Export Opportunity Survey for the Products of the Canadian Manufactured Homes Industry

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INTRODUCTION

News reports and statistics have been pointing out the almost worldwide need for housing but too often this need has not been defined as to types, quantities, qualities and prices of houses or when, where, why and how they are needed. The potential market is vast but the specific needs must be identified. It is also highly desirable to evaluate the market and determine where Canadian housing has the best opportunities.

The Manufactured Wood Products Division of the Resource Industries and Construction Branch has been gathering information on housing needs in approximately 130 countries to explore export opportunities for the Canadian home manufacturing industry and its suppliers. The product to be applied to the market is the wood-framed, low-rise dwelling in either single or multiple units in various qualities, i.e. degrees of finish, and in various stages of erection from basic materials to components and three-dimensional modules. The findings of the study have been summarized in this survey.

The survey evaluates the influence of many factors such as actual need; proximity; ability and desire to import; cultural, climatic and geographic environments; internal transportation; services available; material and equipment supplies; building codes, mortgaging and insurance considerations; availability; literacy, skills and costs of labour; and attitudes to wood-framed residences. Major considerations are presented in a standard format so that conclusions and supporting facts can be compared and the ratings are available for ready reference.

Although referring to whole countries is convenient in establishing a workable format, it has shortcomings in reporting on countries with distinct internal regional differences due to topographic, climatic or cultural variations (the United States, Lebanon and Central African states). This approach does not group countries as in the European Common Market where some factors are common and should be viewed across national boundaries. This kind of detailed information is available from the Resource Industries and Construction Branch and offices of the Trade Commissioner Service in the appropriate areas.

There is confidence in the future of the Canadian timber-frame method for low-rise residential construction. High-rise residences have created more social problems than anticipated with the result that medium density and single family housing are being promoted even in densely populated countries. Apartment dwellers tend to create a new demand for second or vacation homes which are usually low or medium density units. Multi-storey apartments are sophisticated and complex structures and many areas do not have the skilled labour to erect, operate and maintain them. In many developing countries the populace would find the move from present relatively primitive accommodations to high-rise a cultural shock. In most countries, even in North America, single family or low density housing offers a much wider variety of locally achievable and maintainable accommodation.

Although many well developed countries have sufficient accommodation for their peoples, it cannot be renovated to meet modern requirements. There is a recognized need for a method of construction that allows easier renovation and thereby resists obsolescence.

The use of labour in residential construction varies widely. In Europe, the minimum amount of labour involvement is desired because of low availability and high cost, while in many developing countries the maximum amount of labour is desired because it is abundant and needs to be trained. Canadian house construction methods can be geared to any level of labour input. Houses can be built in factories using mass production techniques or built on site with local labour. In between, component building can vary the labour content to achieve the most efficient mix for any circumstances.

PURPOSE

The purpose of the survey is to summarize export market opportunities available to the Canadian manufactured homes industry and assessments were made on that basis. Because there is a wide range of capability among companies in the industry from those producing only trusses to others that can handle multi-unit turn-key developments, opportunities are reported for different levels of completion. The report is also directed to the building materials supply industry because the acceptance of whole Canadian houses offers export markets without the usual expenses of market identification and penetration.

Other groups likely to have an interest in the survey and whose interests have been considered in its preparation are:
(1) Manufacturers of transportable buildings of all types especially those in which the principal structural material is wood — industrial camps, schools, clinics, agricultural and recreational buildings; (2) financial institutions; (3) transportation companies; (4) site builders and developers and the design professions.

The scope of the report is broad to draw attention to areas which merit much more detailed investigation and conversely to point out areas with relatively little present potential. It is designed to encourage and assist export thinking by Canadian businessmen in this field and to:

(a) give a sense of proportion against basic criteria;

(b) provide a standard format to facilitate (i) communications on the subject and (ii) prompt updating of information;

(c) publicize sources of information and services and encourage their use;

(d) guide investigation toward the more productive areas;

(e) encourage Canadian production of new products, approaches, designs and services related to housing needs outside North America.

Information in the report is new up to the time of printing. Latest information is available from the Resource Industries and Construction Branch, Department of Industry, Trade and Commerce, Ottawa, Ontario.

SCOPE OF SURVEY

Outline of Inputs:

The information summarized in this report was gathered from both government and industry sources at home and abroad. Canadian trade commissioners provided statistics from foreign countries and reported on housing conditions and the ability of the local house building industry to meet demands. Trade experts added information on the problems of selling in different countries. Financial and transportation experts reviewed the problems concerned with long-term international financing and multi-mode transportation of materials, equipment and services.

Canadian businessmen travelling abroad were alerted to observe factors related to this summary and their reports and opinions have provided useful elaboration.

Many foreign visitors toured the Canadian house building industry from coast to coast and their observations were noted. These visitors continue to be a good source of opinion as to the viability of Canadian houses in a wide range of environments. Their direct contacts with Canadian house builders provided a comprehensive view of particular opportunities.

Several Canadian government-sponsored international events also added important information. The Igny Housing Project near Paris, France, where 114 Canadian timber-frame houses were built in 1970-71 by Dumez-Campeau, provided a sounding board of opinion for Western Europe. Hundreds of construction specialists and thousands of home buyers inspected the project and their comments were noted. World-wide publicity on the project generated many inquiries which provided insight into ways the timber-frame system can be applied in different countries.

In July 1971, Canada was host to the World Consultation on the Use of Wood in Housing. Held in Vancouver, the consultation brought together housing and wood experts from more than 50 countries and was an invaluable source of authoritative opinion on the application of wood housing in the widest variety of circumstances. The exchanges of information at the consultation and during the post-consultation tour in British Columbia and Alberta were carefully monitored and contributed to the assessments and judgment applied to this report.

There has been an increasing number of trade fairs and exhibitions, especially in Europe, in which Canadian timber-frame housing has been featured. The results of these events are also considered.

SUMMARY AND CONCLUSIONS

This report is not sufficient in itself to advise Canadian businessmen precisely where, when, what and how opportunities for their particular products exist. However, it shows where the better possibilities are (relative to other areas) and where further market investigation could be productive.

A large part of the world, in terms of land area and population, is virtually written off at this time as a good market for current products. Despite this, the huge markets for shelter-type housing and for know-how in such areas suggest an opportunity for the Canadian housing industry to design structures and organize personnel to meet those needs.

Two basic ways of doing business abroad are indicated. In developed democratic countries business is likely to be in a company-to-company relationship within established trading patterns and government controls. In developing and socialistic countries the government plays a much more significant role and little business can be done without its participation and/or approval. Few Canadian companies have experience in this latter situation where product value may have less to do with winning contracts than the ability to negotiate acceptable terms in the international finance and social needs contexts.

Some of the better markets are in countries with larger economies and greater housing needs than in Canada. Although few, if any, Canadian companies can handle such opportunities alone, this should not be a deterrent in approaching these markets. The possibility of forming consortia to do a particular job is a consideration. Another approach might be to bid on a portion of the work that can be handled within the capability of one company. A contract for a hundred well-done units instead of a thousand not so well done, will establish confidence in both the supplier and the purchaser and provide experience for larger operations in succeeding opportunities. Complete control and ability to finish work is necessary in all contracts. Two real problems are the site preparation and the finishing of houses where local labour may be involved.

After-sales service and guarantee support

are areas of concern in planning entry into offshore markets. The usual guarantees in some European countries may be in the order of a 10 per cent holdback for one year on the whole with additional protection for the owner for nine years on the structure and two or three years on moving parts and service equipment. While, following the practice of local contractors, this can be covered by insurance and contracts with service companies, difficulties could arise if the materials and equipment involved are completely unfamiliar or parts are not available. This aspect of exporting points up the need for co-operation with suppliers of component parts for Canadian homes.

The resources to meet world housing needs are so meagre that the market is long-term. It may never be satisfied. There is time to organize long-term planning and to learn by experience. Canadian house builders have the technology, the materials, the people and the reputation to advance in this market and become an export-oriented industry. The industry, groupings within it or individual companies will need to gain first-hand knowledge of selected markets, be prepared to go metric, train personnel and adjust products to customer, climatic and cultural environments. This may require a major commitment of time and money but the results could be well worthwhile. There is competition but Canadians have the resources to compete now and improve in the future.

A strong approach to exporting housing will take concerted action by house manufacturers and suppliers, financial backers, site developers and designers. Many countries are interested in Canadian timber-frame construction because it offers modern living and great advances in building efficiency.

In addition to the usual costs and the investment of resources for producing and marketing housing abroad which are likely to exceed similar expenses in the domestic scene simply due to distance, there can be costs associated with representation. Such costs may seem extraordinary to Canadians but are considered normal in some other business communities. Representation may be considered a salable commodity there, as is goodwill or know-how here, and it may be necessary to buy it. Where it is a fact of life, it should be considered a cost of doing business and allowances made in estimates and quotations. In many areas the local middleman is valuable and worthy of his commission. This comment extends to dealing with subcontractors and labour groups.

In some markets the materials and techniques are so different from those in Canada that there are few locally available resources to build wood-framed houses or assemble components. The result is that the first opportunity in such markets may be a pilot project for turn-key turnover to prove the feasibility of the timber-frame method under local conditions, to gauge public reaction and gain building code acceptance. Construction using Canadian-built components seems indicated in such circumstances. The next stage could be local production of components using Canadian designs and materials. Later stages might see local contractors taking over, as in Britain, but there would still be new markets constantly available for Canadian entrepreneurs. Canadian suppliers of building materials and equipment can realize long-term benefits by the successful introduction of timber-frame housing.

This survey highlights the great number and variety of considerations that should be reviewed and given priority when making decisions about exporting. The complexity of marketing and the large investments involved, indicate an industry approach to long-term planning and preparation for export involvement.

There is no substitute for personal on-site experience in export business. However one generalizes about area or national characteristics and methods of doing business, in the end it is reduced to personal decisions and confidence in individuals. Canadians should know their associates first-hand. Customers will want to deal with principals. Manufacturers will want to get experience where the submission of a firm offer is only the starting point for what can be lengthy and, in Canadian terms, frustrating negotiations. Under these circumstances it is advisable for the uninitiated to start with small orders and provide offers that may not win in the first round.

It should be emphasized that this survey provides a static picture of a constantly changing situation. Although considerable effort has been made to present up-to-date detail, such data can never remain current or be complete. Readers with serious interest will want to establish their own systems of gathering market intelligence on specific situations.

The desire for a home of one's own is universal and will usually be attained when personal income permits. Under this impetus there is an insatiable market. However, a home is becoming a refuge for privacy and personal expression and, therefore, the single family home must be both purchasable and capable of individuality. This survey shows where purchasing power, either private or governmental, is available and where cultural differences will influence the form of the product.

AREA SUMMARIES

United States of America

The United States was selected as the best market opportunity with the only rating of +5. There are several distinct regional markets of significant size offering different levels of opportunity especially when whole houses, components, materials and know-how are considered separately. Generally the northern border states are good with the eastern area being the best. The south and central regions are much less attractive although lumber markets are strong there and in the far west.

The American market is easily accessible by road and rail. It accepts Canadian homes with a minimum of design modification. Also, financing is similar to that in Canada and business methods are the same. There is a strong demand for housing and vacation homes and Canadian quality has an appeal.

There are two main problems in penetrating the United States market: codes and standards and local competition. There are four model building codes as compared to one National Building Code in Canada. In unorganized areas the regulations of the Department of Housing and Urban Development (HUD) prevail. Individual states and the larger municipalities may have additional requirements. Canadian home manufacturers should be prepared for time-consuming and expensive research to assure themselves of acceptance of their product as a whole along with the materials and service systems which make it up.

The large and aggressive house manufacturing industry in the United States will compete strongly in any area in which Canadians become successful. However, in some cases Canadian manufacturers are closer to the market, have the advantage of lower labour costs and enjoy a reputation for superior quality. It is sometimes useful to establish American subsidiary companies to handle sales and local acceptance negotiations.

As in Canada, the availability of building lots is a key consideration and is often in the hands of local contractors. Local representatives or dealers must be carefully selected with due regard for their financial capability, community position and building reputation. The finishing of homes is necessary for final payment and owner satisfaction is the best advertising. It is not sufficient to just sell products f.o.b. Canada.

The United States is a relatively well housed nation and has productive capacity in proportion to Canada. Canadian sales will be most easily achieved when the product offered has characteristics of design, quality or price not locally available. Market research to find and establish how to exploit such areas should be a first step in approaching export to the United States.

Western Europe

Most countries in Western Europe have distinctly different market characteristics and some have equally different internal regional opportunities. However, it is becoming a more unified market as national trade policies blend in the European Common Market and the rural people become more cosmopolitan in their attitudes. The population of the area is already almost twice that of the United States and is affluent.

