

Two men can be put at one development face but you cannot put twenty there and in that way increase the rate of re-tooling by ten times. There is no room for twenty to work at once.

In the meantime production has to continue with the existing design and equipment and using the same labor force. In the meantime costs of production must be met by the revenue from coal sold or by subsidy.

Costs of producing coal in Nova Scotia in 1942 were \$4.997 per net ton and for 1943 (published August, 1944) \$5.78 per net ton. Costs have risen steadily since then and present costs are in excess of \$7.50.

In 1942 average revenue from coal on cars at the mine tippie was \$4.88. The only increase since that time has been \$0.95 allowed this year to pay for \$1.00 a day increase in wages retroactive to part of 1943. Average sales revenue from coal, therefore, at present is not over \$6.00 per net ton. The balance of costs is being met by direct Dominion Government subsidy because of war needs.

The future of the coal industry in Nova Scotia lies to a large extent in the hands of the workers in that industry and their workmanship. An immediate increase in the production per man will cause an immediate decrease in the costs per ton.

## Planning Canada's Physical Assets

### Reports of the Advisory Committee on Reconstruction

By D. P. REAY

The Advisory Committee on Reconstruction which was appointed by the Dominion Government at an early stage of the war has, after three years of extensive work, brought out a number of comprehensive reports dealing with the main phases of Canadian post-war organization. The following article attempts to evaluate some of the Committee's findings concerned with the development of Canada's physical assets. It is based on the reports of the sub-committees on Conservation and Development of Natural Resources, on Publicly Planned Reconstruction Projects, and on Housing and Community Planning.

**T**HE three publications of the Advisory Committee on Reconstruction now under review are all intimately connected with planning in the physical sense and are consequently interrelated to a considerable degree. Together they cover a wide field and in the space of a short article it is possible to make only brief and over simplified comments on their general characteristics.

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The terms of reference of the three committees are as follows:

The Conservation and Development of Natural Resources Committee was to "consider and recommend to the Committee on Reconstruction the policy and program appropriate to the most effective conservation and maximum future development of the natural resources of Canada, having regard to the importance of these resources as national assets and emphasizing the part which the proposed policies may play in promoting employment opportunities at the end of the present war."

The committee on Publicly Financed Construction Projects was "to study the extent

to which a carefully formulated program of construction projects may contribute to the national welfare, as well as provide employment opportunities during the post-war period, and to report to the Committee on Reconstruction the way in which such a program may be most effectively organized in advance of the termination of hostilities."

The committee on Housing and Community Planning was "to review the existing legislation and administrative organization relating to housing and community planning both urban and rural, and to report regarding such changes in legislation or modification of organization and procedure as may be necessary to ensure the most effective implementation of what the Sub-committee considers to be an adequate housing program for Canada in the years immediately following the war."

How effective are the final reports of the three committees in dealing with these terms of reference? In many respects the two key committees are those on housing and natural resources, these being between them the greatest post-war generators of public works programs and employment opportunities.

The housing report is considerably larger and more detailed than the other two, which are more general in nature. The reason for this discrepancy is possibly that the housing and town planning fields have been pretty thoroughly explored already in different parts of the world, and a far greater body of experience and data is available for application to Canadian conditions both as regards policies and the techniques of carrying them out, than are available for either regional planning work or the operation of large scale public works programs which are more than mere devices for keeping the unemployed from being entirely idle.

The conservation committee have been conscious of this to such an extent, that in addition to the series of general criticisms and recommendations embodied in their report, they have produced a survey and rehabilitation plan for the Ganaraska watershed in Ontario, to both buttress their arguments, provide

an illustration of one of the types of nationwide conservation problems to be solved, and to demonstrate some of the techniques used in their solution.

### Conservation

It is noteworthy that although the conservation report divides Canada's natural resources into forests, minerals, fisheries and wild life, water and power, and tourists, ignoring the soil, — the Ganaraska report is almost entirely concerned with soils. The reason for this omission is possibly because soil surveying and the securing of adequate measures for maintaining and increasing soil fertility were considered a purely agricultural matter to be dealt with by the sub-committee on agricultural policy.

