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STATISTICAL COMMISSION

AN INTERNATIONAL PROGRAMME FOR  
EDUCATION IN STATISTICS

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(Proposed on behalf of the International Statistical Institute,  
by Stuart A. Rice, President, for consideration  
under Item 14 of the Provisional Agenda)

/CONTRIBUTIONS

CONTRIBUTIONS OF THE WORLD STATISTICAL CONGRESS  
TO THE STATISTICAL COMMISSION'S OBJECTIVES

The basic function of the Statistical Commission is to recommend those measures which, in their aggregate, will result in the development of a World Statistical System. Considering the complexities of present economic and social relationships, such a system is one of the indispensable requisites for that peaceful world order to which the United Nations is dedicated.

To assist in the furtherance of this objective, the Commission, at its First Session, recommended to the Economic and Social Council that the United Nations convene a World Statistical Congress concurrently with the sessions of several international statistical organizations. This was done and the conjoined International Statistical Conferences met in Washington, 6-18 September 1947. It is now timely for the Commission to review the results of the Conferences and to consider their bearings upon the Commission's basic function.

In order to evaluate the World Statistical Congress the character and dimensions of the task of creating a World Statistical System should be in mind. It includes several contributory or correlative objectives:

1. The various national and international statistical agencies and organizations, official and unofficial, must be geared together. In some cases they must be redesigned or retooled for this purpose.
2. The intermeshing machinery thus established should provide stimulants to the improvement of statistical administration and the growth of statistical science; should facilitate the development of statistical methods and techniques and the administrative use of reliable data; and should develop facilities for bringing these advances to the attention of statisticians and administrators everywhere.
3. Positive efforts must be made to educate and train a sufficient number of competent statistical personnel to operate the system. This is especially important in countries that have not been steeped in Euro-American scientific and cultural traditions.

In the writer's opinion, the International Statistical Conferences were highly successful in furthering the first of these objectives and moderately successful in respect to the second. The programme of the United Nations' World Statistical Congress described the statistical needs, plans and relationships of inter-governmental organizations and of various /national governments.

national governments. This facilitated a better and more general understanding among responsible statistical personnel from many countries of the roles to be taken by official organs within the World Statistical System.

Elsewhere in the Conferences progress was made toward the establishment of appropriate roles for unofficial organizations. The principal international statistical societies came under clinical and ecological examination. The International Statistical Institute, the Inter American Statistical Institute and the International Union for the Scientific Study of Population were found viable but in varying degrees maladjusted. All took steps toward a better adaptation of their structures and programmes to the new international setting. In addition, desires among specialists for the creation of new organizations in several instances found their culmination. Two live births were recorded: within the Conferences, the International Association for Research in Income and Wealth; on the periphery of the Conferences, the Biometric Society (international); moreover, the World Congress on Public Opinion Research - again on the periphery - was brought out from the incubator.

A measure of the extent to which the Conferences provided the kind of stimulation mentioned above as the second requirement of a World Statistical System is not easily found. That they had very stimulating effects was apparent to observers, especially to those in charge of preparations and arrangements. Attendance from countries other than the United States substantially exceeded expectations. It involved much personal sacrifice. There was an evident eagerness by many participants to catch up with theoretical, technical and administrative developments with which they had long been out of touch. The Conferences made abundantly clear - were there ever any doubt about it - that scientific societies of statisticians and their periodic meetings will be an important part of a World Statistical System.

#### NEED FOR INTERNATIONAL PROGRAMME FOR STATISTICAL EDUCATION

The contributions of the International Statistical Conferences to the third requirement of a World Statistical System - an international programme for statistical education - were for the most part implicit and indirect. One of the participating organizations, the Inter American Statistical Institute, did deal directly with this question through a series of round table meetings on Statistical Training Methods and Materials in the Americas.

There was noticeable a pervasive sense of disappointment that the Conferences could not be more directly educational in character; that they could not more fully satisfy the needs of many participants for statistical

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enlightenment. This was illustrated by a delegate from one of the smaller nations who complained that the papers and discussions did not provide ready-made solutions to his nation's statistical problems. The naivete of this protest was eloquent of the need for an organized international programme of statistical education. If such a programme existed this delegate and his colleagues might acquire the tools necessary to organize the statistical services for which they feel a need but which they feel lacking in capacity to create.

An international programme for education in statistics, sponsored by the United Nations will be an appropriate and indispensable sequel to the World Statistical Congress. Without it, the scientific and administrative gains flowering from the International Statistical Conferences will not be fully harvested.