Western Europe has a decided need for modern housing. Older homes lack the convenience of contemporary homes and are difficult to modify and maintain, due to cost and the scarcity of skilled construction labour. Fewer family homes are being passed to succeeding generations as families are now changing jobs and locations. This situation is international and leads to higher land costs — the major brake on the movement to individual modern resalable homes. Another pressure on Western European housing results from the masses of migratory workers who are moving to the industrialized countries. The provision of adequate residential accommodation for these thousands of workers is a significant requirement.

Traditional residential construction methods are masonry and concrete-oriented, due to preoccupation with permanence. Housing officials and the public are becoming aware that Canadian timber-frame houses offer an alternative and that factory-built wood-framed houses can be in place in three months. They are also becoming aware that few semi-skilled tradesmen are required, that houses can be produced independent of site conditions and transported quickly with simple equipment and that a wide variety of interior and exterior finishes are possible. These advantages are leading to the revision of building codes, land zoning, fire insurance regulations and mortgage criteria and terms.

France, due to the Parc des Érables housing project at Igny recognized the system as "traditional" and this is encouraging similar acceptance in Belgium, The Netherlands and West Germany. The French Code for Wood Frame Housing (D.T.U. 31.2) was published and distributed in July 1972.

A considerable market for vacation homes is developing because of increasing personal income, a desire to escape from congested urban (high-rise) living and decisions to make attractive seaside, forest and mountain land available. The movement is strongest in winter vacation areas and includes Spain, Italy and Austria.

The Western European market is generally good and likely to improve. Opportunities in the conventional house field are for the sale of know-how through joint ventures, licensing and management contracts. A growing number of local traditional builders are seeking information and experience to enable them to convert their operations to timber-frame. They have knowledge of local conditions and often thriving businesses including access to land and building materials. As yet, few Canadian companies have developed salable packages of know-how to take advantage of this opportunity. If Canadian wood-frame home manufacturing technology is sold, Canadian materials, components and equipment could enter the market.

As container shipping develops, knocked-down but prefinished complete house packages may be competitive because the cost of finishing is high in Europe and could offset the transportation costs. This is particularly true of vacation homes. Roll-on roll-off ships may make the shipping of sectional homes possible.

South America

Although the South American continent is

generally a huge market and obviously has the full range of opportunities, it is limited for Canadian manufactured homes available at present.

South American countries are tending to take a continental approach to trade and to facilitate the movement of goods and services between themselves while discouraging imports from other areas of the world. This seems particularly true of wood products and wood-framed buildings.

However, housing needs occasionally take priority and regulations may be relaxed for special projects. These exceptions may increase in frequency as housing problems becoming more urgent. The continental urban housing deficit is estimated at between 15 and 20 million units. Other factors to consider are the range of incomes and education, financial stability and rates of inflation. Any major housing project is likely to involve international aid financing.

Caribbean

Much of the comment relative to Mexico and Central America also applies to this area. The country sizes, populations and incomes are relatively small. The desire for better housing is strong but the absolute need is of low priority because of the moderate climate.

The construction of wood houses in factories using minimum labour has little appeal since there is an abundance of unskilled labour which can be employed man-handling unit concrete and clay products. Site building with wood, although labour intensive, requires carpentry skills not generally available.

Recently Jamaica called international tenders for the planning and construction of a 500-acre, relatively prestige housing development. This is a pilot project aimed toward introducing new concepts of residential accommodation and community living. Projects like this offer opportunities to Canadian developers or consortia who can offer the whole package from concept to completed buildings.

The warm humid climate encourages decay and wood eating insects so most wood used for construction must be treated with preservative. When wood construction wins support through its flexibility and fast erection characteristics there will be further opportunities for the Canadian wood preservation industry.

Mexico and Central America

This area has some potential due to the movement by Canada to become more involved in trade but this applies even more to the United States and is particularly true in Mexico and Panama. Commercial housing needs for industrial development are often satisfied by builders connected with the country that provides the capital.

There is a preference for low-rise utility-style housing but the generally low per capita incomes of the people require the development of a housing product at less than $5.00 per square foot. There are a few opportunities for small turn-key developments related to government housing for civil servants.

Education and health generally take higher priority than housing. This emphasis can lead to requirements for manufactured transportable buildings for classrooms and clinics.

An interesting and useful guide to the economics and prospects in this area is the annual report of the Inter-American Development Bank (1972) entitled Socio-economic Progress in Latin America.

Eastern Europe

Information ratings in this area are generally low and this contributes to the low opportunity ratings. The area is characterized by managed economies which strive to be self-sufficient. However, as in Western Europe, the traditional concrete construction may be falling short of housing and social goals. There is evidence that wood construction and low density, even single family developments, are being investigated and North American factory production techniques are being studied. Visitors to Canada have shown interest in transportable three-dimensional units for housing at remote resource development sites.

It appears that the secondary industry to produce finishing materials for dry (wood) factory construction is frequently not available. Until such products are produced locally there may be short-term opportunities for their supply from Canada along with related technology.

In this area, Canadian companies would deal with government purchasing agencies, a different experience from their usual commercial negotiations with other private businesses.

Middle East

Although the Middle East is a relatively homogeneous area from the point of view of this survey, there is the notable exception of Israel which is discussed separately.

The basic philosophy and culture is Arabic which influences approaches to business and life. The climate and topography are also distinctive. The combination of these factors makes the area as different from North America as the oriental area. It is a reasonably solid block in terms of religion and language.

The politics of individual countries is an important consideration in doing business. It is useful to know whether a country has a fully managed economy where government agencies do all the purchasing according to preset plans and priorities or whether it has an approach where businessmen deal with each other directly within national guidelines. Some countries are in between these positions or may be changing.

Another important consideration is the source of national income, e.g. is it an oil based economy? There is a wide difference in ability to make foreign purchases which may be indicated by per capita income figures.

Although the whole area has a high defence budget there is wide variation between countries as to the proportion of its income so allocated. Secondary priorities are education, health, agrarian reform and housing. Opportunities for the sale of prebuilt buildings exist in all these areas of concern but Canadians are prohibited from supplying any military related materials or services.

Most men (very few women are involved) who hold senior levels of responsibility have

received their higher education abroad. Some have English as a second language from U.S.A. and British experience but others who have studied in France, Germany and Russia do not. The European influence is strong and the metric system is generally used. Unless such people have had some North American experience, they have little understanding of wood-framed structures and their possible application to building needs.

Because of the relative lack of skilled construction labour and organization, building material production and internal distribution systems, there is a desire to import whole buildings to be erected for turn-key turnover. This applies not only to housing but also to schools, clinics, farm buildings, warehouses and light commercial buildings, many of which are to be situated remote from ports of entry. Wood-framed buildings can be modified to suit the climate and the life style and their transportability is much in their favour.

Recently, some Canadian businessmen responded to inquiries for substantial quantities of houses. One country is interested in vacation homes and motels for major resort developments as it seeks to add tourism to its sources of foreign exchange. In this instance, Finland is a prime competitor. Where American companies are operating, American building sources may have a preferred but not necessarily exclusive position.

Countries that do not have formal building codes and materials standards are working toward them through foreign engineering consultants. This is a promising area for consulting, particularly in the fields of education, communications, agriculture, transportation and construction.

Israel

Israel's urgent housing need is likely to continue because of the steady influx of immigrants and the chronic shortage of construction labour and materials. The Ministry of Housing is seeking new residential construction methods and systems internationally in an effort to provide housing without adding to the present pressures on the construction industry. Last year Canadian firms responded with proposals as did contractors from (30) other countries. In the negotiations other opportunities for the supply of turn-key houses (villas) and other buildings were identified.

The traditional residential construction materials are unit masonry and concrete with wooden roof structures and trim. In the cities low walk-up apartments built with precast concrete wall panels are common. These are slow to finish and are expensive to own or rent. There are many affluent new residents with North American experience who know and desire the amenities of wood-framed houses. A Canadian housing demonstration might prove the suitability and economy of our homes and lead to a substantial opening of the market in the private sector.

North Africa

North Africa has much in common with the Middle East and although the countries are ancient they are emerging in terms of industrialization. One of the major concerns is to even out standards of opportunity, education, health and housing. Countries with oil based economies tend to have control through central government planning and establishment of priorities.

North Africa gives high priority to education with the need for schools of all kinds from transportable classrooms to follow nomads, to modern permanent complexes for higher education. A similar situation applies in agriculture where education is basic to the communication of plans and instruction and, again, in the area of public health.

There are requirements for turn-key buildings. Trading countries are likely to demand that local industry be involved in the supply chain and/or indigenous products be involved in payments. However, there are many European businessmen and some Japanese investigating the opportunities on-site and winning contracts.

Central Africa

Consideration of Central Africa is dominated by the high proportion of the area that is developing, tropical and has low foreign currency availability. These facts generally reduce the high need factor to a very low export potential for housing.

There are some medium-term possibilities:

a) Low-rise residential construction is desired.
b) Modern housing for public servants is a high priority in many countries.
c) Prestige housing (in local terms) of wood-frame may be desired to upgrade the acceptance of wood for residential construction.
d) Wood production, manufacturing and use could add useful secondary industries.
e) Transportable buildings for resource development, education and health uses could be demanded on short notice.
f) Housing is needed for United Nations personnel.

A substantial part of Central Africa uses French as its first or second language of business. Canadian companies that can operate in French will have a favourable start.

Vocational education is a prime need and offers opportunities for Canadians to supply school buildings and residences. There have been international calls for the design and construction of education complexes at high school and university levels. As yet, few Canadian groups can respond to such challenges.

Educational experience gained in Canada in the construction field could extend the use of applicable technology and Canadian building materials and equipment. This is a relatively long-term approach but the opportunity is present.

Many countries are developing their first building codes and materials standards, sorting out trade alignments and seeking guidance in developing natural resources. Co-operation could lead to expanded business opportunities and mutual benefits in the medium and longer terms.

Central Africa may not be a market for the most sophisticated techniques and equip-

ment. There is room for secondary industry using manpower and simple, self-sustaining, relatively maintenance-free processes and equipment such as were used in Canada before electricity was widely available.

South Africa

South Africa presents a mixture of opportunities from nil to good. The housing needs vary from replacement of shanties to prestige homes in urban developments. National policies affecting housing priorities are being formulated and changed and Canadians with initiative are likely to benefit. The South African building code is being reviewed and may be revised.

Good forest resources have not been extensively utilized in construction and it will take time to get lumber and plywood production moving. If wood-framed housing develops slowly, present production levels may be adequate. If it wins fast acceptance, there could be room for imported structures, materials and know-how soon, while local wood production is still low. South Africa has possibilities of a good market that will be much better defined in a year or two.

The comments on Central Africa also apply in general to the developing countries in the northern part of South Africa.

Asia

In this area Japan stands out as not only the country with a high opportunity potential but as one of the best markets in the world.

The Japanese target of 1.9 million housing units per year compares with that of the United States and the desired proportion of low-rise units is higher. Wood housing is traditional but Japanese methods of construction are considered too slow to meet production targets and the Canadian platform wood-frame building method is receiving favourable consideration.

The Japanese have been studying methods of house construction and have tried some of the most advanced concrete systems. They have also developed wood-framed systems and some companies are producing thousands (up to 15,000) of units per year. Japan is, however, still searching for a method through which housing of many sizes and qualities can be built efficiently in many different locations using the same basic materials, equipment and technology. These characteristics and advantages of Canadian timber-frame construction are attracting the Japanese government agencies responsible for finding solutions to housing problems.

Japanese businessmen are not eager to see new methods adopted until they can find ways to participate in them by converting their traditional operations. Major trading companies are seeking proprietary products and systems for which they can get exclusive rights in Japan. There will be room for many different approaches to providing competitive structures that meet building code and materials standards. It is unlikely that Canadian companies will find it easy to establish under their own names in Japan and may find it advantageous to have Japanese participation because of the interests of the several levels of distributors that could be displaced by direct importing or manufacturing.

Tradition is strong in Japan especially with respect to family life and culture, both of which tend to focus in the home. Thus, Canadian house designs may need modification. Canadian companies should have good marketing and designing capabilities and be willing to produce for the Japanese market.

There will probably be a desire to transfer Canadian timber-frame construction and house manufacturing technology to Japan with the attendant need for residential construction managers and production staff to travel to and from Canada. Companies should pay particular attention to their personnel capabilities, availability and costs, so that they can participate on a planned basis if contracts for the purchase or licensing of know-how are to be negotiated.

