PLANT FEASIBILITY CHECKLIST FOR A FOREST PRODUCTS INDUSTRY

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PLANT FEASIBILITY CHECKLIST

FOR A

FOREST PRODUCTS INDUSTRY

This checklist has been prepared for use by any person or group considering the establishment or enlargement of a forest products industry. Because of the great variability in degrees of manufacture and in the products which can be encountered, many of the items are necessarily broad. Also, it is quite possible many will not be applicable. However, the general principles indicated should be relative in all cases.

Careful consideration must be given to many factors in each of the following key areas:

1. Raw material supply.
2. Sales volume.
3. Capital investment.
4. Management.
5. Labor.
6. Location.
7. Facilities.

I. RAW MATERIAL SUPPLY

A. Species and sizes available.

1. Possibilities of alternate species use if necessary.
2. Equipment needs as related to material size.

B. Factors affecting availability.

1. Land ownership.
2. Growth rates.
3. Present and future competition.

C. Method of procurement.

1. Company logging crew.

2. Log or bolt purchasing.

3. Contracts for timber or logs.

4. Long term arrangements.

D. Changes.

1. Any material beyond the limits of the presently considered area?

2. Effects of changing land use, recreation, etc.

3. Effects of machinery changes.

E. Partially processed material.

1. Advisability of purchasing this form instead of harvesting.

2. Are there several sources so competition regulates price?

3. Any control over quality to be obtained?

4. Effects of continued high prices on this plant.

5. At what moisture content will you buy?

F. Assistance.

1. Federal forest surveys and regional offices.

2. State surveys, offices, and regional personnel.

3. Industrial associates.

II. SALES VOLUME

A. Determine the market area that can be serviced.

1. Extent of mfg. (green lumber or final product) will produce varied market sizes and orientation.

2. Varying transport rates based on extent of manufacture.

3. Will volume increases in production lead to lower transportation rates?

4. Should the business own hauling equipment?

B. Estimate the potential of the market area.

1. Does demand for the considered product vary with age and/or population changes?

2. What have been these trends in the area and what is predicted?

3. Does the area potential allow for future plant expansion?

4. Does the proposed product have long term appeal?

5. How flexible is the proposed plant relative to possible product changes to adjust to market demands?

C. Selling methods.

1. Company sales force--competent staff necessary.

2. Established brokers or other such outlets, cost.

3. Packaging.

4. Advertising, promotion (often costs more than product development).

5. Pricing policies.

6. Credit policies.

7. What portion of operating budget for sales?

III. CAPITAL INVESTMENT

A. Basic considerations.

1. Buildings and machines.

2. Raw materials.

3. Payroll.

4. Sales promotion.

5. Interest, taxes, etc.

6. Operating cost.

7. Inventory.

8. Lack of profits until sales volume up, allow 6 months minimum.

B. Others.

1. What form of business for best legal, tax, and other advantages best fits the proposed plan?

2. Have <u>all</u> sources of finances been examined for minimum cost investment loans?

3. If a corporate operation what are advantages of employee-stock participation plans?

4. Is there any possibility of financing from large volume customers?

IV. MANAGEMENT

A. Skills necessary.

1. Process and product cost evaluation.
2. Purchasing ability.
3. Labor-management relations.
4. Sales and distribution.
5. Record keeping.
6. Production planning.

B. Decisions necessary.

1. Who has ultimate authority on all decisions?
2. What is field of authority of all other personnel?
3. What is chain of command?
4. Has some provision been made for decisions depending directly on financial status as shown by the records?
5. Has a priority system been developed for spending?

V. LABOR

A. Skills.

1. What skills are needed in this plant and are they available?
2. If not available can a training plan be used?
3. What will be the extent and cost of such training?
4. What relationship is there between quality of skill and number of workers necessary?

B. Relationships.

1. How will organization effect your plant?
2. Relative values of hour and incentive rates?
3. Will you offer hospitalization and retirement for labor force stabilization value?
4. Any vacation system?

VI. LOCATION

A. Land.

1. Determine area required for present operation and future expansion.

a. Plan for adequate customer parking and smooth traffic flow pattern.

2. Well drained, requiring a minimum of grading.

3. Soil loading condition for planned buildings and future expansion.

4. Check for unusual exposures--wind, floodwater, ice, other industries.

5. Unrestricted access to good street or highway.

B. Transportation availability.

1. Railroad.

a. Adequacy of service.

b. Siding available.

c. Freight rates.

2. Truck.

a. Readily accessible to good highways.

b. Weight limits of access roads.

c. Size and load capacity of trucks.

d. Space required for unloading.

e. Method of unloading.

C. Utilities.

1. Availability and cost of electricity, gas, water, sewer, and storm drainage.

2. How dependable is the electrical power service?

VII. FACILITIES

A. Receiving and holding.

1. Open or closed area best for this plant?

a. Adequate surfacing of outdoor area.

b. Tight or shed-type closed area, condition of purchased material.

2. What volume requirements for the area?

    a. Type of purchase contracts and deliveries.

    b. Availability of material, seasonability.

    c. Inventory for continuous plant operation.

3. Handling.

    a. How much must material be rehandled?

    b. Will later shipments received block use of those obtained earlier?

    c. Cost of additional space va. handling.

    d. Access to plant maintained.

4. Any problems of deterioration at this stage?

    a. Decay, excess drying.

    b. Changes in moisture content which are undesirable.

B. Primary processing.

1. Treatments necessary before primary material may be utilized.

    a. Log pond, debarker, grading, kiln stacking, length sorting, etc.

2. Initial cutting.

    a. Provision for waste disposal or use.

        1. Economics of some type of waste utilization.

    b. Movement of material through this area.

    c. Provisions for obtaining highest yields.

    d. Volume coordination with rest of production.

C. Manufacturing.

1. Is machinery selected the best for the type of job to be done?

2. Has a plant layout plan been made to show flow lines?

3. Has time study data been utilized to avoid stoppages or bottlenecks?

4. What maintenance conditions prevail and their effect on production flow?

5. Adequate space for storage or handling of work in process?

6. Working conditions--safety, cleanliness, etc.

7. Provisions for continuous operations where necessary.

    a. Employee rest periods, absences.

    b. Does the plant shut down if one machine breaks down?

8. Provision for necessary plant conditions of temperature and humidity.

D. Finishing.

1. Extent of finishing relative to market.

    a. Consideration of further finishing costs vs. more profits.

2. Mechanization of finishing operations, costs and efficiency.

3. If a completed product, do all parts of the operation conform to best use of finish as per manufacturers recommendations?

4. What are provisions for changes in finishing, type or extent?

E. Packing and shipping.

1. Efficient handling, space for procedures.

2. Type of shipping package, is it the best and most efficient?

    a. Effect on sales.

3. Holding area sufficient for packaged products on hand?

    a. Shipping scehedules.

4. Loading area efficiently designed for product, can it be changed?

F. General.

1. Plant area and design.

    a. Has all required space been added in, including items below?

    b. Is the design based on the flow of material studies?

    c. Is there any provision for expansion?

    d. Is there provision for oversupply of raw material or delayed shipments?

    e. Have the advantages and disadvantages of various types of construction been considered?

        1. Clear floor area.

2. Insurance rates.

3. Ceiling clearances.

f. Possibilities of existing buildings vs. new construction.

2. Heat and power.

a. Can the heat-power plant utilize waste, should it?

b. Value of internal power production vs. public service, costs.

3. Auxiliary areas.

a. Offices.

b. Reception and/or display.

c. Employee services.

d. Is any fire-proof storage required?

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