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Profile of the Nagasaki University Kenya Research Station and Activities

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INTRODUCTION

Nagasaki University Kenya Research Station was founded in 2005 as the core institution for a 5-year research project supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan. The theme of the project is "Building a network for research on emerging and re-emerging infectious diseases", but the purpose of the project is actually much wider because it is under the umbrella of a strategic plan of the Japanese government.

In the past, the Japanese government did not allow national universities to conduct long-term activities in foreign countries. However, a law passed in April 2004 changed national universities into corporations (not private but independent sectors) and made it possible for these universities to set up research laboratories and conduct other activities abroad under agreement with partner institutions. This allowed the Nagasaki University Institute of Tropical Medicine (NUITM, NEKKEN) to launch a research project in Kenya. By the beginning of 2007, NEKKEN had established well-equipped laboratories and a field study area with a well-managed demographic surveillance system (DSS) in collaboration with the Kenya Medical Research Institute (KEMRI).

This brief introduction of the project places emphasis on the value of the Nagasaki University Kenya Research Station with regard to research on tropical infectious diseases and emerging/re-emerging infectious diseases, the cultivation of scientists, technological advancements for future generations, and the benefit of Kenyan society as a whole.

OBJECTIVE OF PROJECT

The object of the project is to develop new theories and technologies for the control of tropical infectious diseases and emerging/re-emerging infectious diseases and to conduct research which will benefit the community suffering from the diseases. To achieve these objectives, we planned a platform to strengthen the capability of research on tropical infectious disease and emerging/re-emerging diseases in the reality of the disease world. What is this platform?

As a platform, firstly, we established a well-managed demographic surveillance system in a disease endemic area, thus providing access to all of the individuals and their personal information [1]. Second, we started a longitudinal and comprehensive field survey on mosquitoes, which play a major role in the transmission of vector-borne diseases such as malaria [2]. Thirdly, we established well-equipped research facilities in Nairobi, consisting of P3 and P2 level laboratories, which will be used for the diagnosis and analysis of infectious agents [3]. Fourth, we concluded an agreement with KEMRI to pursue collaborative research and training. This will provide an opportunity for young scientists in both countries to enhance their research activities. Lastly, we initiated a community development project with JICA (Japan International Cooperation Agency) in the form of a revolving fund for income-generating activities for the community.

ADVANTAGE AND VALUE OF THE PROJECT

These platforms will provide an opportunity for scientific output on tropical infectious disease and emerging/re-emerging diseases.(Fig. 1)

I would like to highlight three key parts of the platform. First, in this project we will be able to observe a human population for a long period of time on a regular basis. These observations will focus not only on demographic data but also on the incidence of infectious disease. The vector

