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EVALUATION OF THE USE OF GUIDE SYLLABUSES IN THE  
TEACHING PROGRAMMES AT STPA CENTRES AND  
NATIONAL STATISTICAL OFFICES

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## I. INTRODUCTION

1. It should be recalled that this is the second time the evaluation of the use of ECA guide syllabuses is being discussed in a wider context. The discussions on the use of ECA guide syllabuses took place for the first time in 1987 at the fifth meeting of Directors of STPA centres. A background document ECA/STAT/DM.5-STPA/87/2 was prepared for the discussion on this issue. To enable the above paper to be prepared an evaluation survey was conducted by ECA between February and June 1987 at all fifteen STPA centres, non-STPA centres and national statistical offices/middle level statistical training centres at national level.

2. The results of the 1987 evaluation survey on the use of ECA guide syllabuses showed that in general the ECA guide syllabuses were used up to 67 percent. In the discussions which took place during the fifth meeting of Directors of STPA centres, it was stated that the results of the evaluation survey revealed the use of the ECA guide syllabuses on the low side and that the contents of the guide syllabuses were used up to 80 percent at some centres. The use of the guide syllabus covered among others: the review of syllabuses of STPA and other centres, preparation of syllabuses for short term courses, etc.

3. It is important that evaluation surveys on the use of ECA guide syllabuses should be conducted from time to time to enable improvement of the quality and usefulness of these guide syllabuses to statistical training centres, national statistical offices and middle level statistical training centres at national level. It should be recalled that time and money had been invested in the preparation of these guide syllabuses hence an evaluation of their use is necessary from time to time to enable justification of the investment.

## II. NEED FOR EVALUATION OF THE USE GUIDE SYLLABUSES

4. This evaluation was felt necessary due to many reasons including the ones enumerated in paragraph 3 above. There was however another use to which the evaluation of the use of guide syllabuses was to be put to. The results of the present survey were to be used in the revision of the ECA guide syllabuses for middle level personnel in statistics which was to be undertaken before the sixth meeting of Directors of STPA Centres.

5. ECA recruited two consultants (one English-speaking and one French-speaking) each to revise one of the guide syllabuses for middle level personnel in statistics. The revision was to take into account the results of the evaluation survey. Particularly

helpful from the point of view of the survey and in the context of the revision of the guide syllabuses were questions on the difficulties encountered in the use of the guide syllabuses and suggested improvements that could be made to the guide syllabuses.

6. It should be recalled that a guide syllabus is very important and indeed essential for the following reasons:

- (i) It promotes the satisfaction, acceptance and cooperation of users of STPA centres;
- (ii) It standardizes and fairly concretely defines the idea of certificate, Diploma and degree in statistics;
- (iii) It facilitates students own ambitions for further training to a high level in appropriate parts of Africa;
- (iv) A suitably structured guide syllabus also enables a smooth graded and progressive development of deserving employees from the certificate, Diploma and finally degree levels.

### III. EVALUATION SURVEY ON THE USE OF ECA GUIDE SYLLABUSES

7. The evaluation survey on the use of ECA guide syllabuses was conducted in April 1989. The responses to the survey continued to be received at ECA up to September 1989. This was a postal (mail) survey. The survey solicited a number of information concerning whether or not the training institutions had made use of any of the ECA guide syllabuses prepared within the framework of the Statistical Training Programme for Africa (STPA), which guide syllabuses had been used and for what purpose. The training institutions were also requested to state difficulties encountered in using the ECA guide syllabuses and to indicate for the guide syllabus for middle level personnel in statistics, areas they would like to see improved by subjects or topics.

#### (a) Survey response

8. The survey response is presented at the level of STPA centres, national statistical offices conducting in-service

statistical training programmes and middle level training centres at national level, by the two language groups (English-speaking and French-speaking). The results are presented below:

(i) English-speaking African countries

- STPA centres
  - . Number 7
  - . Response 3
  - . Response rate 43%
- National Statistical Offices conducting in-service training courses
  - . Number 12
  - . Response 6
  - . Response rate 50%

(ii) French-speaking African countries

- STPA centres
  - . Number 8
  - . Response 2
  - . Response rate 25%
- Middle level training centres at national level
  - . Number 6
  - . Response 2
  - . Response rate 33%

9. It is clear from the above results that the response rates are very low indeed. Overall the response rate was 39 percent. The response rate is higher for the English-speaking countries (47%) as against the French-speaking countries (29%). The response rate was highest (50%) for the national statistical offices and was lowest in the case of French-speaking STPA centres. It is believed that even with a very low response the results will be useful in the revision of the guide syllabuses for middle level personnel in statistics and other guide syllabus revisions which might be undertaken in the near future.

