

《水利水电类专业英语》

图书基本信息

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内容概要

本书是水利水电类专业本、本科大学生学习专业英语的教材，内容涉及水利水电工程领域的各个专业面，包括水利水资源、农田水利、水工结构、水电站和河流泥沙工程。书中的英文原文大多选自国外经典著作，并含有较详细的注释和专业英语词汇及短语。本书还可作为水利水电类企事业单位工程技术人员和管理人员学习专业英语的培训教材。

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章节摘录

1) Environment and Environmental are used in their broadest possible sense to include not only physical and biological systems but also social and economic systems and relationships. 2) Environmental Impacts and Effects are taken to include both the influence of the wider environment on a project and the influence of the project on the environment. They are also taken to include both "positive" and "negative" changes. 3) A Project is defined as a specific set of human activities in a particular location intended to modify the environment for human benefit. Using the above definitions, a Project's prime aim is to maximize environmental enhancement while minimizing environmental change. In terms of the assessment of environmental change it includes not only the direct works of the project but also the indirect changes in infrastructure and population associated with it. 4) Irrigation/drainage Planner, Manager, Engineer and Professional are terms used to describe those people who, by virtue of their specific technical training in the techniques of irrigation, drainage and flood control are given responsibility for planning, designing, implementing and managing irrigation, drainage and flood control project. Use of these terms is not intended to be restrictive in relation to the disciplines of training which such people have received but relates to their assigned responsibilities and functions in a given situation.

8.2 Current Approaches and Priorities in Environmental Assessment The initial impetus to introduce methods of environmental assessment was provided by growing public concern about the large number of unforeseen, adverse environmental impacts which were reported during the 1960s due to new development projects particularly those constructed in areas where little previous infrastructure development had taken place. As a result, many countries have now adopted formalized (and statutory) procedures for environmental impact assessment (EIA) to be applied to all new projects within specified categories. In almost every case, irrigation, drainage and flood control projects are included within the list of project types for which an EIA is normally required although in some countries projects smaller than a specified size may be exempt. Whilst putting a useful check on projects which might otherwise have caused lasting environmental damage, the introduction of statutory EIA procedures is now acknowledged to have some significant shortcomings, the principal ones being:

1) that EIA concentrates on negative aspects of environmental change and results in a situation of conflict between those who have planned a project and those who undertake the EIA on it; 2) that due to the detailed information required and the number of specialists engaged in an EIA it is not usually undertaken until a late stage in project planning when changes to the project to mitigate adverse effects are difficult and costly; 3) that dialogue between environmental specialists and project planners to identify beneficial modifications to the project design or concept is not facilitated by EIA; 4) that available EIA procedures are too general in scope and require the user to exercise considerable knowledge and skill each time they are applied to projects of a particular type such as irrigation or drainage; and 5) that EIA procedures are intended for use only by people with particular expertise in social and environmental impact assessment and overlook the potential savings in time and cost which could be achieved if non-specialists were to do some of the preliminary data collection as part of normal planning activities. The procedure described in this report attempts to overcome some of the above difficulties.

9 Interrelation of Irrigation and Drainage Irrigation in the world today covers approximately 160 million ha, excluding areas under natural flooding. About half of this total is found in the arid and semi-arid subtropical zones. It was particularly in these zones that the special drainage measures demanded by irrigation came to be recognized, as over the years those areas with insufficient drainage began to show rising groundwater tables and increasing salinity. About two thirds of the total irrigated area has been brought under irrigation since the beginning of this century, but only recently has it become generally accepted that the installation or improvement of drainage forms an indispensable part of any irrigation project. In ancient times, as in the days of the various Babylonian kingdoms, salinity and water logging gradually reduced the productivity of the land. Market records have shown that in such a situation the cultivation of wheat—a crop sensitive to soil salinity—gave way to the more tolerant barley, but that finally large areas had to be abandoned and the farmers moved to new land. The rise and fall of the various kingdoms in Mesopotamia were evidently closely related to this changing state of agriculture. The Imperial Valley in California, comprising 200 000 ha, was brought under irrigation about 1910. Only fifteen years later the productivity of this area was severely threatened since no

provisions had been made for the discharge of the superfluous irrigation water and the salts that were brought to the area at a rate of 800 kg per ha with each irrigation application . Large parts of the valley went out of production and it was this catastrophe that provided the impulse for re-search into proper methods of re . . . establishing and maintaining sufficiently low salt concentrations in the soil . Due to the work of the U-S . Salinity Laboratory at Riverside , California , and that of other institutions , the remedy for drainage problems in irrigated lands is at present well . known , but only in minor part of the affected , subtropical areas have the necessary works been carried out . It is estimated that approximately 50 million ha of irrigated lands still do not have the required drainage facilities . The particular effects of irrigation on the criteria and the design of a drainage system are more dominant when rainfall is of lesser importance for the growth of crops than irrigation is

媒体关注与评论

当前，水利水电科学技术发展十分迅速，为了了解、学习和借鉴国外先进的科学技术，为我国的社会主义建设服务，需要大量地阅读和翻译国外科技文献及资料。另外，近年来我国在水利水电建设中从国外引进了大批先进的技术和设备，为了学习这些新技术和装好、用好、管理好这些新设备，需要详细地阅读和翻译引进的技术资料和设备的技术说明文件。同时，为了把我国水利水电工程建设和管理的成功经验介绍到国外，也需要有熟练的专业英语知识。要提高水利水电类专业科技英语的阅读和翻译能力，除需要掌握英语语法的基本知识、基本词汇和具有相当广泛的专业知识之外，还需要熟悉专业词汇和科技英语中的一些常用词、词组或短语，熟悉科技英语常见的句型和文体，以及掌握翻译科技文献的基本技巧。

本教材旨在帮助学生和相关人员提高阅读或翻译水利水电类专业科技英语文献及资料的能力，希望通过本书的学习能够达到以下几个目的：

1. 使学生熟悉典型的科技英语句型、文体。
2. 使学生掌握科技英语文献翻译的基本技巧。
3. 为学生提供一部分专业英语词汇和常用词组及短语。

本书的目的仅在于介绍英语的语言特点，并非介绍工程技术本身，这一点务必请读者理解。

本书由刘景植主编。书中I. 由郭生练编：写，II. 由傅湘编写，III. 1—8由黄介生编写，

9—16由蔡树英编写，17*18由刘景植编写，1-10由陈胜宏以及陈尚法、徐明毅、傅少君、汪卫明、夏怀孝、吴俊等编写，

11—14由夏富洲编写，V. 由贺昌海编写，1—8由伍鹤皋编写，9—15由于波编写，

由吴：卫民和余明辉编写。本书在选材过程中还得到了袁宏源教授和李义天教授的审核和指导。

本书的出版得益于原武汉水利电力大学“211：工程”办公室、师资办公室以及水利水电学院的大力帮助和支持，在此表示衷心感谢！

由于水平所限，书中的错误和不当之处恳请批评指正。

编者 2000.12

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