

# Step 1

## Preview of Rural Project Planning

Good planning is the key to successfully managing the details without losing track of the general objective. It is hoped that this guide will help rural telecommunications project planners and engineers find their way by pointing out the principal steps and highlighting the important issues and areas of consideration.

In this first step we will

- define the scope and focus of the guide,
- identify important prerequisites,
- give an overview of typical project steps, and
- review the general nature of planning.

### 1.1 Scope

This book was developed to assist communications planners and engineers to plan, design, specify, and implement telecommunications projects in the rural sector.

Taken as a whole, it begins essentially at the needs analysis stage and continues through to the preparation of bidding documentation. Although each step is a part of a general sequence, each should also be useful as an individual reference section.

Practical methods are presented with emphasis on useful and accepted techniques. Important planning factors and major considerations are identified. However, in-depth explanations of specific aspects, such as cable facility design, radio propagation and the like, are left to specialized references. In particular, readers are referred to the excellent handbooks prepared by the International Telecommunication Union (ITU) Working Groups. See Appendix B for a list of references.

This guide generally considers the rural network from the subscriber to the local exchange. Figure 1.1 illustrates this scope and also defines the structure of the rural network using definitions consistent with those used by the CCITT.

### 1.2 Rural Focus

Consistent with usage by the ITU, the term "rural" is used to denote an area comprising scattered groups of potential telecommunication users and having one or more of the following characteristics:

- lack of available power,
- lack of local technical skills,
- adverse topography,
- low level of economic activity, and
- harsh climate.

Typically, then, a rural zone would be fairly remote from main switching centres and providing service would be inconvenient because of physical obstacles, a thin population density, or lack of "direct" financial justification.

These characteristics necessitate cost-effective design solutions that consider such aspects as minimum power consumption, appropriate means of powering, flexibility to meet change, environmental protection, minimum life cycle costs, maintenance, and training.

### 1.3 Prerequisites

The following basic planning tasks are assumed to be complete and relatively up to date before beginning the steps described in this guide:

- Fundamental technical and development plans have been developed, including modernization and plans concerning analog to digital conversion.
- Long-term network planning and master plans are complete, including exchange locations and route dimensions for the junction and long-distance networks.

Before starting to plan the rural project, readers will want to obtain and carefully review these planning documents. If they have not been prepared, or are not up to date, this must be done before taking any other steps. The CCITT handbook *General Network Planning* (Geneva 1983) provides information on how to do this.