If and when Canadian timber-frame residential construction gets Japanese approval and support for national use, a large market could develop quickly for the tools and builder's hardware needed to work wood, assemble framing and finish the interior and exterior of houses (truss assembly equipment, truss plates, special nails, sheet metal fasteners, corner beads, hand tools, power hand tools and dry wall finishing tools).

The size of the market is at least 10 times Canada's domestic market so that requirements will be large and attractive offers may be made for control of parts of the system from raw material to know-how. Joint ventures of all kinds may be suggested. The Japanese may be looking at the re-exporting of the materials and concepts to third countries where their businessmen are well established.

South Pacific

This area as a whole presents only moderate potential but there can be opportunities for short-term participation in development projects and the supply of know-how.

Australia and New Zealand are attracted to the better quality Canadian style homes and vacation structures. They have wood resources but many species are difficult to use in general construction so that Canadian Douglas Fir, Hemlock and Western Red Cedar are finding a good market in housing.

Natural resource development in the "outback" areas of Australia sometimes calls for instant communities of transportable buildings, including industrial camp units, warehouses, dormitories, classrooms, clinics and houses. With this requirement, local companies are beginning to produce manufactured buildings using Canadian technology.

Some tourist resort development projects are being undertaken on South Pacific islands by international hotel chains and local businessmen. There are few local resources for construction and turn-key building is contracted including site planning and development.

Housing needs are generally not as acute as in some other areas of the world. Traditional homes are different from Canadian styles and considerable redesign work would be required to meet the climatic conditions and the life styles of the people in sub-tropical regions.

READING NOTES

The abbreviated chart type format leaves something to be desired in terms of clarification and explanation. However, the need for quick visibility took priority. The following guidelines are offered.

General Comment:

Throughout the body of the charts, levels of quantity and/or quality of opportunity are on the same five level scale. If there is a negligible quantity the notation is Nil which provides a sixth level.

The reader's own experience and knowledge will give him the upper limit to be applied and within that range the five levels of opportunity are considered to be in 1/5 increments.

i.e.: Nil — Zero or negligible
Poor
Low
Medium
Good
High

The following notes are to assist the reader in interpreting the information provided.

Column:

1. Post and Country

The post is the city location of the Canadian government trade office which has responsibility for, and has reported on, the country involved. Some posts cover more than one country and a few cover only a part of a country.

2. Information Rating

This is a comparative judgment as to the extent and accuracy of the data currently available from all sources reviewed and suggests a level of confidence to be applied.

3. Population

This information is to give proportion and scale. In general, the larger the population the greater variety of opportunity and the greater the need for housing. Ability and/or desire to import housing have been considered as more important opportunity indicators. Demographic information such as the rate and direction of growth, rate of family formation, per capita income and urban vs rural populations and rates of change, etc., would be applicable in later stages of a market investigation.

4. Production

The number of dwelling units of all types built in the country in 1971 followed by the number or proportion of low-rise, potentially wood-framed, units built, i.e. single family, semi-detached, row housing or three or four-storey apartments.

5. Housing Needs

This group of columns is reported in Canadian terms.

The columns are numbered 1, 2, 3, 4, 5 so that the kind of house can be referred to by number in the "opportunity" columns.

(1) Prestige

Homes for dignitaries and influentials which would cost $40,000 or more (house and lot 1971) in Canada. There is a relatively high general opportunity for this level, not so much in numbers of houses as in the demand by and ease of sale to wealthy individuals. This category also applies to luxury, fully equipped vacation homes.

(2) Ordinary

Middle class Canadian homes costing from $25,000 to $40,000 in Canada (house and lot in 1971). Note: In developing countries these would be considered prestige houses but conversely in some countries where there is affluence and a housing shortage such houses might sell for twice the above prices with a good part of the increase in land cost. Typical countries are Germany, Japan and Israel.

(3) Vacation

This category refers mainly to individual chalet resort houses valued in Canada from $4,000 to $10,000.

There are also opportunities for lower priced unpartitioned shells and for larger second home units and motels.

Affluent countries are developing seaside and mountain areas to meet the demand of city dwellers for relief from high-rise or congested urban living. France is the outstanding example.

Developing countries are recognizing the tourism potential of their undeveloped scenic areas and are encouraging national and/or foreign sponsored building of resort complexes (Iran, Pacific Islands).

(4) Workers

The norm here is a utility home characterized in Canada as low income housing costing from $10,000 to $25,000. There is an almost universal demand for this category which is subject to the strongest competition from traditional local construction using indigenous materials.

Some developing countries subsidize this level of housing for the accommodation of government employees. National governments may purchase considerable numbers of very similar units for this purpose or to provide permanent residences at new town sites connected with resource development. Preferred configurations are bungalows and two-storey or row housing and fourplexes for mixing into medium density developments.

(5) Shelter

There is no equivalent in Canada. This category envisages mass housing with minimum finish and equipment and no winterizing. The need is felt in warm developing countries for people with annual incomes from $500 to $1,500 or the equivalent through subsidies. This type of accommodation is also desired for disaster relief and to house migrating or displaced populations. It is difficult to estimate potential quantities because needs can change quickly due to government priorities, conflicts or natural crises.

In all five categories, the ratings are a composite assessment of the relative importance of volume, urgency of need and

appropriateness of Canadian products. A high rating indicates good prospects in all three aspects. Medium indicates less urgency or appropriateness although the volume may be similar. Low or poor indicates potential only if financing can be arranged and demand is subject to government priorities.

Levels of Income and House Purchasing Capacity:

Level of income is the most important of the economic factors influencing standard housing in developing countries. It can be approximately measured by gross domestic product (GDP).

Only 23 out of 174 developing countries, with a population of 117 million, had an average per capita income of more than $500 in 1965. The other 151 countries, accounting together for 1,426 million people, had an average of $150 per capita per year.

As a general rule, a household in a developing country can afford a house valued at roughly three times its annual income. This indicates that, with an average household of four people, the price range within which solutions for urban housing problems in most of the developing countries have to be found was in the order of $1,800 per house in 1965 or $2,000 in 1970. These figures are general indicators and do not take into consideration the income distribution within and between countries. Of the 151 countries with an average per capita GDP of $170 in 1970, 23 (representing a population of 1,000 million) had an average GDP of only $104. For their conditions the average cost of a house should not exceed about $1,250. In large cities, 20 to 40 per cent of the cost goes into the acquisition of a building lot. The remainder is usually just enough for the simplest form of shelter. Where timber is readily available it is used, rarely for wall construction but almost everywhere for beams, partitions, eave boards, doors and windows.

6. Opportunities for the Supply of Products from Canada:

(a) Whole Houses

This envisages the supply of materials and components erected for turn over as completed units and may take the form of modules, components or precut materials, assuming that the package is a complete basic unit.

Turn-key contracts may be desired by oil-rich economies where available materials and labour are unsophisticated and modern housing is needed (Saudi Arabia, Libya).

(b) Components

This column refers to the supply of housing sub-assemblies, such as wall, roof or floor sections, windows, doors, trusses and stairways, which might be supplied for use in local construction. They could be key parts of a licensed system. Some countries allow the import of such units but restrict bringing in whole houses.

(c) Materials

Normally essential to the completion of Canadian-style housing, these include lumber, plywood and other panel products, insulation, gypsum board, shingles and equipment such as heating, plumbing and air conditioning. Readers should recognize that each product may face different import regulations in different countries and detailed investigations with respect to access should be made. This points to the advantage of obtaining export sales of materials by incorporating them in whole houses or sub-assemblies.

(d) Know-How

Management and/or technical expertise to assist local builders or manufacturers to produce Canadian-style manufactured houses or components with Canadian materials, is a salable commodity. It can be applied on a contract basis in the fields of:

* site development — housing sites and factories;
* production — organization and quality control;
* marketing — techniques and planning;
* design and engineering — plants, houses and developments;
* general management and financing.

To produce maximum application of Canadian expertise, appropriate personnel should be given experience related to the site of proposed operations through contact with visitors to Canada or by travel abroad. This column may suggest opportunities in this field.

7. Materials Relative to the Country Reported On

(a) Traditional

This shows the usual and indigenous building materials listed in the order of importance. The information will show the character of traditional housing and suggest the qualities of Canadian wood-framed construction which should have the highest appeal.

(b) Supply

The availability of various building materials affects the kind of housing to be constructed and whether alternate materials will be considered.

In some areas there is an unlimited supply of traditional mud and thatch but these materials do not lend themselves to more sophisticated structures. Such supply is not necessarily a deterrent to the introduction of Canadian-style housing providing that the benefits will justify the costs. This is most likely to apply to prestige or government-sponsored housing projects involving ordinary and worker level units.

8. Labour (This column is reported in 1971 Canadian dollars)

The notations in this column are to advise potential Canadian suppliers about local labour availability, cost and degree of skill and to guide them in estimating the cost of site work and/or the need to provide Canadian crews or supervision.

The amount of involvement of local labour can be critical from several points of view.

— Some areas want minimum involvement either because labour is scarce or expensive or because it is not qualified in terms of skills or literacy (Western Europe or Middle East).

— Some areas want maximum involvement to train an unskilled labour force and maintain employment in traditionally labour intensive secondary building industries (Central Africa and South America).

Low wage rates generally indicate low skills and low productivity, particularly in developing countries. Coming to terms with local labour conditions is a key to successful bidding and operations. As in Canada, ability to complete (finish) houses for prompt final acceptance affects the receiving of final payment.

9. Wood

This column is included because the products of the Canadian manufactured home industry are basically wood-framed.

(a) Acceptance

The attitude of a country's people and government toward wood as a construction material is an important factor in assessing opportunities. The acceptance of Canadian-style wood framing is generally improving. Experience shows that Canadian timber-frame construction can compete successfully in traditional masonry markets such as Britain and Western Europe. With good technical promotion and education it can penetrate almost any market, even those where it has not been seriously considered previously as in Japan, the Middle East and North Africa.

In developed countries with traditional wet construction techniques, the availability of factory production and the economical transportation of product are creating interest in the Canadian wood-framed system (Poland and The Netherlands). In developing countries with large local wood supplies there is the possibility of working with national governments to provide demonstration prestige houses to encourage public acceptance of wood-framed houses. Public acceptance will facilitate plans to develop secondary industries and utilize local resources in the medium and long terms and provide a market for Canadian products in the meantime.

(b) Supply

The "supply of wood" comments take into account both the availability of standing timber as a basic resource and the availability of manufactured lumber and wood panel products in finished form ready for use in construction. Modern wood framing assumes the availability of adequately sized, graded, dried and finished wood products as well as necessary tools, skills and auxiliary services and equipment. It is quite possible to have massive wood supplies yet little available for modern construction. It is also possible to have advanced wood-working equipment and skills which have been applied to cabinet making but not to construction. In both, the Canadian home manufacturing expertise can point out new directions for the use of resources and provide an advanced housing product in the short term.

10. Financing

The comments in this column advise on the availability of funds for housing. This is frequently related to the priorities of the national government which are important in the assessment of opportunities. Some countries have two widely differing policies relative to house financing. For example, in Israel private owners pay cash in advance or conversely the Ministry of Housing provides homes for rent and subsidized purchase. There are many levels of buyers' assistance and every country has different programs which may change quickly. In this survey the subject is treated generally to indicate the relative ease of funding and the usual means.

Canadian aid funds have rarely been applied to housing projects as compared to capital projects because of the relatively short life of houses and the probability of ultimate private ownership. The financing of housing in the mass markets (worker and shelter units) will usually involve such large amounts of funds that intergovernment agreements may be involved.

Where possible, the 1971 range of housing costs on a per square foot or square metre basis in Canadian dollars is included. This, considered with wage rates, can give an idea of the quality of construction used and suggest the competitive position of Canadian products.

Most developing countries have building societies, savings and loan associations, land mortgage banks, housing co-operatives, housing banks, sociétés immobilières, crédits sociaux and development banks. Some furnish loans only to upper and upper-middle income investors. Some countries also have government financed housing boards or trusts that subsidize low income housing through low interest loans. The activities of the private financing institutions are limited to investors who can afford their terms. The activities of the public bodies are limited by shortage of capital that can be invested at non-economic terms. Both together affect only a small section of the housing market. A recent sample survey in Kampala, Uganda, has shown that less than 14 per cent of the houses in the city were built with assistance from government or housing finance institutions.

It is a fundamental rule of housing finance that a house pledged as security for a loan must have a life expectancy that extends beyond the repayment period. This is considered so self-evident that it is rarely put in permit or writing. Nevertheless, it exercises a powerful influence on decisions to make available or withhold finance from a housing project. In the absence of statistical evidence on the durability of wood-framed houses in tropical locations, bankers and their surveyors and valuers will not quickly abandon the notion that inorganic materials are better and more worthy of financial support than timber and other organic materials. Thus, for a long time to come without a major change in financial institutions and their approach to finance for housing, timber will be more freely used in the houses of the self-financing section, which is poorer but much larger in number than the sector that benefits from institutional finance.

