

A SOUTHERN AFRICA PROPOSAL FOR MONITORING PROGRESS TOWARDS ATTAINING THE GOALS OF THE EFA JOMTIEN CONFERENCE CONCERNING THE QUALITY OF EDUCATION

Executive Summary

In September 1993 a group of educational planners from Ministries of Education in Zimbabwe, Zambia, Malawi, Tanzania (Zanzibar), and Swaziland prepared a proposal for a project designed to monitor progress towards attaining the quality of education goals that were established by the Jomtien Conference on "Education for All". The proposal suggested a collaborative approach to the collection of indicator data that can be used for policy development in this area.

In particular, the proposed project aims to provide information that will enable decision-makers to address the following key policy questions.

1. What are the baseline data for selected inputs to schools?
2. What percentage of schools fall below the Ministry of Education norms (standards) for equipment and supplies?
3. How equitably are resource inputs distributed across schools?
4. What are the levels of student achievement in Reading and Mathematics, and to what extent do these achievement levels vary across schools and across administrative regions?
5. Which are the inputs to schools that are most related to achievement?

The answers to these questions will result in recommendations to Ministers about what might be done about particular problems that are identified.

The project has been designed so that each participating Ministry of Education will have a small National Research Team. The work of the Ministry teams will be co-ordinated by a Sub-regional Co-ordination Centre which will be located in Zimbabwe. The Co-ordination Centre will be required to ensure that the work undertaken by each National Research Team (for example, sampling, tests, questionnaires, data collection, data analyses, and report writing) is of the highest quality, and that the work runs to a common and timely schedule.

It is proposed that the costs for all national work be borne by national governments and that the Sub-regional Co-ordination Centre be funded by an appropriate agency.

The project will run from June 1994 to July 1996. If the collaborative style adopted for this project proves to be effective and useful, it is envisaged that other projects of common interest in the SADC region will be developed and undertaken.

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CONFERENCE CONCERNING THE QUALITY OF EDUCATION**

To enrol one hundred percent of an age group in basic education and to improve educational achievement in all subject areas, but especially in literacy and numeracy, are the two most important educational goals for all countries in the SADC area. At the same time, many countries are experiencing economic recession with the result that education ministry budgets are being cut. Under these conditions it becomes of paramount importance for educational planners to establish whether the educational achievements of children are commensurate with the substantial investment made by governments. In addition, it is important to identify those resource inputs to schools which have the greatest impact on achievement.

In 1991, the Ministry of Education in Zimbabwe conducted a survey of achievement in reading in grade 6 and related many input variables to the achievement of pupils. The planners undertaking the study were able to identify a small number of inputs that "made a difference". At a seminar on 'Data Analysis and Policy Report Preparation' planners and researchers from eight SADC countries used the data set from the Zimbabwe study to establish a clear agenda for educational policy reform. The seminar participants agreed unanimously that such studies would be of use in all SADC countries.

This is an official proposal from five ministries in the SADC region to undertake a similar collaborative study in the period January 1994 to December 1995 (a period of 24 months).

AIMS OF THE STUDY

In each country, the major aims of the study are:

1. To measure the level and variance of achievement in reading and in mathematics in Grade 6 pupils and schools.
2. To measure the home backgrounds of the children in each school, and the physical, resource and pedagogical inputs to each school.
3. To relate the indicators representing home background, and the various inputs to schools to achievement outcomes and identify the more important inputs influencing achievement.

At the initial planning meeting of all national project directors, a series of specific research questions will be set for each of the above aims.

TARGET POPULATION AND SAMPLING

The desired population is all pupils in Standard 6/Grade 6 in the mainstream formal education system during the week of data collection. Excluded are all pupils in special education schools.

The defined population is all pupils in full-time schooling in the mainstream of the educational system.

A two stage probability sample of schools will be drawn with a probability proportional to the number of pupils in Standard 6. Within schools a random sample of 20 pupils will be drawn. The sample will be drawn to yield two standard errors of sampling equal to 5 percent for a mean value or percentage or 0.10 for a correlation. In other words, the simple equivalent sample will be 400 pupils. This level of accuracy is the accepted value by all major educational research enterprises.

