and when the spraying was completed, the equipment would be returned to the provincial capital for subsequent use in other villages.

SUMMARY OF ACCOMPLISHMENTS

The following towns and villages were treated with 5 percent water-wettable DDT residual spray between August 18 and October 1: Hanoi, Ha Dong, Phung-Khoang, Van Phuc, Thach-Bich, Hai-Duong (hospital), Van Quan, Ha-Tri, and Phuong-Tri.

Up to October 1, a total of approximately 4,000 lb. of DDT was used to spray 2,500 houses. Thus, based upon the average application rate per house, which in the United States is approximately 1 lb., a relatively large amount of DDT was used per unit sprayed since a typical village housing unit consisted of a walled compound containing the family living quarters and often working quarters, as well as housing for domestic animals.

A total of 28,000 Aralen tablets was distributed to refugee camps in Hanoi, and in the chief town of Ha Dong and the villages of Khuong Thuong, Dong Xa, Dong Quang, and Ho Khau. In addition, the hospitals at Hai-Duong and Haiphong were supplied with 20,000 tablets for treatment of clinical malaria cases.

Approximately 20 kg. of louse powder, 10 percent DDT, were distributed to refugee camps in Hanoi. Plans were made to distribute the louse powder to villages sprayed.

In October a total of 460 blood slides was taken from the villages of Quynh Loi, Khuong Thuong, Dong Xa, and the Don Quan refugee camp; these slides were shipped to the United States for reading. Only 410 slides were readable and averaged 11.5 percent positive for malaria with approximately twice as many *falciparum* as *vivax* infections.

Progress Report on Proposed CDC Building

FRANK R. SHAW, Sanitary Engineer Director*

Since 1947, the Communicable Disease Center has sought the construction of a building to house all of its activities other than field stations. At this time the Communicable Disease Center is housed in 45 buildings located in Atlanta and Savannah, Ga., and Montgomery, Ala. In the metropolitan area of Atlanta 16 buildings are occupied, and much of this space is rented from private interests through Public Buildings Service.

On July 26, 1948, Mr. Oscar Ewing, Administrator, Federal Security Agency, accepted the gift of the Board of Directors, Emory University, of a 15-acre site facing Clifton Road just north of the Emory University campus.

A formal request by the Public Health Service for the appropriation of $10,000,000 resulted in Public Building Services contracting for the planning of the building, with the cost not to exceed $10,000,000. The planning of Federal buildings is a function of the Public Buildings Service of the General Services Administration. In most cases the PBS develops the plans in Washington, but in this case it was decided that it would be expedient to have the plans developed under contract, by a local architect. In the spring of 1950 a contract was awarded Robert and Company Associates of Atlanta, and on June 5, 1950, the firm was presented a building program which outlined the needs of the Communicable Disease Center with respect to space and services. The constantly changing situation with regard to building costs caused the Public Buildings Service to authorize the contract architect to base planning on May 1950 prices.

Preliminary planning soon revealed that the original program could not be carried out within the price limitation of $10,000,000. Consideration of this situation resulted in the decision to leave Technical Development Services at Savannah, Ga., and to exclude the warehouse and shops from the program.

At present the planning has progressed to the point where tentative plans for the several buildings have been approved by the CDC Building Committee, consisting of the Chiefs of the various Services, and by Public Buildings Service; and the architect is proceeding with the development

*Secretary, CDC Building Committee, Engineering Services, CDC.

