

enclosure. But overall, the rental incomes of a small number were enormously boosted.

The paper suggests that land-value taxation, brought in at this time, would have had a profound effect on such an economy. Land, power and money would have moved into distribution among a far larger number of people. Poverty arising out of landlessness may have been eliminated. Entrepreneurs would have been obliged to offer higher wages and better conditions to attract labour. Landowners who once enjoyed their land merely for hawking and hunting may well have taken a more rational attitude towards its use - giving rise to more employment.

Some enterprising landlords made contributions to industrialisation, exploiting mineral deposits, digging canals, building ports, founding banks, opening markets, but later they retreated into the passive role of the rentier. Others hindered development, as for example the many landlords who prevented the building of railways over their land, until in time, they realised that railways sent rents soaring on adjoining land.

Under LVT, the rise in land value would have gone to the community rather than swell the finances of the already rich. Many landowners began to fix short leases only, so that they could re-acquire the land if they wished. Farmers were deterred from undertaking capital improvements on land so insecure in title. Such farms operated below optimum efficiency.

Thus, large areas of land stood idle while men were unemployed. When the war was over in 1815 the bottom fell out of the land market. The owners, however, rather than reduce prices or give away parcels of land, fell back on other resources to protect themselves against depression. They were under no pressure to part with their land. A tax on land values at such a time would have encouraged them to hand over idle land to those who could make productive use of it and it would have tailored the price.

In order to study comparative figures the years 1860-1870 are taken. Investment, rent and government expenditure are looked at closely and the following comparisons drawn. First, investment would have been higher, because there would have been no need for customs and excise duties; profits would have been larger therefore and the total volume of trade greater. Secondly, income tax would not have been a drain on wages - thus more private spending and saving.

In 1849 there were over two million paupers. Relief was paid for out of rates but this understates the problem of poverty because at this period private charities were spending tens of millions of pounds per year in aid.

Under LVT able-bodied men would not have been forced into idleness. There would have been full em-

ployment, with national incomes higher, fewer paupers and therefore rates could have been spent on capital investment in building.

The guide lines laid down in the paper are invaluable for countries currently struggling towards industrialisation. Many of them are now introducing programmes of "land reform", but often simply redistributing land to the peasants without the safeguard of public ownership of land rent.

The U.N. has not yet seen the light with regard to land reform and no late developing country has yet seen the wisdom of a fiscal policy which brings minimum disincentives on trade, together with a bonanza income from taxes on unearned income.

If any government did implement LVT, it would speed up industrialisation and exploit to an optimum level the country's natural resources. We have the knowledge but it will take political courage to challenge conventional wisdom and strike out on a new path.

4. OFFSHORE SEA RESOURCE DEVELOPMENT

FOR CENTURIES the ordinary man has made a living on the sea - by fishing, or transporting people and goods - and has usually done so without interference. The oceans have been a "free good". But nations have begun to dispute over the waters around their coasts and claim jurisdiction over them for three, or fifty, or even perhaps two hundred miles offshore. Ruthless exploitation, by corporations and other bodies, has brought about regulation and licensing. Technology has arrived.

No doubt part of the energy crisis in the U.S.A. and other countries has been brought about by monopolists - the oil producers for example. Economic boom, wasteful land use and unjust taxation systems have led to depletion of rich energy resources. This has put a premium on the development of new energy sources. There is also a shortage of food - with food prices rising, while the shortage of water is affecting industry.

In the face of fuel, food and water shortages, we turn to the oceans. Many countries are engaged in offshore oil exploration and exploitation, as well as in the less well publicised development of offshore solar power, desalinization plants and mariculture tanks. These are areas of tremendous promise but unless we act quickly to prevent land speculation, costs will escalate.

