2003 based on most recent available data (generally a 4-6 week lag).

The formal cost of business start-up (registration and licensing procedures): Measures the total official cost of obtaining legal status to operate a business, as a percentage of GDP per capita. The cost of registration is a major barrier to entry in poor countries, deterring formal participation in the economy. Further it is negatively associated with income growth. Baseline measure: 73% in the specified IDA countries (see Annex 1). The corresponding measure for all OECD countries is 17%. Target Improvement: 10% reduction in percentage cost in the specified IDA countries (weighted by population) from December 2001 to December 2003, based on most recent available data (generally a 4-6 week lag).

Reviewing Progress

17. **Timing**: A report could be provided to IDA’s Executive Directors by December 2003 on the establishment of the measurement system, and progress toward meeting specific estimates for selected output indicators. Also, a donor review could be achieved by scheduling the IDA13 mid-term review to facilitate such a discussion in December 2003 or early 2004. This would however, mean delaying the mid-term review considerably -- and it would take place shortly before the IDA14 discussions would be expected to begin (Spring 2004). Alternatively, an earlier date could be chosen, but this would obviously reduce the scope of the measurement system that could be implemented, and the estimates that could be reached.

18. **Learning Process**: This approach to setting up a system and the initial indicators to be measured has been arrived at on the basis of both pragmatic considerations -- i.e., what is available, and can be tracked fairly accurately, as well as selecting indicators that would be best measures of successful outcomes. As experience is gained with this approach, and more data becomes available as countries implement monitoring systems under their PRSPs, it will be important to periodically reassess the components of the measurement system. Thus, in the course of the review it would be important to assess again the indicators being measured, and to revise and add to them as appropriate in order to continue to strengthen the link between IDA’s efforts and country outputs and outcomes.

IDA Countries to Which Output Estimates Would Apply
(Constitutes IDA countries in top three CPIA 2001 quintiles)

Albania	Madagascar
Armenia	Malawi
Azerbaijan	Maldives <u>1/</u>
Bangladesh	Mauritania <u>1/</u>
Benin <u>1/</u>	Moldova
Bhutan <u>1/</u>	Mongolia
Bolivia	Mozambique
Bosnia & Herzegovina	Nepal
Burkina Faso	Nicaragua
Cape Verde	Pakistan
Dominica <u>1/</u>	Rwanda <u>1/</u>
Eritrea <u>1/</u>	Samoa <u>1/</u>
Ethiopia	Senegal
Georgia	Sri Lanka
Ghana	St. Lucia
Grenada <u>1/</u>	St. Vincent <u>1/</u>
Guyana	Tanzania
Honduras	The Gambia <u>1/</u>
India	Uganda
Indonesia	Vietnam
Kenya	Yugoslavia FR
Kyrgyz Republic	Zambia
Lesotho <u>1/</u>	

Note:

1/ The following IDA countries from the top 3 CPIA quintiles are not included in the benchmarks for the PSD measure due to missing data and thus will not be included in the targeted improvement: Benin, Bhutan, Dominica, Eritrea, Grenada, Lesotho, Maldives, Mauritania, Rwanda, Samoa, St. Vincent, and The Gambia.

Primary Education Completion Rates for Selected IDA Countries

	Total Population (year 2000)	Year											Average Annual Change* (percentage points)	
		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		1999
First Quintile														
Bhutan	805000	7						23						2.67
Uganda	22063000			39					40					0.20
Maldives**	276000													
Sri Lanka**	19360000													
Mauritania	2669000			34						38			45	1.22
Samoa	169200													
Tanzania	33696000		46								59			1.63
India	1015923008					75					73			-0.40
Senegal	9530000		45								48		44	-0.10
Albania	3411000			97					89					-1.60
Second Quintile		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Armenia	3827000									82				
Honduras	6485000				66			70						1.33
Vietnam	78522704													
Malawi	11042000		30						50					3.33
Nepal	23920000	49				51								0.50
Benin	6284000			23						37			38	1.67
Burkina Faso	11274000			19					24				24	0.56
Rwanda	8508000			34									28	-0.67
Bosnia-Herzegovina	3923000													
Zambia	10089000	97							80					-2.43
Pakistan	138080000		44											
Ghana	19200000			63										
Lesotho	2154000			64						69				0.83
Madagascar	15523000			34					30				27	-0.78
Third Quintile		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Mozambique	17620000			30					21				21	-1.00
Moldova	4264000				66					95				5.80
Bolivia	8328700			71										
Indonesia	210420992			92						91				-0.17
Bangladesh	129754000			50										
Guyana	863000			92						79				-2.17
Eritrea	4097000				19					36			35	2.00
Georgia	5460000									83				
Kenya	30057020			63					58					-1.00
Kyrgyz Republic**	4932700													
Azerbaijan**	8052000													
Yugo. (Serb./Mont.)	10616000			72						70				-0.33
Gambia, The	1286000				40				55					3.75
Nicaragua	5044000			45							58			1.86
Ethiopia	64298000			22						17			23	0.11
Population weighted average annual change =													-0.23	

