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CO-ORDINATION OF TECHNICAL CO-OPERATION IN STATISTICS

Statistical Education Video Series:

a joint venture of the

Statistical Office of the United Nations Secretariat

and the

International Statistical Institute

Report prepared by the International Statistical Institute

INTRODUCTION

1. The present report extends and updates information contained in a statement by the International Statistical Institute (ISI) submitted as a Conference Room Paper at the twenty-fifth session of the Statistical Commission in February 1989.

2. In February 1989 the International Statistical Institute (ISI), in collaboration with the UN Statistical Office, has initiated a project for a Statistical Education Video Series. Phase I of the project is a feasibility study to demonstrate that statistics instructors in developing countries can increase their teaching effectiveness by using video-cassette teaching aids. Phase II is the production of a pilot video-cassette course.

Funding for Phase I has been provided by the International Development Research Centre (IDRC), Canada. Negotiations for funding of Phase II are being conducted with UNICEF. It is proposed to produce a pilot video on measuring the nutritional status of young children. The video would be based, in large part, on the UN Statistical Office Technical Study on this topic which has been prepared for the National Household Survey Capability Programme.

3. The work of the ISI is described in section I below, with emphasis on its education programme. Section II describes the statistical education video project, a joint venture of the ISI with the UN Statistical Office.

I. INTERNATIONAL STATISTICAL INSTITUTE

4. The ISI is a worldwide organization of professional statisticians with a Permanent Office in Voorburg, The Netherlands. Founded in London in 1885, it is one of the world's oldest scientific bodies. The elected membership of the ISI is more than 1,500. In addition approximately 3,200 others belong to one or more of the ISI Sections: Bernoulli Society for Mathematical Statistics and Probability, International Association of Survey Statisticians, International Association for Statistical Computing, International Association for Regional and Urban Statistics, and International Association for Official Statistics.

5. Ex officio members from affiliated organizations, intergovernmental agencies, and national statistical offices represent the professional interests of the world statistical community. The UN Statistical Office and several agencies and regional commissions are ex officio members of the ISI. Conversely, the ISI enjoys consultative status with the Economic and Social Council. This facilitates its work and provides a useful avenue for beneficial contacts with producers and users of statistics.

6. In 1948 the Economic and Social Council adopted a resolution (231c (IX)) calling upon the ISI, in collaboration with UNESCO and other appropriate international organizations to "arrange for a survey of the needs for education and training in statistics and the formulation of an international programme to meet these needs". This led to the establishment of the ISI Statistical Education Committee. Its activities have been supported since 1948 by a subvention from UNESCO.

7. The education programme of the ISI includes sponsorship of meetings and a publications programme. In 1950, the ISI with the Government of India and the Indian Statistical Institute, established the International Statistical Education Centre (ISEC) in Calcutta.

8. During the past four decades, the ISI on Statistical Education Committee has fostered the development of teaching aids for statistical education and training. Initially, the teaching aids programme developed along four lines:

- (a) Preparation of bibliographies of textbooks of statistics in various languages;
- (b) Preparation of bibliographies of statistical literature on particular topics;
- (c) Preparation of dictionaries and glossaries; and
- (d) Preparation of textbooks.

9. Emphasis is placed on the development of innovative methods for teaching statistics with particular attention to the statistical development needs of less-developed countries. In September 1970 in Oisterwijk, Netherlands, the ISI convened a Round Table on New Techniques of Statistical Teaching. In February 1989 the ISI initiated a statistical education video project.

II. STATISTICAL EDUCATION VIDEO PROJECT

10. The aim of the project is to increase the effectiveness of national and regional statistical education and training programmes in developing countries by introducing the use of video-cassette teaching aids. Video-based instructional materials are seen as a supplement to, not a substitute for, the classroom teacher.

11. The use of video materials for teaching statistics in developed countries dates back to 1961. By 1970 the possibility of transferring this technology to developing countries was discussed. But, to date there is little experience to justify the hope expressed at the Oisterwijk Round Table that the use of these techniques would enable developing countries to skip a generation of statistical development.

12. The ISI statistical education video project was established in February 1989. It starts with the premise that there is little doubt that video-cassette statistics courses will work in developing countries. The point is to accumulate experience in the field to make them work better. Therefore, a step-by-step approach is being taken:

- (a) Phase I is a feasibility study to test and evaluate existing video-cassette materials, produced for use in the UK and the US at selected education and training centres in Africa.
- (b) Phase II is the production of a pilot video-cassette course.
- (c) Phase III is the full-scale production of a series of video-cassette courses on basic areas of statistical methodology and official statistics.