11. Comments and Assessment

This column presents information on important influences and access conditions in terms of tariff and non-tariff barriers to

trade. Where competitive initiatives are known or expected they are mentioned.

12. Rating

This is a numerical expression to make the relative overall assessment of the opportunity readily visible. By using a scale of 10 from +5 to −5 with the better current probabilities being in the plus part, the opportunities average easily. The rating is based on an overview of information from all available sources and is related to the opportunity existing in the United States. The Canadian trade offices involved reviewed the final draft of this report in July and August 1972. Some new information was added and some data updated.

Readers will note that the majority of countries are not considered to be good potential markets at present. However, there are many where further investigation could be productive. It is suggested that the ratings not be taken as absolute because they may not hold under particular circumstances and they could change quickly. Rather, it should be useful to read the whole report to get a feel of conditions on an area basis and an appreciation of the criteria, proportion and attitudes which apply.

AREA = U.S.A. AND NORTH ATLANTIC

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
15 Posts U.S.A. Includes Alaska, Hawaii 1	High	220 Mill.	2,000,000 1,400,000 55% single 500,000 mobile	Low	High	High	Low	Nil	Good 2–3	Good 2–3	High 2–4	Low	Wood and Masonry	Good
Copenhagen GREENLAND 2	Low	0.04 Mill.	600 400 plus	Nil	200	Nil	400	Nil	Poor 4	Low	Good	Low	Timber Skeleton	Poor
Oslo ICELAND 3	Nil	0.2 Mill.		Nil	Poor	Nil	Med	Nil	Low	Poor	Low	Low	Stone Concrete	Med

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good $20 plus	Excellent	Can. lumber widely used Can. plywood restricted	Excellent — FHA mortgages. Federal subsidies apply to 50% of housing.	State and municipal codes must be complied with. Certification programs available. Best regions — New England, Alaska, Border States, Tariff — 8% Urgency — low The medium price of a new home in 1971 was $25,000	5
Low	Good	All imported	Direct government purchase. Single $27 to $40/sq. ft., row & semi $35/sq. ft. average	Decline in building activity predicted. Import of prefabs to be reduced. Canada's Arctic experience may be useful. Denmark dominates government and commerce.	—3
Med	Med	Mostly imported		Use Scandinavian techniques and materials. 1973, may be short-term housing need for volcano victims.	—5

AREA = MEXICO AND CENTRAL AMERICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Mexico City MEXICO 4	Good	48.3 Mill.	225,000 plus 80% single	Low	Low	Low	High	Medium	Low 2	Low	Medium	Medium 2–4	Masonry Concrete Steel	Good
Kingston BRITISH HONDURAS (BELIZE) 5	Low	0.12 Mill.	Low	Poor	Low	Low	High	Medium	Poor	Poor	Poor	Medium 2	Concrete	Good
Guatemala GUATEMALA 6	Good	5.5 Mill.	Need 29,000 year 90% low-rise high row	Poor	Low	Low	High	Low	Poor	Poor	Poor	Low	Masonry	Good
Guatemala EL SALVADOR 7	Good	3.5 Mill.	10,000 urban 12,000 rural 90% low-rise	Poor	Medium	Low	Medium	Low	Low 4	Poor	Poor	Good 4	Masonry Concrete	Good
Guatemala 8 HONDURAS 9 NICARAGUA 10 COSTA RICA 11 PANAMA	Medium	2.5 Mill. 2.0 2.0 1.5	90% row & single (Increasing)	Poor	Low	Low	Medium	Low	Low 3–4	Poor	Low	Medium 2–4	Masonry	Good

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LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good $2.25	Low Improving	Local supplies fair. Import plywood from U.S.A. and S. America.	15 yr. commercial mortgage. Some subsidies. Urban houses $6.50 to $9.00/sq. ft.	Houses and component imports eliminated by import controls. Building at rate of 30% of needs. Interest in wood housing is increasing and know-how is being sought.	—3
Fair Cheap Low productivity	Low	Good	International loans. Government subsidies.	Low cost housing equals less than $2,000/unit. Almost impossible to compete.	—4
Good $1.50 to $3.00	Medium	Self-sufficient for lumber and plywood	20 yr. commercial mortgage. Subsidies available. Single $4.30/sq. ft., multi $6.50/sq. ft.	Opportunity for general housing is poor. Possibly some prestige. Urban population 31%. Squatter population 30,000 in Guatemala City. National Housing Institute finances low income housing.	—3
Good $1.50 to $3.00	Low	Not encouraged. Imported.	Mortgages. Strong gov't support for low cost. Max $3,400/s. unit. Single $3.00 to $4.00/sq. ft. Apts. $4.00 to $5.00/sq. ft.	Urban population 39% National housing finance agency finances low income housing. Rural land holding reform is progressing.	—3
$1.50 to $3.00 Panama higher due to U.S.A.	Low	Self-sufficient. Treatment used.	20 yr. mortgages. Subsidies available.	Availability of serviced land is serious problem. Housing infrastructure is weak. Gov't agencies and banks support low income housing. Per capita incomes are low.	—3

AREA = CARIBBEAN

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Kingston BAHAMAS 12	Medium	.2 mill.	± 500 single Need 2,000	Low	Low	Low	Low	Low	Low 3–4	Medium 3	Medium	Med.	Masonry Concrete	Good
Havana CUBA 13	Medium	8.5 mill.	Targets 30,000 to 100,000 by 1975, Mostly apts. Low cost.	Poor	Poor	Poor	High	Low	Low	Low 4	Low	Med. 4	Concrete	Good
Kingston JAMAICA 14	Good	1.9 mill.	3,600 Need 7,000	Poor	Poor	Medium	High	Low	Low 2–4	Low	Medium	Med. 4	Concrete Masonry	Good
Hato Rey HAITI 15	Low	5.9 mill.	Massive need, little action	Poor	Poor	Nil	High	High	Low 4	Low	Low	Low	Concrete Masonry	Med.
Hato Rey DOMINICAN REPUBLIC 16	Low	4.2 mill.	Massive need, action increasing.	Poor	Poor	Nil	High	High	Low 4	Low	Low	Low	Concrete Masonry	Med.
Hato Rey PUERTO RICO 17	Good	2.8 mill.	117,000	Poor	Low	Poor	High	Med.	Low	High 4	Low	Med. 4	Concrete Masonry	Good
Port of Spain BARBADOS 18	Good	.26 mill.	Need 1500. Fewer built 90% single	Poor	Poor	Low	High	Low	Med.	Medium 2	Medium 3	Med. 4	Lumber Corr. Steel Masonry	Med.
Port of Spain TRINIDAD 19	Good	1.0 mill.	Need 10,000 Fewer built 90% single Target 4,000 units per yr.	Poor	Med.	Poor	Med.	Low	Low 3	Low 4	Medium	Med. 4	Concrete Wood Masonry	Good
Port of Spain LEEWARD AND WINDWARD ISLANDS 20	Good	.50 mill.	Need 10,000 Fewer built 90% single	Poor	Low	Low	Med.	Low	Poor	Low 4	Low	Med. 4	Concrete Masonry Wood	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	Acceptance	Comment re Supply etc.	Availability of Funds and Methods of Financing	Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —	Feb. 1/72 and dated changes
Good Mod. wages Low productivity	Medium	Code based on S. Florida Buildings Regulations Act — came into effect Nov. 1/71	Private mortgages. Subsidies up to 95%. Low cost $13/sq. ft. others to $25/sq. ft.	No restriction on prefab imports but must compete with U.S. supply. Labour unions lobbying for protection from imports. There is a current downturn in tourism which contributes 70% of the gross revenue.	1
Good	Low	Asking about timber-frame	State — exclusivity	Rapidly increasing construction. Well developed precast concrete industry. Money and materials from European Communists.	—4
Fair Low wages Low productivity	Medium	Cedar shingles — good. Codes and quotas. Treating required.	Commercial. Some subsidies for low income. Low cost $6.00 to $10.00/sq. ft. Med. cost $10.00 to $14.00/sq. ft.	Possible improvement due to World Consultation. Gross National Product $1.2 billion. Per capita income $555. Low cost housing target $5.00/sq. ft. Government is sponsoring new housing developments.	—2
Good Low wages Low productivity	Poor		Costs relatively high	Little construction activity until national policy changes; not expected in foreseeable future.	—4
Good Low wages Low productivity	Poor	Imports controlled	Commercial state	Little opportunity; imports are severely controlled, local labor low cost; poor attitude to wood.	—3
Good Low cost	Poor	Public dislikes wood. Little used.	USA — FHA + Conventional + State	Strong U.S. influence. 59% of housing demand from $1,600 annual income; 5% of housing demand from $6,200 annual income.	—4
Good Low wages Low productivity	Good	Imported prefabs not used. Treating required.	Conventional mortgages. Some subsidies. Low income $2.50/sq. ft. Med. $3.30 High str. $8.50		—2
Good Low wages Low productivity	Poor	Some imported. Treating required.	Private mortgages International loans Limited subsidies	Housing costs — low $4.00 to $5.00/med. $5.00 to $7.50. High $8 to $13. High-rise $6.00 to $8.00 per sq. ft. Government is encouraging the use of unit masonry and sheet metal as local products.	—2
Good Low wages	Medium	Treating required. No code or standards	Conventional mortgages Some subsidies Some Canadian loan funds	Antigua, Montserrat, St. Kitts, Nevis, Anquilla, Dominica, Grenada, St. Lucia, St. Vincent Low income $3.30 to 11.00/sq. ft. Med. income $5.00 to 12.50/sq. ft. High income $6.70 to 18.00/sq. ft.	—2

AREA = SOUTH AMERICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Port of Spain SURINAM 21	Fair	.42 mill.	Need 1500 Low income 90% singles	Poor	Low	Low	Medium	Low	Poor	Medium 4	Imported Fair	Medium	Wood Masonry	Low Imported
Port of Spain GUYANA 22	Good	.75 Mill.	Need 5,000 Less built 90% singles	Poor	Low	Low	Medium	Low	Poor	Medium 4	Fair	Medium 4	Wood Metals	Low Imported
Caracas VENEZUELA 23	Good	10.5 Mill.	Need 90,000 Low income	Medium	Low	Low	High	Low	Medium 4	Low 1	Low 5	Low 2	Concrete Title Masonry	Good
Bogota COLOMBIA 24	Good	21.8 Mill.	40,000	Low	Low	Poor	Medium	Medium	Poor	Poor	Poor	Low	Masonry Thatch	Medium
Bogota ECUADOR 25	Good	6.3 Mill.	4,000	Poor	Poor	Poor	Medium	Medium	Poor	Low	Poor	Medium 4	Masonry Thatch	Medium
Lima PERU 26	Fair	14.0 Mill.	13,000 units per year	Poor	Poor	Poor	High	Medium	Nil	Poor	Poor	Low	Masonry Thatch	Medium
Sao Paulo BRAZIL 27	Good	96.8 Mill.	Need 500,000 280–300,000 in 1971	Low	Medium	Low	Medium	Low	Low	Poor	Low 4	Medium 2, 4	Concrete Brick	Good
Lima BOLIVIA 28	Good	4.7 Mill.	18,000 Single 10,000 Row 5,000 Apts. 3,000	Poor	Low	Low	High	Medium	Low	Fair	Low	Low	Adobe Masonry Thatch	Good
Buenos Aires PARAGUAY 29	Fair	2.4 Mill.	1,500 High need Low priority	Poor	Low	Poor	High	Medium	Poor	Poor	Poor	Poor	Masonry Wood	Medium

