

Introduction to the First FAO Electronic Conference on Tropical Feeds and Feeding Systems

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Background

Livestock production constitutes a very important component of the agricultural economy of developing countries, playing, in particular, a key role in food security. In fact, the animal product part of the total food production is increasing at a much higher rate than that of cereals and other crops. Actually, the contribution of livestock goes far beyond direct food production (milk, meat and eggs) and includes multipurpose uses, such as: draught power (contributing to crop production, transportation...), skins, fibre, fertilizer and fuel, as well as capital accumulation. Furthermore, livestock production is closely linked to the social and cultural lives of several million resource-poor farmers for whom animal ownership ensures varying degrees of sustainable farming and economic stability.

The target group of FAO programmes is that of the small farmers. The main problems which presently limit the productivity of the small farmers' livestock are shortage and low quality of feed, and in some cases, high disease incidence and subsequent mortality of livestock. These problems are further aggravated by the lack of substantial capital investment, lower technological inputs and slow transfer of appropriate technologies. Despite the repeated efforts regarding animal health and genetics, during the past decades, the productivity has not increased due to the neglect of the feed component. This has particularly been the case in numerous developing tropical and sub-tropical countries where the main purpose of maintaining livestock is draught power and organic fertilizer, rather

than for livestock products.

In order to feed the growing human population, it will be necessary to devote more land to food and cash crops and therefore the land available for pasture and fodder will be reduced as has already occurred in Asia. Wherever the rate of population growth is high, grain production will be more and more destined to satisfy the food needs of these populations and less or no grain will be made available for animal feeding. On the other hand, increased food and cash crops will produce more crop residues and agro-industrial by-products, many of which represent valuable animal feed resources.

Therefore, there is a need to promote new feeding systems taking advantage of sources of energy and protein which are not directly challenged by the food demand and which can be integrated in a sustainable agricultural production system. Several such systems are already known and have been tested under different tropical and subtropical conditions. Their aim is to utilize all available local resources, such as natural grasslands and high yielding crops (sugarcane, palm oil, cassava tubers or sugar palm trees) as providers of energy and locally-grown soya or other legumes, multipurpose trees, animal and fish wastes, and aquatic plants as providers of protein.

There is a large number of different feeds available in the tropics (more than 600 are mentioned in the FAO publication "Tropical Feeds"). However, information on their nutritive value and their potential role as ingredients in local sustainable feeding systems is quite insufficient in most cases.

The major objective of the livestock development policies in developing countries is to ensure the optimum contribution of livestock to agriculture, in order to achieve food security, through an increase of the domestic production, and an improvement of income and welfare of the small farmers. The priorities of the developing countries favour production systems which are sustainable and environment-friendly, and which promote rural employment and reduce dependency upon imports. Livestock should be kept on feeding systems which do not require food demanded by people.

Why An Electronic Conference on "Tropical Feeds and Feeding Systems"?

On the occasion of the presentation of the document "Livestock and Improvement of Pasture, Feed and Forage", the FAO Committee on Agriculture (1993) recommended "the development of means for rapidly disseminating information on various feed resources by modern techniques (computer diskettes, CD-ROM, electronic mail)" and that "further efforts and research be devoted to this initiative". The need was also emphasized to disseminate the results coming from on-farm and on-station feed research on techniques suited to smallholder systems.

The Feed Resources Group (FRG) of the FAO Animal Production and Health Division has been very active in the production of publications in electronic format and supporting key database in recent years. It has been involved since the early eighties at the inception of the electronic journal LRRD "Livestock Research for Rural Development" published by CIPAV (a Colombian NGO) which focusses on the role of livestock technologies in rural development in the developing countries (Preston and Speedy, 1989). This journal is now distributed to about 1500 scientists in over 100 countries, (free of charge in developing countries). The FRG has continuously been involved in the editorial advisory board, the collection of contributions, the distribution, diffusion and FRG is also now cooperating with the editorial work. Moreover, LRRD has become the main vehicle of information for two FAO regional projects since it includes their news bulletins.