A. Phase I: Feasibility Study

13. The ISI video project has aimed to select for testing and evaluation in Africa video-cassette materials that are as suitable as possible for use in developing countries. To this end, the project head assembled what he judged to be the best available courses and submitted these for screening by a panel of experts. The panel consisted of representatives from the following: ISI Committee on Statistical Education, UN Development Programme, UN Economic Commission for Africa, UNESCO, UN Statistical Office and Open University of the British Broadcasting Corporation.

14. Two courses were selected by the panel of experts. The first of these is an intermediate-level course, Probability and Statistics, produced in 1984 by the Open University. The second is an introductory course, produced in 1989 by the Consortium on Mathematics and its Applications (COMAP) for the US Public Broadcasting System, Against All Odds: Inside Statistics.

15. Plans are underway for testing the Open University course at the Eastern Africa Statistical Training Centre (EASTC) in Dar es Salaam in August 1989. Probability and Statistics is a 16-module course. The contents of modules 1 through 4 correspond rather closely to the syllabus of course S. 103 Probability in the professional level guide syllabus of the Statistical Training Programme for Africa. These four modules will be used in the test at EASTC.

16. Other possible sites for the feasibility study are being explored. Among the possibilities are a university statistics department and a government statistical office in-service training programme in Africa. The Board of Directors of ISEC also has welcomed the testing of video-cassette materials in Calcutta.

17. At the end of Phase I the Project Head will prepare a feasibility report. A preliminary report on the feasibility study will be presented during an open meeting of the ISI Statistical Education Committee at the 47th Session of the ISI in Paris.

18. An important by-product of Phase I is a Directory of Statistics Video-Cassette Courses. The ISI has obtained some information for the Directory from previously published listings and responses to questionnaires mailed to university statistics departments. The UN Statistical Office is cooperating with the ISI in collecting information from national statistical offices on their production and use of video-cassettes for teaching statistics. This information will be compiled and published for joint distribution by the ISI and the UN Statistical Office.

B. Phase II: Pilot Video Course

19. The ISI has reached agreement in principle with UNICEF on the production of a pilot video-cassette course on assessing the nutritional status of young children. While final details are yet to be decided, the following paragraphs describe what is envisioned as Phase II of the Statistical Education Video Project.

20. Phase II of the project is the production of a pilot ISI video-cassette course designed specifically with the training needs of developing countries in mind. It has been recognized that existing video-cassette courses have certain shortcomings which reduce their effectiveness in less-developed countries. The Open University says about one of its courses, although it has been outstandingly successful in Britain, it uses examples which would be incomprehensible to non-UK residents. Similarly the developer of Against All Odds says that some of the video modules have a strong US cultural bias while others transfer more easily. The Phase I feasibility study will help to identify these shortcomings more specifically, as well as enabling the ISI project staff to learn about the strengths of these top-quality UK and US video courses.

21. Few of the existing statistics video courses deal with aspects of official statistics: most are used to teach probability and statistics from a theoretical perspective. The pilot ISI video course will be designed to provide practical training on a specific area of applied statistics.

22. The content of the pilot video course is based on a UN Statistical Office Technical Study, Assessing the Nutritional Status of Young Children in Household Surveys, and the Manual, How to Weigh and Measure Children.

23. The pilot course will combine video materials with other instructional media. The following materials will be prepared for the course:

- (a) Video-cassette: a 30-minute module combining on-location shots in developing countries with studio footage and graphics;
- (b) Student's workbook: a 10-page collection of review questions, computational exercises and discussion topics;

- (c) Audio-cassette: a 60-minute tape reviewing, reinforcing and further explaining topics covered in the video and leading the student through the workbook exercises;
- (d) Student's course guide: a 50-page printed training guide containing all of the reading the student is required to do; and
- (e) Teacher's course guide: a 15-page manual giving practical guidelines for using the video- and audio-cassette materials, and giving suggestions for practicals and test questions.

This course format is similar to that of Open University courses offered for television distance learning in the UK.

24. Production of the pilot video module will be done by the Open University Production Centre of the British Broadcasting Corporation, which also will produce the audio-cassette. Other course materials will be written by the ISI video project head and consultants.

25. Testing and evaluation of the pilot ISI video course in various settings in developing countries will provide experience needed by the ISI in producing the Statistical Education Video Series. Advice of a project steering committee and feedback from users of courses in the video series will provide the basis for improvement throughout the life of the project.

