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# UNESCO's activities in Education Statistics

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# **INTERNATIONAL STANDARD CLASSIFICATION OF EDUCATION (ISCED)**

## **Background**

- ISCED designed by UNESCO in 1970s
- Over the years extensive international consultations
- Latest amendment adopted by UNESCO General Conference 29<sup>th</sup> Session in 1997.

## **Objective behind developing ISCED**

- To facilitate comparisons/policy analysis between different education systems through standardized concepts, definitions and classifications.



# ISCED Coverage

Within ISCED, **Education** comprises of all deliberate/systematic activities designed to meet learning needs.

This includes all organized and sustained learning opportunities for children, youth and adults including those with special needs education, irrespective of the institution or entity or the form of delivery.



# Main components of ISCED

**Statistical framework** for comprehensive description of national education/learning systems based on a set of variables that are of key interest to policy makers

**Methodology** for translating national education programmes into internationally comparable categories: levels of education; and fields of education



# ISCED - Fields of Education

**25** fields are described within ISCED. These fields are grouped in broad categories for example: Category **Engineering, Manufacturing and Construction** comprises of 3 fields.

**ENGINEERING  
MANUFACTURING  
AND CONSTRUCTION**

**Engineering and Engineering Trades**  
(e.g. Metal Work, Electricity, Electronics,  
Telecommunications, Vehicle Maintenance etc.)

**Manufacturing and Processing**

**Architecture and Building**



# Assigning Education Programmes to Appropriate ISCED Levels

**Main Criteria** used to determine appropriate ISCED levels include:

- Typical entrance qualification
- Minimum entrance requirement
- Minimum age
- Staff qualification

**Other complimentary dimensions** that are considered include:

- Programme Orientation (general, technical, vocational)
- Subsequent Education or Destination
- Cumulative theoretical duration (prior to starting a level)



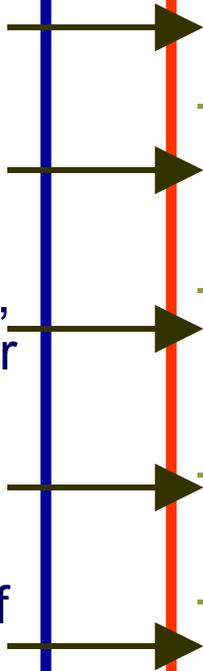
# Example of National Education Programme assignment to ISCED level (based on defined criteria)

## ISCED 2 Lower Secondary

- Entry after **6 years** of primary
- End ISC 2 is after some **9 years** since beginning primary
- **Specialized** teachers, more qualified than for ISCED level 1
- **Subject-oriented** programme
- Full implementation of **basic skills** and foundation for **lifelong learning**

## Form 1 to Form 3 Typical High School

- Enter after primary (Grades K-6)
- **9 years** completed between Prim 1 and Form 3
- Teachers **specialized**, more qualified than primary
- Subject-oriented (English, French etc.)
- **Basic skills** (literacy, numeracy) acquired and foundation for **lifelong learning**





# Example of National Education Programme assignment to ISCED level (based on other complimentary dimensions)

## ISCED 2A /B /C Lower Secondary

## Form 1 to Form 3 Typical High School

- **Programme Orientation**  
(general, technical/  
vocational)
- **Subsequent Education  
or Destination:**  
**2A** leads ultimately to  
tertiary  
**2B** leads directly to  
higher tech/voc training  
**2C** that leads to the  
labour market (terminal).

- **General** since it leads  
to deeper  
understanding of  
subject(s) in  
preparation for further  
education

- **ISCED 2A** since it  
leads ultimately to  
tertiary education

# Regional Experience in adapting ISCED

Despite the obvious advantages of facilitating comparisons etc., some challenges are experienced in adapting systems to ISCED. This is expected when dealing with an international standard.

- Educational institutions that fit more than one ISCED level e.g.

