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IRISH FORESTRY— TO-DAY AND TO-MORROW

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The publication of the proposals in connection with the European Recovery Programme has aroused considerable comment and speculation in forestry circles in Ireland. It appears that afforestation on an unprecedented scale is planned as part of a programme of national capital development. Now the part which an afforestation programme might be made to play in this recovery programme is appreciated by only a negligible number of thinking people. To many minds forestry is dismissed vaguely as a long-term undertaking which can have no place in a programme which must be expected to reap immediate returns. It is, therefore, opportune that the potential contribution which forestry might make to the well-being of the nation should be clearly stated, so that forestry may receive a balanced and merited share of any general or national scheme for social, economic and industrial betterment envisaged by the architects of the recovery programme.

WHAT CAN FORESTRY DO FOR IRELAND?

There is little use talking about the contribution Ireland's forest resources will make to the immediate recovery of Europe. There is scarcely a country in the world so naked of trees as Ireland is to-day. The oft quoted 1% of tree-covered land is only half the picture, since that 1% is made up of skeleton woods or immature plantations. The stranger who visits our shores is shocked by the nakedness of the countryside and chilled by the untempered blast that sweeps unhindered across the shelterless plains and hills. The cry for more forests is rising in every corner of the world, but if dry statistics mean anything Ireland's needs are greater than most.

An adequate supply of wood is essential to the well-being of any nation or community of nations. Man does not live by bread alone and peoples must be housed and clothed and their crops and animals sheltered. Western Europe has reached the limit of forest devasta-

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tion beyond which she cannot go without gravely endangering her agriculture and industry and destroying her strategic timber reserves which will be so vital in times of war or economic blockade.

No country in Western Europe has any wood to spare for export, and supplies from Sweden, Finland and Russia are a poor reliance, as recent events have shown.

The chronic state of timber shortage is a threat to European stability and economic recovery, and constitutes no small factor in the political condition of Europe to-day. The lesson is plain. Every country that can spare the land and the people should seek to afforest to the utmost of its resources, especially countries where the strategic reserve is at a low limit. Ireland can make a useful contribution to European security and stability, not alone by increasing her agricultural output but by growing forest crops for its own needs, thus reducing the demand on the common pool in time of crisis and at the same time relieving the import position. Apart from any role it might play in stabilising European economy, forestry has a more particular part to play in relation to our own needs.

It would be well to try and outline at this stage the benefits likely to accrue as a result of the adoption of a large-scale forestry programme. First of all, we would be assured of supplies of an essential commodity at all times. Secondly, we should provide an avenue of employment for a considerable body of labour in a healthy rural industry. Thirdly, we should provide effective use for certain poorly productive lands; and, finally, provide an avenue for the productive employment of Government capital in the establishment, and private capital in the exploitation, of forests and dependent industries.

HOW MUCH TIMBER SHOULD WE GROW?

The question is often asked: "How much timber could we do with?" and the answer is: "An unlimited amount." What is more to the point is: "How much can we afford to grow?" We cannot afford to grow less than our reasonable requirements. It is often said that Ireland's requirements of timber are smaller than those of other countries. Admittedly we have been parsimonious in our use of timber. People use what is handiest to come by, and timber was never easy to come by here. Where forests are plentiful, timber is used and that applies even here in Ireland. I had occasion to visit a small holding in West Limerick recently and was amazed to see the wealth of timber used in outhouses. Galvanized iron was conspicuous by its absence. It appears that the owner-occupier inherited a larch wood, and he certainly made good use of it. If every holding used timber on the same scale we could do with, not one, but several million acres.

In the past our forestry programmes were designed either to meet our emergency needs or were based on the minimum requirements of timber. There are several approaches to this question as to what constitutes an adequate forest reserve. It is very difficult to deter-

mine what average rate of timber consumption is necessary to a reasonable standard of living. F.A.O. concerned itself with the question of timber consumption and reached the following conclusions: That the best tentative guide should be based on the relatively stabilised experience of pre-war Europe, i.e., about 35 cubic feet of wood per person.

The Departmental Committee of 1908 makes the following observation on this question. "The more Ireland develops industries in which wood is used, the more she raises her standard of comfort, the higher these needs will rise. . . . There is, however, one point of view from which this question may be looked at more definitely. To conduct her agriculture and her industries and to maintain the life of her people at a normal level of efficiency and comfort, a nation requires to consume a certain quantity of timber. The minimum figure is given as 10 cubic feet."