It may be mentioned that a number of reports on objectives, standards and syllabuses for statistical education have recently been made or are pending: in the United States, by the National Research Council, the Institute of Mathematical Statistics and the American Statistical Association; in the United Kingdom, by the Royal Commission on the Provision for Social and Economic Research and by the Royal Statistical Society. However, these reports have been prepared from the standpoint of problems arising in countries with relatively well-developed educational and training facilities. Statistical education cannot be developed in relatively backward countries within a reasonable period of time unless there is help from without. The need for such help would always offer a strong appeal; but it has increasing international importance at present.

#### SPECIFICATIONS FOR A PROGRAMME

What kind of an international programme for statistical education should be formulated? What should be its institutional instrument? The answers to such questions will take into account (1) the needs of member governments, of the United Nations itself and of other inter-governmental organizations; (2) the level of statistical development, or under-development, of nations or areas which are important in the furtherance of world organization; and (3) the availability of a non-political, international organization with sufficient scientific and administrative capacity, prestige and access to educational facilities to organize the undertaking and assure its success.

It is preferable that the programme be organized and administered under United Nations supervision by an organization with the characteristics just /described

described rather than directly by the Secretary-General, the Economic and Social Council, or some other organ of the United Nations or its specialized agencies. None of these have the time or specialized competence at their immediate disposal to formulate or direct the details of the enterprise.

In devising an international programme of statistical education, the statistical needs of inter-governmental organizations should be viewed as paramount. Their difficulties in obtaining data from national governments, and in developing competent staff organizations to assist governments in obtaining data, are tangible and pressing. Moreover, they are now at the stage at which the co-ordination of their particular data needs and data-procuring processes has become urgent. An educational programme under United Nations sponsorship would tend to uphold and supplement other efforts toward co-ordination.

Some experience with the educational and training requirements that are involved in its work "in the field" has been accumulated by the Food and Agriculture Organization. An emissary from the Headquarters of FAO in Washington spent eight or ten months in European and Middle Eastern countries making arrangements for the training of personnel to be employed in the World Agricultural Census of 1950. The Organization kept in view the distinction between basic (elementary) and advanced education in statistics on the one hand and the type of training required by personnel to be engaged in its particular activity.

Officials of FAO take the position that the training programmes of inter-governmental organizations will be highly differentiated and hence are the individual responsibilities of these organizations. The need for statistical education they regard as very great but as common to all such organizations. The formulation and maintenance of an educational programme in statistics is viewed by FAO as a central responsibility of the United Nations.

The same inferences are supported by the philosophy and experience of the Inter American Statistical Institute, whose efforts to develop improved facilities for statistical education are sharply distinguished from its programme of training in preparation for the 1950 Census of the Americas.

The educational programme here suggested to the Statistical Commission might be termed "two-directional". It would simultaneously take students to instruction and instruction to students.

Centres for relatively advanced education in statistics, but including basic or elementary instruction, would be established at a few well chosen points in collaboration with established educational institutions. To these centres students would be brought from surrounding areas, utilizing for

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fellowships such funds as might be available from any source. On occasion, short-term "institutes" for training purposes, such as that of FAO now in session at Cairo, might also be held at the established centres.

Perhaps a dozen suitable locations could now be found for the establishment of such centres in collaboration with existing educational facilities and instructional staffs. Purely for purposes of illustration we mention the Indian Statistical Institute at Calcutta, India, and the Faculty of Demography, Statistics and Actuarial Science at Rome, Italy. The United States and Canada, for this purpose, might be regarded as presenting a single network of educational facilities, including the exceptional facilities related to the handling of mass data by the governments of these nations.

The complementary part of the proposed programme would be an itinerant faculty sent out to teach at institutions located in proximity to prospective elementary students. This faculty would be expected to undergo rapid turnover in personnel, since it would probably be recruited in some measure from teachers in other parts of the world who were taking sabbatical or other leaves of absence from regular posts. Instruction would be relatively elementary and emphasis would be placed upon indigenous teaching materials. Since this would tend to enlarge the experience of members of the teaching staff it could be one of the inducements offered them. One objective of the itinerant faculty would be to select qualified candidates for more advanced education at one of the established "centres".

#### AVAILABILITY OF THE INTERNATIONAL STATISTICAL INSTITUTE

The International Statistical Institute is the one organization conspicuously adapted by its character, its accumulated experience and its relations to other official and unofficial bodies, to receive an assignment from the United Nations to undertake the programme here suggested. For many years before the first world war, it was the only existing instrument for international statistical collaboration. It brought official statistical personnel from leading nations together, furthering mutual understandings and agreements among them. It formulated inter-governmental conventions and secured their adoption.