Secondary School	{	Forms 1-3	_____	ISCED 2A (lower sec.)
		Forms 4-5	_____	ISCED 3A (upper sec.)
		A levels	_____	ISCED 4A (post sec. non-tertiary)
Primary School	{	Grades K	_____	ISCED 0 (pre-prim.)
		Grades 1-6	_____	ISCED 1 (prim)
		Grades 7-9	_____	ISCED 2B/2C (lower sec.)

Based on the typical destination of graduates



# Regional Experience in adapting ISCED

- **Estimation or further breakdown of data required for assignment to ISCED levels**, e.g.: Teachers may be shared across grades, expenditures grouped by institution which may be multi-leveled etc.
- **Varying national interpretations of assigning institutions to ISCED**

**UNESCO is providing support in addressing such issues through:**

- **Regional consultations annually to review adaptation processes**
- **Recommending common solutions, given the similarities in education structures across the region** e.g. with regards to estimation methods/techniques
- **Reviewing national ISCED mappings to facilitate a regional comparative base**
- **Supporting planning units in sensitising information providers on the need for disaggregated education data**



# UNESCO's Institute for Statistics

## **UIS – The UNESCO Institute for Statistics**

was established in 1999 (Currently hosted by the University of Montreal, Canada)

### **UIS's Main Role:**

- To gather wide range of quality statistical information to help member states analyse the efficiency and effectiveness of their programmes and to inform their policy decisions
- To interpret and report on the global situation with regard to education, science, technology, culture and communication



# UNESCO Global Education Survey

An education survey is conducted by UIS **annually**. This survey aims at collecting a core set of **quality**, internationally **comparable** education data.

The UIS survey collects disaggregated data on students, teachers and education expenditure in pre-primary, primary, secondary, post-secondary non-tertiary, and tertiary education institutions, categorized by type of institution (private and public) and by level (based on **ISCED**).



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

At the World Education Forum in 2000 the international community agreed to the Dakar Framework for Action – the **Education for All (EFA)** programme.

## Education for All

Six goals for 2015



**Goal 1: Early childhood education**

**Goal 2: Universal primary education**

**Goal 3: Learning needs of all young people and adults**

**Goal 4: Adult literacy**

**Goal 5: Gender equality**

**Goal 6: Quality education**



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

UNESCO was mandated to take a lead role in orchestrating global efforts for EFA achievement 2000-2015.

**Regular monitoring** of the state of education is essential for the EFA process. At all levels, **education statistics** is needed to support review of status; monitoring interventions and in making decisions for sustained improvement.

UIS is actively involved in the EFA monitoring process and has created an **EFA Observatory** for this purpose. Indicators developed from the **UIS Survey** are being used for tracking achievement at the national, regional and global levels.



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

UNESCO also supports the monitoring of the **Millennium Development Goals (MDG)**. UIS is the lead agency to provide data and indicators on Goals 2 and 3.



**Goal 2: Universal Primary Education**

**Goal 3: Promote gender equality and empower women**



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

## UIS EFA/MDG Monitoring Indicators

- EFA Goal 1:** Gross enrolment ratio in Early Childhood Development (ECD)
- Early childhood** Percentage of new entrants to grade 1 with ECD experience
  
- EFA,MDG Goal 2:** Intake rates (AIR and NIR) in primary education
- Universal Primary** Enrolment ratios (GER and NER) in primary education
  
- Public current expenditure on primary education as a % of GNP
  
- Public current expenditure per pupil on primary education as a % of GNP per capita
  
- Public current expenditure on primary education as a % of total public current expenditure on education



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

## UIS EFA/MDG Monitoring Indicators

- EFA,MDG Goal 2:** % of primary teachers with required academic qualifications
- Universal Primary**
- (cont'd)** % of primary teachers who are certified to teach
- Pupil-teacher ratio in primary education
- Repetition rates by grade in primary education;
- Survival rate to grade 5;
- Coefficient of efficiency at grade 5
- EFA Goal 3:** Literacy rates of 15-24 years
- Learning needs of  
Young people and  
adults**



