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Observations on the work of the International Telecommunications Union
in Colombia

Report

by

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"Electronics and Telecommunications Training and Research,
Popayán and Bogotá". (UNDP Special Fund Project COL 12).

As the title implies, this project is geographically divided into two parts. The city of Popayán lies some three hundred miles from the capital, Bogotá, and air services and improved roads have not yet overcome its sense of comparative isolation. More important from the point of view of administration of a double-ended project is the fact that its two parts handle different levels of instruction. The Technological Institute for Electronics and Communications at Bogotá (Instituto Tecnológico de Electrónica y Comunicaciones) - ITEC - is a school with a broad series of training and refresher courses for the technical staff and workers of the Colombian Telecommunications Organisation -- TELECOM. The Electronic Engineering and Telecommunications Faculty of the University of Cauca at Popayán (Facultad de Ingeniería Electrónica y Telecomunicaciones) - FIET - is a university faculty answerable to the Ministry of Education, the final product of which is electronic and telecommunications "Engineers", a title which, in Colombia, implies a level of graduate studies between those of B.Sc. and M.Sc. in English parlance.

2. I believe that it was a mistake to try to combine these two operations, thereby incurring all the disadvantages of a commuting project manager. However, following the lead of the UN, the Colombian authorities set up not altogether appropriate lines of command, under which TELECOM is the Colombian counterpart agency for both parts of the project and the Director of ITEC shares an ill-defined responsibility for FIET with the Rector of the University of Cauca and the Dean of the Division and the Associate Dean of the Faculty. I believe that it might be wise to take advantage of the present stage of rethinking consequent upon the departure of the Project Manager who has served the project since September 1965 to explore with the Colombian authorities concerned the advantage of now breaking the direct link

between ITEC and FIET by establishing indirect liaison, perhaps through the Ministry of Communications, with its wider view over the whole field of the country's requirements.

3. This project is not exceptional in that it did not prove possible to carry out the provisions of the Plan of Operations as laid down. Some of its assumptions were clearly over-optimistic and the Project Manager was obliged by circumstances to go more slowly than the time-table prescribed. In addition, the results of recruitment by sub-contracting proved unfortunate. If one can speak of blame in such circumstances, such blame seems fairly evenly distributed and I do not propose to intervene in the argument in which the various points of view have already been very freely ventilated. There is, however, a general lesson for the United Nations family in this - not an original lesson by any means, but a lesson of which project COL 12 offers a good example. Quite apart from the effects of the error, already mentioned, of establishing too close a link between two dissimilar operations, I believe that much of the present disappointment and recrimination over this project - and of many others in many different countries - could have been avoided had the start of operations been planned; I do not say planned better, but planned at all. It should be axiomatic that the four primary elements of such an operation, that is to say national staff, international advice, buildings and equipment, should be so ordered that each come into operation at the appropriate time. ITEC could have been a much more successful operation had it started in the new building - now promised, but still on the drawing board. FIET likewise would have been a very different project had the first step been the preparation of the human raw material of a faculty by the provision of fellowship for future professors and the erection of the laboratories to house the equipment which would be provided for the use of the returned fellows. The second step would then be the arrival of UN specialists in a situation in which they could perform their proper role of forming a faculty. Arriving before these elements are in position, they are reduced to the role of teachers - OPEX

officials, in fact - and as far as the true aims of the project are concerned they are indeed trying to build a house without bricks. Impatience after the often long gestation of a Plan of Operations is understandable, but to my mind proper planning and timing of the start of a project is even more important than the careful elaboration of a Plan of Operations in meticulous detail, since the latter can be - and indeed usually is - amended subsequently in the light of developments, whereas the disruption caused by an untidy start can rarely be adequately overcome.

4. In spite of difficulties and disappointments, both ITEC and FIET have achieved positive results, with considerable improvement of standards of teaching and academic organisation. Field work on the project started in September 1965, but owing to sundry delays the project was officially declared operational only in October 1966. By the time the project ends, both institutions should, by and large, be in a position to carry on at existing levels, given continuity of policy and direction. (This condition has particular relevance for ITEC, which, during the first forty months of the project's existence, had six different directors, not all, be it said, specialists in electronics or communications.) ITEC now has 27 full-time Colombian instructors, plus 13 part-time, against a target of 35 full-time; the present strength of UN assistance is that of two Associate Experts (not counting the Project Manager). At FIET, working under 3 experts and 2 associates are 35 professors, of whom 6 are now studying abroad under fellowships, with 4 more ready to take up fellowships at a later date. These figures look promising. One serious qualification must be mentioned, however. Colombia is among the numerous countries that have not yet solved the dilemma of how to cooperate successfully with the private sector in retaining the services of its returned fellows. This is, of course, a problem for Governments alone to solve, but the effectiveness of UN aid to the public sector is directly influenced by the outcome of the efforts of Governments in this direction.

5. Although the project has still a year and a half to run, there are indications of intention to seek a three-year extension which, I gather, would apply to the operations at both university and technical school level. At the latter, it seems certain that the need is great; a representative of the Minister of Communications has stated that 17,000 employees over the country need training or refresher courses. It would however require demonstration that, at the end of the project, Colombia will not be in a position to carry on at the present levels and types of training at ITEC. It may be that the completion of the proposed new ITEC premises at Morato, near Bogotá, would make it desirable to have some outside advice on how to exploit the new facilities to the greatest advantage, but if, as is now suggested, the new buildings are ready for occupation before the end of 1970, this help can be given within the currency of the present project. If their construction is delayed beyond October 1971, however, there might be a good case for continued help, on a "TA" basis perhaps, to help to "run in" the new establishment.

