NEWS that demand for petroleum in his country dropped 5 percent last year, compared with previous annual increases of around 15 percent. He saw little hope for lower prices in the near future and said Japan is counting on its technological ability to help open up alternative energy sources and offer the Arab states something more important than money: refineries in their own lands.

Hardest hit, however, are developing countries that have moved beyond subsistence farming but now find themselves dependent on imported petroleum and fertilizer in order to survive. The depths of despair now growing in these nations was poignantly expressed at the conference by I. G. Patel of India, who is deputy administrator of the United Nations Development Program. If one fixes as a goal the raising of per capita income from its present $200 a year in developing countries to $800 (still less than a third of annual income in industrialized nations) a steady growth rate of 6 percent a year for the next 40 years would be required, he said. But this, in turn, would require a growth of energy consumption of some 8 to 10 percent in the developing nations, whereas now consumption is falling. The world's poor are thus getting steadily poorer.

(As he spoke, the possible extent of famine in India and other parts of the developing world was becoming grimly clearer. Early frost in the American Midwest destroyed much of what was left of corn and soybean crops after a summer of drought. The wheat crop in India appeared to have fallen below expectations by an amount equivalent to the food necessary to feed 50 million people. President Ford pledged increased food-dollar aid, but with rising prices, the amount of food sent abroad may still continue to decline. Some officials fear that November's World Food Conference may come too late to avert a major famine, even if major new aid projects were adopted. With India's antique transportation system, food delivered then would surely not reach stricken regions of the interior in time.)

Yamani's response to delegates concerning the progressively more desperate situation in the poorest countries was that several development funds are being established by the OPEC countries. Such aid is "high on our list of priorities," he said, but cautioned that investments in less developed countries have been stymied by a lack of local financial institutions capable of handling the funds.

Yamani reiterated the Saudi position that oil prices should come down a little (about $2 a barrel) and expressed an openness to further cooperation with industrialized nations: "We certainly want to exchange our oil for technology and the development of our country." But many delegates went away wondering how long their nations could hold out and whether renewed Middle East fighting might bring new shocks to the world's financial and political stability. A few returned to nations on the brink of starvation and bankruptcy.

Satellites hampering radio astronomy

Communications between astronomers, who study what nature puts in the sky, and government agencies (especially NASA) whose job it is to put artificial things in the sky, have not always been good. Some years ago radio astronomers went up in arms over a proposal to scatter thousands of little metallic dipoles in earth orbit to improve long-distance communications. They feared the metal strips would interfere with observation of celestial radio signals. When the Vietnam War was at its height, a proposal was floated to put up a giant reflector to light Vietnam at night. This aroused optical astronomers to strong protest, and it was never implemented.

In the past, the satellites and probes launched by NASA and others successfully avoided conflict with the radio frequency bands reserved for radio astronomy. But now there is trouble.

The trespassers are two major U.S. satellites launched in May: ATS-6, which hangs in synchronous orbit over the Galapagos Islands, and SMS-1, which hangs over the Atlantic east of Brazil. The ATS signal is very close to a channel on which much stellar observing is done, and there are slopover problems. The SMS signal overlaps a radio astronomy channel. The ATS problem was realized before the satellite was launched, but too late to change its transmitter.

When either of the satellites is on or near the line between an observer and what he wants to study, the work is rendered difficult or impossible. More than a dozen radio telescopes in the United States, Canada and Great Britain are affected. The only real solution would be to shut off the satellites' transmitters. Since such things have finite lifetimes, there is hope of a future when that will happen. Meanwhile the problem can be worked around—with some inconvenience—by avoiding times when the satellites are in the way.

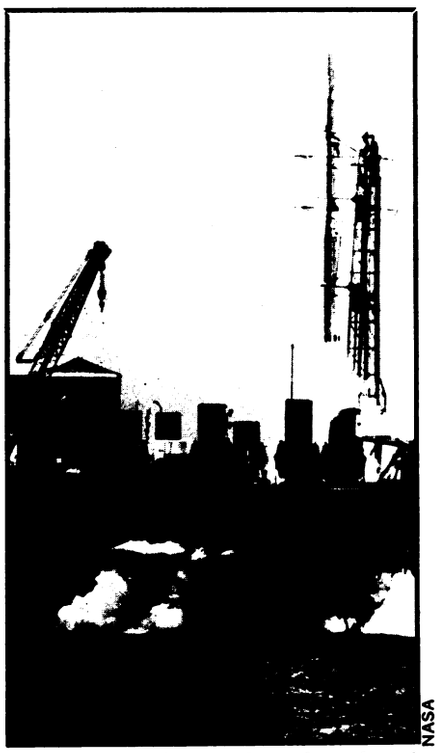
Frank J. Kerr of the University of Maryland, a spokesman for the National Academy of Sciences' Committee on Radio Frequencies, says radio astronomers may be able to live with one or two such interlopers. Twenty or a hundred would be a catastrophe for radio astronomy. □

An orbiting monitor of the X-ray sky

On a converted oil drilling rig some three miles out to sea, an Italian crew is preparing to launch a British-built satellite aboard an American rocket off the coast of Kenya. Set for launch Oct. 15 into a 500-mile-high circular orbit, UK-5 stands to make an important contribution to the growing repertoire of orbiting devices studying the sky by X-ray.

Among its half-dozen instruments is one that combines functions of an early warning system, a sentry for long-term studies and a coordinator for other observation posts in orbit and on the ground. Called the "all-sky X-ray monitor," it will be the first X-ray imaging device ever flown capable of taking in 180 degrees of sky at a single glance, so that the entire sky will be seen every time the spin-stabilized satellite turns once on its axis.

This means that besides serving as a mapping tool, the monitor can spot transient events such as X-ray flares for examination by other, more directional experiments. Also, since all of the major X-ray sources in the sky will be observed virtually continuously for the life of the satellite, the monitor will be


NASA

Water surrounds San Marco launch pad.