NEWSLETTER

FORESTRY ECONOMICS RESEARCH NETWORK

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FOREST PRODUCTS MARKETING RESEARCH

Forest products marketing is a typical applied science. This means that the theories and methods of the field are mainly borrowed from the mother sciences. For forest products marketing these are:

- behavioural sciences

- economics

- methodology

Marketing management can be considered the leading construction of theories in forest products marketing. Its sectors, like the theory of consumer behavior, are motivated by this entity.

As an applied science, forest products marketing is defined by the area it is applied to. This area is trade in forestry and the forest industry, and solving marketing problems in the area is what forest products marketing applies behavioral sciences, economics and quantitative methods to.

An essential task of forest products marketing research is to describe the planning and implementing of forest industry products marketing and roundwood trade, and to critically evaluate these activities (blocks in the middle of the picture). The objective is to find and develop more appropriate models and systems for the needs of marketing planning and implementation.

Another wide marketing research area is to produce information on which the practical planning is based. An essential area is information on the customers. In the marketing of end-products it means research into industrial end-users and individual consumers. In the buying of raw wood the main research objects are the forest owners.

Marketing planning involves also producing information on the market environment. Analyses of the supply of and demand for forest industry products and roundwood, as well as competitors and other market environment factors, are traditional areas of forest products marketing research.

FEASIBILITY OF FUELWOOD PRODUCTION

Lime and pottery/ceramic industries in Ratchaburi Province, western Thailand use about 500,000 cubic meters of fuelwood annually. Pottery/ceramic factories use "chopstick fuelwood", 1-3 cm in diameter and 1.30 m in length, and "large fuelwood", 10-20 cm in diameter and 2 m in length, while lime factories use only large fuelwood. The rapid depletion of forest areas has caused serious problems of fuelwood shortage while the ban on logging has exacerbated the problem even further.

The study compares large-scale Eucalyptus plantations on forest land under private lease and small-scale plantations on farmland under different spacings and felling cycles, i.e. 1 x 1, 1 x 2, 2 x 2, 2 x 4 and 4 x 4 m with 3-and 5-year felling cycle.

It is economically feasible to establish Eucalyptus fuelwood plantations for industrial use. Profitable types of plantations are for chopstick fuelwood at 1 x 1 m spacing (IRR = 25.45%) and at 2 x 2 m spacing (IRR = 20.13%X) on a three year felling cycle. Large fuelwood plantations are economically feasible only at a 4 x 4 m spacing with a five year felling cycle (IRR = 14.52%)

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ECONOMICS OF SOIL EROSION

The preceding methodologies directly attempt to estimate losses from soil erosion based on yield reduction as the soil resource is degraded. In the replacement cost method, the economic valuation of losses from soil erosion is accomplished indirectly, by looking at what society has to pay to retain land productivity at levels prior to soil erosion. Soil erosion leads to a reduction in organic matter and nutrients from the land. This will lead to a decline in crop production unless nutrients are replaced in the soil. Therefore the measure of the economic loss may be based on the cost of replacing these nutrients. The usual procedure is to calculate the amounts of nitrogen (N), phosphorus (P), and potassium (K) that will need to be incorporated in the soil and to value these at realistic prices.

To be able to use this procedure, good estimates of on-site erosion and nutrient loss associated with this level of erosion are needed. Kim and Dixon (1986) have used this method for assessing an upland agriculture project in South Korea.

It should be noted that the replacement cost approach does not necessarily mean that alternative management programs should completely eliminate soil loss. Indeed most programs should can only attempt partial replacement. The difference between losses <u>without</u> management and losses <u>with</u> management were then taken as the benefit of management programs was used as the cost of partial replacement of eroded soil (since erosion is not completely eliminated).

Off-site Economic Effects

To arrive at an implementable methodology for assessing off-site effects of soil erosion, the most important challenge is to be able to pinpoint the erosion processes that have economically significant effects from among the many processes and inter-connections arising from erosion in the uplands. For this purpose, the general agricultural development context is important to use as the initial basis for focusing on relevant off-site effects. Since irrigation development is a major component of the agricultural or food production program, the logical starting point for assessing the economic impact of watershed erosion is in terms of the irrigation dam and reservoir. The major off-site effects therefore are those that affect crop production through the irrigation system. Since most of the big dam projects are multi-purpose, a second important impact has to do with the hydro-electricity generating function of the dam.

Sedimentation of the reservoir is the physical process that links upstream erosion to off-site effects. Where reservoirs are clearly delineated and depth soundings are economically feasible, the estimation of erosion for off-site effects (by this method) may be, for practical reasons, separated from the use of the USLE to determine upstream erosion and its on-site effects. Otherwise the reasonable range of SDRs will have to be established as a general guide to the determination of reservoir sedimentation.

In either case it is important to distinguish between sedimentation that takes place within a reservoir's dead storage vs. that wihc occurs in active storage. While there has been no question that sedimentation of the active storage reduces both irrigation capability and hydro-power output, there has been

In other studies where less data is available, no direct comparison between reductions in soil loss and therefore nutrient loss with or without management is possible since there is limited actual data on the erosion reduction using alternative management schemes. In these cases, a couple of options are available. The simpler option is to just assume that the relevant nutrients can be directly replaced in the soil with the use of inorganic fertilizer.