C. Phase III. Statistical Education Video Series

26. Two kinds of course will make up the Statistical Education Video Series, core courses and official statistics courses. Both types of courses produced by the video project would differ from currently available courses (such as those tested in Phase I). They would:

- (a) Avoid culturally-biased illustrations limiting the transferability of existing courses;
- (b) Be produced in several language versions with on location footage from several different developing countries; and
- (c) Include practical case studies illustrating the application of key skills: examples from government statistical work in developing countries would be highlighted.

27. Core courses will cover basic areas of statistical methodology and related fields, such as--

- (a) Regression analysis
- (b) Design of experiments
- (c) Information system concepts for statisticians
- (d) Microcomputer skills for statisticians

Funding for the production and distribution of the core courses will be sought from donors with a general interest in statistical education and development.

28. Official statistics courses will cover topics such as--
- (a) Statistics for a food and agriculture information system
 - (b) Statistics for educational planning
 - (c) National income accounting
 - (d) Using the population census in national planning and policy making

Support for the production and distribution of the official statistics courses will be sought from donors who have a direct interest in each specialization (e.g., FAO for statistics for a food and agriculture information system, UNESCO for statistics for educational planning, etc.).

29. Donor support for the production and distribution costs of the Statistical Education Video Series is crucial. Commercial vendors of existing video-cassette courses charge prices high enough to recover their development costs and make a profit. Statistical education and training centres in developing countries cannot afford to pay several thousand dollars for each course. The Statistical Education Video Series would be distributed to developing countries at the cost of reproducing and shipping the video-cassettes and other course materials. With a modest expenditure for a television monitor and video-cassette player (approximately 2,500 US dollars) a centre in a developing country would acquire the capability for using these innovative teaching materials.

30. The participation of the UN Statistical Office and the co-operation of other members of the UN statistical system with the statistical education video project will help to:

- (a) Identify topics of greatest value in training for statistical development in developing countries;
- (b) Conform the contents of the courses to appropriate statistical standards and international statistical guidelines;
- (c) Obtain the support of donors to pay the costs of production and distribution.

PROJECT PROPOSAL

(revised 16 May 1989)

Project Title : ISI - STATISTICAL EDUCATION VIDEO SERIES --
PHASE II

Project Goals : The aim of this project is to increase the effectiveness of national and regional statistical education and training programmes in developing countries. We envisage transferring the technology for using video-cassette teaching aids from advanced to statistically underdeveloped countries as a means to that end. Phase I of the project is a feasibility study which demonstrates how the use of video-cassette teaching aids can improve teaching effectiveness in developing countries. At the same time, we expect to find that existing video-cassette courses, produced for use in advanced countries, have certain shortcomings which reduce their effectiveness in less-developed countries. Phase II of the project is the production of a pilot ISI video-cassette course designed specifically with the training needs of developing countries in mind.

Project Activities: Phase II of the project, the production of a pilot video-cassette course on assessing the nutritional status of young children, involves the following activities:

- . Identify characteristics of target audience and specify instructional objectives
- . Outline course content
- . Storyboard video module and write script
- . Produce video-cassette module
- . Produce a supplemental course guide, workbook and other teaching aids

Project Period : 10 1/2 months

Project Cost : \$ 57,000

1. Introduction

The institutions providing statistical education and training in developing countries face a daunting challenge. In many statistical offices and sectoral ministries in the Third World a high proportion of the authorized posts at the professional and middle levels are vacant or filled with suboptimally trained personnel. Attrition of trained staff adds to the demand for continuous training just to maintain current levels. But, it is not enough to maintain current levels: socio-economic development requires statistical development, and statistical development requires more statistical education and training.

Statistical education and training are provided by university statistics departments, technical training institutes, and in-service training programmes. In developing countries, all of these institutions tend to be underfunded and poorly supplied with textbooks and other teaching materials.

Looking at this situation, the Committee on Statistical Education of the International Statistical Institute (ISI) proposes an innovative solution. Developing countries can adopt new technologies to skip a generation of statistical development that more advanced countries have achieved through a more painstaking and time consuming process. Video-cassette based teaching materials can be combined with local classroom instruction to expand the capabilities of statistical education and training centres in developing countries.

Phase I of the Project: ISI - Statistical Education Video Series seeks to demonstrate the feasibility of this innovative approach as well as to identify certain shortcomings of currently available statistics videos, produced for use in advanced countries, when they are transferred to developing countries.

Phase II of the project involves the production of a pilot ISI video-cassette course with the training needs of developing countries as a primary consideration.