The Ganaraska watershed is one of those areas in Ontario which have, during the last 150 years, followed an all too familiar course. Ontario in its unsettled state consisted largely of small and moderate sized streams protected by an almost universal forest cover. The hydrological cycle was relatively even and quite stable. The rate of water run-off, evaporation, and absorption, was nicely balanced with the normal precipitation. However, the farming methods brought to Ontario on settlement were largely of British origin and unfortunately unsuited to either Ontario, or for that matter, the continent in general. Forests were cleared and no vegetation of an equal degree of absorption grown in their place. Water previously released slowly by evaporation from foliage and slow percolation through the humus of the forest floor, started to run off the land in the form of small floods, bringing erosion to both light and heavy soils, gullying, sheet erosion, and when the soil was really loosened up, various forms of wind erosion, all on a cumulatively increasing scale. The result to-day is that there are considerable areas of quite useless land in Ontario, which are not only useless areas of exposed subsoil themselves but a menace to adjoining lands as well. Spring floods have become

normal, and run off has been so rapid that ground water supplies become steadily more depleted and the number of abandoned wells increases each year. The fertility of the soil is permanently impaired, phosphates, nitrates, and humus being dissolved or washed off and deposited in Lake Ontario, having to be replaced with expensive artificial substitutes.

The classic example of dealing with this state of affairs is of course the Tennessee Valley Authority and the recommendations for the Ganaraska are identical with many similar studies turned out and put into practice by TVA in recent years. The techniques are the same,—preliminary soil analyses of the whole area, and then the planning of reforestation areas, check dams, storage basins, controlled cutting and woodlot management and the more extensive use of contour plowing and other devices to keep water from running off the land too rapidly. Over cultivation of some of the soils in the watershed is touched upon, but the whole question of increasing and maintaining soil fertility without the over extensive (and ever increasing) use of artificial fertilizers (with the added susceptibility to plant disease that such use tends to bring) is not given the attention it deserves. The aim of rotation in agricultural practice is to accumulate energy in the soil and then to release energy at will and cause it to accomplish varied and desired kinds of work. Some of the survey data would indicate that inefficient rotation methods are at least a contributing cause to the watersheds difficulties.

There are interesting sections in the report on the administration of the program, on land acquisition and, rather unusual, a cost breakdown giving man hours and some of the major quantities for carrying through the preliminary and major portion of the whole job.

The remainder of the sub-committee report is given over to brief surveys of forestry, mineral resources, water and power resources, fisheries and wild life, and the tourist industry, giving for each

a set of recommendations broken down into short term projects and long term policies. Many of the proposals require further analysis in greater detail before they can be seriously considered: for instance, the section on water resources occupies only three pages. An analysis of the nation's water resources on the scale of the U. S. National Resources Board's monumental report on the water resources of the United States is a minimum requirement before a practical program can be worked out for Canada in this field.

Similarly the mineral resources proposals both short and long term are little more than pleas for more and better prospectors and the application of a more scientific approach to the discovery and profitable extraction of valuable minerals.

The Water and Power recommendations urge early planning for the use of the very considerable quantities of power which will be surplus at the end of the war, mostly in the central provinces. A Western Provinces Water Board is suggested as a long term aim, and of course the St. Lawrence Waterway system comes in for its share of recommendation.

In all departments the lack of surveys and data is felt and recommendations made for the setting up of fact finding organizations on a permanent basis.

However, although the desirability of a National Development Board with regional advisory boards is touched upon, little is said as to how such a coordinating body should operate, and no attention at all is given to the manner in which the development of all these resources is to be planned, administered, and coordinated—whether on a national basis, a resource basis (i.e. the power industry organized as a unit), a regional basis or a combination of all three.