On the assumption that the rho value for a country for Standard 6/Grade 6 is about 0.30 it is expected that the sample size will be about 150 schools and 3,000 pupils in each country.

INSTRUMENT CONSTRUCTION

1. Outcome measures

A reading test (literacy) and a mathematics test (numeracy) will be constructed. They will be power and not speed tests. The first step will be to undertake, in each country, a content analysis of syllabi and textbooks to establish what children are meant to have learned by the end of Standard 6. This will be conducted by the ministry and curriculum centre personnel within each country. It is expected that it will be relatively easy to reach agreement on the areas to be measured in Reading given the experience of the

Zimbabwe study. For mathematics, it is anticipated that the test blueprint will have areas/themes on the vertical axis and either the lower three categories of the Bloom taxonomy or the Biggs' SOLO categories on the horizontal axis. The content analysis exercise will result in a weighted test blueprint for each country. (Each cell in the blueprint will have a weight of 1, 2, or 3 where 1 represents little emphasis in the curriculum, 2 represents some emphasis, and 3 represents a lot of emphasis. Three or four times as many items as required for each cell for the final testing will be written or obtained from existing item banks in each of the countries. After editing, these items will be tried out in each of the countries on a judgment sample. On the basis of the content validity of the items and of the classical item analysis, items will be selected for the final tests. It is expected that each test will have a reliability of 0.90.

At the same time the ministry personnel together with Standard 6/Grade 6 teachers will identify those items they deem should be mastered by all pupils in order to be able to cope with Standard 7/Grade 7 instruction. This is a way of stating the minimum standards that should be reached by Standard 6 pupils. They may also wish to set a desirable standard as well as a minimum standard.

The hope is that it will be possible to have one common test for all countries. If the situation arises that the curriculum is different for the different countries, then it may occur that 80

percent is common. In this case it will be possible to have a common test for the 80 percent that is common but each country will then have to add items to cover the extra 20 percent for its own curriculum which is different from that of the other countries. From discussions it would appear that the probability of having one common test is very high.

Questionnaires.

There will be three questionnaires: one for pupils, one for teachers and one for headteachers. The information to be collected in the pupil questionnaire will concern the home background of the pupil in terms of possessions in the home (wealth of home), reading and math resources in the home, parental help with school work, parental meetings with the teacher, regularity of eating meals etc.. It is to be noted that, if possible, contact will be made with the Ministry of Health to encourage that ministry to collect data on age, weight, height, and collect a urine sample from each pupil being tested. These data can be integrated into the pupil file containing the data just mentioned above. This will provide important information for health planning and also activities that might be undertaken by the schools.

The teacher questionnaire will contain questions on personal background, teacher sex, academic qualifications, professionals, satisfaction with work, living conditions at work, teaching/working conditions, availability of curriculum materials in school, availability of books in class, furniture and other supplies.

The headteacher questionnaire will contain questions on school location, countries would have to discuss the stratification variables , school head professional qualifications and experience at present school, school enrolment, school buildings and equipment, to include classrooms, toilets, teachers and their characteristics, eg, age distribution, academic qualification and experience, nature and frequency of inspection visits.

The questionnaires will be tried out in a pilot study and, on the basis of univariate statistics as well as the attempt to form derived ratio and derived constructs, will be revised.

PRINTING OF ALL INSTRUMENTS

All countries will test in English but some will also test in the local language. The English version of the instruments will be printed in one place in order to save costs but the local language version will have to be printed in each country separately. The Ministry print shops will be given ample warning and the tests will be printed at least one month before the testing begins. All booklets will be checked for completeness.

DATA COLLECTION AND DATA ENTRY

Within each country data collection will be conducted by the district education officers. Once the probability has been drawn

the districts within which the drawn schools are located will be known. Manuals for data collectors will be written and the appropriate district education officers will be trained at a workshop and given the tests and questionnaires for the school(s) in which the tests have to be administered.