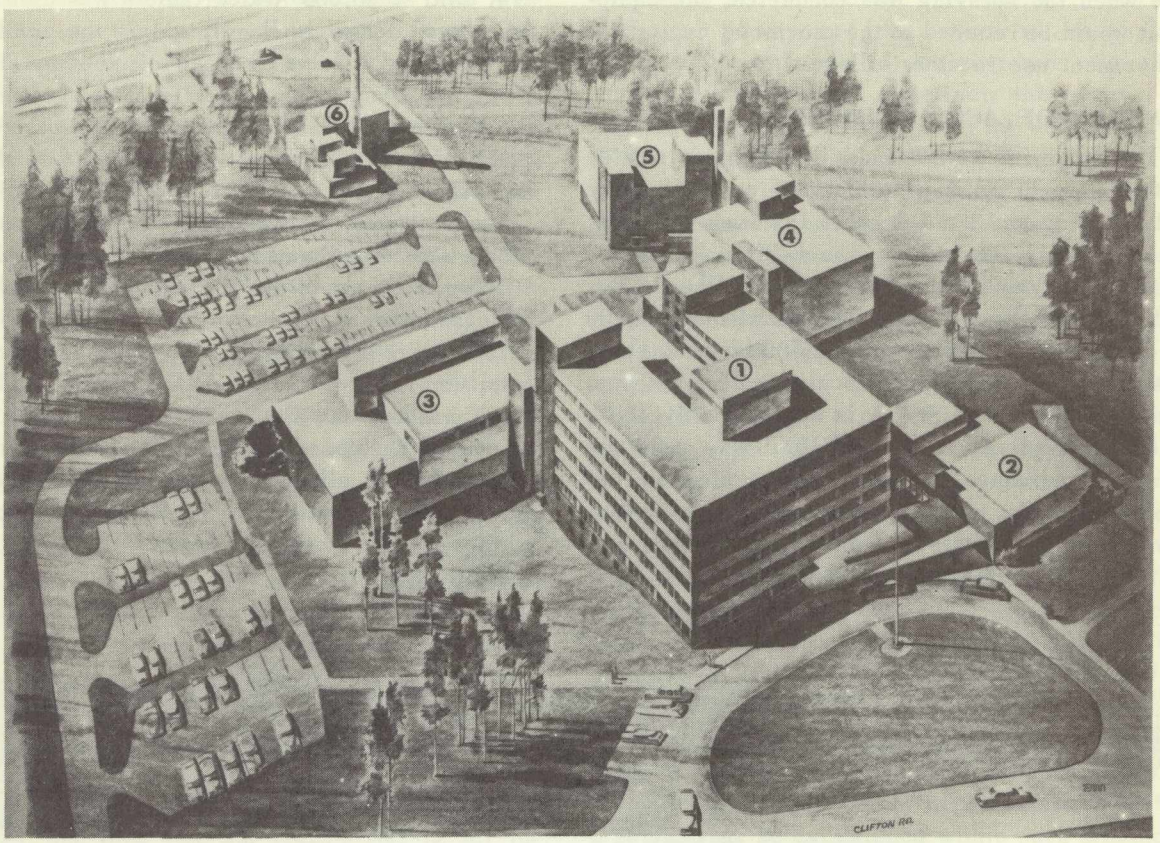

Figure 1. Preliminary study for proposed Communicable Disease Center Buildings.

of the final plans. The general plan includes six buildings. The nature and arrangement of these buildings is illustrated in figure 1. For purposes of identification, the buildings in figure 1 are numbered. Building 1, the Main Building, consists of a five-story laboratory core bordered on three sides by an eight-story office section. Building 2 contains a cafeteria seating 135 persons and an auditorium seating 300 persons. Building 3, the Audio-Visual Production Building, has four floors; Building 4, the Infectious Disease Building, has five floors; Building 5, the Virus Building, has five floors; and Building 6 is the Boiler House.

All of these buildings are planned as mass-type structures, and all are windowless except for office space. The windowless buildings and windowless laboratory section of the Main Building will be completely air-conditioned with 100 percent fresh air. The Cafeteria and Auditorium (No. 2) are detached from the Main Building and may be approached from the covered but unenclosed passageway from the front of the Main Building, or through an all-enclosed passageway at the rear of the unit and directly opposite the Cafeteria. The Audio-Visual Building (No. 3) is connected to the main building and may be entered from corresponding floors. The Infectious Disease Building (No. 4) is detached from the Main Building so as to minimize the danger of contamination of a large group of people in other activities, but each floor is connected by covered but unenclosed bridges. The Virus Building (No. 5) is completely detached from the other buildings and must be entered through the main entrance at ground level. It was isolated in this way because of the nature of the work which will be conducted therein.

Special precautions are being taken in this design to avoid the creation of any danger or nuisances to the community and to the personnel within the buildings. Air for air-conditioning will be taken in at the ground at one end of each building and will be exhausted at a very high point at the opposite end of the building. Wherever the air from a particular research area might create air pollution, it will be treated so as to kill or remove all harmful matter before it is exhausted to the atmosphere. The plans will include a

crematory for the complete destruction of the carcasses of all experiment animals and of solid waste which might be the source of infection to people. This destructor will be in the nature of a crematory rather than an incinerator and will be designed so as to avoid the possibility of odor nuisances from the hot air coming from the top of a very tall stack. In cases where infection might be carried between workers within the space to persons outside the space, air locks with showers and lockers will be installed in the entrance way. No avenue of entrance or exit will exist except through the shower cabinets and air lock units which serve as a barrier against the flow of air from these laboratories to spaces outside of them. Lockers are provided for personnel to store their laboratory clothes in the laboratory end of the air lock, and for their street clothes in the exit end of the air lock.