There is little use in basing probable consumption figures on countries like the United States where they use over 200 cu. ft. of timber per head every year. A country like Denmark is a better guide. Denmark is an agricultural country with a population of 4,000,000 people. It has 900,000 acres of forest, most of it planted during the period of Denmark's agricultural revival. There is now 9% of the country under forest as against our 1%. Denmark's reserve of standing timber is reckoned at 700,000,000 cu. ft., our's is 70,000,000. Denmark's forests yields 70,000,000 cu. ft. of timber each year and there is no overcutting. Our forests are yielding 10,000,000 cu. ft. per year and this represents an over cut of 7,000,000 cu. ft. The annual growth of timber per acre in Denmark, where the soil is poor and the rainfall low, is 70 cu. ft. per acre. Our poorly stocked woods and immature plantations yield only 20. On the other hand Denmark's essential import requirements for timber in 1949 are put at 250,000 standards, while Ireland's essential needs are a bare 60,000.

In 1937 Denmark produced 6,000 metric tons of pulp from her own timber and imported 82,00 metric tons. Ireland managed quite nicely on 6,000 metric tons.

These figures are quoted to show how far Ireland falls short of a similar country in both production and consumption of forest products. The startling fact emerges that Denmark, with close on 1,000,000 acres of the highest yielding forest in Europe, has still to import more than treeless Ireland imports.

Ireland's planned forest is expected eventually to yield 87.5 million cubic ft. of timber every year and doubts have been expressed as to our ability to consume this quantity. The fact that Denmark can consume 100,000,000 million cubic feet should put an end to fears on this score.

THE WASTED YEARS

The 1908 Departmental Committee on Irish Forestry recommended the planting of, at least, 1,000,000 acres over a period of 80 years. With 40 years gone what have we got? A total timber capital of 70,000,000 cubic feet, i.e., less than one year's production under Mr. MacBride's programme; less than the yield of 25,000 acres of 40-year old timber. We probably had nearer 700,000,000 cubic feet at the beginning of the present century; so much for 50 years of progress.

We have had a native government with us now for 25 years and one must admit that good steady work has been done in that time. But if the proposed programme had been put into operation in 1922, instead of 1949, what would the picture have been like?

A recent stocktaking of 1,000 acres of plantation established on poor mountain land in Co. Wicklow between the years 1922 to 1927 revealed a yield of over 1,000,000 cubic feet of measurable timber. Under the proposed planting programme, the 100,000 acres established during that 5 years would be now carrying 100,000,000 cubic feet of timber. In 5 years from now the standing volume resulting from that programme would have been 300,000,000 cubic feet. Our forestry programme would be substantially completed at about one quarter of the cost.

RATE OF FUTURE PLANTING

In a recent article in "Irish Forestry" I tried to make a case for the speeding-up of afforestation and suggested that we should aim at planting 20,000 acres a year, in view of our depleted timber reserves and because of the possibility of creating forest industries if sufficient raw material, even from the thinnings of immature woods, were forthcoming. I believe that a 20,000 or, as Mr. MacBride had now declared, a 25,000 acre programme is well within the capacity of our forestry service. The forestry units are widely scattered, and if each unit had to deal with the afforestation of 200 acres of land annually it would require only 120 working units to handle this programme. As to workers, with such a large under-employed rural population and, especially considering the figures of emigration, it would seem strange if the necessary labour force were not forthcoming. A shortage of local labour has manifested itself in certain forest districts and it is high time that the question of housing for forest labour should be considered by the forest authority or by the local authorities. That there is a surplus of rural labour available is only too evident to anyone who has seen the crowds of migratory labourers leaving our shores every season.

COMPARISON WITH NEW ZEALAND

I was amazed, therefore, that Mr. Forbes, with his unequalled knowledge of the Irish forestry service and Irish rural conditions,

should be sceptical about the possibility of our being able to manage a 20,000-acre programme. Mr. Forbes states in the current issue of *Irish Forestry*: "When, however, Mr. Clear advocates the annual planting programme being increased to 20,000 acres, and to land being acquired worth £10 per acre or so, one is tempted to question whether all the implications involved have been considered." In discussing the implications, Mr. Forbes draws the attention of his readers to the paper by a Mr. F. W. Foster of the New Zealand State Forest Service on "Exotic Forests of New Zealand." This paper is quoted to show that orthodoxy in forestry is fundamental to success and that any departure from the 6,000 or so acres done each year is likely to be fraught with serious economic and administrative consequences.