The 25th Session of the United Nations Statistical Commission (6-15 February 1989, New York) has endorsed the ISI Statistical Education Video Series. The statement on technical cooperation submitted by the ISI to the Commission emphasizes the complementary roles of the members of the UN statistical system and the ISI in this and other activities to foster the statistical development of developing countries. Cooperation between the UN Statistical Office and the ISI is crucial to the success of the video project. Statements by the President and Director of the ISI and by the Director of the UN Statistical Office establish the video project as a joint venture of the two organizations.

The ISI statement to the 25th Session of the Statistical Commission notes:

"The cooperation of the UN Statistical Office with the ISI video project will help us to:

- . Identify topics of greatest value in training for statistical development in developing countries
- . Conform the content of the courses to appropriate statistical standards and international statistical guidelines
- . Obtain the support of donors to pay the costs of production and distribution."

2. Pilot Course: Assessing the Nutritional Status of Young Children

One topic which has been identified as having high priority is the methodology for assessing the nutritional status of young children through anthropometry. Recently, the UN Statistical Office, in close collaboration with WHO and the support of UNICEF, issued a draft technical study outlining recommended methods in this field. This Technical Study and Manual on How to Weigh and Measure Children are part of the documentation for the UN National Household Survey Capability Programme.

We propose to take as the subject of the pilot course of the ISI-Statistical Video Series "Assessing the nutritional status of young children." The content of the video course will be based on the Technical Study and Manual as well as supporting methodological studies.

The intended audience for the video-cassette course will be:

- . Statisticians in central statistical offices charged with implementing and analyzing national surveys on nutrition and health topics
- . Nutrition, health and statistics officials in ministries of health charged with planning, implementing and evaluating nutrition and health care
- . Teaching staff and researchers in academic institutions wishing to make use of operationally focused training materials and practical guidelines for teaching and undertaking research in this area
- . Students in academic institutions and technical training centres who are preparing themselves to undertake work of the sort indicated in the first three categories.

A tentative outline of the video-cassette course on assessing the nutritional status of young children is shown in Attachment 1. One thing that is apparent from looking at the tentative course outline is that it contains a long list of topics. It is likely that the tentative list can be shortened by eliminating some topics of marginal importance; other important topics may need to be added.

An advisory panel consisting of representatives of the ISI Statistical Education Committee, UN Statistical Office, UNICEF, WHO and consultants on nutrition surveillance and the production of video-based training materials working with the project will be asked to review and make recommendations on the tentative course outline in terms of the intended audience for the course and the instructional objectives.

A crucial decision must be made regarding the allocation of topics to video presentation versus coverage in written course materials. Some concepts and skills lend themselves to audio-visual (i.e., video) media. Others require text and workbook treatment, perhaps supplemented by audio-cassette reinforcement and/or practicals.

Experienced producers of video courses (BBC-Open University) recommend the following balance between instructional media:

- 30-minute video-cassette
- Printed material of about 50 pages
- Audio-cassette for individualized study and review
- Workbook unit of 10-15 pages

Having outlined the proposed content of a video-based course on assessing the nutritional status of young children, and having indicated the format of the instructional materials to be produced, we describe in the next section the plan of work for Phase II of the project. The tentative time schedule for completing this work is Attachment 3.

3. Plan of work

A description of the activities involved in producing the pilot course, "Assessing the nutritional status of young children", follows.

A) Identify instructional objectives

The basis for the instructional objectives for the course is the description of the intended audiences given in the preceding section of this proposal. The course is aimed at statisticians, nutrition and health staff in central statistical offices and ministries of health. The level of the course is set for students in academic institutions and technical training centres as well as government data producers and data users in the social areas. Finally, teaching staff and researchers in academic institutions should be able to benefit from these operationally focused training materials.

We will focus our attention on the two primary audiences:

- . Trainee-level statisticians who will upon the completion of their training be charged with implementing and analyzing national surveys on nutrition and health topics
- . Trainee-level nutrition and health officials who will upon the completion of their training be charged with planning, implementing and evaluating nutrition and health care programmes.

Based on the characteristics of these primary intended audiences, we will derive instructional objectives.

B) Outline course content

Having specified instructional objectives in the previous stage of the plan of work, we are ready to describe, step by step, the instructional activities that will enable the trainee to gain the mastery of key concepts and skills.

