Soviet Union

More institutional inefficiency

THE current Soviet drive against inefficiency and corruption is throwing a disturbing light on the country's applied research structure. Since the early 1970s, party directives have urged close ties between research and production, and the establishment of "scientific-production unions" to serve the needs of the "scientific-technological revolution": it now appears that, far from speeding up the implementation of research in production, such "unions" can themselves be a cloak for slackness and corruption. Last month, *Pravda* drew attention to a particularly flagrant case — that of the "All-Union Scientific Research Institute for Potato-

only a fraction of that claimed. Between them, over the past six years, the institute and the scientific-production union lost 1.1 million rubles by failing to install mechanized flow lines. Over the past two years, 1.6 million rubles were lost on projects which came to a halt at the "working out" stage. Conversely, one new installation was based on obsolete technology and was scrapped without ever going into operation.

At the same time, funds have been diverted and improperly disbursed, and the accounts falsified by as much as 667,000

rubles in a single year.

This particular institute has a key role in the much publicized "Food Programme" launched two years ago to bring Soviet nutrition up to Western standards by the end of the century. Swift action might therefore be expected to rectify such a deplorable situation. But, as *Pravda* points out, although six months have passed since the facts came to light, and although some of his subordinates have been demoted, Mazur is still in charge of both institute and scientific-production union. And, says *Pravda*, the scientific staff of the institute still have "no fresh thoughts nor original technical ideas" in their "scientific baggage".

Vera Rich

Japanese cities

Neoaquapolis

Tokyo

NOT to be outdone by ministries that see the future Japan populated by "teletopians" and "technopolitans" (see *Nature* 5 July, p.5), the Agency of Natural Resources and Energy has come up with a proposal for a "neoaquapolis" project in its annual "vision". Although it is not clear what is to be "neo" about the aquapolis, the project is based on more than the Japanese love of making up new words from foreign tongues (this one a mix of Latin and Greek). The proposal is that a marine city should be built on a man-made offshore island to help promote Japan's ocean development.

Marine development received tremendous impetus in Japan when the 1982 Law of the Sea Conference gave recognition to the establishment of 200-mile economic zones. With island territories scattered in a 2,800 km arc practically from Siberia to Taiwan — and the occasional convenient emergence of new islands as a result of undersea volcanic activity — Japan was found to rank second only to New Zealand in the increase in economic area this decision brought about. Japan's "economic" sea area is, at 4.5 million square kilometres, twelve times its land area and the sixth largest in the world.

Research has been accelerated on a whole range of ocean resources — fisheries, including artificial fish pastures and the piping of light to the sea bottom to increase algal growth; seabed oil and minerals; wave power; deep-sea ocean thermal heat; the extraction of uranium from sea water; and survey and sensing equipment, including both satellite and buoy systems. National projects are also under way to develop manganese nodule mining techniques and sub-sea oil production systems which will sit on the ocean floor in deep waters. With government expenditure at around 60,000 million yen (£183 million) a year and large-scale investment by private industry, only the United States is putting more money into the oceans than Japan.

The sea is also being thought of as a place to store things. A project is under way to build huge synthetic skinned "sausages" which will float in the oceans full of oil. What more natural than to put some of the population in the sea too? Even building artificial islands turns out not to be a new idea — eleven have already been built and another five are on the way. The most spectacular, Port Island, off Kobe, has 20,000 inhabitants and is the world's largest container port. Costs have proved very high — around ¥400 million an acre — and construction has only proved justifiable in areas that extend already very densely populated regions.

What the new report calls for is the vigorous promotion of industry-government cooperation to develop the advanced technologies necessary for a marine city to be built on an artificial offshore island. Exactly when the project might be feasible is not made clear. But in the meantime, the vision recommends that Japan team up with other countries to develop and build undersea robots.

Alun Anderson

based Food Products" — but in terms which made it clear that this exposé was meant as a warning to others to mend their ways.

For many years, the usual explanation when production fails to match target has been that the scientists have done their part but there have been bureaucratic delays in implementing their recommendations.

It was precisely to obviate these bottlenecks that the scientific-production unions were conceived. Yet the institute in question belongs to the union: indeed, its director, a certain A. Mazur, is also head of the scientific-production union. Nevertheless, and even though the institute is situated in Byelorussia, a renowned potato-growing region, the institute's record is appalling. In fifty years of existence, says *Pravda*, the institute has not published a single monograph, textbook or manual. The research projects supposedly taking place are overstaffed in comparison with similar projects abroad, where the results are ten times better.

On the other hand, the institute is said to be expert in paper shuffling and falsifying returns. After a number of commissions of inquiry had failed to penetrate further than the director's office, an authoritative investigation was initiated by the central committee of the Communist Party of Byelorussia.

It was found that most of the claimed "innovations" had never been carried through, and that the few which were implemented had an "economic effect" of

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INVESTMENT of venture capital in high-technology companies in 1982 in the various regions of the United States. Total investment increased from \$1,025 million in 1980 to \$1,822 million in 1982. Figures from *Technology, Innovation and Regional Development* published by Office of Technology Assessment, Washington, DC, July 1984. □