Source: The primary completion rate is calculated by Bank staff using education data from UIS and World Bank/United Nations population data.

Notes: The primary education completion rate is calculated as the total number of students successfully completing (or graduating from) the last year of primary school in a given year, divided by the total number of children of official graduation age in the population.

Where countries do not report the number of students successfully completing primary school each year, a proxy primary education completion rate is used. This is calculated as the total number of pupils in the last grade of primary school, minus the number of students that repeat the grade in a typical year, divided by the total number of children of official graduation age in the population.

* Average annual change is computed as a weighted average.

** These countries have achieved universal primary school completion.

Measles Immunization Coverage
(percent)

Country Name	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Bhutan	93	89	86	84	81	85	86	84	71	76
Uganda	52	54	56	57	59	57	55	54	53	53
Maldives	89	89	89	86	85	85	85	86	88	86
Sri Lanka	80	79	82	86	84	87	89	94	94	95
Cape Verde										
Mauritania	38	32	43	49	53	67	66	64	62	62
Samoa	82	77	90	94	96	96	99	100	91	93
Tanzania	80	81	81	77	81	81	78	73	78	72
India	56	43	51	59	67	72	66	55	51	50
Senegal	51	54	57	58	59	80	70	65	62	60
Albania	88	80	87	76	90	91	92	95	89	85
Armenia	..	..	93	95	95	96	89	92	94	91
Honduras	90	86	89	94	94	90	91	99	99	98
Malawi	80	85	91	87	83	90	90	87	90	83
Vietnam	85	88	90	93	96	96	96	96	96	93
Benin	79	60	70	67	77	65	60	66	66	79
Nepal	57	57	58	58	58	56	65	73	73	73
Burkina Faso	79	69	60	50	44	43	40	41	46	53
Rwanda	83	89	82	74	25	84	76	66	78	87
Bosnia and H			52	48	57	53	70	86	84	83
Zambia	90	80	85	91	96	86	87	89	90	90
Pakistan	50	51	52	52	53	53	54	54	54	54
Dominica	91	98	99	99	92	96	99	99	98	99
Ghana	61	63	64	66	68	70	71	73	73	73
Lesotho	80	80	80	81	81	82	82	82	82	77
Madagascar	47	54	54	54	63	55	46	46	46	55
Mozambique	59	50	52	55	56	61	57	57	57	57
Moldova	94	93	92	92	95	99	98	99	99	99
Bolivia	53	54	57	57	64	58	61	51	50	79
Indonesia	58	59	61	62	62	63	71	71	71	71
Bangladesh	65	68	69	74	78	79	69	72	73	71
Eritrea	..	..	18	34	51	58	66	73	81	88
Guyana	77	81	73	80	83	77	91	82	93	87
Georgia	99	81	16	61	63	61	65	69	73	80
Kenya	78	81	84	84	84	83	81	79	79	79
Kyrgyz Republic	..	94	94	94	88	97	98	98	98	97
Azerbaijan	..	..	66	28	91	97	98	97	98	98
Yugoslavia	83	75	82	85	81	86	90	92	88	84
Gambia, The	86	87	83	87	89	91	94	92	92	88
Nicaragua	82	54	73	83	73	81	91	94	99	99
Ethiopia	38	17	12	22	54	38	54	49	46	27