The data collectors will be allowed to help the pupils to complete questionnaire items but not test items. Data collectors will also ensure that the teacher and headteacher questionnaires are fully completed before they leave the school(s) and take all instruments back to the regional education office. The test booklets and questionnaires will then be returned to the national office where they will be checked for completeness and then entered onto files using the Data Entry Manager(DEM) system. These procedures worked very well in the Zimbabwe survey and are hence proven procedures.

DATA ANALYSES

The specific aims of the study are posed in terms of policy related questions and dummy tables for each question will have been prepared by the time of data analysis. The initial analyses for all countries will be conducted in one place by the data analysts working together. Further separate national analyses will then be conducted nationally.

PREPARATION OF THE REPORT

Three reports will be prepared by each national team:

- a) A short executive summary for the Minister.
- b) A short booklet for informed lay persons and university students.
- c) A long research report aimed at the educational research and educational planning community.

Further to these official reports, a technical report will be prepared describing the technical aspects of the research to allow others to analyse the data.

ORGANIZATION OF THE STUDY

Each country will have a team of persons responsible for the study. This team will be headed by a national project director. The members of the team will consist of test developers in math and reading, a questionnaire developer, a sampling expert, a senior data processor (who may have to be aided by one or two assistants), and, if necessary, a statistician.

Most costs within a country will be borne by the ministry of education. These are shown in appendices i and ii.

In order to coordinate the work in all of the countries because of the commonality of interests and the common variables it is suggested that there should be a regional coordinator assisted by

a data processor and secretary. All of these three persons would be full time and located in the Unesco regional center in Zimbabwe. The reason for the choice of Zimbabwe is that the suggestion for this regional cooperation emanated from an IIEP seminar and the IIEP regards Zimbabwe as the focal point for regional activities. It is further suggested that the coordinator be the person who so ably ran the Zimbabwe survey referred to earlier in this proposal.

The coordination will involve:

- arranging and preparing in detail meetings of the four project directors about eight times during the life of the project. These meetings are to finalise the research planning questions (with dummy tables), plan in detail the content analyses in each country, decide on the common test items, decide on the common questionnaire items, approve the sampling plans and procedures in each of the countries, finalise all instruments, write the codebooks and manuals, decide on the analyses to be undertaken, and write the final report. It is anticipated that these meetings can be hosted by the ministries in the different countries and that countries will pay for the internal travel and subsistence costs.
- ensuring that all national teams meet the various deadlines set down by the study.
- ensuring that the minimum standards are met by each national team.

- arranging the central data processing for all country data sets.
(This central data-processing is to ensure the rapid production of the initial reports. But many further analyses will be conducted in each country).

- arranging for consultants, where necessary. (It is anticipated that 2 weeks of time of a sampling consultant will be needed and two weeks of time of a very skilled data-processor will be required).

Each national study will be run to the same timetable.

BUDGET

Appendices i and ii show details of project costs to be met by donor funds and national governments respectively. The international budget is shown on a year by year basis while the national costs are for the two year period. It would be useful to finalise the budget at a planning workshop where all the participating countries would be represented.

BUDGET SUMMARY(in US\$)

GOVERNMENTS CONTRIBUTIONS

Zimbabwe	\$81 093.33
Tanzania (Zanzibar)	\$27 352.66
Swaziland	\$62 655.33
Zambia	\$99 124.85
Malawi	\$92 771.20
	\$362 997.30