6. Prolongation at FIET might well call for careful consideration. In the first place, the object of prolongation, or of a second phase, would be to raise the level of teaching to that of post-graduate studies and I imagine that the Colombian Planning Department would wish to conduct a thorough prior examination of the extent of the demand in Colombia for telecommunications specialists of so high a level. TELECOM, within its own sphere of responsibility, and other communications authorities operating throughout the country might be prepared to hazard some sort of forecast and hold out firm prospects of employment for given numbers, but it would be exceedingly difficult - as it has proved in the past - to obtain any sort of estimate of future requirements from private industry. I understand that the Colombian Planning Department is on the point of making an official request for UN co-operation in the task of framing an estimate of probable requirements of future development of Colombian communications including broadcasting, television, etcetera, and it would seem logical to forge a close link between the results of this enquiry and the desirability of mounting a second phase of the FIET operation, or of consolidating or extending that at ITEC.

7. I am convinced by my experience of other similar projects that it is a grave error to regard preparation for a higher level of university studies as a mere extension of the activities that led to the establishment of a faculty at the lower level. The inauguration of a school of post-graduate studies is, to my mind, an utterly separate operation which, in the context of UN collaboration, should be treated by the Governing Council of UNDP as a request for an entirely new project, requiring re-examination of all the relevant factors. It is sometimes argued that it is logical to "maintain the impetus" of a preceding project at undergraduate level and to "keep the rhythm unbroken", but it seems to me that, in such an operation, the rhythm must necessarily be broken; yesterday's Bachelors cannot immediately train tomorrow's Masters without themselves undergoing an appreciable period of further study. To attempt to move straight into a new project at the higher level is to plunge wantonly into all the initial difficulties that plagued FIET. Consequently, should the estimated requirements of the country lead the Planning Department to request UN assistance to introduce post-graduate studies in telecommunications at Popayán and should the request be approved by the Governing Council, I would hope to see the resulting Phase II turned into an experiment in properly planned and timed approach to a clearly definable problem, as suggested in para.3 above. Let us never again, in an educational project, see UN specialists arrive before there are properly trained counterparts to work with or properly equipped buildings to work in.

8. In the case of FIET, there would, I consider, be a good case for a continuing UN presence in the faculty at its present level after the project's terminal date in order to help the faculty authorities to consolidate the gains made so far and to help in advising on the execution of research activities which, owing to the difficulties experienced, have not yet developed so far as was foreseen in the Plan of Operations. One man on whom we must still call a "TA basis" would probably be adequate for this purpose if he were a good university administrator with general experience in electronics and telecommunications. Alternatively, or perhaps additionally, a series of short-term, highly qualified specialists in the specific subjects of research to be undertaken might prove extremely useful to the faculty.

9. Correspondence shows that many months have been consumed over the question of the supply of a computer to FIET as part of the equipment to be provided by the UN under the Plan of Operation. As a layman, I can only say that I cannot imagine how a university faculty in electronics and telecommunications in the year 1970 can be expected to turn out adequately prepared graduates without the aid of such a piece of equipment and I trust that the difficulties in the way of its provision will soon be circumvented. I regret that I must also raise again the problem of expensive apparatus unusable during appreciable periods because of the lack of minor adjuncts, purchasable locally but not immediately available to the project because of national financial regulations. I will not reiterate the well-known difficulties or objections, but I would urge that everything possible be done to permit the establishment of some sort of a revolving reserve of petty cash into which the Project Manager can dip as necessary, pending the completion of local financial requirements.

10. I wish to raise one final point on the subject of the supply of equipment, in the form of a plan for full prior consideration of the appropriateness of equipment to the task to be performed. This is a fairly general problem, but the dual nature of the project under consideration makes the question particularly apposite here. As it seems to me wrong at the FIET level to hesitate about the need to provide the means of training in the use of computers, so does it seem wrong to provide unnecessarily sophisticated equipment to ITEC, where my attention was drawn - as to one example of this error - to the provision by the UN of an "Oscilloscope" pulse recorder with a capacity of connecting six measuring subjects simultaneously. This instrument costs US\$3,864. For less than one tenth of this price, the same supplier provides a simpler, portable instrument allowing two measurements to be made simultaneously, which is the level at which instruction is actually being given at ITEC. The advantage of having two instruments to a class instead of one seems obvious and could perhaps be borne in mind in future to good advantage.

SUMMARY OF RECOMMENDATIONS

1. That this dual project be divided into two parts (Para. 2)
2. That the start of aid projects be planned in future (Para. 3)
3. That "TA" assistance be considered for ITEC if the new building is delayed beyond the end of the present project (Para. 5)
4. That careful thought be given to any request that may be made for a Phase II of the FIET operation in the light of the country's requirements and the actual availability of counterparts and appropriate promises (Paras. 6 and 7)
5. That continued "TA" help be considered for FIET pending consolidation of present achievements (Para. 8)
6. That a small, revolving petty cash fund be established to enable local purchases to be made without delay (Para. 9)
7. That greater thought be given to the appropriateness of equipment supplied for its intended use (Para. 10).