

Reports On Research In Thailand

Research projects involving assignments in Thailand have been undertaken by two University of Michigan laboratories and date back to 1964. Several contracts or subcontracts from Defense Department agencies have covered this work.

These facts are part of a report on "Projects of the Willow Run Laboratories Involving Assignments in Thailand" which was released by the University Monday.

The report was prepared by a subcommittee of the faculty Committee on Research Policies.

The report on Thailand makes no recommendations on University policy, but simply sets forth the facts of the University's work relating to that country. A full report from the faculty committee on research policies, including recommendations for the future, is expected late in December.

University of Michigan participation in military research, especially classified military research, was questioned by the "Michigan Daily," the student newspaper, earlier this fall. The topic has been under discussion by faculty and students.

"The Thailand projects have been and are conducted by two separate laboratories--the infrared Physics Laboratory and the Geophysics Laboratory," the report explains.

"The classified aspects of the research are descriptions of the precise nature and effectiveness of the remote sensing equipment developed before and during this set of studies

and the nature of the infrared 'imagery' projected. In addition, the purpose and the technical details of a contract currently held by the Geophysics Laboratory are classified."

The activities in Thailand grew out of surveillance research which began in University laboratories in 1963. An important aspect of this work has been "infrared reconnaissance which provides 'images' of distant objects by sensing the heat radiated from them and from their environments."

The report explains, U-M scientists the first found that they could identify, with airborne sensors, such things as crevasses under deep snow and various types of ice or open water.

RESEARCH in Greenland, Iceland, North Africa, Italy, and various areas of the United States revealed usefulness of this method of aerial surveying for such things as mapping geological and hydrological characteristics, deer herds, agricultural crops, salinity and drought conditions, lava flow, soil characteristics, and currents in large bodies of water.

In 1964, the Advanced Research Projects Agency (ARPA) of the Defense Department requested U-M to "engage in studies in Thailand using infrared methods and related Cornell University Aeronautical Laboratories to participate using more common photographic methods," the report relates.

ARPA was interested in applying infrared and photographic reconnaissance techniques to problems raised by guerrilla

warfare operations in Southeast Asia.

Data collected by University researchers in this work in Thailand in 1964 and 1965 is still being analyzed in the Willow Run Laboratories, and has been studied by a geographer, forester, and meteorologist as well as by those interested in military uses, Monday's report says. A final report on the analysis is to go to ARPA this month.

THE MAXIMUM NUMBER of Michigan people in Thailand at any one time for this project was 13, with the average tour of duty there being about six weeks.

In 1965, as part of the same project, four Michigan staff members began teaching Thai personnel a variety of subjects so that they could continue the research on their own. An informal course was also given

for surveillance crews of the U.S. Air Force in the basic physics of infrared remote sensing.

Late in 1965, the Thai government requested U.S. help in developing its own laboratory for research and training in infrared reconnaissance. This request was approved by the U.S. State and Defense departments and Congress.

Because of its competence in this field of technology, the University of Michigan was invited to provide the assistance. This project began in March 1966 and is scheduled to end March 15, 1969, the faculty report states.

Michigan's work consists primarily of training Thai personnel, in classes in both Thailand and Ann Arbor. Nine Thai military officers received two months of instruction in Ann Arbor in the summer of 1966. The Thais have used infrared

reconnaissance for purposes of military security, and also to detect previously unknown areas of archaeological interest and to find supplies of water near the surface of the ground, the report states.

THE U-M Geophysics Laboratory (formerly the Acoustics and Seismics Laboratory) has been working for 14 years on the sensing and analysis of earth vibrations and atmospheric waves. Earthquakes are the most common subject of such research.

But it is also possible to detect earth vibrations caused by wind, water waves, rain, walking people, and moving vehicles, as well as acoustical vibrations such as those caused by explosions in the atmosphere, the University report points out.

In two of this laboratory's research projects U-M personnel

were assigned to tasks in Thailand, the report notes. Both projects were classified, but much of the actual research and results are not.

During the period of research, five U-M personnel spent a total of seven months in Thailand, with no more than two staff members there at any one time. The experimental work was carried out at 15 different sites; data processing and analysis were performed at Willow Run.

The Geophysics Laboratory also has a classified project which began last July, being carried on under a subcontract with the Stanford Research Institute. Two investigators from Michigan spent three months in Thailand during the summer completing the field work. They returned to Willow Run, where the work of data processing, analysis, and report writing is under way.

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