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SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Low wages Low productivity	Good	Shell houses with wide eaves. Practically self-sufficient. Treating required.	Conventional mortgages. Low income subsidies, costs relatively high	Possible market for industrial camps. Local prefabber established — Brugnzsel.	—3
Low wages Low productivity	High	Some imported. 30% duty on plywood. Treating required.	Mortgages. Limited subsidies.		—4
Good Low wages	Poor	Local — low quality, high cost. Imports — effectively prohibited.	Banco Obrers-Crown Corp. Mortgages Housing authority	Export plywood. Very much U.S.A. influenced. High housing need—Oil economy. Interest in new construction methods.	—3
Good Low wages	Good	Import of lumber prohibited.	Territorial credit institute Central Mortgage Bank	Import of lumber, manufactured housing, camps, mobile or components prohibited. 60% urban-dense squatter communities. 50% infrastructure built.	—5
Good Low wages	Medium	Import of lumber prohibited.	Savings and loan system	Import of lumber, manufactured housing or components is prohibited. 39% urban population — 50% in coastal areas. 75% of housing stock is deficient. Housing deficit 618,000 units.	—5
Good Low wages	Medium	Plywood imports prohibited since 1969.	Savings and loan assoc's. Peruvian Housing Bank	52% urban population. Extreme shortages in urban infrastructure. Many squatter settlements. Rural land estate being redistributed.	—5
Good $1.50/day	Medium	60% — 8% duty on plywood. Wood must be treated. Export plywood and veneer.	Banco National de Hobitacio Subsidized interest rates. Time of Service Guarantee fund.	Prefab development just starting. Wood used in rural areas and for interior finishing. Agrarian reform has program for spontaneous land settlement.	—3
Low wages	Medium	Plywood duties $0.32/kgm + 15% Ad Valorem + 10% surcharge.	Banks, savings and loan associations.	Adobe used in highlands. More wood used in lowlands. Country landlocked with poor roads. Shortest access is 500 miles from ocean port. Some prefab concrete.	—5
Good Unskilled	Good	Exports lumber. Imports all other building materials.	Housing and Urban Institute. Agrarian reform has high priority.	Population poorly housed and poor. Housing is low national priority. Industrialized housing could not compete with low labour cost. Essentially a rural country with low population density.	—5

AREA = SOUTH AMERICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Buenos Aires URUGUAY 30	Good	2.85 Mill.	Total need 137,000	Poor	Low	Poor	High	Medium	Nil	Poor	Poor	Low	Masonry Concrete	Good
Buenos Aires ARGENTINA 31	Good	23.5 Mill.	60,000 Buenos Aires area	Poor	Low	Low	High	Low	Low 2	Medium 4	Low	Medium 2, 4	Masonry Sheet Metal	Good
Santiago CHILE 32	Medium	10.0 Mill.	100,000 90% singles Many 350 sq. ft.	Poor	Low	Low	Medium	High	Poor 4	Poor	Low	Low	Masonry Asbestos Cement Concrete	Good

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SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good Unskilled	Good	Local supply plus imports from U.S.A., S. Africa and Russia.	House cost $5.00/sq. ft. and up. Government mortgages	Manufactured houses prohibited. Some prefab concrete walls and roofs recently.	—5
Good $4.25/day	Med. low Income housing	Import lumber $76.4 million from U.S.A. No plywood.	Bank and gov't mortgages. Subsidies available.	100% duty on wood structures. 90% on plywood. Opportunities for licensing and joint ventures.	—2
Good $2.00/day	Medium	Must be treated. Local plywood.	Low cost houses $2,000 max. Housing and loan assoc's. Gov't subsidies for local construction, not imports.	Modular and mobile housing starting — code changes needed apparently no substance to inquiry for 5,000 houses. U.S.S.R already committed (and installing ?) prefab housing plant in Chile as a donation.	—5

AREA = WESTERN EUROPE

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Dublin Republic of IRELAND 33	Good	2.9 Mill.	14,000 single	Low	Med.	Low	Mod.	Nil	Low	Med. 4	Low	Med. 2–4	Masonry	Good
London UNITED KINGDOM 34	High	56.0 Mill.	230,000 34% semi-detached 31% town house 17% flats	Low	Good	Good	High	Nil	Poor	Good 2	Good 2–4	Med. 2–3	Masonry	Good
Oslo NORWAY 35	Good	3.8 Mill.	37,000 Single 20,000 Row 5,000	Low	Med.	Low	Med.	Nil	Poor	Low	Poor	Low	Wood	Good
Stockholm SWEDEN 36	Good	8.2 Mill.	105,000 Single 25,000 Row 10,000	Low	Good	Good	Good	Nil	Poor	Med. 2	Poor	Poor	Wood Masonry Concrete	Good
Stockholm FINLAND 37	Good	4.7 Mill.	55,000 Single 15,000 Row 3,000	Low	Med.	Low	Good	Nil	Poor	Low	Poor	Low	Wood Concrete — (High Rise)	Good
Copenhagen DENMARK 38	Med.	5.0 Mill.	50,000 Singles 60% Vacation 8,000	Low	Good	Low	Med.	Nil	Poor 4	Low 2–3	Good 2–4	Low	Brick Wood Prefab Concrete	Good
The Hague NETHERLANDS 40	Good	13.0 Mill.	130,000 Mainly low-rise-row	Med.	Good	Low	Low	Nil	Low 3	Low 2	Med. 2–4	Good 2, 3, 4	Masonry	Good
Brussels BELGIUM & LUXEMBOURG 41	Good	10.0 Mill.	30,000	Med.	Good	Low	Med.	Nil	Low 3	Med. 3	Med.	Good 2, 3, 4	Masonry Brick	Good
Paris FRANCE 42	High	52.0 Mill.	510,000 38% Single 8% Row	Low	Good	Med.	High	Nil	Low 3–4	Med. 2–4	Good 2–4	Good	Masonry	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	Acceptance	Comment re Supply etc.	Availability of Funds and Methods of Financing	Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —	Feb. 1/72 and dated changes
Good $11.00	Med.	No restrictions. Import plywood from Malaysia and Brazil. Prejudice in favour of masonry.	Private mortgages. Local authority subsidy.	Prefab construction just starting. High labour content in houses. The present 26.7% tariff will drop to the CET 7% but Canadian exports will lose the 13% margin of preference at present accorded to them. These changes will become effective during a transitional period starting January 1, 1974 and ending July 1, 1977.	—1
Good $20.00 $30.00	Good	Import lumber and plywood. Timber housing increasing. 12% of houses are wood-frame.	Building societies conventional mortgages, some gov't subsidies. Mortgages funds may be reduced.	150 very successful home manufacturers using timber-frame. Some exporting to Europe and M. East. Opportunities for licensing and joint ventures. House prices almost doubled in 18 months since 1970. High cost of land.	2
Good $20.00	High	Self-sufficient, Export.	Private mortgages. Building societies joint stock companies.	Local house manufacturing well organized—export. Duties on imports. Would be difficult to be competitive.	—4
Good $20. Social ser.	High	Self-sufficient, Export. No restrictions.	90% gov't loans. Low internal bank loans.	National needs reducing. Well developed house manufacturing industry. Preparing for strong export push to Europe. Low-rise row housing is increasing.	—4
Good $12.00	High	Self-sufficient, Export.	50% gov't loans, subsidies available. House costs 18.50/sq. ft.	Imports discouraged to protect balance of payments. Well developed concrete prefab. Wood prefab just starting.	—4
Good $17.00	Good	Import wood and plywood.	Gov't loans available.	Prefab housing well developed—Exporting.	—3
Good $15.00	Good	Import all wood products. Concern with fire performance of wood structures.	Gov't subsidies on 108,000 units.	Qualitative and quantitative shortage—Urban renewal. Short of housing goals—Canadian entry will require capital investment. Housing officials are investigating Canadian housing codes and insurance.	2
Good $12.00	Good	Import most wood products.	Gov't and quasi-gov't.	Developing a manufactured home industry—concrete and wood. High interest from Igny. Local building contractors are supporting expansion of Canadian timber-frame construction with assistance of Post and COFI.	3
Fair $10. Foreign and social ser.	Good	Import some wood from Baltic and Scandinavian countries and Canada.	Gov't through Credit Foncier. Some low income subsidies-HLM. Per capita income $3,500.	Public and gov't acceptance of timber-frame is high. Levitt from U.S.A. is established. Kanata homes licensing Canadian-style home builders. Expect 5,000 wood-framed houses to be built in 1972. 250,000 housing units to be renovated annually.	4

AREA = WESTERN EUROPE

Post COUNTRY (S)	INFORMATION Rating	POPULATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Components	Materials	Know-How	Traditional	Supply
Bonn, Hamburg Duesseldorf W. GERMANY 43	Good	62.0 Mill.	600,000 Single 150,000 50% low-rise 25% multiple	Low	Good	Med.	Med.	Nil	Low 3	Med. 2–3	Med. 2–4	Good	Masonry	Good
Vienna AUSTRIA 44	Good	7.4 Mill.	60,000	Poor	Low	Low	Med.	Nil	Poor	Low	Low	Med. 3	Masonry Slag Concrete Wood	Good
Berne SWITZERLAND 45	Good	6.3 Mill.	65,000 Singles 10,900	Low	Low	Med.	Nil	Nil	Low 2–4	Med. 2	Med. 1	Med. 3	Masonry Concrete Wood	Good
Lisbon PORTUGAL 46	Med.	9.7 Mill.	Need 35,000 95% singles	Low	Low	Low	Low	Nil	Poor	Low	Poor	Med. 2, 4	Concrete Masonry	Good
Madrid SPAIN 47	Good	33.3 Mill.	298,000 Mostly apts. 7,000 singles & semi	Low	Low	Med.	Good	Nil	Poor 3	Low 4	Med. 2–4	Good 3, 4	Concrete Masonry	Good
Rome, Milan ITALY 48	Good	54.7 Mill.	500,000 75% multiple dwellings	Low	Poor	Med.	Low	Nil	Poor 3	Low 3	Poor 2–4	Med.	Concrete Brick Stone	Good
Athens GREECE 49	Good	8.9 Mill.	80,000/yr plus 250,000 backlog to clear in 4 yrs	Low	Med.	Med.	Good	Nil	Poor 3	Poor	Med. 4	Med. 2–4	Concrete Brick Stone	Good
Ankara TURKEY 50	Low	35.0 Mill.	Need 195,000 Permits 48,000	Low	Nil	Med.	High	Nil	Nil	Poor	Nil	Good 2, 3, 4	Concrete Wood Mud Brick	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Low Foreign $15.00 Social ser 50% add.	Med.	Import some wood from Baltic and Scandinavia. Can. plywood has problems which are being solved.	Savings and loans societies, gov't and commercial mortgages. Low income subsidies.	Qualititative and quantitative shortage. Urban renewal. Encouraging home manufacturing industry and imports. Land is very expensive. Opportunities for licensing and joint ventures. Capital investment needed. Housing needs are high. Affluent society houses $30,000 to $50,000. Need to speed up house production year round. 10% of dwellings are prefabricated. Prices rise 10% per year. Mobility of 30–35 year old specialists is increasing. 40% of new schools are prefab. Japanese, American and Scandinavian house manufacturers are competing.	2
Fair $9.00	Fair	Export wood. Plywood duties 30%.	Housing and loan societies. Gov't subsidies. Condominium and low rent apartments.	Post sees little hope of import of housing products. House cost $7.50 to $22.00/sq. ft. Houses are 25% of residential construction. Average size of dwelling 80 sq. metres.	—2
Good $15.00 $17.00 $19.00	Good	Import wood products but has good local supply.	Conventional mortgages. Some subsidies for low cost. Foreigners cannot buy land or houses.	House costs $10/sq.ft. Very complex code situation requires local representation. Prefab wood houses well accepted. Per capita income $2,900. Many local builders-custom houses 4/5 room duplex sells at $50,000.	—1
Good $5.00	Poor	Floors, windows, doors		Wood housing only allowed as emerging temporary to be replaced in five years.	—4
Good $5.00	Poor but improving	Import some wood, mainly for windows and trim.	Conventional mortgages. Gov't subsidies for some workers.	Considerable housing shortage. Interest in timber-frame from Igny. House costs $5.40 to $27.00/sq. ft. Codes not developed. American company entering with 400, 1,500 sq. ft. units.	1
Good $13.00	Low	3% of residential is in prefab wood components. Export plywood.	Conventional mortgages. Many low-cost housing agencies.	Long tradition in stone and marble. House costs $8.40 to $14.00/sq. ft.	—1
Good $8.00 $10.00	Poor	Only use-forms, scaffolding, floors millwork. Fear of fire hazard. Market is price sensitive, —65% net on Canadian plywood.	Limited, but subsidies for civil servants, refugees, quake victims. Credit ceiling $10,000 per applicant.	Cities and towns—mostly concrete apartments, rural—mostly concrete or brick singles. Very little row housing. Housing cost $18.50/sq. ft. ($43.00 unit). Import of housing very unlikely. Average cost of urban apartments is $250/sq. metre. Earthquake design is important.	—3
Good Unskilled $3.00 Skilled $10.00	Good	Favoured material. New standards being developed. No wood, imports allowed. Exports wood products. Wood is wastefully used in high-rise constructions.	Conventional and state subsidies available.	House costs $30/sq. ft. urban. Rigid quotas on imports. Little possibility of importing houses or components. Lack of foreign exchange. Some prefab development.	—4

