Rural Water Supply in Developing Countries

Presentations of a workshop on water supply held in Zomba, Malawi, August 1980
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The International Water Technician’s Course, Swaziland College of Technology

M.R.Z. Ntshangase

Origin and Development

The international water technician’s course was first established in 1976 at the instigation of the general director of the Water and Sewage Board in Mbabane, with the objective of providing staff with a basic all-around knowledge of public health, with specific emphasis on water- and sewage works. Since then, the course has become an integral part of the program offered by the Swaziland College of Technology in Mbabane, thus allowing full advantage to be taken of the facilities offered by other departments and sections on the campus. Moreover, strong support has been received from the World Health Organization and some development agencies since the establishment of the course.

Initially, it was thought that the course (of 4 years duration) would consist of 2 years of theoretical training separated by a period of 2 years of practical work in the water branch. Although only the first year of theoretical training (part I), has been given to this point in time, it has been decided to reduce the interval for practical training to 1 year, so as to provide sufficient time for the practical training without adversely affecting the continuity of the theoretical content of the course. At the beginning of the 1981 academic year, the second year of theoretical training (part II) is expected to start for the first time.

Since its beginning, the course has been attended by students from Botswana, Lesotho, and Swaziland. The designation of 1981-1990 as the “International Drinking Water Supply and Sanitation Decade” by the United Nations will certainly promote the success of this course.

Table 1. International water technician’s course curriculum.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Part I</th>
<th>Part II</th>
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<tbody>
<tr>
<td>Mathematics</td>
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<td>Hydraulics</td>
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<td>Chemistry</td>
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<td>Biology</td>
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<td>Water and sewage technology</td>
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<td>Distribution and collection</td>
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<td>Drawing</td>
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<td>Design</td>
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<td>Laboratory practice</td>
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<td>Mechanical operation and maintenance</td>
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<tr>
<td>Electrical operation and maintenance</td>
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<td>Building practice</td>
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<td>Plumbing</td>
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<td>Surveying (land)</td>
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<td>Management and administration</td>
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<td>Measurement and specification</td>
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<td>Hygienics and first aid</td>
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Objectives of the Course

The original objective of the course, as mentioned above, has not changed. The course is expected to prepare staff for progression to middle-level posts in the water industry, i.e., assistant waterworks operators; waterworks and sewage-works operators in charge of plants with conventionally designed treatment; supervisors; inspectors of works; and clerks of works. Table 1 indicates the courses given to prepare the students for these positions.

Admission Requirements

The minimum requirements for admission to the course are a Cambridge overseas school certificate (COSC) or equivalent, which includes courses in chemistry, biology, and mathematics; a City and Guilds of London Institute (CGLI) certificate in general construction; or a special recommendation by the sponsoring organization.

Examinations, Promotion, and Award of Diploma

Students' progress and levels of achievement are assessed on the basis of individual assignments and written examinations throughout the course. In addition, reports are requested from the employers to which students are assigned during the practical period. These reports are taken into account in the overall assessment of the students' progress.

Promotion to part II of the course is subject to the satisfactory completion of both part I of the course and the practical period.

To qualify for the award of the diploma, students are required to complete the entire course, including the practical period, to the satisfaction of the authorities of the Swaziland College of Technology.