All laboratory glassware and animal cages from laboratories handling highly infectious matter will be disinfected before they are taken from the laboratory to the areas where they are to be cleaned and sterilized. All liquid waste from such "hot" laboratories will be disinfected before it is discharged to the public sewers. Only small animals will be maintained in this installation. The present planning provides for housing of these animals within the infectious disease and the virus buildings.

The public water system will be protected against backflow of contaminants by the installation in the supply main of an approved backflow preventer and the distribution system within the buildings will be protected against siphonage by the installation of vacuum breaker or by delivery through air gaps.

The laboratories are planned on the Module System, the module being 12 ft. wide by 18 ft. deep. The rear of the module borders a pipe space in which the various services are located. Outlets for hot and cold water, gas, electricity, compressed air, and vacuum will be available at each modular division point. These will be piped into the individual module or multiples of modules as the particular needs indicate, but their availability makes all spaces flexible for changes in use and operation. Distilled water will be available at a station in a corridor of each floor of the laboratory units.

As revised, i.e., with the elimination of the warehouse and shops, and Technical Development Services, the square footage floor area involved is indicated below:

	Space for Individual Activities	Total Space in Each Building
Main Building (No. 1)		
Laboratory Services	43,964	
Other Services	60,680	
		104,644
Cafeteria and Auditorium Building (No. 2)		
Cafeteria	3,483	
Auditorium	2,983	
		6,466
Audio-Visual Building (No. 3)	8,288	
		8,288
Infectious Disease Building (No. 4)		
Laboratory Services	14,204	
Animal Space	8,337	
Central Services	5,342	
		27,883
Virus Building (No. 5)		
Laboratory Services	9,988	
Animal Space	10,306	
Central Services	8,414	
		28,708
Boiler House	12,021	
		12,021
Total		188,010

Proposed public buildings are documented to Congress at the initiation of the project and are redocumented every 2 years. Last February, Public Buildings Service redocumented the proposed CDC building and raised the amount originally requested from $10,000,000 to $12,600,000 to provide for current increase in building costs and so that the warehouse and shops might be included.

Much interest was exhibited by Congressmen and members of the Budget Committee in the Public Health Service's request for inclusion of funds for the building in the 1952 fiscal year appropriations and in press releases relative to the building. Special hearings were held and many favorable comments were made. Although the House of Representatives Appropriations Sub-Committee did not recommend the appropriation this year, its comment in Report No. 322 of the House of Representatives should be helpful to subsequent efforts. The comment is as follows:

"This program provides for laboratory and field investigations, control operations, and training facilities to supplement and support activities of state and local health departments in the control of a host of communicable diseases. These activities are essential as normal peacetime measures. Some of them also provide the foundation for special operations which would be necessary in case of a national emergency such as, for example, biological warefare. The communicable disease center [*sic*] is now conducting research in this general area although it is seriously handicapped by lack of laboratory facilities for this specialized kind of work. Inquiry was made as to steps being taken to provide suitable physical facilities to permit this important work to go forward. Funds have heretofore been appropriated for plans and specifications and the committee is informed that the General Services Administration is now preparing those plans. The committee believes that this is an important piece of work and suggests that the urgency of the times requires that this project be given high priority of attention by appropriate officials of the Government."

WHO Progress in Brucellosis

MARTIN M. KAPLAN, Veterinary Officer*

The World Health Organization, in its program for communicable disease control, gives special attention to brucellosis because of the effects of the disease upon the health of large numbers of agricultural workers and other exposed groups in many countries, and the huge economic and nutritional losses resulting from the decline in milk production and breeding efficiency of affected livestock.

The masked nature of the disease in humans and the difficulty of its diagnosis cause doubt as to the acceptability of the reported statistics regarding incidence. Therefore, in spite of the 4,000 to 6,000 cases per year officially reported for the United States during the past several years, reliable estimates place the number of cases annually at 10,000 to 40,000, and perhaps as high as 100,000 (1-3). As another example, France reported approximately 1,400 cases for 1949, whereas there were probably over 9,000 cases that year (4). Other countries having relatively large numbers of cases are Mexico, Argentina, Peru, and other Latin American countries; Italy, Malta, Spain, and other Mediterranean countries.

The disease in animals is known to exist in nearly all parts of the world where there are susceptible livestock, and the existence of widespread infection in the cattle, sheep, and goats of the Mediterranean countries and Latin America is well established. In the United Kingdom and in northern and central Europe, except for the Scandinavian countries, between 15 and 50 percent of the cattle herds are infected with brucellosis (5). For the United States, the figure is approximately 16 percent (6). As far as is known from the meager information available, the disease apparently is of little importance among animals in the economically undeveloped countries of Asia and Africa except in areas where European breeds of livestock have been introduced. It should

*Division of Epidemiological Services, WHO, Geneva.