

Mr. Reynolds would like to see investigated alternative forms of transportation such as Ontario's proposed Go-Urban, a magnetic-cushion train which is electrically propelled. It is expected that electricity will be in adequate supply in Canada at least into the foreseeable future and Mr. Reynolds calculates that the use of systems similar to the Go-Urban could save almost a billion gallons of fuel a year. Of course this is only one aspect of the problems "human settlements" are causing: for a fuller discussion, turn to page 14.



The Bank of Montreal has become the first Canadian bank to open an office in India. The Office of the Senior Representative for India is manned by V. C. Vijaya Raghavan, a former career diplomat in the Indian Foreign Service whose last posting was Dar-es-Salaam, Tanzania, as High Commissioner. From his office in the Ashoka Hotel Mr Raghavan will look after the Bank of Montreal's interests in Bangladesh, Sri Lanka, Nepal, Sikkim and Bhutan as well as in India. Founded 157 years ago, the Bank of Montreal styles itself "The First Canadian Bank" It has offices and branches in 17 countries besides Canada. It specializes in financing.



While natural gas now is used as fuel in industrial furnaces, to produce plastics, artificial rubber and petro-chemicals, to heat buildings and cook food, a chemical engineer at the University of Toronto is using it to make feed components for cows and sheep. As another raw material to produce protein he uses previously useless wastes from the pulp and paper industry.

Professor Morris Wayman, who has already made major contributions to the wood pulp industry, is producing a nitrogen-rich, white powder from natural gas called urea formaldehyde, which he says could have an impact on agriculture similar to the invention of artificial fertilizer 60 years ago. Nitrogen is needed by animals for the production of protein and amino acids, necessary for life and growth. Cows and sheep get their nitrogen mostly from grains.

The idea of using urea derivatives as a synthetic source of nitrogen is not new, but making it work has given scientists problems, since large doses of urea are usually dangerous because urea breaks down quickly in the digestive system and enters the blood stream as toxic ammonia.

However, with funds provided by Canada Packers, Professor Wayman has modified urea to prolong this breakdown from about 30 minutes to six hours. He says he hopes to increase the amount of modified urea in ruminant feed to completely replace protein nitrogen, which would be nearly four times the amount now possible.

The main reason for making animal feed components from natural gas is because of the tremendous amounts of agricultural land taken every year for urban development.

But diminishing farm land is not the only concern. "Our aim is to find cheaper and more readily available feed-components not dependent on the whims of nature," explains Professor Wayman. "Modified urea is made in a factory and is unaffected by bad climate, unfavourable weather conditions and other infestations that plague traditional sources of livestock feed—corn, hay and oats—and ruin many other crops every year."

The time will come says the professor, when land alone will not be able to supply all the world's food.

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alms social breakdown. Successful planning is based on a well-tryed mix of public and private enterprise and coordination of basic facilities like transport, water and recreation space. Planning authorities must take into account the overall impact of settlements so that one area does not prosper at the expense of another. The city and the hinterland are interdependent. In a way developing societies are better placed than countries long-industrialized because urbanization has not yet engulfed a large part of the population and there is time to learn from others' mistakes. But this calls for new concepts imaginatively implemented. These must counter the tendency to take over uncritically the concepts and technology of the developed countries.

International aid has inevitably followed conventional thinking on development. For aid, as for national governments, settlements have been the residual items of economic policy. The United Nations has only recently begun to consider the possibility of channelling more resources towards settlement needs. In part the success of the Vancouver conference turns on the conduct of varied innovative pilot projects and studies beforehand. The allocation of international funds for major settlement projects presupposes the availability of the skills to implement them. The kind of planning involved demands of the individual the flexibility to function as part of an interdisciplinary team.

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*Eds note : Mr. Enrique Penaloza, the Secretary-General of U. N. Conference on Human Settlements, visited India between November 6—10.*