The first publication of the FAO book "Tropical Feeds" by Bo Gohl in 1975 has been much appreciated by scientists all over the world. A second edition was issued in 1981, and the book went out of print in 1990. For economic reasons, and also to take advantage of the tremendous progress made in electronic publications, the first computerized version of Tropical Feeds, revised by Andrew Speedy (Oxford University) was issued in 1991. This has greatly facilitated the updating of the information contained in this book. However much more information is still needed on tropical feeds, fodder

plants, trees and shrubs. In order to better respond to the users' needs, more data should also be compiled on practical utilization aspects and feeding systems for the main domestic animal species.

In 1994, a prototype of an electronic book (APH 102: Legume trees and other fodder trees as protein sources for livestock) was produced which constitutes the first step towards an electronic library to be made available through an Internet server. Six recent publications from the FRG should be transferred in the near future under the electronic format for inclusion in the electronic library. Savings gained through this new publishing policy could be devoted to the updating of previous publications and their transfer to this new format for distribution. This approach would greatly expand the potential readership throughout the world.

In developing countries, computers can now be found almost everywhere and electronic mail and INTERNET services are more and more available. This communication system is rapidly expanding since it has been recognized as the most cost-effective means of exchanging, circulating and updating information. It is the fastest way of getting inputs and distributing outputs from and to a huge audience. Since 1989, the FRG has been using Electronic mail to correspond on a regular basis with more than 50 countries (33 of them are developing countries) from the five continents. This network is currently enlarging very quickly, in particular with the help of trust fund network projects in Asia, Near-East and North Africa, and Latin America and the Caribbean.

Through electronic mail, the FRG has started to establish a small informal "Panel of Experts" (from Botswana, Colombia, Cuba, Denmark, France, India, Tunisia, UK, Vietnam...), which is regularly consulted for advising on identification of consultants, preparation of the programme of activities, technical matters, etc... This has proven to be a more efficient (prompt response) and cheaper way of receiving advice than the traditional FAO Panels of Experts.

From November 1992 to April 1993, the first electronic conference on Livestock Research and Development has been successfully organized by the Winrock International Institute for Agricultural

Development (USA), the International Forum on Sustainable Land-use Systems (INFORUM, USA) and the International Development Research Centre (Canada) with the participation of a few scientists from developing countries. At that time, however, this conference had difficulties in reaching scientists from the South. With the rapid progress of technology and the reduction of costs of equipment it has, at present, become much easier for developing countries to join the various electronic networks.

These developments are fully in line with the need for FAO to spare money on traditional publications and international meetings without jeopardizing its recognized leadership as a major repository of information, a major source of norms and a neutral international forum. In particular, the FRG could better comply with its responsibility for selective dissemination of feed information, related to the better use of available resources in new feeding systems, rather than just supporting the further collection of data and information *per se*.

Prospects

The objective of the FRG is to boost the exchanges of information and experience in the field of tropical feeds and feeding systems among developing countries. Many of them are currently suffering from the so-called 'book famine', which is a major constraint to effective development. On the other hand, other developing countries are overflowed with often 'non appropriate' information coming from industrialized countries. At the same time, due to the lack of an effective vehicle, very relevant information which is increasingly being generated in the developing countries is still not widely disseminated to other developing countries where this information would be most useful.

This unfortunate situation can now be improved in a cost-effective and sustainable manner thanks to the development of electronic publications, mail, and conferences. The latter are some of the fastest and most powerful tools for exchanging information and experiences. They will soon become essential instruments which will give access to a large range of information from which scientists and extension-

ists can choose options suitable for local conditions. Amongst other things, they will permit developing countries to spare the often scarce resources devoted to research, by sharing results and avoiding duplication.

One of FAO's primary functions is to collect, analyse, process and disseminate information. Another important role is also to act as a forum for its member countries. Electronic communications are a particularly appropriate tool for accomplishing these two functions.

This electronic conference on "Tropical Feeds and Feeding Systems" is the first of its kind organized by FAO. It should contribute to providing important material for updating its database and to facilitate the exchange of data among developing countries. For those interested who do not yet have access to electronic mail it is planned to distribute the proceedings on diskette, or possibly on paper.

The main object of this conference is that it should be the first step towards establishing a global network on "Tropical Feeds and Feeding Systems" which should allow for a continuous flow of information exchange and discussions among scientists all over the world. Although it appeared appropriate to start with tropical feeds as they concern most developing countries towards which FAO devotes the majority of its efforts, this network should eventually extend its scope to all feeds available throughout the world.