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LOG PRICING SYSTEMS AND THEIR APPLICATION IN KENYA

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SUMMARY

The paper discusses the different log pricing approaches building
on the current structure and condition of Kenya's forest industry.
The concept of value as it affects pricing is also discussed.

Four pricing methods are considered and only three recommended to
be employed in the country under different circumstances.

The demand for pulpwood will be surpassed to the tune of 236,000 m^3 by the year 2010. This will give a total shortfall in the industrial wood of about 265,000 cubic metres by the year 2010.

1.1 The concept of value

It is usually difficult to separate the concept of product value from a consideration of the structure of the market in which the product is sold.

Definition of the value of wood, such as that of Rothery (1945), express it in terms of the price the product would bring in the market in a situation where there is no compulsion on either buyer or seller.

However, such a definition does not take into consideration the possibility of negotiation in determining what the product would fetch in the market. Both Leslie (1963) and Beuter (1971) have argued that any commodity may have a range of values to different parties in a transaction, but each transaction occurs at only one price. Transactions occur only if a mutually beneficial price can be negotiated and that price must fall between the maximum the buyer could pay and the minimum the seller is prepared to accept.

2.0 LOG PRICING SYSTEMS - THE ALTERNATIVES

The current log pricing approach in Kenya aims at recovering the cost of producing the logs. According to the last report on the approach, by 1986, cost recovery was at 43 per cent of the total district level costs falling to 38 per cent at the

national level.   These were based on a total forest area of

1,474,487 hectares comprising of 167,287 hectares of plantations,

with an expenditure of Kenyan shillings 257,030,000 earning a

total revenue of Kenyan shillings 96,527,000 from the sale of

705,257 cubic metres of logs annually (Bjork, 1986).

While this approach is a good trial aimed at making the forest

industry self supporting, it still falls short of an ideal stumpage

system for the country, which should also address the following

issues:

- accounting for the relative disabilities of harvesting,

    processing and marketing different parcels of wood;

- encouraging the development of efficient and competitive

    forest industries;

- enabling processing industries to show earnings on their

    investments which are comparable with other forms of economic

    activities of comparable risk, and

- recovering the full market value of the timber.

2.1   Alternative methods of pricing logs

Four basic methods of pricing logs are discussed with the

objective of assessing some of the overall socio-economic

consequences of each.   Each method satisfies only some of the

criteria listed above and each has limitations and problems of

application which might apply in differing circumstances.

2.1.1 Resource levy approach

This method simply regards the natural resource in question as
a source of revenue and takes no account of production costs,
selling prices of final products or market conditions. This
approach is still being used in the sale of rights to exploit
mineral and fish resources in the country.

There would seem to be no economic grounds to advocate this kind
of pricing for logs in Kenya except that it is relatively easy
to administer as a tax and not a purchase price for raw material.
This approach carries the likelihood of severe misallocation of
resources occurring throughout the forestry and forest products
sector and beyond. As pointed out by Byron and Douglas (1981),
the effect of this misallocation will be felt beyond the forest
sector and even throughout the economy.

2.1.2 Residual value system

The residual pricing approach relies on the proposition that
the value of roundwood is derived from the market price of its
products. Thus, the residual value of standing timber is derived
by substracting all the production costs from the selling price
of the products that could be made from it. If all the costs
and productivity calculations and assumptions were all correct,
then the calculated residual price would equal a free market
price. Thus, Leslie (1985) asserts that this approach would
clearly capture the maximum royalty possible. The system has
two major advantages:

- over the short term it should reveal the amount actually
  available to growers for stumpage and to processors for
  profit and risk under the existing market and industry
  circumstances;

- it facilitates the incorporation into the prices structure
  of specific allowances for location and quality differentials
  in the resource.

However, it has the following major problems:

- much accurate information is required on costs and trends
  in all the processing systems which involve wood. This
  information is rarely forth coming from the relevant
  industries;

- minor errors in the assessment of such costs can cause large
  percentage errors in the residual stumpage calculation;

- there is the element of value judgement on matters as to
  what constitutes a reasonable profit;

- it largely accepts the existing marketing and industry
  structures for forest products as given.

2.1.3   Free market pricing approach

Under this approach, wood resources are offered for sale to the
highest bidder. Prices for logs would be established through the
bidding process; efficient processors could outbid less efficient
processors and growers would receive the true market value for the
logs. Auctions can be sealed or open depending on the market structure.

Under monopoly situation market prices are determined by
negotiation while under oligopsony, the price outcome of a biding
system will be uncertain.Collussion between the major buyers
is possible.

The above can be experienced in the pulp and paper, and the wood
based panel industries. In a sector like saw milling where there
are many buyers, the auction approach can result into a high
level of competition and efficiency. The only problem here is
the spatial distribution of the sawmills wherein those mills
which are close to the forests would have advantage over those
far removed from the forests.

2.1.4   Cost of production approach

This system of pricing seeks to obtain prices for the product
which will allow all costs of production to be met from revenue.
It is usually understood to include some positive rate of return
on capital employed. In the case of forestry, it can be interpreted
to include some return on public land and the timber on it. A
major difference between the cost of production system and the
residual pricing system is that in principle, the former would
eventually remove any subsidy elements from public investment
in forestry.

Leslie (1985) pointed out that this approach does not maximise
royalty. Some of its major deficiencies are that
-    the production costs considered are average costs while
     it is the marginal costs which are relevant;

- the costs are usually historical and forecasting such costs
  into the future may not give accurate cost figures on which
  to base current prices. Further, input costs may be incurred
  simultaneously so that it may be difficult to allocate costs
  between products.

3.0   WHAT PRICING METHOD FOR KENYA ?

A timber auction (bidding) system has the potential to introduce
higher levels of competition to the sawmilling industry and thus
give higher prices to the tree growers. Hence, it could encourage
entry into the tree growing business by the private sector. The
major problem envisaged however is ensuring substantial competition
in an economy where creation of employment opportunities as a
result of the development of small scale industries is still
a major Governmental Policy. Also there would exist unfair advantage
for those buyers who are close to the forests. It is best applied
for pulp logs. Residual pricing, if it could be calculated perfectly
for each parcel of timber, would generate the same prices as
a sealed bid auction. However, residual pricing accepts the
structure of the processing industry and the marketing channels
as fixed at a particular time and makes allowances for then, wheareas
competitive bidding should encourage continuous search for increased
efficiencies. Residual pricing can best be applied for sawlog
sales under no competition.

The adoption of cost-of-production pricing would remove the possibility of hidden subsidies to processors at times when stumpages are low. Conversely, it removes the chance of higher profits to growers when market prices would exceed growing costs. For the sale of pulpwood and to some extent, sawlogs, this pricing approach with the following adjustments would be very suitable:

- the costs used should reflect as much as possible, variable and not average production costs;

- the costs should be forward looking i.e. based not only on the current market situation but also on their forecasts; and

- there should be an established model mill, in the case of sawlogs from which accurate production costs can be based. This would ensure impartiality in the sale of logs since the producer of logs will have nearly accurate costs of producing the raw materials while aware of the costs of producing the wood products.

Finally, it is important to stress that the pricing approach adopted should be based on the situation prevailing and should be in conformity with the government policy on the sector.

4.0. REFERENCES

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