# UNESCO's role in monitoring Global Commitments (EFA and MDG)

## UIS EFA/MDG Monitoring Indicators

<b>EFA Goal 4:</b> <b>Adult Literacy</b>	Literacy rates of 15+ years and over
<b>EFA Goal 5, MDG Goal 3:</b> <b>Gender Equality</b>	Gender Parity Index - Ratio of girls to boys in primary; secondary; tertiary levels Ratio literate 15-24 year-old women to men
<b>EFA Goal 6:</b> <b>Quality Education</b> (esp. literacy, numeracy and essential life skills)	Percentage of primary pupils of grade 4 (or higher) who master basic learning competencies



# **UNESCO's Education Statistics initiatives in the Caribbean, 2003**

- **Regional participation in UIS Education Statistics Survey**
- **Regional workshop for education statisticians and planners**
- **Technical Support to Planning/Statistical Departments of Education Ministries**
- **Development of Qualitative Education Indicators**
- **Literacy Assessment and Monitoring Programme (LAMP)**



# UNESCO's Education Statistics initiatives in the Caribbean, 2003

## Annual Regional workshop for education statisticians and planners

**Facilitators:** UIS; UNESCO Office for the Caribbean

**Participants:** 21 countries represented (including other partners such as CARICOM, OECS, WB, CCDC, CXC)

This year's workshop (**April 2003, Grenada**) aimed at:

- Reviewing education **statistics provided by countries** for UIS surveys, (identification of problem areas and solutions);
- Reviewing **education indicators** produced from the data and assessment of their relevance to national, regional and international education issues;
- Discussing issues related to **survey methodology**;



# UNESCO's Education Statistics initiatives in the Caribbean, 2003

## Objectives - Annual Regional workshop for education statisticians and planners (cont'd)

- Reviewing **analytical techniques and means of presenting data** to improve their usefulness for monitoring and policy development;
- Facilitating **information exchange** on national issues related to the collection, processing and utilization of educational data;
- Discussing **potential changes to data collection instruments** in order to address emerging issues in education e.g. expanding EC data.



# UNESCO's Education Statistics initiatives in the Caribbean, 2003

## Technical Support to Planning/Statistical Departments of Education Ministries

**Facilitators:** UIS; UNESCO Office for the Caribbean; American Institutes of Research

**Participants:** At least 7 countries (demand-based)

### Objectives include:

- Review of the **ISCED mapping** for national education system and **UIS survey responses**;
- **Assessment of capacity** within the education statistics/planning departments to respond to info needs;
- **Building capacity** of statisticians in data gathering and compilation processes (e.g. expanding education coverage – identifying sources e.g. Ministries of Health that provides education services;
- **Sensitization of education leaders** on the role of statistics in planning “fostering a culture of informed decisions”.



# UNESCO's Education Statistics initiatives in the Caribbean, 2003

## Development of Qualitative Indicators

**Facilitators:** UNESCO Institute for Education Planning (IIEP); UNESCO Office for the Caribbean; OECS Education Reform Units

**Participants:** OECS, Suriname, Guyana, Barbados

Workshop held (**June 2003, St. Lucia**) aimed at:

- **Building on previous work** conducted by World Bank/UNESCO/OECS on developing a conceptual framework for selecting qualitative indicators;
- Examining **data collection approaches**;
- Developing methodologies for **transforming data into indicators**;
- Examining techniques to **analyse qualitative indicators**. (**Expected piloting in at least one country, end 2003**).



# UNESCO's Education Statistics initiatives in the Caribbean, 2003

## Literacy Assessment and Monitoring Programme (LAMP)

**Facilitators:** UIS; World Bank; UNESCO Office for the Caribbean

**Piloting:** Jamaica

### Objectives include:

- Building on the findings/experiences of the **EFA Assessment 2000** that identified various methodologies being used at the national level;
- **Measuring a spectrum of Literacy levels** (very basic reading and writing to higher levels required for participation in a learning society);
- Addressing needs for **regional/international comparisons** through standardization;
- Supporting **monitoring of Literacy achievement** goals (MDG and EFA).