### **Housing and Construction**

The sub-committee report on housing and community planning is excellent. It is so good that perusal first of the committee's figures on post-war housing

needs and low rent housing, and then of the new housing act is apt to be a rather disappointing experience. The report is split into three parts, the first dealing with past housing experience in Canada and elsewhere, the second with the dimensions of the housing need in Canada and the present housing picture, and the third covers the requirements which have to be fulfilled if the nation is to be adequately housed. This is a tall order, and thanks to an energetic committee and the 1941 census it is well filled. The minimum new requirements for all types of housing in the post-war decade is given as 535,000 units in urban areas and 71,000 in rural non-farm areas. It is estimated that the figure for the second post-war decade will be considerably larger. This total figure of 606,000 (not including farms) is lower than some that have been mentioned, many of which have hovered around the 1,000,000 mark. The data from which it has been derived is carefully documented however, and has been itemized in considerable detail. In addition to the building program the committee recommended an improvement and repair program for at least 335,000 urban and 188,000 rural dwellings.

To carry out the committee's minimum figure of 50,000 new units (exclusive of farm housing) in the first post-war year, the labour requirement, assuming present construction methods, was estimated at 265,000,000 man hours or about 150,000 men for a full year. For the first decade, an estimated 210,000 men per annum would be required for both onsite and offsite work. Although new construction methods might cut this figure somewhat, it is still estimated that an immediate training program for at least 40,000 men will be required.

The final section of the report, labelled "Requirements" very properly starts out with a chapter on Townplanning, almost a model of its kind, outlining in very considerable detail the economic and mechanical dilemma in which many Canadian municipalities find themselves. The praiseworthy principle is laid down that it should be mandatory for a munic-

ipality to have a master plan completed, or at least satisfactorily in progress, before it is eligible for any federal assistance for public works or housing projects. Regarding the important matter of land acquisition however, the committee take rather a weak line. Lack of a definite land policy can break any urban reconstruction project, and it is imperative that workable principles should be formulated in advance to evolve a means of stabilizing the value of land required for development, and to provide powers to enable such land to be acquired by the public on an equitable basis; without such legislation a municipality simply cannot plan ahead at all with any certainty of avoiding expensive obstructionism in the future. The essential powers needed are those which permit local governments to plan, control and determine land use and to acquire it in strategic areas; these must derive from provincial enabling legislation, which in its turn should attain a reasonable degree of uniformity throughout the Dominion. Legislation along these lines is essential before Dominion Town Planning Bureaus can dispense advisory services, before planning bodies can be set up with any hope of doing anything, even before coordination can be worked out with the surrounding region or country. The lack of a definite lead from the government on the Uttewatt report has stymied town planning measures in Britain to a considerable degree and a similar situation may very likely arise in Canada, unless such legislation is soon formulated and made law.

Most other aspects of importance are touched upon, the difficulty of obtaining town planning personnel, the necessity for educating the public, the types of planning bodies for different tasks, and the functions of master plans, neighbourhood unit plans, public services plans, the relation of capital projects to town planning and so on.

One of the main housing problems in Canada or any other country is the large group of families whose low incomes do not permit them to pay an economic

rent. In the absence of low rental projects, these families either live in over-crowded slums or spend too much of their income on rent. The line at which this lower income group starts was taken by the Committee at \$1200 per annum and it was found that the 177,000 Canadian families below this income level have an average annual income of \$703 per annum. This figure gives a reasonable monthly rent of \$11.72 whereas the average rentals paid by this group were around \$19.00. It was also found that more than half of the middle income groups (\$1,200 to \$1,800) were paying more than one-fifth of their income in rent. From these figures the committee concludes that nearly all of the lower income group families depend on publicly financed low rental housing if they are to get proper accommodation and that such housing must let for an average figure of \$12.50 per month and considerably less in some cities. The committee also believes that more than half of the middle income group cannot benefit from present ownership provisions of the National Housing Act type and need rental housing as well. However, the subsidy program which both these convictions imply is but slightly touched upon. The financial provisions put forward for a low cost housing program can be summarized as follows:—

Grants to municipalities to cover the cost of necessary surveys, etc., together with long term low interest loans to provide capital costs; the subsidies required to be in the form of annual grants to Housing Authorities to enable rents to be set lower than the economic rent.

