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have made policy changes that enabled them to make a better use of resources and are regarded as modest success stories. The bank "hopes to take these isolated examples and make them into a general system for development."

Much attention at the meeting was directed at the bank's intention to encourage policy change through the provision, in bank parlance, of structural adjustment loans. These funds are provided to help countries carry out reforms agreed to with the bank.

Does the push for policy reform indicate a fixation with short-term problems and results that make it likely that the bank will worry less about getting science and technology into its projects? Bank officials deny it, noting that the action plan report refers to the importance of long-term constraints as follows: "Improved policies and economic management will succeed only if, in addition to attending to short-term crises, they ease the longer term constraints on development. The growth of population is the single greatest long-term threat to Africa's economic development. Others include the widespread existence of disease; inadequately trained manpower; the slow development of new technologies, especially in agriculture; and erosion and deforestation of the land. Many of these basic issues have been neglected or, as in the case of education, programs to address them have often been poorly designed."

Bank staff readily acknowledge that these imposing long-term constraints can be overcome only by the effective deployment of new technologies. They concede failures in the past—the meaculpa count in the new report is remarkably high for an institution which is ordinarily as majestically confident in public as the bank. But they argue that the action program includes measures which will improve prospects for success. The bank is increasing the size of its field staff and creating a special office to monitor progress. Officials at the operating level insist that there is now wider acceptance in the bank of the necessity of acquiring a better understanding of local conditions, particularly human conditions, before designing projects.

Bank officials are obviously counting heavily on the policy dialogue with African countries to lead to a resumption of real growth and they seem optimistic that they are backing the right policies. Those familiar with Africa observe that it will be just as important and at least as difficult to get the right technologies adopted.—JOHN WALSH

OMB Move Threatens Landsat

After years of controversy, the Department of Commerce has finally reached agreement with a private company to take over the operation and development of the Landsat system, but the White House Office of Management and Budget (OMB) has suddenly refused to approve the money. The company is EOSAT, a partnership of RCA and Hughes. After OMB put a cap on Landsat subsidies last summer, cutting the previously agreed-upon \$500 million to \$250 million, the only other remaining competitor, Kodak, dropped out (*Science*, 21 September, p. 1373).

On 19 September, shortly after negotiations with EOSAT had been completed, Commerce Secretary Malcolm Baldrige asked OMB to request a supplemental \$75 million appropriation from Congress as a down payment on the subsidy. Two days later, OMB director David Stockman replied "No."

The EOSAT contract, said Stockman, did not meet the conditions that he and Baldrige had agreed to during the confrontation over the subsidy cap. Specifically, the contract stipulated that the National Aeronautics and Space Administration (NASA) would continue development of an advanced sensor technology known as the Multilinear Array and that EOSAT would have the right to withdraw from the agreement after 3 years if the market for Landsat data failed to materialize. The government, said Stockman, wanted a guaranteed 6 years of service for its \$250 million.

The howls of outrage were immediate. For one thing, EOSAT was still committed to the launch of at least one new satellite, the construction of one new data center, and an intense marketing effort. The government would have all that even if EOSAT later withdrew, says one observer, "And we would have tried the commercialization experiment."

Virtually all of the multitudinous Landsat study groups have agreed that a full-scale commercialization would require about twice as much subsidy as OMB was allowing. So why should EOSAT lock itself into a venture that might starve to death in its infancy?

As for the stipulation about the multilinear array, EOSAT has already agreed to drop it. (The point was moot anyway, since NASA, under budget pressure of its own, had canceled the program in August.) On the other hand, Landsat supporters point out that the Administration has consistently affirmed that basic research is the proper role of government. And every past study of Landsat has contended that advanced sensor research by the government is essential for a healthy and competitive industry.

But most disturbing, say observers, is the potential impact of the OMB's action on the whole commercialization effort. While there is money in the pipeline now for EOSAT to take over Landsat operations, the disputed \$75 million is essential for a start on the next satellite in the series, Landsat 6. Landsat 6 is, in turn, essential to EOSAT's marketing effort.

The current satellite, Landsat 5, is expected to survive only until sometime in 1987. So potential customers had better see a follow-on satellite coming along pretty quickly. Under EOSAT's current schedule, the data gap between Landsat 5 and 6 is a tolerable 8 to 10 months, although that does depend on Landsat 6 being completed in only 3½ years, versus a more typical 6 years. However, if that gap widens to, say, 18 months, those potential Landsat customers may very well start buying their data from the French, who will be launching their SPOT remote sensing satellite in 1985. "[The OMB action] could not only mess up the marketing," says one observer, "it could mess up the market."

Congress could appropriate the \$75 million on its own initiative, of course, but with elections coming up that seems unlikely before spring. It also seems unlikely that Stockman will have a change of heart anytime soon.

Thus, on 28 September, Baldrige wrote a letter to Stockman stating that in his opinion the EOSAT contract now met the conditions the two of them had worked out last summer, that he would appreciate it if Stockman sent the supplemental request to Congress, and that if Stockman did not, he would authorize the National Oceanic and Atmospheric Administration to dig the money out of its other programs and get the contract moving anyway, depending on Congress to replace the money next year.

—M. MITCHELL WALDROP