The French physicist, Jacques D'Arsonval, reported on solar sea power in 1881. Such power is based on the fact that more than 70 per cent of solar radiation falls upon the oceans. In the tropics the sun's heat

keeps the ocean's surface temperature at 25°C. Warm water from the tropics moving towards the North and South Poles, melts the ice and icy water flows back from the poles towards the equator. In the tropics this cold water, moving far below the warm surface water, provides a heat sink from 25° to 5°C at a depth of only 1,000 metres.

In 1964 Hilbert Anderson and James Anderson of York, Pennsylvania, suggested that ocean thermal gradient be used to operate a power plant, submerged to a depth of 100 feet. A design was worked out in which 25°C water would flow through a heat exchanger, causing another fluid to boil. The vapour of the low boiling point fluid would expand through a turbine to generate electricity.

Efforts to make thermal gradient power more efficient are going ahead - Anderson and Anderson proposed that the plant be used to produce fresh water. Experiments are also going on to produce hydrogen and oxygen through the electrolysis of water, and it may one day be cheaper to transmit power to shore through a hydrogen pipeline than through cables.

Still another development is based on the fact that upwellings of water from ocean depths are rich in marine life - such as algae. One site, off Peru, accounts for one-fifth of the world's fish harvest. Experiments in the Virgin Islands show that when such water is fed into tanks, clams, oysters and scallops can be cultivated at accelerated speeds, a process called mariculture. Such a plant would be economically viable in Florida where the Gulf Stream hugs the coast. A team from Massachusetts University is designing a submerged plant to produce power from the Gulf Stream, with the test site some 25 kilometres from Miami, but already Jacksonville is estimating the effects of such development in terms of employment, investment, tax revenues, population increase and land values. Anderson and Anderson estimate that these thermal gradients could generate seventy-five times the expected U.S. demand in 1980.

Science, a weekly journal in America, remarks that "solar power from the sea may well turn out to be a source of clean energy that has been overlooked for too long." But even if the Federal government claims sovereignty over these ocean sites, development will need shore sites also and the Jacksonville people are pointing to the rise in land values in Florida, already at astronomical levels - up to \$55,000 an acre or higher.

If Florida employed land-value taxation the gains in value of the contiguous onshore sites could be recaptured for the benefit of all Florida residents. The federal government has not yet shown that it appreciates the advantage of the total appropriation of rent generated by power, water, chemical and mariculture

development. Those who do should seek to make their studies available to the policymaking bodies in government departments. And since thermal gradients are available to other countries, students of L.V.T. would be well advised to carry out studies with respect to franchise fees and L.V.T., applied to the exploitation of this rich ocean resource.

Papers presented to the 13th International Conference on Land-Value Taxation and Free Trade, Douglas, Isle of Man, Sept. 8-15.

Rates on Buildings Rejected in South Australia

A VICTORY was registered for land-value rating at a poll taken in Marion City in the Adelaide metropolitan area of South Australia recently. Marion City has an area of 12,400 acres and has been using the land-value rating basis for many years.

The poll arose directly out of new legislation allowing councils to choose the rating system differentially between the council wards instead of on a basis common to all wards. In four of the five wards the councillors decided to change the basis from site value to the annual value of land plus improvements. They had to notify ratepayers who then had the right to demand that a poll be taken before the change was implemented. In each of the four wards demands were lodged and the polls taken on the same day. In Ward No. 4 councillors decided not to seek change.

A strong campaign was pressed for retention of land-value rating. When the results came out they showed an overwhelming victory in each ward for the retention of site-value rating as shown below.

FOR RATING IMPROVEMENTS

Ward	In Favour	Against
Ward 1	434	899
Ward 2	631	953
Ward 3	590	869
Ward 5	524	723
Totals	2,179	3,444

Announcing the results, Administration Officer Mr. K. Usher said the council had not expected such an overwhelming defeat. "We thought some would stay on land values but we felt one or two wards would make the change," he said.

It is interesting that Ward 1 was the one where those seeking change most expected to win and the Council concentrated in that area and it is gratifying that it showed defeat of the proposal for return to local taxation of improvements by the largest margin (2 to 1).