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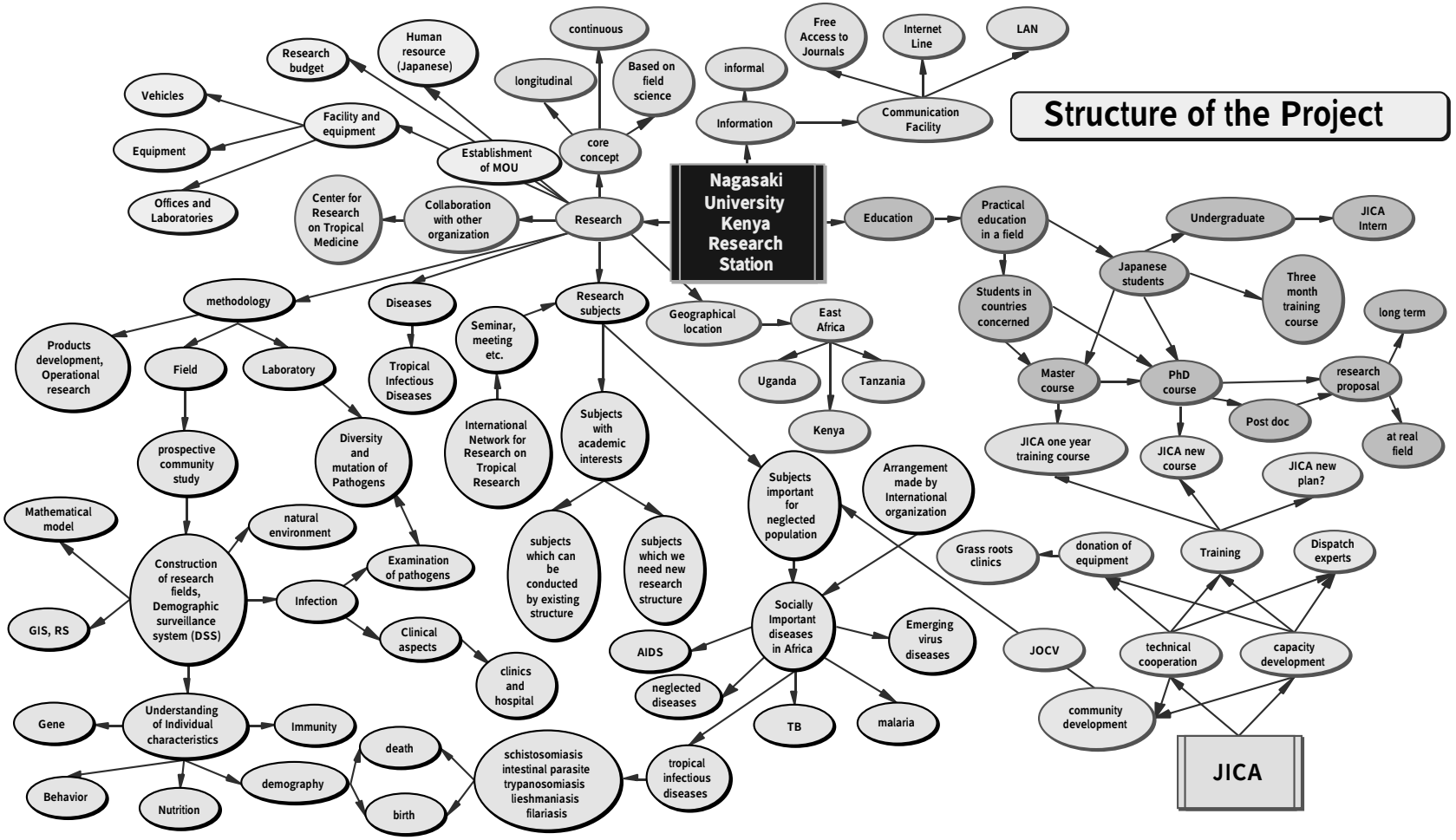

Figure 1. Structure of the project.

This figure shows the complex structure of the project. The relationship between activities of Nagasaki University Kenya Research Station and JICA, the field activities, laboratory activities, the main target diseases and the major educational programs are indicated.

population and dynamics will also be observed. Longitudinal observation of human and vector populations will provide an opportunity for the discovery of new infectious agents and will shed light on the interaction between different species of pathogens. Secondly, we plan to complement the data from the field with data from the laboratory and vice versa. This approach, though common, may not always be practical. The collaboration of field scientists and laboratory scientists often does not fulfill academic requirements. We will adopt a multi-disciplinary approach in the research on infectious diseases. Third, the platform will give us a chance to address infectious diseases in a practical way. It will pose a significant challenge for scientists. In this respect, I believe that the project will achieve maximum output. Since the ultimate goal of our project is to understand the complexity of infectious diseases, these three key parts have to be kept in mind at all times.

POTENTIAL AND PERSPECTIVES OF THE PROJECT

Although the core institution is managed under the auspices of Nagasaki University, it is not only for the university. It is always open to other scientists who have an interest in the control of infectious diseases and who have a strong will to contribute to the development of the community in tropical areas. I am confident that the Nagasaki University Kenya Research Station will fulfill its potential as a springboard for strengthening the capability of research on tropical infectious diseases and emerging/re-emerging infectious diseases.

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