DONOR FUNDING

For International Centre in Harare, Zimbabwe

\$154 724.00

TOTAL COST

\$517 721.30

DONOR FUNDING AS A PROPORTION OF TOTAL COST

29.88 percent

APPENDIX 1

SADC PROPOSAL FOR MONITORING THE ATTAINMENT OF THE GOALS OF THE JOMITIENG CONFERENCE

COSTS TO BE BORNE BY DONOR FUNDS

INTERNATIONAL COSTS	US\$ YEAR 1	US\$ YEAR 2	US\$ TOTAL
1. Personnel			
Salaries (including benefits)			
(a) Regional Coordinator	\$24,000.00	\$24,000.00	\$48,000.00
(b) Data processor (Deputy Coordinator)	\$17,500.00	\$17,500.00	\$35,000.00
(c) Secretary	\$2,000.00	\$2,000.00	\$4,000.00
(d) 1 Sampling Expert			
Professional fees	\$2,000.00		\$2,000.00
Air ticket	\$2,000.00		\$2,000.00
Honorarium	\$840.00		\$840.00
2. Office expenses			
(a) Office accommodation	\$5,000.00	\$5,000.00	\$10,000.00
(b) General Supplies	\$200.00	\$200.00	\$400.00
(c) Paper	\$350.00	\$350.00	\$700.00
(d) Xerox (including accessories)	\$1,500.00	\$1,500.00	\$3,000.00
(e) Post/telephone/fax	\$350.00	\$350.00	\$700.00
3. Office Equipment			
(a) 1 IBM 486 PC	\$4,000.00		\$4,000.00
(b) 1 IBM 386 PC	\$3,000.00		\$3,000.00
(c) Wide carriage printer	\$2,000.00		\$2,000.00
(d) 1 Laser printer	\$3,000.00		\$3,000.00
(e) 1 Fax machine	\$1,500.00		\$1,500.00
(f) Diskettes	\$200.00		\$200.00
4. Meetings and Travel			
(a) Initial planning meeting For Project Directors at IIEP, Paris			
i) Air fares	\$18,000.00		\$18,000.00
ii) Perdiems for 4	\$1,584.00		\$1,584.00
iii) Honorarium	\$2,000.00		\$2,000.00
(b) meetings of country project directors within region			
i) Air fares	\$750.00	\$750.00	\$1,500.00
ii) Perdiems for 4	\$600.00	\$600.00	\$1,200.00
(c) Regional Director visit			

APPENDIX 1

SADC PROPOSAL FOR MONITORING THE ATTAINMENT OF THE GOALS OF THE JOMITIENG CONFERENCE

COSTS TO BE BORNE BY DONOR FUNDS

INTERNATIONAL COSTS	US\$ YEAR 1	US\$ YEAR 2	US\$ TOTAL
each centre (4 visits each country) (4 visits per country)			
i) Air fares	\$1,000.00	\$1,000.00	\$2,000.00
ii) Perdiems	\$300.00	\$300.00	\$600.00
15. Other			
ia) 2 weeks Data processing expert			
i) Air fares		\$3,000.00	\$3,000.00
ii) Perdiems for		\$2,500.00	\$2,500.00
iii) Honorarium		\$2,000.00	\$2,000.00
	\$93,674.00	\$61,050.00	\$154,724.00

LEADING PROPOSAL FOR MONITORING THE ATTAINMENT OF THE GOALS OF THE JOINTLY-LEADING CONFERENCE

STIMULUS TO BE DONE BY NATIONAL GOVERNMENTS

[illegible]

APPENDIX II

SADC PROPOSAL FOR MONITORING THE ATTAINMENT OF THE GOALS OF THE JOINTING CONFERENCE
COSTS TO BE BORNE BY NATIONAL GOVERNMENTS

NATIONAL COSTS	US DOLLAR	Zimbabwe	US DOLLAR	TZ Zanzibar	US DOLLAR	Swaziland	Zambia	US DOLLAR	Botswana
a) Travel & subsistence	\$17,333.33	\$104,000.00	\$586.96	\$270,000.00	\$1,600.00	\$4,000.00	\$0,000,000.00	\$000.00	\$4,000.00
7. Data collection									
a) Travel & subsistence	\$5,000.00	\$30,000.00	\$5,434.70	\$2,500,000.00	\$000.00	\$2,400.00	\$10,000,000.00	\$12,000.00	\$00,000.00
8. Printing of instruments	\$1,666.67	\$10,000.00	\$1,530.92	\$704,225.00	\$1,767.33	\$5,302.00	\$666,666.00	\$1,371.20	\$6,656.00
	\$01,093.33	\$406,500.00	\$27,352.66	\$12,502,225.00	\$02,655.33	\$107,966.00	\$54,510,666.00	\$92,771.20	\$463,656.00
		\$01,093.33	\$27,352.66	\$27,352.66		\$02,655.33	\$99,124.85		\$92,771.20