I have gone to the trouble, at short notice, of obtaining Mr. Foster's paper and also of getting information on New Zealand's forestry position. First I found that, far from being a country scraping the barrel of its last few timbered acres, as is the case here, New Zealand had a forest of 17 million acres, of which 5 million are exploitable, i.e., mature and easy to fell. Of this, nearly 2 million is of valuable softwoods, such as Rimu, Kauri, Totara, suitable for building, joinery and boxwood, carrying 2,000 million cubic feet ready to fell and as much more in less accessible forests. And this country, with a forest area greater than the total area of our 26 Counties, with 26,360 square miles of forest (to give the recorded figure), is compared with Ireland with its 300 square miles of immature plantations. And now here is the rub! In 1925 the newly-formed forest service enunciated a policy of controlled, almost rationed, use of the remaining 18 million acres of indigenous forest, accompanied by an afforestation programme on cleared or treeless land with a target of 300,000 acres in 10 years. They finished the programme in 5 years, planting 307,000 acres by 1930. By 1936 a further 118,000 acres were added. Side by side with this state effort, private companies promoting afforestation schemes were backed by the people, subscribing £25 per acre, to the tune of £8,000,000 and planted over 300,000 acres of pine forest.

Thus we have a small nation of $1\frac{1}{2}$ million people, with vast reserves of virgin forest, spending millions, directly in bonds and indirectly in taxation, to fight the threat of timber famine said to be looming directly ahead. They planted 800,000 acres far from settlements and labour and now they complain of difficulties. "If it be possible," says Mr. Wilson, "to reduce the mistakes to a simple formula, it is that of maldistribution of age classes combined with lack of silvicultural tending." In other words, it was a mistake to plant 700,000 in 10 years in places where there were no people to look after those planted acres. And now, to cap it all, the current policy announced in 1946 aims at planting a further 270,000 acres.

I must confess to a feeling of bewilderment. The moral I have drawn from my adventure into the ways of antipodean forestry is that we in Ireland are mere children when it comes to dealing with matters such as this. We play with miniatures when other peoples will not have less than full-size working models. Another thing that struck me was the way the people of New Zealand subscribed so freely to afforestation, this in spite of official propaganda against the idea. Would the patriotic Irish subscribe as freely to a loan floated for this purpose? It should be as safe as Burma teak, Malayan rubber or Iranian oil.

THE COST OF FOREST LAND

The wisdom of allowing the forest authority to spend up to £10 per acre on the purchase of forest land has also been questioned. Now the main bottleneck in the development of the desired forestry programme at present is the lack of suitable land. The land is there and if the Government is really serious about afforestation, if the programmes appearing in White Paper and public Press are ever to get beyond the paper stage, this question of land acquisition will have to be squarely faced. The price of land in Ireland has soared in recent years, and land that was readily available in the 1930's at £2 or £3 per acre is difficult to get at 3 times that figure now. At the present value of the £ no land of any use can be got at £4 per acre. Store cattle and sheep are fetching at least 4 times what they fetched in 1938 and all the forester can hope to buy with his allowance of £3 or £4 is rock or mountain top.

LACK OF CO-ORDINATED LAND USE POLICY

The time is over-ripe for a constructive land use policy, otherwise we will have wholesale waste of money and effort. The danger, as I see it, is that to fulfil the programmes allotted to them the agriculturist will reclaim land that will never be anything but marginal for agriculture and the forester will have to confine himself to land that will never be anything but marginal for forestry. If this is likely to happen we would be far better without big programmes of land reclamation and afforestation. Due to the absence of a constructive land use policy over the past 50 years, large acreages very suitable for afforestation and which are entirely non-arable and of little grazing value have been carved up and parcelled out among a multitude of smallholders.

The State has been even more irresponsible than the displaced landlords in its attitude to marginal land. Instead of retaining control over such land so as to ensure that its productivity would be maintained or improved, it was passed on, very often, to those least able to reclaim or improve it.