At this stage it is important that the course designer receives input about:

- . Adequacy of the instructional objectives
- . Coverage of the overall course outline
- . Conformity of course content with international statistical guidelines and standards
- . Adequacy of the video and non-video instructional methods proposed to meet the instructional objectives

C) Design video module

The video portion of the course on assessing the nutritional status of young children will consist of one video-cassette, 30 minutes in length.

Designing the video module begins by outlining in detail what topics it will include. The course designer will prepare a "storyboard": a sequence of hand-sketched pictures and brief notes describing the action taking place with the pictures.

At this stage a working script is written. This is a preliminary version of the narration that will be the audio portion of the video-cassette.

D) Produce video module

Because this course is oriented towards the statistical development needs of developing countries, the video footage will be shot in a developing country. Some footage will be shot in the studio and some on location.

Graphics make up an important component of the video footage. Graphics include titles, on-screen outlines and summaries, charts and graphs as well as animations.

The video footage is edited using the storyboard as an outline. Audio is dubbed in. The preliminary script will need to be modified somewhat to agree with the actual video footage.

The minimal budget for this phase of the project allows for production of an English-language version only. It is desirable to have versions in other languages (French and Spanish, at least). This will necessitate dubbing in new audio tracks and cutting in new graphics. Additional funding would be requested to enable us to produce the course in several languages.

High video production standards are important to achieve the goals of the project. Therefore, we are pleased that the Open University Production Centre of the British Broadcasting Corporation has expressed their interest in working with the ISI and UNICEF on the pilot course. By treating this as a development project rather than a commercial venture, the BBC is able to offer the use of their outstanding facilities in Milton Keynes at a substantially reduced cost.

Shooting of on-location footage in China would enable us to take advantage of an offer by the President of Xian Statistical College College. The College has video equipment supplied under a project of the UN Population Fund (UNFPA). This equipment and a camera crew would be available to the ISI video project at no cost, except for nominal local expenses. Shooting of video footage in China would be directed by an Open University consultant and coordinated with the staff of the China food and nutrition surveillance project.

- E) Write course guide and workbook and produce other teaching aids

Although the video-cassette is the most expensive component of the course, other materials also are needed. The following non-video material will be prepared for the course:

- 1) Student's course guide: a 50-page printed "training guide" containing the text of the reading the student is required to do to master all of the instructional objectives. A part of the course guide summarizes topics covered in the video-cassette. Other topics, not covered in depth in the video-cassette, will be covered in the printed course guide. The course guide will contain references to other training materials covering important topics not included in the guide.
- 2) Student's workbook: a 10-page collection of review questions, computational exercises and discussion topics to enable "learning by doing".

- 3) Teacher's course guide: a 15-page manual for teachers giving practical guidelines for using video-cassette teacher aids effectively. Each main instructional objective is presented and the use of various teaching methods (e.g., viewing video-cassette, reading from student's course guide, and listening to audio-cassette and doing workbook problems) is explained. Emphasis is given to devising practicals: suggestions to the teacher encourage the use of real local situations and materials to illustrate and apply the course topics. Suggested test questions and problems are included.
- 4) Audio-cassette: a 60-minute cassette for individual student use reviewing, reinforcing and further explaining topics covered in the video-cassette and for leading the student through the workbook exercises.

In addition to these materials, the course package will include a set of resource materials for further reading. The pilot course on assessing the nutritional status of young children will have as resource materials the Technical Study and Manual and the various publications that are referred to in the video-cassette.

4. Project staffing and Support

The project leader of the ISI Statistical Education Video Project is Dr. Kenneth R. Bryson. As Assistant to the Director of the ISI, he developed the overall concept of the ISI Statistical Education Video Series. He designed and directed the implementation of Phase I of the project (the feasibility study). From 1976 to 1988 he was chief of the international training programme of the U.S. Bureau of the Census.

The course designer/scriptwriter is Dr. A.D. Lunn. He is Fellow in Mathematics of Worcester College, Oxford and a member of the Department of Statistics of Open University of the BBC. He has presented more than 30 courses for Open University and has been scriptwriter for more than 60 Open University courses. He is the author (with N. Crockett and M. Petersons) of STATPAC: Statistics: A Personalized Audio Course published by John Wiley and Sons in 1987.

Dr. John Richmond, Assistant Head of The Open University Production Centre, is the principal video production consultant for the pilot course. He will supervise all production operations carried out at Milton Keynes and will designate the Open University consultant to direct the production of the on-location footage. In addition to his very extensive experience in the UK, Dr. Richmond has provided technical assistance in video production to developing countries, including China.