The other option is to use predictive models such as the USLE to estimate how different C and P factors will reduce the soil loss. In the first technique, the major difficulty is that it implicitly makes the assumption that the physical loss in soil and reduction in rooting depth have reached such critical levels as to make irrelevant the application of inorganic fertilizer. The second procedure is thus preferable, presuming that in the absence of site observations on the effects of alternative management schemes, a relevant USLE model, together with average data to use in the model, will be accessible. If this is available then the procedure of im and Dixon (1986) may be followed.

some concern on the correct treatment of dead storage. Some approaches have tried to address this issue by attempting to assess incremental sedimentation losses. This is done either by (a) valuing how a reservoir's life expectancy decreases when actual sedimentation goes beyond the projected rate or by (b) presuming that some proportion of sedimentation (presumably that going to dead storage) generates no off-site losses. The latter procedure, for example is utilized in Ruangdej and Hufschmidt (1986).

The problem with such an approach is that sedimentation of dead storage also entails a social cost. David (personal communication) has argued that the fact that provision has been made in dam construction for dead storage adds to the cost of the reservoir. The difference therefore between sedimentation of dead storage vs. that of active storage is that the cost of absorbing the former has previously been included in the capital cost of the project -- i.e., at the time of construction. On the other hand, the cost of the sedimentation of the active storage will arise once the dead storage has been filled up. Indeed, since construction of dead storage capacity has been included in the construction phase and therefore among costs that occur up front, the effect of discounting of future values, in the case of estimating the sedimentation of active storage, does not arise. Thus from a present value perspective those cost will be quite important.

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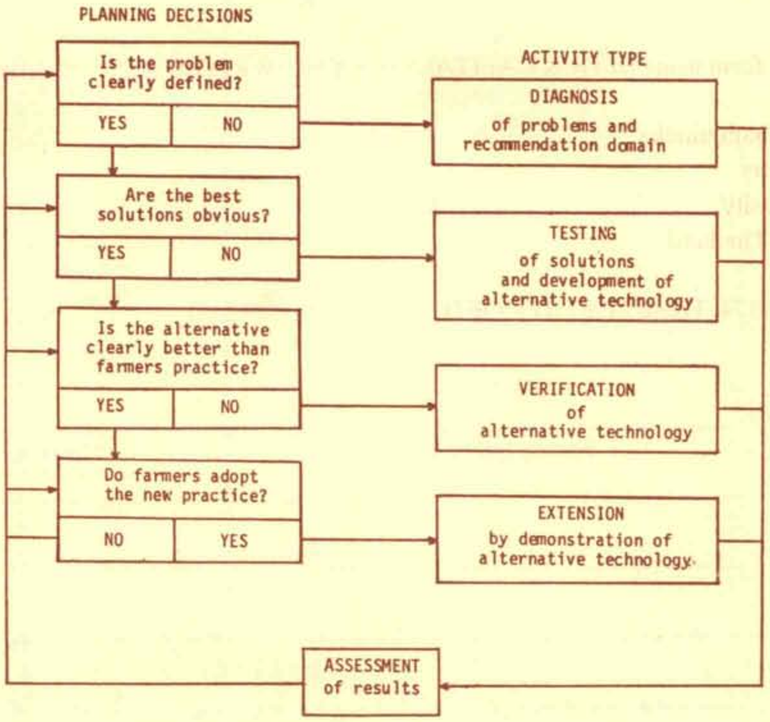
GENERAL APPROACH TO FSR

Richard Hawkins, Achmad Rachman & Hasil Sembiring



FORESTRY ECONOMICS COLLOQUIUM

IDRC Forestry Economics Research Network (FERN) will organize the colloquium on Strategies and Methods for Forestry Economics Research in Asia on 18-20 March 1991.

Objectives

This colloquium is designed to improve the methods used in forestry economics research by attempting

1) to assess the research and training needs in the region,
2) to enhance the capabilities needed to make the research techniques available to scientists and interested individuals, and
3) to identify means of standardizing research methods among researchers

Session Topics

The colloquium will include the following topics:

1) Forestry economics research needs in Asia,
2) Forestry economics and policy analysis,
3) Forestry sector planning,
4) Economics of agroforestry/community forestry, and
5) Forest products marketing.

Post-colloquium 1-day trip to eastern Thailand will be arranged.

Venue

The colloquium will be held at RECOFTC (Regional Community Forestry TRaining Center), Faculty of Forestry, Kasetsart University, Thailand where 25 rooms, 4 air-conditioned and 21 normal rooms, are available for accommodation.

Participants

Participation will be by invitation only. Up to 15 scientists working on forestry economics will be invited to attend. All participants will be required to present a paper. Moreover, participants are urged to seek their own funding for travel.

Application

Interested applicants are encouraged to complete the pre-register form and return to the convener by no later than 31 December 1990. The title of the paper and its abstract/contents will be reviewed for relevance to colloquium topics and objectives. Applicants will be notified of invitation by no later than 31 January 1991.

COLLOQUIUM ON FORESTRY ECONOMICS RESEARCH IN ASIA

18-20 March 1991

RECOFTC, Faculty of Forestry, Kasetsart University

Bangkok, Thailand

Please complete this form using BLOCK CAPITALS or a TYPEWRITER and mail to the address listed below.

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Faculty of Forestry
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Bangkok 10903, Thailand

Telephone: 579 0174 Telex: 21957 RECOFTC TH Fax No: 579 8781

Prof./Dr./Mr./Mrs./Ms. ______________________ ______________________

Family name Given name(s)

Organization ______________________

Mailing address ______________________

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Telex No.: ______________ Fax No.: ______________

I am interested in presenting a paper entitled:

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Signature ______________ Date ______________