AREA = EASTERN EUROPE

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
EAST GERMANY 51	Poor	20.8										Low	Masonry Concrete	
Warsaw POLAND 52	Good	32.6	196,000 Singles 36,000 Row 35,000	Low	Low	Low	High	Nil	Poor	Poor 4	Low 4	Good 4	Masonry Concrete	Good
Prague CZECHOSLOVAKIA 53	Good	14.3	Primarily multiple dwellings	Low	Low	Low	High	Nil	Poor	Poor	Poor	Poor	Masonry Concrete	Good
Vienna HUNGARY 54	Fair	10.3	36,000 Few singles	Poor	Low	Low	Med.	Nil	Poor	Poor	Poor	Low	Masonry Concrete	Good
Belgrade YUGOSLAVIA 55	Good	20.5	50,000 10,000	Poor	Low	Low	High	Nil	Poor	Poor	Poor	Low	Masonry Concrete	Good
Vienna ALBANIA 56	Poor	2.1						Nil				Poor	Masonry	Good
Vienna BULGARIA 57	Poor	8.5	Mostly high-rise apts.					Nil				Low	Masonry Concrete	Good
Vienna ROMANIA 58	Low	20.0	Mainly high-rise apts.			Low		Nil				Med. 2	Concrete	Good
Moscow RUSSIA (U.S.S.R) 59	Med.	240.0	Mainly high-rise apts. (concrete)	Nil	Low	Low	High	Nil	Low 4	Low	Med. 4	Good 2–4	Concrete Wood	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	Acceptance	Comment re Supply etc.	Availability of Funds and Methods of Financing	Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —	Feb. 1/72 and dated changes
			State.		—5
Good $3–5.00	Low	Sometimes used for farm or vacation building.	State, state loans, private savings.	Import control exerted via state monopoly. Foreign currency shortage. Are considering import of single family industrial building technology; wood-frame is being investigated.	—3
Good $12–14 (official rate)	Poor	Mostly from East Bloc.	State owned and built. Co-ops encouraged.	Single family housing is insignificant. Precast systems well developed.	—5
$4.50 (tourist rate) $11–12.00 (official rate)	Poor	By state monopoly. Plywood 50% tariff (25% MFN).	State owned and built.	Precast systems for 39% of new buildings. Severe housing shortage. Building oriented to high-rise precast.	—5
$4.00	Medium	Considered too expensive. Exports wood products. No tariffs or quotas on plywood.	4% of all salaries go into residential fund. Low interest, 20 to 30 year mortgages.	Precast concrete prefab units well developed.	—5
				Little information—negligible opportunity.	—5
	Poor		State subsidies.	Concrete prefab well developed. Imports are state controlled.	—5
	Medium	Exports wood products.	State subsidies.	Concrete prefab being developed. Export prefab housing and military barracks.	—4
$5.00	Good	Large exporter of wood.	State control.	Very interested in industrial camps and manufactured home technology for northern resource development. Science and technology agreement. Exchange of missions. Interest in using wood-frame for agricultural buildings.	—1

AREA = MIDDLE EAST

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Beirut SYRIA 60	Med.	6.0 Mill.	Mostly multi Few singles	Fair	Fair	Low	Med.	Low	Low 4	Low	Low	Low	Stone Concrete	Good
Beirut LEBANON 61	Good	2.7 Mill.	20,000 Singles 5,000	Low	Poor	Med.	Med.	Low	Low 3	Low	Low	Low	Concrete Masonry	Good
Tel Aviv ISRAEL 62	Good	3.0 Mill.	Mostly multi high-rise Some row single-storey increasing	Med.	High	Low	High	Nil	High 4	High 2–4	High 2–4	Med. 1,2,4	Concrete	Good
Beirut JORDAN 63	Good	2.2 Mill.	New apts. 16,000 Single 3,000 Row 10,000	Low	Med.	Low	High	Nil	Low 3	Low 4	Low 4	Med. 4	Concrete Masonry	Fair
Beirut IRAQ 64	Good	9.8 Mill.	25,000 Single 18,000 Row 3,000 Apts. 4,000	Med.	Med.	Low	High	Nil	Low 2–4	Low 4	Low	Low 4	Mud Brick Concrete	High
Tehran IRAN 65	Poor	28 + Mill. 60% Rural	220,000 Multiple low — rise	Poor	Low	Med.	Good	Good	Med. 3	Low	Low	Med. 4	Stone Brick Plaster	Med.
Beirut KUWAIT 66	Good	0.75 Mill.	9,000 Single 1,000 Row 4,000	Low	Med.	Low	Med.	Nil	Low 1, 2, 3	Low 2	Low	Med.	Concrete Masonry	Good
Beirut SAUDI ARABIA 67	Good	6.0 Mill.	Need 15,000 Single 2,000 Row 3–4,000	Med.	Low	Low	Med.	Nil	Low 1	Med. 2–4	Low	Med. 2–4	Concrete	Good Very Cheap
Beirut TRUCIAL STATES (Gulf of Arabia) 68	Good	0.6 Mill.	1000 Mostly singles	Low	Med.	Nil	Low	Nil	Poor	Low	Low	Med.	Concrete Steel Rod	Med.

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good skill $3–4–6	Low	Imports restricted.	State bank loans—12%. No subsidies.	Judged poor market—lack of financial reserves. Farm economy—expansion slow. Housing need urgent. May buy prefabs.	—3
Good skill $3–5–8	Poor	Millwork only. Concrete cheaper. Tariffs lumber 15% plywood 28%.	Conventional mortgages—14%. No subsidies.	House costs $300 with heat $7.50 and air condition $15.00 per sq. ft. Interested in manufactured schools. No demand for prefab—40% tariff on prefab buildings. Precut locally assembled steel being started. May extend to schools. Village plans wanted for plan vert agricultural buildings.	—2
Very poor $5–8 official $8–16 effective	Poor to date but improving	Millwork, rafters and formwork timber. Urgent needs may change attitudes.	State and bank mortgages. Subsidies interest 1% to 12%. Few private mtgs. Most pay cash in advance from private sources.	House costs multi-storey $11.00 to 13.00/sq. ft. Jerusalem $16.00 single-storey $13.50 to 15.00. Prefab concrete developing. Tariffs on prefab buildings–25% if approved by MOH, 40% otherwise. Urgent need due to immigration—3,000 per year.	2
Good skill $3–4–5	Poor	Concrete is cheap. Plywood tariff 12% and licence.	Bank or private. Interest 14% to 18%. Depend on international financing and loans.	20% fine unless shipped via Aqaba port. Reconstruction needed result of civil war. Low cost units under $3,000 needed. Housing cost $2.80 to 3.50/sq. ft. Import licence necessary. Main export—phosphates. We cannot ship to Jordan direct. Entry could be through Syria. Interest in technical exchanges re houses.	—4
Good $2–3.50 $5–7.50	Poor	Wood is expensive and non-traditional. State monopoly on imports.	10–12 year. By state bank up to $4,200 at 5% to government employees.	Housing cost $3.25 to $4.65 per sq. ft. Import of houses and components not allowed accept by special licence for gov't or oil companies. Oil economy. Import licence required, validity period 6–12 months. Major redevelopment in the north to re-establish war ravaged area including schools and clinics.	—3
Good low skill $2	Low	Little wood used in construction. Plywood restricted.	Private. 9 million invested in housing March-Sept. 1971. Bilateral agreements with East Bloc.	Building costs low $50/sq. metre. New urban housing in projects increased 22% first half of 1971 (Investments). Oil based economy. Gov't subsidizing schools and hospitals.	—3
Mod. skill $5–9–20	Poor	Price competitive market. Tariff 4% on plywood. Tropical climate—99% desert.	Cash by state. Gov't subsidy for public servants–25 years at 2 to 5%. Private funds available. Very rich oil based economy. Per capita income/71–$5,000.	Have offered to buy prefab houses and schools. Building costs $2.60 to 4.60/sq. ft. British involved in low income asbestos cement prefab. Trading centre for Persian Gulf Area. Oil economy. Controlled development on five year plans. Oil companies buy good houses for employees. Tariff restrictions low and negotiable.	—2
Skilled is scarce Unskilled	Good	Plywood competes with Asia, but prospects excellent. Post recommends Canadian plywood mission — prospect good.	Private; no financing institution. $10 million low-cost housing this year for civil servants. Housing cost $2.00/sq. ft.	Belgian consultant did prefab study; plans for low cost units in current budget. Tariff on prefab buildings or components 40%. Imported $C1,000,000 value of prefab in 1967. 1971 British/Saudi joint venture to manufacture wood prefabs (480/yr). No problems. Interested in schools and hospitals.	1
Fair skill $5–8–15 Skilled Imported	Fair	Tariff plywood 2½ to 5%. No quotas. Competition keen. Most plywood from Asia.	Cash or state. Nor foreign exchange restrictions.	Housing cost $4.00 to $14.00/sq. ft. No prefab development. Potential oil economy.	—3

AREA = MIDDLE EAST

Post COUNTRY (S)		INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
					Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
QATAR	68 a	Fair	0.08 Mill.		Low	Poor	Nil	Low	Nil	Low	Low	Low	Med.	Masonry Concrete	Med.
BAHRAIN	b	Fair	0.20 Mill.		Poor	Low	Nil	Poor	Nil	Low	Low	Low	Med.	Masonry Mud Brick	Low
ABU DHABI	c	Low	0.04 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
DUBAI	d	Low	0.06 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
AJMAN	e	Low	0.004 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
SHARJAH	f	Low	0.03 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
RAO AL-KHAIMAH	g	Low	0.03 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
UMM AL-QAIWAN	h	Low	0.004 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
FUJAIRA	i	Low	0.006 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good
SULTANTATE OF OMAN	j	Low	0.475 Mill.		Nil	Poor	Low	Low	Nil	Med. 2	Low	Low	Med. 4	Mud Brick	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Low literacy	Poor	Cement and mud brick produced locally. All desert.	Oil economy. Funds available.	Import building materials — No licence required.	—2
Low literacy	Poor	Wood imported. Hot and humid climate.	Oil economy.	Import building materials.	—3
95% illiterate	Low	Almost tropical.	99% oil economy.	Import building materials.	—4
95% illiterate	Low	Mostly desert. All wood imported.	70% oil economy.	Building materials 11% of $180 million imports.	—5
Unskilled	Poor	Hot and humid climate.	Total national income about $3 million.	No natural resources—some fishing. Development through Trucial States fund.	—5
Unskilled	Poor	Tropical.		Few natural resources—income from taxes, land rentals and oil exploration rights.	—5
Unskilled	Poor	Tropical.	Total income about $1 million.	Income from oil exploration rights. Economy is primitive.	—5
Unskilled	Poor	Desert with one oasis.	Total income about $1 million.	Income from oil exploration rights. Economy is primitive.	—5
Unskilled	Poor	Tropical climate.	Total income about $1 million.		—5
Poor	Med.	Hot humid climate.	Total income about $1 million.	Oil based economy. Import all building materials.	—5

AREA = NORTH AFRICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Cairo EGYPT 69	Med.	35.0 Mill.	"Large Number"	Low	Low	Poor	Med.	Low	Nil	Nil	Low	Poor	Concrete Stone	Excel-lent
Cairo LIBYA 70	Med.	2.7 Mill.	10,000 Big backlog	Low	Med.	Low	Good	Nil	Med. 2, 3, 4	Low	Low 4	Med. 2–4	Concrete Block Earth	Good ex UAR
Algiers TUNISIA 71	Med.	5.1 Mill.	Need far exceeds capacity	Low	Low	Poor	Good	Low	Poor	Low	Low 4	Low	Stone Concrete Steel	Med.
Algiers ALGERIA 72	Med.	13.3 Mill.	60,000 Collectives	Low	Med.	Low	High	Low	Low 3–4	Low 3	Good 2–4	Good 2–4	Masonry	Good
Madrid MOROCCO 73	Med.	15.4 Mill.	70,000 Low-cost 10,000 per yr.	Poor	Low	Med.	Med.	Poor	Low	Low	Med.	Low	Masonry Mud Brick	Good
SPANISH SAHARA 74	Poor	0.04 Mill.										Poor	Mud Brick	Low
MAURITANIA 75	Poor	0.9 Mill.										Poor	Masonry	
MALI-NIGER 76	Poor	9.0 Mill.										Poor		