This policy of division of marginal land, which has been excused on the grounds of necessity and political coercion, has resulted in a

situation where most land suitable for forestry is held by small farmers and can only be acquired after tedious and expensive negotiations.

It is now extremely difficult to develop an orderly scheme of afforestation and land improvement. The result of this lack of policy can be seen in many mountainous areas to-day, where large numbers of half-starved and pest-ridden stock range over a wide and growing area of uncultivated land, which ought, under a proper system of management, to be producing several times as much in various forms of produce.

There is ample room for the forester and the farmer on these waste lands, which cover more than one-third of the total area of the country.

The decline of our mountainous population can be largely attributed to the spread of sheep grazing. Sheep gradually ousted the old system of intensive farming which had maintained a fairly high standard of fertility by the tillage and top-dressing of the enclosed field. The general effect of hill sheep-farming has been the gradual change in the vegetation of the hills, the steady abandonment of once reclaimed land to bracken, furze and heather. If one could rely on the opinion of local people, the stock-carrying capacity of hill land was at one time fairly high. Farmers will point to bracken or furze-covered hills and say they remember that place being one of the best grazing hills in the country. Since the end of the last century, however, the sheep population has been falling and is now about $1\frac{1}{2}$ million less than in 1890. In the same period the area abandoned to rough pasture is in the region of $1\frac{1}{2}$ million acres.

Now the question arises, should this abandoned land be reclaimed for farming or should portion of it be devoted to forestry. In Counties Wicklow, Wexford, Waterford, Tipperary and Cork, above the agrarian zone with its fenced and improved land, its shelter belts and farm buildings, lies a belt of marginal land called, by agronomists, the "hill pasture zone." This zone passes into the moorland zone at higher levels. It is because of the extensive occurrence of the hill pasture zone that the south-east and southern uplands are particularly sought after by the forester. If blocks of this type of marginal land, which is the type of land which has been progressively abandoned to rough-grazing and which has a low stock carrying capacity due to the poor quality vegetation, could be purchased for forestry, portion of the higher moorlands could be economically afforested as well where exposure was not too severe. If the forester is compelled to accept an ever-increasing proportion of moorland with its thin gravelly panbound soils or its waterlogged peat blanket, forestry will be a failure in this country. The crop yields estimated in the recovery programme can only be expected if the proportion of hill pasture to moorland afforested is in the ratio of, say, 70 per cent. to 30.

A survey of hill grazings in Scotland carried out in recent years by agricultural experts revealed that only 0.5 per cent. of the 10 million acres of rough grazing there was considered capable of being made arable. It was further estimated that only 2.5 per cent. of the total could be turned into reasonable permanent grass.

We hear of schemes to reclaim, for agriculture, vast acreages of land in this country, but these returns from Scotland would indicate that we must look elsewhere than to mountain land. The improvements required by our arable 11,000,000 acres is sufficient to employ an army of men with drainage equipment, fertilizer spreaders and bulldozers.

If anyone wishes to know what type of land the forester has in mind let him take a run out through Rathfarnham, up by the Hell Fire Club and out over the Featherbed mountain into Glencree. Reckon out of the question the devastated lands left by the turf men from Rathmines and the land thereabouts, but look down into Glenasmole and into Glencree. What scope is there for an afforestation scheme! Ask the workers in Glencree what they would have done after the turf-cutting closed down if the plantations at Crone and Ballyreagh were not there to receive them.

FORESTRY AND RURAL DEPOPULATION

Yes, apart from the direct yield from timbered land, there would be other important benefits of the proposed large programme of afforestation. The influence of properly sited forests goes far beyond the commodity value of their produce—great as that is. The drift of population from the land has been most severe in the areas coming within the scope of afforestation. This has long been a political problem and one that is still with us. The system of land use in mountain areas has failed to hold the former populations in the remoter parts of the country and no amount of rural electrification will hold them unless an industry is created which will absorb a growing number of people and provide openings for the ambitious as well as the unskilled labourer. No form of development in mountain areas promises to bring back as much life to the glens as forestry. There is ample room for the forester and the farmer on these waste lands which cover more than one-third of the total area of the country. The requirements of the farmer can be met by the forester: their work is complementary. The forester, by providing regular employment, especially in winter and spring when there is little doing on upland farms, will help the farmers, who need not be constrained to carry a quota of under-employed workers in order to have sufficient for rush periods.