(b) Guide syllabuses included in the evaluation

10. There were seven guide syllabuses which were prepared within the framework of the STPA and were included in the evaluation. These guide syllabuses are:

- (i) Guide syllabus for Professional level training (English-speaking African countries);
- (ii) Guide syllabus for Professional level training (French-speaking African countries);
- (iii) Guide syllabus for middle level personnel in statistics (English-speaking African countries);
- (iv) Guide syllabus for middle level personnel in statistics (French-speaking African countries);
- (v) Guide syllabus for in-service statistical training (English and French-speaking African countries);
- (vi) Guide syllabus for in-service statistical training (Portuguese-speaking African countries);
- (vii) Guide syllabus for middle level personnel training (Portuguese-speaking African countries).

11. It should be mentioned that in evaluating the use of the guide syllabuses mentioned above, STPA centres, national statistical offices and middle level training centres at national level were requested to attach to the duly completed evaluation questionnaire a copy of their latest syllabus to enable a thorough examination particularly in terms of inclusion of subjects or topics as the case may be. Some of the institutions/organizations did indeed include their teaching syllabuses while some did not.

(c) Use of the guide syllabuses

12. According to the responses received from the five STPA centres, four (80%) indicated that they used the guide syllabuses. Some of the centres used the middle level guide syllabus while others used the professional level training guide syllabus. This is not surprising since the STPA centres generally teach middle and professional level courses covering mainly the certificate, diploma and degree levels (Undergraduate and post graduate).

13. Regarding national statistical offices (NSOs), out of the six that responded from the English-speaking African countries two (33%) indicated that they have used the in-service statistical training guide syllabus. This may be due to many reasons: (i) the NSOs may not have had the relevant guide

syllabus when they needed it, (ii) those donor agencies offering technical assistance to the NSOs in the formulation of syllabuses for launching in-service statistical training programmes may have preferred to use other syllabuses more familiar to them and (iii) ECA may not have sufficiently promoted the use of its guide syllabuses particularly with respect to the in-service statistical training guide syllabus which was intensified in its promotion since 1984 and only a few countries succeeded in launching these programmes.

14. The solutions to the above problems can be viewed in many ways namely continued dissemination of the guide syllabuses, revision of the guide syllabuses to make them more attractive and useful to users; continued promotion of their use through workshops and seminars conducted at the regional or sub-regional levels; and provisions by ECA of advisory services to NSOs in the establishment organization and conduct of in-service statistical training programmes.

15. With respect to the middle level statistical training centres at national level in the French-speaking African countries, all (100%) the two centres which responded indicated to have used mainly the guide syllabus for middle level personnel in statistics at the "agents techniques" and "adjoints techniques" levels. It should be noted here that the majority of middle level statistical training centres adopted the ECA guide syllabus in the formulation of their teaching programmes.

(d) Purposes for which the guide syllabuses were used

16. The purposes for which the guide syllabuses were used were not many. Most of the training institutions used the guide syllabuses for preparation of their teaching syllabuses while a few used the guide syllabuses in the preparation of lectures or adaptation of a new syllabus in their teaching programme particularly when it was time to review the syllabus.

17. There are other uses to which the guide syllabuses could be put to. For example in the preparation of topics for workshops or seminars, comparison of standards of the existing syllabus of STPA centres with the ECA guide syllabuses and other syllabuses, etc. Training institutions have also used the guide syllabus as a reference document as and when the need arose. With respect to reference textbooks, training institutions could use these to increase the number of references which they may recommend in their courses if they so wish.

(e) Subjects used

18. This refers to the subjects which are included in the guide syllabus and which were used by the training institutions for the various purposes stated above. The following subjects in the ECA guide syllabuses were made reference to at STPA centres: statistical theory and methods, mathematics, applied statistics and economics. In the Applied statistics, topics that were found useful are actuarial statistics, labour, education, health, agricultural and national accounts statistics.

19. At the NSOs, the following subjects were referred to: Statistical Theory, Mathematics, Economics, Applied Statistics covering the various topics of official statistics.

20. At the middle level training centres at national level, the following subjects were referred to: Statistical Theory and Methods, Mathematics and Applied Statistics covering many topics.

(f) Difficulties encountered in the use of the guide syllabuses

21. Although some of the STPA centres had no difficulties in using the guide syllabuses some of the STPA centres, National Statistical Offices and middle level training centres at national level had some difficulties. These include:

- (i) Difficulty in matching number of hours in the guide syllabus with those in the revised or existing syllabus of the training institution;
- (ii) Some courses in the guide syllabuses were not clearly spelt out;
- (iii) There was insufficient number of hours allocated to statistical theory and methods subject in the guide syllabus;
- (iv) The guide syllabuses were found to be too long.