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good Very cheap	Low	Wood houses not common. No restrictions re wood. White ants major hazard. Treatment needed.	Conventional loans. Some subsidies.	Port of entry—Alexandria only. Critical shortage of foreign exchange. Preference for dealing with U.S.S.R. International credit arrangements necessary.	—5
Good Cheap Unskilled	Poor	Wood for joinery and roof structure.	State and mortgages.	Major housing program just started—asking 25,000 units. Present regulations prohibit import of prefab housing. Reported 1971 British contract for 5,000 houses. Oil economy. House cost could be $20,000 each. Very friendly with Egypt and also U.S.S.R. Commercial instability — radical gov't (OAR). Building plants for production of manufactured buildings to produce houses, schools, clinics. 1973 bought 1,500 Canadian transportable prefab school buildings.	2
Good Under-employed	Poor	No wood housing.	State and conventional. Subsidies for small units.	Housing cost $10.50/sq. ft. Best houses have central heating. Prefabs not used. Import licences needed—difficult. Moorish architecture strongly preferred.	—4
Good Unskilled	Med.	Using large quantities of lumber for construction.	EDC has shown willingness to finance projects in Algeria up to $150 mill. Bank of Montreal is very active in Algeria, has already extended $10 million loan to Algerian government and is at present seeking out new business.	Buying Canadian lumber. Industrial camp possibilities re resource development. Present development plan does not put high priority on housing; it is probable that the next one (1974–78) will put more emphasis in this area. Ministerial mission found Algerian desire to expand trade with Canada. Negotiations currently underway which could result in export of several hundred million $. Good possibilities in education and agriculture for building. Negotiating internationally for design erection and operation of turn-key plants to manufacture prefab transportable buildings.	1
Good Skilled with local materials	Med.	Some wood imported for roof structure and joinery. Local materials emphasized.	Gov't loans for middle incomes. Self financing for low incomes. Lease purchasing system for allotted dwellings.	Ministerial mission in Dec/71 identified some possibilities in low-cost housing field. Prefabrication has proved to be too expensive. Ten-year plan for housing land assembly and redevelopment. Urban houses cost $7.50/sq. ft. Rural houses at 65c/sq. ft.	—3
	Poor Poor Poor				—5

AREA = CENTRAL AFRICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
LIBERIA 77 SIERRA LEONE 78 GUINEA 79 SENEGAL 80 IVORY COAST-Abidjan 81 DAHOMEY 82 GHANA 83 UPPER VOLTA 84 TOGO 85 SUDAN-Cairo 86	Low Low Low Low Low Low Low Low Low Low	1.7 Mill. 2.7 Mill. 3.8 Mill. 3.6 Mill. 4.1 Mill. 2.9 Mill. 9.0 Mill. 4.6 Mill. 2.0 Mill. 13.6 Mill.		Poor	Poor	Poor	High	High	Med. 2	Poor	Low 4	Good 2–4	Local Stone Masonry Thatch Mud Brick	Med.
Lagos NIGERIA 87	Low	65.0 Mill.		Poor	Poor	Low	High	High	Low 2	Low	Med. 4	Good 2–4	Mud Brick Concrete Block Thatch	Good
Nairobi ETHIOPIA 88	Good	26.0 Mill.	2,700 modern singles	Poor	Low	Low	High	Med.	Poor	Low	Med. 4	High 2–4	Concrete Wood	Good
Nairobi SOMALI REPUBLIC 89	Good	4.5 Mill.	15,000 traditional singles Row 2,300 Apt. 650	Poor	Poor	Low	High	High	Low	Poor	Med.	Good 4	Stone Concrete Wood	Good
Kinshasa ZAIRE 90 CONGO BRAZZAVILLE 91 GABON 92 CAMEROON 93 CHAD C. 94 AFRICAN REPUBLIC 95 RWANDA BURUNDI 96	Good	Area Total 33.5 Mill. Zaire & Congo 16.0 Mill.	Statistics lacking	Poor	Poor	Low	High	High	Low 2	Poor	Low	Good 4	Concrete Block Steel or Asbestos Sheet Wood Trusses	Med.
Nairobi UGANDA 97	Med.	9.5 Mill.		Poor	Poor	Low	High	High	Poor 2	Poor	Low	Med.	Stones Brick Wood	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good Few skills Very cheap Low productivity results in high costs	Low	These countries are receiving technical assistance re housing and forest utilization from FAO and UN agencies. They probably would respond well to co-operative training programs. Secondary wood manufacturing is poor.	Complex land holding. Financial resources weak.	These countries showed interest in wood housing by attending World Consultation. They have little foreign exchange—need aid. Housing needs are large and urgent. Low cost, almost basic shelter major need. Some prestige houses are recommended to promote wood construction. Some have indigenous forest resources which are under-utilized—Good timber is sold for hard currency. Possibility of industrial camps and schools before housing. Vacation cottage type houses might appeal. Great needs for urban planning and housing infrastructure, low per capita incomes prevail. Opportunities to participate in building code development.	—5
Good skills improving	Med.			Nigeria is now world's 9th largest oil producer and its foreign exchange position should rapidly improve. Potential for industrial camps, transportable schools and clinics.	—3
Good Cheap	Good	Treatment called for in codes.	Public and private. Subsidies available.	House costs—med. Single—$4,400, conventional—$1,100 (91% of houses)	—3
Good Few skills	Good	No restrictions in national, provincial or local codes. No domestic production. Most imports from Italy.	Public and Private. National housing agency.		—4
Good Unskilled Cheap	Med.	Export best wood and plywood for hard currency. Import tariffs on plywood 15% and 40%. Treatment needed vs. termites.	Poor organization. Pay as you build. Zaire—gov't loan and mortgage administration.	Needs are urgent but are low national priority. North American designs of homes are poorly adapted to local social and climatic environment "open door". U.S. steel exploring steel house system. Francophone. Timber-frame interest due Igny. German, Belgian, French and U.S. companies operating. De Leuw, Cather of Toronto, planning 1,000-house development—Kiersha.	—4
Good Unskilled Cheap	Good	Rapidly replacing mud in traditional housing. Protect vs. termites. Local timber small. Plywood imported free, from India and Australia.			—5

AREA = CENTRAL AFRICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Nairobi KENYA 98	Good	11.0 Mill.	40,000 Trad. singles Low incomes Row 10,000 Apts. 2,000	Low	Poor	Low	High	High	Poor 3	Low	Med.	Good 4	Concrete Wood	Good
Nairobi TANZANIA 99	Low	12.7 Mill.	25,000 Native single Row 6,800 Apts. 1,000	Poor	Poor	Low	High	High	Low 2	Poor	Low	Med.	Concrete Wood	Good
Nairobi MALAWI 100	Fair	4.0 Mill.	18,000 Native single Row 2,300 Apts. 1,800	Poor	Poor	Poor	High	High	Low 2	Poor	Poor	Med. 4	Brick Stone Wood	Good
Nairobi ZAMBIA 101	Fair	4.5 Mill.	29,000 Trad. singles Row 4,800 Apts. 2,000	Poor	Low	Low	High	High	Low 1	Low	Med. 2–4	Good 4	Stone Concrete Wood	High
Johannesburg ANGOLA 102	Fair	50. Mill. (approx. 0.6 Europeans)	Very Low	Poor	Poor	Poor	High	High	Poor	Poor	Poor	Med.	Concrete Block Mud Brick	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good $5.50	Good	75% of plywood imported. Aim for self-sufficiency 1980.	Public and private. Local authority housing.	Restrictive municipal by-laws need repeal.	—3
Good	Fair	Municipal by-laws discourage large wood use. Produce some softwood. Treatment needed.	Mainly public. Subsidies available.		—5
Good Low skills	Good	Favoured material. All plywood imported. Import some lumber. Treatment needed.	Public and private. Subsidies available.		—5
Good wages higher than most E. Africa	Good	No restrictions in codes. Wood products imported.	Public and private. Subsidies available.	Copper economy. Importing is state controlled. Main state importers are INDECO and MINDECO.	—3
Good Unskilled Cheap	Poor		State—very limited.	Manufactured houses, components and wood based products—severely restricted. Imports only from Portugal. Low incomes. Little hope for Canadian involvement.	—5

AREA = SOUTHERN AFRICA

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Johannesburg Cape Town SOUTH AFRICA 103	Good	21.0 Mill. White 3.8 Asian 0.6 Coloured 2.0 Bantu 14.9	Single 17,000 Flats 8,000 White only	Low	Good	Med.	High	Med.	Low 1–2–3	Med. 2–4	Low	Good 2–4	Masonry Veneer Native housing Masonry Sheet Metal	Good
				Note: Prestige market should be developed to promote public housing of wood.										
Johannesburg SWAZILAND 104 BOTSWANA 105 LESOTHO 106	Med.	Total 3.0 est.	Very few	Poor	Poor	Poor	High	High	Nil	Poor	Low	Low	Mud Thatch	Good
RHODESIA 107	No Information													
MOZAMBIQUE 108	Poor	8.1 Mill.												

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR		WOOD	FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good $14.00 (White)	Fair Improving	Cladding not liked. Timber-frame improving. Self-sufficient now but timber-frame could bring increased demand e.g. 150% increase in 3 yrs. 25% tariff on plywood. Local wood industry is active in promoting wood housing.	Building societies—9%. Some subsidies for gov't employees. Large fully subsidized Bantu urban program.	Preferential Trade Agreement between S. Africa and Canada. Most favoured nation treatment. Housing costs—single $14.00/sq. ft. + land = $20,500. Local industry strongly promoting timber-frame, expect success soon and a booming market. Code coverage must be revised. Building officials need education. Manufactured buildings need gov't approval. Import of houses restricted. Opportunities for joint ventures. British and Australian firms exploiting wood house upturn. Almost all imports into S. Africa currently affected by intensive quantitative restrictions. As balance of payments improves, this restrictive trade climate should lessen. (OAR) Some liberalization expected by summer of 1972. Trade posts actively promoting Canadian timber-frame construction.	3
Good Unskilled Cheap	Fair	Some lumber—Swaziland, Commercial buildings—masonry.	Limited. Swaziland—building societies, subsidies.	No Canadian housing potential except with aid funds.	—5
				Rhodesia—total trade embargo	—5
				Mozambique—trade in general permitted but Cabora Bassa Dam project politically sensitive. (Interest in this project, e.g. prefabs, should be referred to OAR before any definite decision taken.)	—5

AREA = ASIA

Post COUNTRY (S)	INFORMATION Rating	POPULATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Colombo SRI LANKA (formerly Ceylon) 109	Med.	12.8 Mill.	3,500 1,000	Nil.	Poor	Nil	High	Med.	Nil	Nil	Poor	Low	Masonry Concrete Earth	Good
Peking P.R. OF CHINA 110	Low	800.0 Mill.					High		Nil	Nil	Poor	Low 4	Masonry Mud Wood	Good
Tokyo KOREA 111	Poor	31.8 Mill.	200,000									Low	Concrete Masonry	
Tokyo JAPAN 112	Good	105.0 Mill.	2,000,000 Single and low rise—wood 60%	Good	Good	Good	High	Nil	Low 1, 2, 3	High 2–3–4	Good 2–4	High 2–4–3	Wood 40% Steel Concrete	Mostly imported
Hong Kong HONG KONG 113	Med.	4.0 Mill.		Low	Low	Med.	High	High	Nil	Nil	Nil	Low	Concrete Steel Wood	Good
Bangkok LAOS 114 THAILAND 115 VIETNAM N&S 116 KHMER REPUBLIC 117	Low	2.5 Mill. 28.4 Mill. 32.0 N&S		Nil	Poor	Nil	Low	Med.	Poor	Poor	Med. 2	Low	Masonry Wood	Good
New Delhi INDIA 118	Low	550.0 Mill.		Nil	Poor	Nil	High	High	Poor	Low	Low	Med. 4	Masonry Wood Mud	Good
Islamabad PAKISTAN 119	Poor	61.0 Mill.		Nil	Low	Nil	High	High	Poor 5	Nil	Low	Low 4–5	Masonry Mud Wood	Good
BANGLADESH 120	Poor	70.0 Mill.		Nil	Nil	Nil	High	High	Poor 5	Nil	Low	Low 4–5	Masonry Mud Wood	Med.