# UNESCO's support in using Education Statistics for Planning

## Regional Training in Education Policy Simulation Techniques

**Facilitators:** UNESCO Office for the Caribbean; UNESCO Headquarters, Division for Education Policies and Strategies (ED/EPS); DFID Caribbean

This initiative aims at supporting countries in moving **beyond** data collection and generating output in the form of tables, graphs, digests - to actually using information as baseline for planning.

Questions such as **"What are the financial and other resource implications if we decide to implement a particular policy?"** can be explored to ensure realistic plans are being made.



# UNESCO's support in using Education Statistics for Planning

Main Components of **EPSSIM** (**E**ducation **P**olicy **S**imulation generic software developed by UNESCO/ED/EPS):

## BASELINE DATA

- Demographic data
- Macro-economic data
- School, pedagogical data, etc

## POLICY ASSUMPTIONS

- Enrolments (intake, flow rates, ratios, etc.)
- Educational personnel, space use, materials, etc.
- Financing, unit costs, etc.

## PROJECTION RESULTS

- Enrolments, technical, physical and human resources
- Financial resources, etc.



# UNESCO's support in using Education Statistics for Planning

## SIMULATION

## PLANNING



a tool for

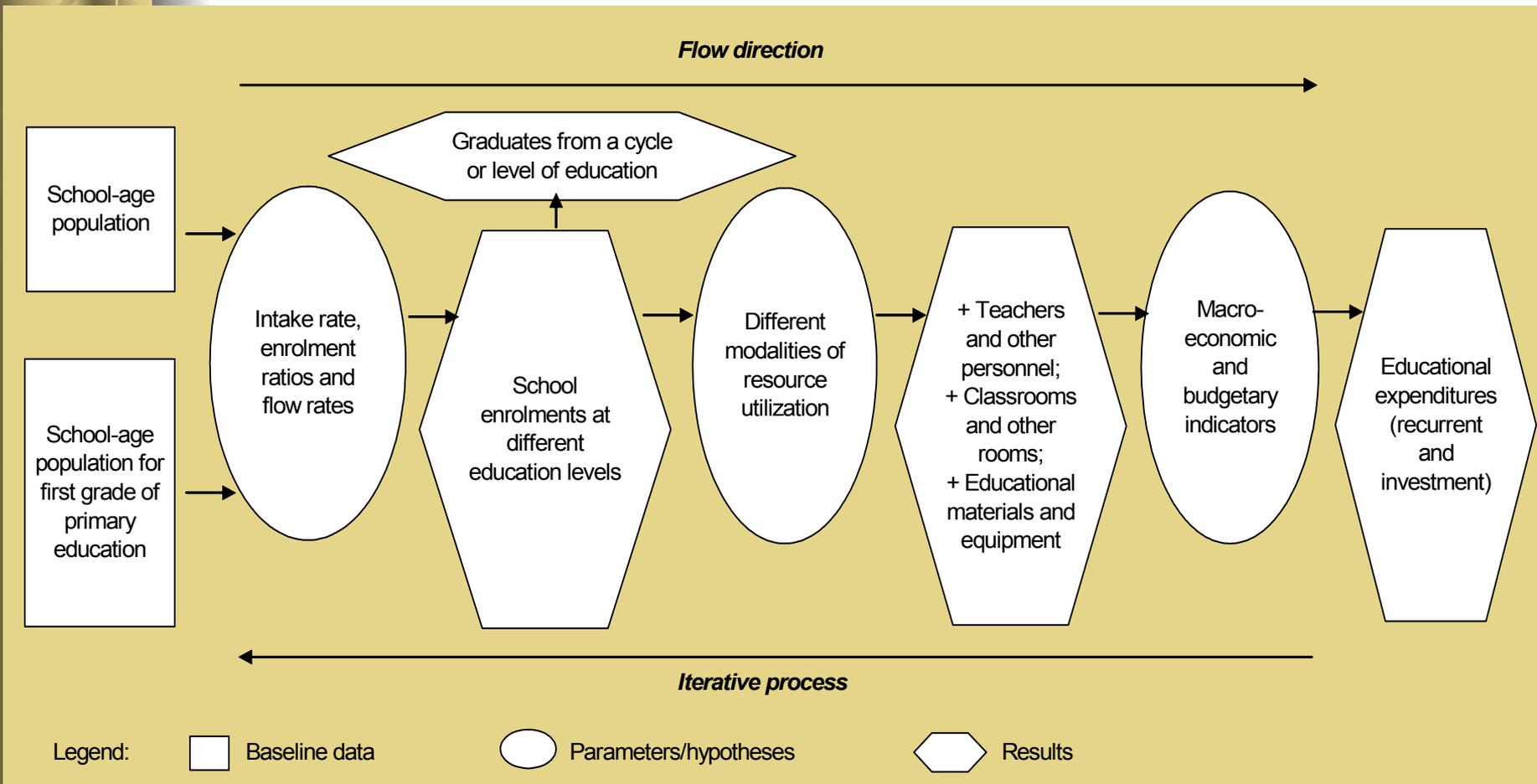
- BASELINE DATA & INFO** (Data Input)
- POLICY ASSUMPTIONS** (Simulation Parameters)
- PROJECTION RESULTS** (Resource Requirements)