Farm housing (chapter 10) is a pioneer in its field. The total need for the post-war decade is put at 100,000, a modest figure in view of some of the census figures quoted, constituting only 14 per cent of all the farms in Canada and less than one-third of the dwellings recorded by the housing census as being in need of repairs. The case for housing the farm labourer is put forward for the first time and there are some interesting

comments thrown out on the desirability of multiple purpose community buildings in farming areas. It is proposed to finance all farm housing for owner occupancy on a low cost loan basis, the only suggestion for a subsidy being in the form of the supply of certain materials and equipment at specially low costs.

The final chapter on the reduction of housing costs covers the subject adequately and comes to orthodox conclusions. Large scale operations, reduction of interest charges, labour cost economy through measures designed to give more stable employment, bulk buying of materials and the breaking of price rings and restrictions, the further rationalization of the building process, the institution of experimental projects trying out new construction systems, and finally the importance of careful design.

This last point leads one to notice an angle of the rehousing problem that has been inadequately treated, one which is all too frequently forgotten in the flurry of economic pros and cons. Houses have to be designed. For the expenditure of the same sum they can look like a freight car siding, a collection of disembodied fake Cape Cod cottages, yet another slice of the drab characterless human shelter with which our cities are already encrusted, or the gracious result of intelligently combining human needs with the logical and natural use of materials which they ought to be. The results largely depends on the designers sensibility and ingenuity. The absolute necessity of good design and good designers for a national housing program is not stressed to anything like the extent it should be. Why do we admire the housing and town planning efforts of Sweden, Denmark, Holland and Germany? Largely because an amazingly high proportion of these are beautifully as well as efficiently designed. Sweden has undoubtedly utilized more first rate housing designers per capita than any other country in the world. On the other hand, the housing movement in England in the twenties and thirties, although it undoubtedly was

successful from the purely mechanical point of view of providing adequate shelter, failed in that it encased literally millions of people in an environment which was, while not exactly drab, at least uninspiring and often frantically boring. There are signs that precisely the same thing may happen in Canada. A visitor to this country runs across a great deal to talk about and a great deal of anxiety for, a Canadian culture. The mere fact that it is talked about so frequently by those who are sensitive enough to be conscious of its absence, seems to indicate that such a culture never existed in the past and shows few signs of being born in the future. There are a great many arguments to discount this point of view. At the risk of being greeted with hoots of derision, it is suggested that there are few things more pleasant and more Canadian than snowshoes, grain elevators, fur hats, sleighs and moccasins. All of them are the natural and unselfconscious results of the interaction between a particular climate and a particular physical problem.

The challenge contained in post-war reconstruction programs to those who are anxious to see a Canadian culture enrich the world's stock of things that are worth while is not sufficiently recognized. A projected Canadian culture is much too frequently thought of in terms of music, easel painting, poetry and precious little else, although it should embrace everything from teaspoons to town plans. And a frank acceptance of the various Canadian climates, a rational approach to the utilization of building materials, coupled with the sensitive planning and design of our post-war housing and other public construction will do more to create a lasting Canadian culture than dozens of Schools of Seven.

Hence it would be sound policy to make certain that what good designers

Canada has, should be utilized to the full in any post-war construction program and that provision be made now to ensure that a steady supply of them be forthcoming in the future.

So much for the Report on Housing and Community Planning. One more reports remain. The sub-committee on construction projects recommends that a National Development Board be set up under the Minister of Finance to coordinate all public works projects. It also recommended that the Advisory Committee on Economic Policy give its cooperation to enable such a co-ordinated program to be properly timed. To provide a lead to the whole country it is suggested that five Regional Committees be set up to coordinate projects and that funds be granted now to provinces and municipalities for the preparation of initial surveys and plans. Emphasis was placed more on the necessity for classifying projects rather than for consciously planning them, an attitude which is open to argument.

This report is largely a series of suggestions for future study rather than a body of definite facts and recommendations such as is the housing report. The question of co-ordinating new public projects with the housing program would seem to be inadequately dealt with. And generally the attitude of the committee is the rather negative one of compiling a list of useful public projects to provide unemployment, rather than the more positive attitude of designing a public program to get the growing needs of the people and the development of their natural resources. Taken together however, the three reports from an impressive set of directives for the creation of a better Canada in the post-war years.