Although the latter functions have now devolved upon inter-governmental agencies of the United Nations, the Institute still holds an unchallenged position as the progenitor of international statistics. It is still the one organization that seeks to maintain continuous relationships among the world's statistical leaders, both administrative and scientific.

/Relieved of

Relieved of its direct responsibilities for inter-governmental action, the Institute is now freed for ancillary services of an advisory or contractual character to the United Nations, its specialized agencies or member governments. The proposed international programme for education in statistics is of this character.

If the Institute were called upon by the Economic and Social Council to undertake this programme, the writer conceives that its first steps would be the formulation of a comprehensive and detailed plan, to be worked out by an international commission on the teaching of statistics, created by the Institute. The commission would be assisted by a full-time executive secretary and his assistant.

It is suggested that the United Nations initially finance the project for two years, during which the Institute's commission should be able to prepare a careful schedule of steps for further development. Its plan should include a balance sheet of international requirements for statistical education and available resources, including other potential sources of support; as well as a budget of proposed expenditures. We hope that it might also be able to make actual arrangements for the establishment, staffing and trial operation of one or more educational centres. The continuance and extension of the programme beyond two years would be subject to the Council's review and approval of the Institute's plan.

#### AN ESTIMATE OF COSTS FOR TWO YEARS

The tentative estimates below of the expenditures required for the two-year planning and launching period are intended to be very conservative and to take into account the fact that the United Nations is currently seeking to curtail its budget. The estimate makes several assumptions looking towards the minimization of costs to the United Nations:

1. It is assumed that the ISI commission and its secretary will be able to find and utilize sources of support other than its United Nations budget for any teaching centres or itinerant faculties that are actually established during the two-year period. The United Nations budget for this period is designed to meet planning and promotional costs only.
2. Provision should be made for two meetings of the ISI commission during this two-year period. It would contain five to nine members, and be so composed that its meetings could be held with economy in travel costs at the same time and place as the United Nations Statistical Commission or a subordinate body of the latter. The estimate of travel costs for the ISI commission is therefore somewhat

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speculative but very conservative. Considerable travel should be assumed on the part of the executive secretary.

3. It is assumed that the use of existing facilities without charge, or at nominal charge, could be obtained by the ISI commission and its executive secretary for such items as office space, office equipment, stationary, etc. The facilities which might thus be utilized would include those of the Permanent Office of the ISI, the Statistical Office of the United Nations, or the respective offices of members of the Commission.

The two-year costs, thus tentatively and conservatively estimated, are as follows:

Travel costs, including per diem		
Commission members, not otherwise met		\$ 6,000.00
Executive Secretary		
Two ISI commission meetings	\$2,800.00	
Other	<u>6,000.00</u>	8,800.00
Salaries		
Executive Secretary \$7,500	15,000.00	
Assistant \$2,500	5,000.00	
Translators, and other part-time services	<u>2,000.00</u>	22,000.00
Communication		2,000.00
Incidentals		<u>1,200.00</u>
TOTAL costs for two years		\$40,000.00

#### PROPOSED ACTION BY STATISTICAL COMMISSION

The following resolution is suggested to the Statistical Commission for its adoption:

THE STATISTICAL COMMISSION,

Considering its responsibility to advise the Economic and Social Council on the measures required to foster the development and improvement of statistics;

Reviewing the accomplishments of the World Statistical Congress convened in Washington during September 1947, as authorized by resolution of the Council (E/ );

Believing that a world-wide shortage of adequately educated statisticians is impeding the development of statistics throughout the world and adversely affecting the ability of many national governments to supply information to the United Nations, the specialized agencies, and other inter-governmental organizations, required by them to further the economic and social objectives of the United Nations Charter; and

Believing that the United Nations, in collaboration with the appropriate agencies, should sponsor, support and supervise an international programme for education in statistics which would be

/formulated by



formulated by and administered through the International Statistical Institute;

Recommends to the Economic and Social Council:

1. That the Council request the International Statistical Institute in collaboration with the United Nations Educational, Scientific and Cultural Organization, and other appropriate international agencies, to formulate and organize an international programme for education in statistics, in general conformity with the outline of such a project presented to the Statistical Commission by the Institute through its President (E/ );
2. That the Council request the Secretary-General:
  - (a) to prepare and negotiate an agreement with the International Statistical Institute covering the precise terms of the project, for approval by the Council;
  - (b) to take the necessary steps to include in the budget of the United Nations the agreed-upon costs of the planning and organizing expenses required during an initial period of two years; and
  - (c) to provide, in consultation with the Statistical Commission, such general supervision over the project on behalf of the United Nations as in his judgment may be required.

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