- The System Is **ANALYZED** (Diagnosis)
- The Future Is **DEFINED** (Policy Formulation)
- The Work Is **PLANNED** (Action Planning)



# UNESCO's support in using Education Statistics for Planning

## Simplified chart of a simulation model



Legend: Baseline data      Parameters/hypotheses      Results

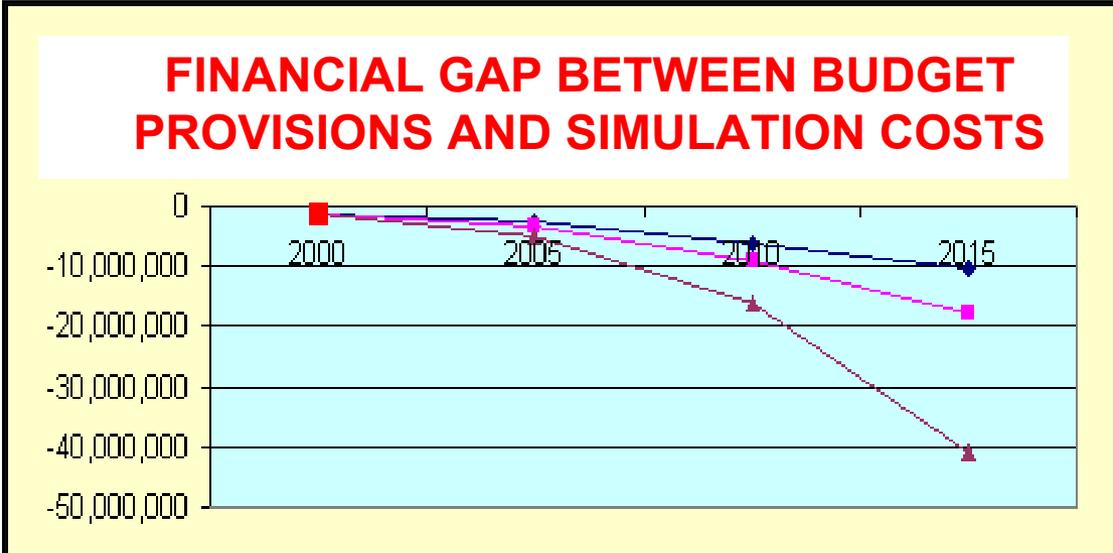


# EPSSIM – OUTPUT

**Exploring various scenarios over 15 years: Increased Teachers Salaries;  
Decreased Student-Teacher Ratios; Increased Gross Enrolment Ratios**

**What resources are required to offer better packages given the current trend of recruitment of Caribbean teachers by more developed countries?**