Given a fair proportion of the hill pasture zone, the forester can employ 1 man to 50 acres in the woods and 3 to 4 times that number when the felling and conversion comes due. When the full 1,000,000 acres, which represent the ultimate object of the present programme, are in production, it is estimated that there will be from

10,000 to 15,000 men in the forests and 50,000 men in the auxiliary industries.

This increased rural population would help production of food considerably, the workers being part-time in the forest and part-time on their holdings. Pigs, chickens, cattle, vegetables and fruit would replace or supplement the ubiquitous sheep. Vermin would be kept under control, land would be better manured because of the greater number of housed and enclosed stock, better tilled because of the greater manpower available, better sheltered and watered because of the neighbouring forests.

Forests provide farmers with income which in some cases enables them to subsist on otherwise submarginal farms. At the same time, the presence of nearby farms, providing a local source of man-power, horse-power and food, facilitates the operation of forest industries. Both forestry and farming supplement each other if they are properly co-ordinated.

Above all, crops should be suited to the land. Scientific methods of land classification can indicate soils best suited to tillage, grazing or forests, respectively. Our Government could benefit from a review of its land utilization in the light of this knowledge.

Before concluding this review I would like to deal with one or two important matters affecting the welfare of the forestry programme.

A THOUGHT FOR THE FORESTER

The successful carrying through of the forestry programme will, to a great extent, depend on the men who plant and supervise the work. The business of forestry, and its background of science and research, necessitates specialised training for all who wish to make the planting and management of woods their life's work. Forestry, as a profession, calls for a considerable breadth of technical and general knowledge. Foresters are husbandmen, business men and, to a certain extent, scientists too. They must have the benefit of research and keep pace with the growing fund of knowledge regarding their subject if they are to remain efficient. If a forester is to do his job he must be serviced with the right tools, the right education and above all receive sufficient remuneration to enable him to keep his mind on his job. He should be able to afford the profitable enjoyment of association with his colleagues in a professional society. A forester has little chance of meeting and conversing with his colleagues. He is hungry for an exchange of views, eager for a chance to see how the other fellow does his job so that he may learn to do better. I know all this from my association with Irish foresters. They only ask the assurance of a modest competence. They know the life in the forest is a good life,, with many compensations. But what of the forester's wife and children away from social contacts, from schools and shops? A forester should have fair wages in keeping

with his skill and responsibility. His wife and children should have good accommodation, and he should be able to look forward to a pension after a life of strenuous, national service. If forestry cannot afford him that, we are as well rid of it.

EQUIPMENT

The forester should have the tools to do the job required of him. These tools! Look over the seas to Great Britain and see what is going on. Research in soils, in the technique of afforestation, in the nursery, in the timber laboratories. We look with envious eyes at their facilities for instruction, the equipment of their offices and laboratories, their mechanised forests and nurseries.

For ages our politicians have looked to the forester to deal with the waste land of the west, that repository of the last surviving outpost of Gaelic culture. In Britain they have tackled a like problem; and on the moorlands of Wales and Scotland, armed with new knowledge and modern equipment, special ploughs and giant crawler tractors, the foresters are fighting a winning battle on areas previously regarded as unplatable.

RESEARCH

It is high time also that we had a forest research organisation of our own, to give us first-hand information on our purely local problems. There is a belief that forestry in Ireland cannot afford to spend money on research. It is a poor ship that cannot afford a pilot and a doomed ship that tries to brave the unknown seas without one.

AN INSURANCE POLICY

Finally I would like to sell the following idea to the present government and I think the occasion is most propitious.

Would it not be a very appropriate gesture to take out an insurance policy on the newborn Republic of Ireland in the shape of planted acres? Why should our Government have less faith in the future of this State than the father of a newborn child. We are admonished from every hoarding to save for the future. If we pay a yearly premium now of £1,000,000 or so in afforestation, we can guarantee for a large portion of the rising generation, when the policy matures, a higher standard of living, more work in field and factory; for all a healthier and more beautiful countryside.

The money we spend will not go out of the country, but into the pockets of our most needy and depressed classes, the mountainy farmer and the rural worker. These will, in turn, spend their earnings in the shops of our rural towns and villages, buying the produce of our fields and factories. Every pound spent now will bear fruit, in season, a hundredfold.