

**IPPTA**



**Silver Jubilee International Seminar & Workshop  
Appropriate Technologies For Pulp & Paper Manufacture  
In Developing Countries.**

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**New Delhi - 1989**

**NATIONAL COST VERSUS  
SOCIAL BENEFITS IN PAPER MANUFACTURE-  
A PEEP INTO THE FUTURE**

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**Futurology involves Prediction, Planning and Prayer. Prayer is not with a hope that the prediction should be right, but that situation should not be more unfortunate than at present, should one survive that long.**

**Some things are however, certain.**

Paper mills will not continue to stay as designed, with need for changes from year to year, requiring more and more quick solutions through R & D, sales feedback even for medium sized units.

Costs, prices and market demands are not always reflected in national costs and goals. We may assume given some time lag, the weight of social benefits over national costs or vice versa is likely to prevail.

National goals are normally reflected (though sometimes in-adequately perhaps) in the five year plans and the national and state annual budgets. Every industry eulogises itself on its role in the national economy and its growth as an index of a nation's development. So, it is preferable to assess the role 'Paper' plays in the national context.

Let us look at the changing paper and paper use horizon, as it affects National Cost Vis-a-Vis Social Benefits and possible trends and needs.

A balance sheet would look something like this :

National Costs

Social Benefits

Paper Industry generation :

### ECOLOGY

- |  |  |
|--|--|
| a) Some forest depletion (replaceable if planned). | It uses renewable raw materials including, annual agricultural residue.  |
| b) High volume, low toxicity effluent discharge.   | But paper is recyclable, biodegradable, burnable (filter paper) product. |
| c) Acceptable emissions, dusts, solid wastes.      |  |

#### **Trends :**

Pollution problems for the industry will not be critical except in certain location..

Anerobic systems for energy saving will have to come in.

Buffer shock lagoons, early warning systems will become common.

Safety record is good (accidentally), not so much due to good house keeping. Cleanliness will be necessary for producing some varieties of papers.

#### **ENERGY**

Industry is energy intensive

But paper is also an

1. Insulation product and
- 2: Energy barrier product in conjunction with others.

#### **Trends :**

Fluidized Bed Boilers for usage of inferior fuels will become more common. (They are less polluting.) More of Non-fossil fuel use is on the cards.

## **National Transportation Load**

Over 5 tonnes of inputs Needed for one tonne of paper output.

putting it another way, many areas are indirectly dependent on the paper industry.

### **Trends :**

This is national cost as is indicated in the railway budget where priorities, tariffs and concessions are specified more or less accordingly.

Coal transport is a serious problem even today.

Long distance transport costs more than offset higher mill capacity advantages.

Future mill locations may go nearer fuel available points, particularly where sugar mills are located (forestry importance getting less) and may be nearer ports - which are also incidentally high paper consumption points.

## **Consumerism**

Industry is capital intensive

But paper is cheap and not easily  
replaceable in most enduse areas.

### **Trends :**

Papers vary from the decorative to the functional, from the exotic to the necessary:

Can be used from towelling to the wet strength qualities. Paper, when it substitutes wood it does three times equivalent wood from the same forest area. Varieties of papers will continue to be used as much in the immediate future and as composites with laminating, plastic-lining, metallizing etc., suiting various end-uses in the foreseeable future.

Lower basis weights and newer surface treatments for special enduse characteristics (invariably overspecified) will be preferred.

## **Royalties, Taxes, Excise Duties**

They are highly favourable to government directly and indirectly but unfavourable to the consumer as well as industry.

### **Export/Import**

#### **EXPORT**

Unfavourable

#### **IMPORT**

Import requirements are 30% of some equipments and a few chemicals.

#### **Trends :**

Though paper is not exported today, packages are exported. International prices of paper, will have a bearing on Indian prices as there can be no highly insular situation, though we are fairly insular today and our prices are very much higher, partly more due to royalties, taxes, excise duties and higher fuel, power and transport costs.

Only about 20% of the cost is under the direct control of any paper mill.

At least 10% of paper (every product, for that matter) produced within the country should be exported to keep pace with international quality standards (where also insularity cannot be there for long) and to promote efficiency in our mills to keep somewhere near international prices- (with CCA).

## **R & D :**

Most of present testing consists of historical hand-me-downs and enduse simulation.

Forecasting of properties of mixed pulp furnishes for Lab to Paper Machine Correlation would be a thrust area.

Information for control through feedback on-line, (naturally non-destructive) testing would be a primary area of development.

Changes in the paper machine occur in infinitesimal moments of time which make computerisation difficult. (There is no time for causal analysis - or historical, for that matter.)

### **Manpower**

For equivalent investment, the extent of manpower directly employed in a paper mill is not high (though indirect employment/wealth generation is high) with the salary, wage and overhead cost component in paper manufacture varying from about 10-20% both in inverse proportion to the size of the unit.

Endeavour would be through continuing education and training to convert university's finished product and industry's raw material into a suitable functionary.

The emphasis will shift more towards *less skilled and more qualified* personnel.

### **What then?**

Urgent solutions need to be found to reduce production costs maybe through :

Through longer single product runs in mills.

Acceptance by the market of lower brightness papers and lesser lasting (higher yield) papers for some uses.

If cheap, more paper will be consumed.

so, do paper consumer necessities/advantages outweigh National Cost? yes.

In the Foreseeable Future? A little more assertive, yes.

### **Assumed Goals of Individual Paper Mills**

1. To conduct all phases of business with the highest standards of ethics and morality.
2. To foster harmony throughout the organization and provide safe and satisfactory working conditions.
3. To continually improve methods and facilities so that production is ever increasing, costs are lower and quality better and to serve customers well so that the mill will merit better volumes of business.
4. To modify and expand the plant and enter new lines of activity to increase profitability.
5. To endeavour constantly to improve the calibre of personnel at all levels through proper selection, training and promotion to realise these goals which otherwise cannot be reached.
6. To strive not only to maintain safety and ecological standards but also to propagate them within and around the community.
7. To utilise forestry resources sensibly.
8. To endeavour towards more and more import substitution and promoting exports.
9. To encourage personnel to play their full part in the affairs of the community as useful citizens (particularly where the operations are.)
10. To win the good will of Government, Share Holders, Financial Institutions, Banks, Employees, Customers and the Immediate Community.
11. To keep a good image of the Company in the public eye.