Ms. Beverley Carlson, Senior Project Officer, Food and Nutrition Surveillance, UNICEF, is the agency focal point and UNICEF's technical advisor on the project. She was responsible for the development of the UNSO Technical Study and Manual and is now managing a global programme involving food and nutrition surveillance.

5. Budget

The estimated budget for the pilot video-cassette course is shown in Attachment 2. The total cost, \$57,000, consists mostly of costs associated with the production of the 30-minute video-cassette by The Open University Production Centre of the BBC.

Other costs are for an initial meeting in London (\$ 1,000) and for production of the teacher's and students' course guides and students' workbook (\$3,000). Costs of producing these printed components of the course are minimal because most of the work would be done by the project head whose salary is paid from another source.

The funding for the pilot video course will come from UNICEF. Other donors will be asked to provide supplemental funding as required.

ATTACHMENT 1

OUTLINE OF A VIDEO-CASSETTE COURSE ON
ASSESSING THE NUTRITIONAL STATUS OF YOUNG CHILDREN

- . Using anthropometric measures to assess the nutritional status of young children
 - .. Anthropometry provides accurate, replicable, timely data on nutritional status at a low cost
 - .. Interpreting data on weight-for-age, weight-for-height and height-for-age
 - .. Interpreting a Waterlow Nutrition Classification Table
- . Collecting anthropometric measures of the nutritional status of young children in a household sample survey
 - .. Choosing between an independent nutrition status survey and adding a nutrition supplement to a larger household survey
 - .. Domains of study
 - ... Disaggregation by age and sex
 - ... Disaggregation by geographical area
 - ... Disaggregation by season
 - .. Assessing change over time in the nutritional status of young children
- . Questionnaire design
 - .. Information on the household
 - .. Information on the mother
 - .. Information on all children 3 to 59 months old
 - .. Core anthropometry data
 - .. How to weigh and measure children
 - .. Optional topics
- . Survey design
 - .. Field organization
 - .. Number and type of interviewers
 - .. Length of interview
 - .. Respondent rules
 - .. Survey operations
- . Sampling
 - .. Sample size
 - .. Sample design
 - .. Precision of estimates

ATTACHMENT 1 (Cont'd)

- . Controlling the quality of the data
 - .. Recruitment of interviewers
 - .. Training of interviewers
 - .. Field instructions for interviewers and supervisors
 - .. Measuring interviewer effects
 - .. Obtaining anthropometric equipment
 - .. Standardizing anthropometric equipment
 - .. Obtaining accurate data on age of children

- . Data processing
 - .. The CDC anthropometric software package (CASP)
 - ... Data entry
 - ... Error detection/editing
 - ... Weighting of sample data
 - ... Computation of outcome measures (percent of median, Z-score and percentile for weight-for-age, weight-for-height and height-for-age)
 - ... Tabulations

 - .. Use of other microcomputer and mainframe software

- . Using anthropometric measures of the nutritional status of young children in planning and policymaking
 - .. Identifying problem areas
 - .. Identifying target populations
 - .. Monitoring effects of interventions
 - .. Evaluating improvements in the condition of children and their mothers

ATTACHMENT 2

DETAILED BUDGET FOR PHASE II

Planning meeting at London, U.K.		\$	1,000
Transportation:			
Voorburg-London-Voorburg	\$	300	
Oxford-London-Oxford	\$	100	
Per diem (2 persons x 2 days x \$ 150/day)	\$	600	
Production of audio- and video-cassette components of course		\$	53,000
Milton Keynes production costs (This includes all costs of Open University in designing and producing audio- and video cassettes.)	\$	45,000	
China production costs	\$	8,000	
Return airfares:			
2 persons, Milton Keynes-Xian- Milton Keynes	\$	4,778	
Per diem (2 persons x 21 days x \$ 65/day)	\$	2,730	
Local expenses (expendable supplies, petrol, etc.)	\$	492	
Production of printed components of course		\$	3,000
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	TOTAL	\$	57,000
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ATTACHMENT 3

TENTATIVE TIME SCHEDULE FOR PHASE II

- May 1989 : Planning meeting in London
- June - August : Storyboard video module and write working script
- September : Shoot on-location footage in China
- October - December: Produce and edit video module
Record audio-cassette
Write course guides and workbook
- 31 December 1989 : Preliminary version of course materials to UNICEF
- January : Review preliminary version of course materials
- 31 January 1990 : All comments on preliminary version of course to course designer
- February - March : Produce finished version of video- and audio-cassettes
Print course guides and workbook
- 31 March 1990 : Finished version of course materials to UNICEF

16 May 1989
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