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	**Acceptance**	**Comment re Supply etc.**	**Availability of Funds and Methods of Financing**	**Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —**	**Feb. 1/72 and dated changes**
Good 65c to $2.50	Poor	Imports severely restricted, quotas for tea chests, export panel boards. Emphasis on utilizing local materials.	Private and state loans. All money very tight, experiencing very difficult economic situation.	Imports severely restricted. Farm economy. Lack of hard currency. Housing need is 900,000 units to meet current backlog. Gov't will invest heavily in housing in next five years.	—5
Good	Med.	Generally not imported.	State.	Information lacking. Prospects poor. All housing is constructed from local materials. No interest in foreign consulting services or joint ventures. Prefer to buy know-how outright.	—5
Good	Poor	Wood imported.	75% private—high interest 25% state—15 yrs. at 8%	Little opportunity—little foreign exchange. U.S.A. domination.	—5
Good $8.00 + benefits	High	Used for 40% of houses. Now even more than before because of bad temperature conditions. 60% of wood is imported mostly as logs.	Private and gov't. Subsidies for low income. General slowdown in economy with 1971 growth in GNP at about 5% or half of previous year.	House costs $6.00 to $8.00/sq. ft. prefab—$15,000 to $20,000 plus $15,000 to $50,000 for land. Excellent prospects for components and materials. Two U.S.A. companies actively exploring markets. Opportunities for joint ventures. Prefab housing well developed—growth strong. Exporting to Europe, Asia. Japan will be establishing a new housing building code. An incoming mission of building officials came in April/72 with the view to examining Canadian wood-frame techniques. Japanese companies are very interested.	4
Good	Low	Most wood imported from S.E. Asia.	Housing and financing are government controlled.	Hong Kong housing opportunities are very low. Per capita income $1,000. Sixteen-storey concrete apartments are preferred.	—5
Good	Good	Traditional material in Thailand.		Thailand import licences very restrictive. Considerable time needed for processing applications, need approval of Min. of Economic Affairs. Lack of finances—long distance, cheap local labour and indigenous materials. S. Vietnam—market dominated by U.S. aid. All imports must be registered and import licences required for all goods.	—5
High	Good	Manufacture and export plywood and particle board use bamboo and short length lumber		The variety and size of housing needs are so great that some opportunity may appear.	—4
Good	Good			As economy stabilizes a market may develop for houses for public servants—type 4.	—5
Good	Good			Participation will depend on foreign aid. Disaster, relief shelter needs recur.	—5

AREA = SOUTH PACIFIC

Post COUNTRY (S)	INFOR-MATION Rating	POPU-LATION Millions	PRODUCTION Housing Unit per year Total — Low-Rise —	HOUSING NEEDS KIND AND QUANTITY/YR.					OPPORTUNITIES FOR THE SUPPLY OF				MATERIALS	
				Prestige 1	Ordinary 2	Vacation 3	Workers 4	Shelter 5	Whole Houses	Compo-nents	Mate-rials	Know-How	Traditional	Supply
Singapore SINGAPORE 121	Good	2.1 Mill.	18,000 Luxury 4,000 Low cost high-rise 14,000	Low	Med.	Med.	High	High	Low	Low	Med. 2	Med. 2	Concrete	Med. (3 plants)
Jakarta INDONESIA 122	Med.	120.0 Mill.		Poor	Poor	Nil	High	Med.	Poor	Poor	Low	Good 2	Urban Wood Masonry Concrete Rural-Wood	Good
Manila PHILIPPINES 123	Good	35.0 Mill.		Poor	Low	Poor	Med.	Good	Nil	Poor	Low	Med.	Wood	High
Wellington NEW ZEALAND 124	Good	2.8 Mill.	23,000 17,000 singles	Low	Med.	Good	High	Nil	Poor 3	Poor	Med.	Med. 2	Wood Frame 60% Brick	Good
Melbourne/Sydney AUSTRALIA 125	Good	12.5 Mill. GNP 33 Billion	140,000 100,000 singles	Med.	Good	Med.	High	Poor	Poor 3	Low	Med. 4	Med. 1–2–3	Brick Veneer Masonry Wood Frame	Good
Kuala Lumpur MALAYSIA 126	Good	10.5 Mill.	50,000 Mostly low-rise	Med.	High	Low	High	Med.	Poor	Poor	Med. 4	Med. 4	Urban-Brick Rural-Wood	Good
Kuala Lumpur BURMA 127	Med.	25.5 Mill.		Low	Low	Low	Low	High	Poor	Poor	Low	Low	Wood	Good

SUMMARY ASSESSMENT OF WORLD MARKETS FOR PRODUCTS OF THE CANADIAN MANUFACTURED HOMES INDUSTRY

LABOUR	WOOD		FINANCING	COMMENTS AND ASSESSMENT	RATING
SUPPLY Daily Wages	Acceptance	Comment re Supply etc.	Availability of Funds and Methods of Financing	Foreign Gov't Policy Applying — Pro and Con Influences — Urgency of Needs —	Feb. 1/72 and dated changes
Med.	Med.	Centre of hardwood production.	Conventional 10% public low cost housing.	Post reports prefab housing prospects poor. Close to Australia and New Zealand supply.	—4
Good 75c to $1.00	Good	Major producer and exporter of hardwood and plywood. High import taxes.	Private via banks. Few subsidies.	Strong government initiatives to solve urgent housing needs in rural areas with indigenous wood. With increasing petroleum exports ($470 million/71) there may be opportunities for prefabs to supply drilling companies.	—4
Good $3–3.50	Good	Major exporter of wood.	National Housing Corporation $70,000,000 in 1971 for low cost housing at $2,000/unit.	NHC has built to $10,000,000 prefab concrete factory. Produce low cost housing rate 600 per month 1973. German technology. Economic problems. Real problem is land availability.	—5
Good $11–16	High	Wood cladding popular. Plywood imports severely restricted. Net exporter of wood products.	Gov't subsidized loans.	Prefab production good—small domestic use. Growing export 1969–70—$368,000; 1971—$617,000, to S. Pacific Area. Import licences effectively prevent import of housing units and components.	—4
Med. Carpenters $12–$20	Good	Used as framing—some cladding. High tariffs prohibit import of plywood and small lumber. Termite protection needed.	Conventional mortgages. Interest 7-8½% subject to subsidies.	20% tariff on prefab buildings—probably prohibition. Prefab housing industry is growing rapidly in rural areas. ATCO has a plant in Australia doing well. Aggressive in export of manufactured building in east.	—4
Good $2	Good	Major producer and exporter of hardwood lumber plywood and veneer—Import duties.	Gov't financing of multi-units for workers. Oil and palm company housing estates.	Housing is considered a national gov't problem to be solved by local resources.	—4
Good Unskilled $1	High	Good hardwood resources. No foreign exchange for imports.	Housing is all gov't controlled and financed.	Commercial initiatives would not be productive.	—5

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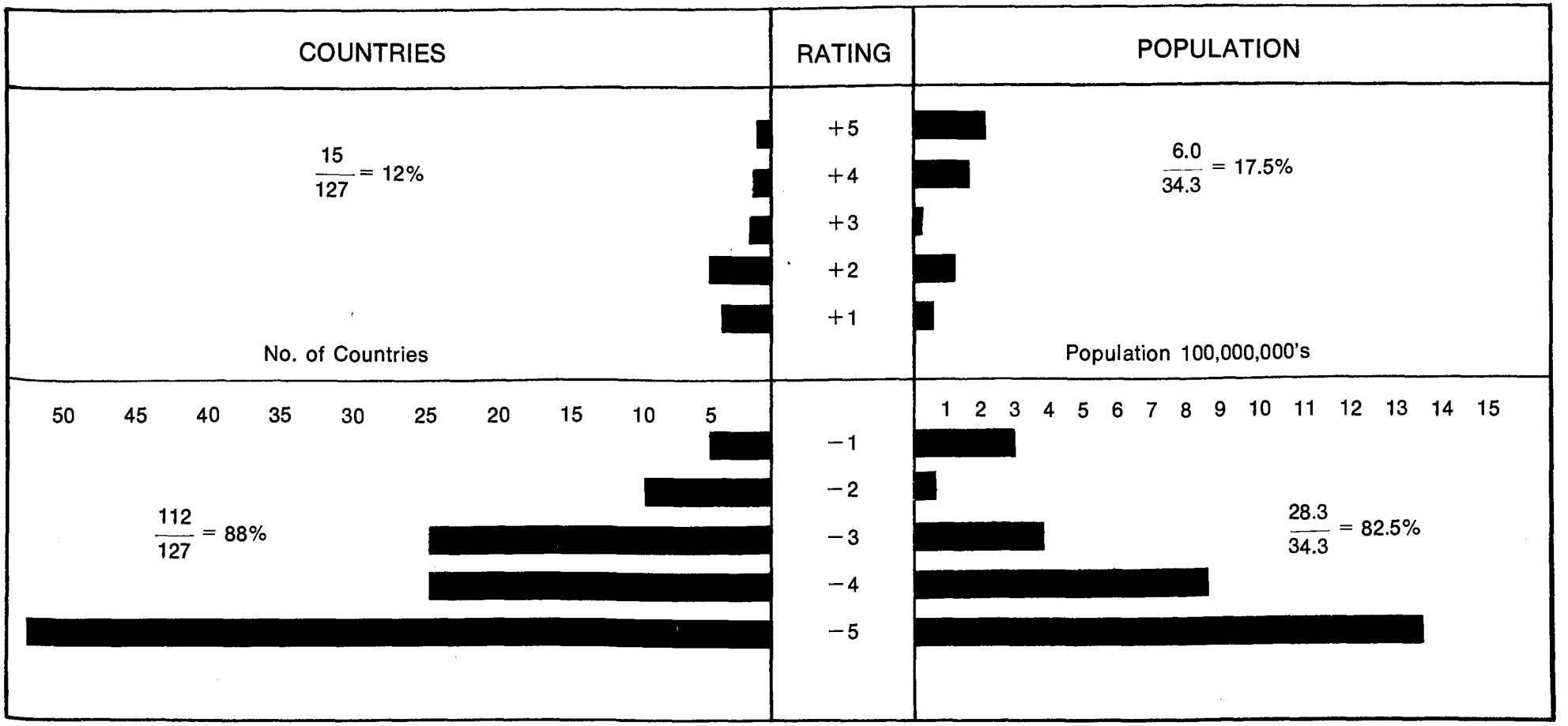
APPENDIX I

The following table indicates the population of various countries and combines them in different export opportunity groups.

RATING	CHART NO.	COUNTRY	POPULATION		
+5	1	U.S.A.	220.0	220.0	
+4	112	Japan	105.0		
	42	France	52.0	157.0	
+3	103	South Africa	21.0		
	41	Belgium	10.0	31.0	
+2	43	West Germany	62.0		
	34	United Kingdom	56.0		
	40	The Netherlands	13.0		
	62	Israel	3.0		
	70	Libya	2.7	136.7	
+1	47	Spain	33.3		
	72	Algeria	13.3		
	67	Saudi Arabia	6.0		
	12	Bahamas	0.2	52.8	597.5
−1	59	Russia	240.0		
	48	Italy	54.7		
	45	Switzerland	6.3		
	33	Republic of Ireland	2.9	303.9	
−2	31	Argentina	23.5		
	44	Austria	7.4		
	61	Lebanon	2.7		
	14	Jamaica	1.9		
	19	Trinidad	1.0		
	66	Kuwait	0.75		
	20	Leeward and Windward Islands	0.5		
	18	Barbados	0.27		
	68	Qatar	0.08	38.1	
−3	27	Brazil	96.8		
	87	Nigeria	65.0		
	4	Mexico	48.3		
	52	Poland	32.6		
	65	Iran	28.0		
	88	Ethiopia	26.0		
	73	Morocco	15.4		
	98	Kenya	11.0		
	23	Venezuela	10.5		
	64	Iraq	9.8		
	49	Greece	8.9		
	38	Denmark	5.0	357.3	
−4	118	India	550.0		
	122	Indonesia	120.0		
	50	Turkey	35.0		
	91 — 96	Kinshasa Post Area	33.5		
	58	Romania	20.0		
	90	Zaïre	16.0		
	125	Australia	12.5		
	126	Malaysia	10.5		
	46	Portugal	9.7		
	13	Cuba	8.5	815.7	
−5	110	People's Republic of China	800.0		
	120	Bangladesh	70.0		
	119	Pakistan	61.0		
	102	Angola	50.0		
	69	Arab Republic of Egypt	35.0		
	123	Philippines	35.0		
	116	North and South Vietnam	32.0		
	111	Korea	31.8		
	115	Thailand	28.4		
	127	Burma	25.5		
	24	Colombia	21.8		
	51	East Germany	20.8		
	55	Yugoslavia	20.5		
	53	Czechoslovakia	14.3		
	26	Peru	14.0		
	86	Sudan	13.6		
	109	Sri Lanka	12.8		
	99	Tanzania	12.7		
	54	Hungary	10.3		
	32	Chile	10.0	1319.5	
				3432.0	

APPENDIX II

This chart compares the population and numbers of countries in the different export opportunity groups.



Industry, Trade and Commerce
Industrie et Commerce

Published by the Department of Industry, Trade and Commerce, Ottawa, Canada
Publié par le ministère de l'Industrie et du Commerce, Ottawa, Canada

Information Canada
Ottawa, 1974

(aussi édité en français)