22. It is clear that the difficulties which were experienced varied from one training institution to another although some were common. The issue of number of hours is indeed a tricky one, training institutions may have to adopt what is feasible from their side depending on the length of the training period. Regarding the spelling out clearly of the courses this is a matter which can be taken care of in the revisions to be undertaken on these guide syllabuses. Regarding the length of

the guide syllabuses, the idea is to be as exhaustive as possible to enable the widest use of the guide syllabuses. The shorter the guide syllabus the more it will fail to meet the needs of a wide range of users.

(g) Suggested improvements

23. The following suggested improvements were requested in respect of the guide syllabuses for middle level personnel in statistics since these were due for revision as stated earlier. These syllabuses cover the certificate and diploma levels. The certificate level includes training at the in-service statistical training programmes conducted at national statistical offices.

(i) Certificate level

Subject	Topic	Suggested Improvement
Mathematics	Complex numbers	(i) Looks too broad  (ii) Instead of complex numbers, put polarform for complex numbers. De Moivres Theorem (without prof) and roots of numbers.  (iii) Drop this topic and replace with introduction to the use of computers, flow charts, programming in BASIC; statistical packages.  (iv) Recast: Cartesian geometry-straightline and circle.
Statistical Theory and methods	Measures of central tendency	Add weighted means
	Measures of dispersion	Add properties and uses of dispersion
	Probability	Add properties and application of standard distributions
	Regression	Add properties of estimates
Applied statistics		Add topics on Time series, index numbers

Subject	Topic	Suggested Improvement
(b) <u>Diploma level</u>		
Mathematics	Analytical geometry	(i) Specify conic sections (ii) Drop double integration (iii) Add topics on computing-using numerical analysis, lagrange formula, solution of equations, Newton Raphson method, maximum likelihood estimation
Economics	Microeconomics	(i) Add detailed discussion on concepts of elasticity and its application (ii) Add discussion on surpluses and shortages resulting from market disequilibria
Statistical Theory and methods	Probability	Add gamma, beta and Pareto distributions
	Estimation	(i) Add Cramer-Rao lower bound and minimum variance bound estimators (ii) Add testing for random digits and random numbers generated by computer
	Sampling	Add optimal allocation in stratified sampling
Applied statistics	Electronic data processing	Drop this topic and include in mathematics

24. As stated earlier the suggested improvements made above are particularly relevant to the revisions of the guide syllabuses for middle level personnel in statistics (English and French) which are being undertaken following the recommendation made by the fifth meeting of Directors of STPA centres that these guide syllabuses should be revised before the sixth meeting of Directors of STPA centres.

25. There is no doubt that once the guide syllabuses are revised there will be additional suggestions which will be made during the discussion of the documents at the sixth meeting of Directors of STPA centres which would enable further improvements to the guide syllabuses to be made. The suggestions for improvement which have been made above are mainly for greater details in the contents of the syllabuses. This in itself as one can imagine will make the guide syllabus long and the question of time allocation becomes crucial.

#### IV. SELECTED ISSUES

26. Clearly the evaluation of the use of guide syllabuses has got to be a continuing exercise to enable the ECA to improve the guide syllabuses. The response rate for the present mail survey is however rather dissapointing, it is believed that in future the response rate will increase.

27. There is a school of thought which states that once a guide syllabuses is good, it should be self-promoting. To enable achievement of this requires a lot of effort on the part of ECA not only in terms of taking into account the comments made by individual training institutions covering specific topics in the guide syllabus but also in terms of choosing qualified and more importantly experienced consultants to undertake the revisions of the syllabuses.

28. The ECA should itself also get more involved in the formulation of syllabuses or review of syllabuses at STPA centres, NSO, and middle level training centres at national level. This would enable a better appreciation of the difficulties encountered in using the ECA guide syllabuses.

29. The issue of reference textbooks and other reference materials has not featured clearly in the paper. This is one area which among others, if improved upon, could lead training institutions to use the guide syllabuses. Reference materials which are of African origin would be useful to mention including those publications of the international organizations. It is believed that reference materials which are of African origin would contain examples which are familiar to the African students.

V. CONCLUSION

30. The evaluation of the use of guide syllabuses in teaching programmes at STPA centres and national statistical offices is indeed a continuing exercise to enable a proper understanding of the uses being made of these guide syllabuses. The evaluation exercise extended naturally to the middle level statistical training centres at national level which exist in the French-speaking African countries.

31. It is believed that the results of this evaluation will assist initially in the revision of the guide syllabuses for middle level personnel in statistics (Anglophone and Francophone versions) and also in the revisions of other ECA guide syllabuses to be undertaken in the coming years.