**How much additional external financial resources required?**



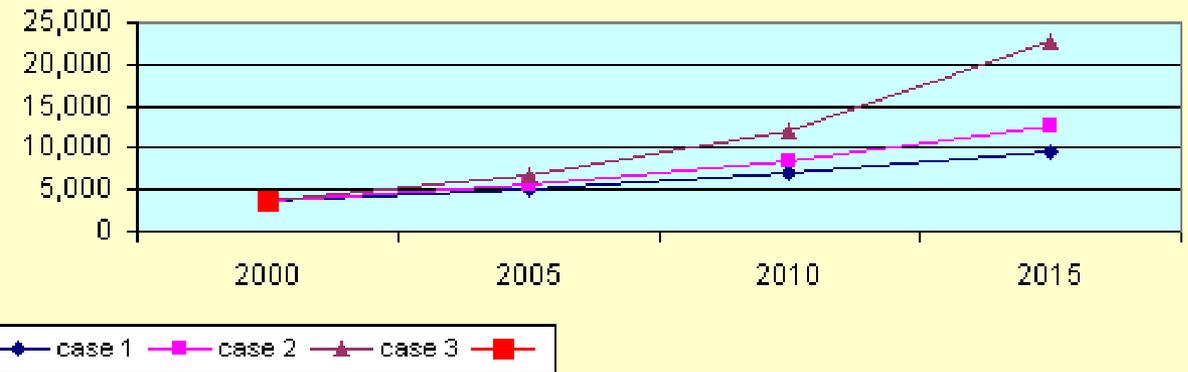


# EPSSIM – OUTPUT

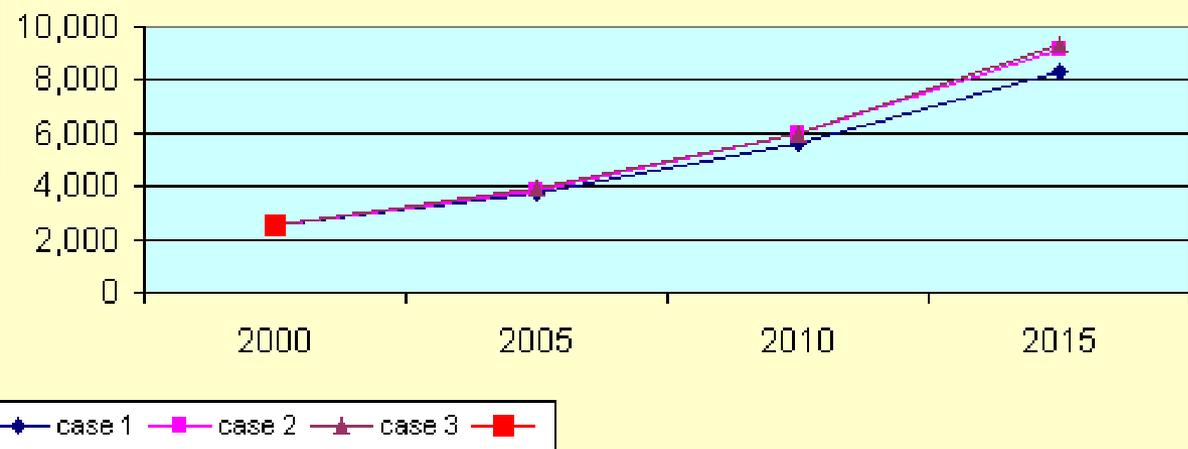
**Hypothesis:**  
**100% school age population enrolled in schools by 2015 –**

**What are the implications in terms of the number of teachers? In terms of the number of classrooms?**

### PRIMARY EDUCATION – NUMBER OF TEACHERS



### PRIMARY EDUCATION – NUMBER OF CLASSROOMS





# UNESCO's support in using Education Statistics for Planning

## Regional training in EPSSIM – Activities in 2003:

- Training of 5 regional resource persons to provide EPSSIM technical support in the Caribbean (**March 2003, Paris**)
- Regional workshop for regional planners and statisticians – adapting EPSSIM generic model within national contexts (**April 2003, Barbados**)
- Demand-based follow-up EPSSIM technical support (**August-December 2003**)



# UNESCO Caribbean Contacts for EFA Support Initiatives

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(UNESCO Caribbean website to be launched in  
September)