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Inquiry into the Adequacy of Funding for Australia's Antarctic Program

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The Inquiry into the Adequacy of funding for Australia's Antarctic Program

Australia has been a strong and leading player in the Antarctic Treaty system since its inception more than fifty ago. It has sought to extend its influence through cooperation and partnerships with other national programs and organizations. It has made a major contribution to our understanding of Antarctica through its development of rigorous and innovative science programs. It has also been a leader in the development and implementation of environmental protection measures.

However, National Antarctic Programs do not come cheaply. Antarctica is the most remote and difficult environment on earth in which to work. Building and maintaining Antarctic infrastructure and facilities and operating regular transportation links both to and within Antarctica requires a major ongoing financial commitment with periodic capital injections to replace or develop appropriate infrastructure. The Australian Government has advanced four goals for its operations in Antarctica

Maintaining the Antarctic Treaty System and enhancing Australia's influence within it
Protecting the Antarctic Environment
Understanding Antarctica's role in the global climate system
Conducting scientific research of practical, economic or national significance

We believe that Australia has made major steps towards, and has been largely successful in achieving these goals but we do not feel it appropriate to comment on details of achievement rather we wish to provide information on how Japan administers its own program and how we interact with other Antarctic Treaty nations, including Australia.

Structure of Japanese Antarctic Program

There are strong similarities but also differences in the structure and operation of the Japanese Antarctic Program (Figure 1). The ultimate responsibility for the Japanese Antarctic Program rests with the Minister of Education, Culture, Sports, Science and Technology. Twice a year the minister convenes a meeting of the Japanese Antarctic Research Expeditions (JARE) Headquarters Committee to review, discuss and authorise the activities of JARE. This committee is made up of representatives of the Prime Minister's Office, Minister of Foreign Affairs, Minister of Finance, Minister of Science and Culture, Minister of Agriculture, Forestry and Fisheries, Minister of Transportation, Minister of Posts and Telecommunications, Minister of Construction and Minister of International Trade.

The National Institute of Polar Research (NIPR) is responsible for the development of national Antarctic research priorities and the development and operation of the JARE research program.

The Antarctic Research Program is initiated from the five JARE Committees; an Upper Atmosphere Physics Committee, Meteorology and Glaciology Committee, Geology Committee, Biology and Medicine Committee and a Logistics Committee.

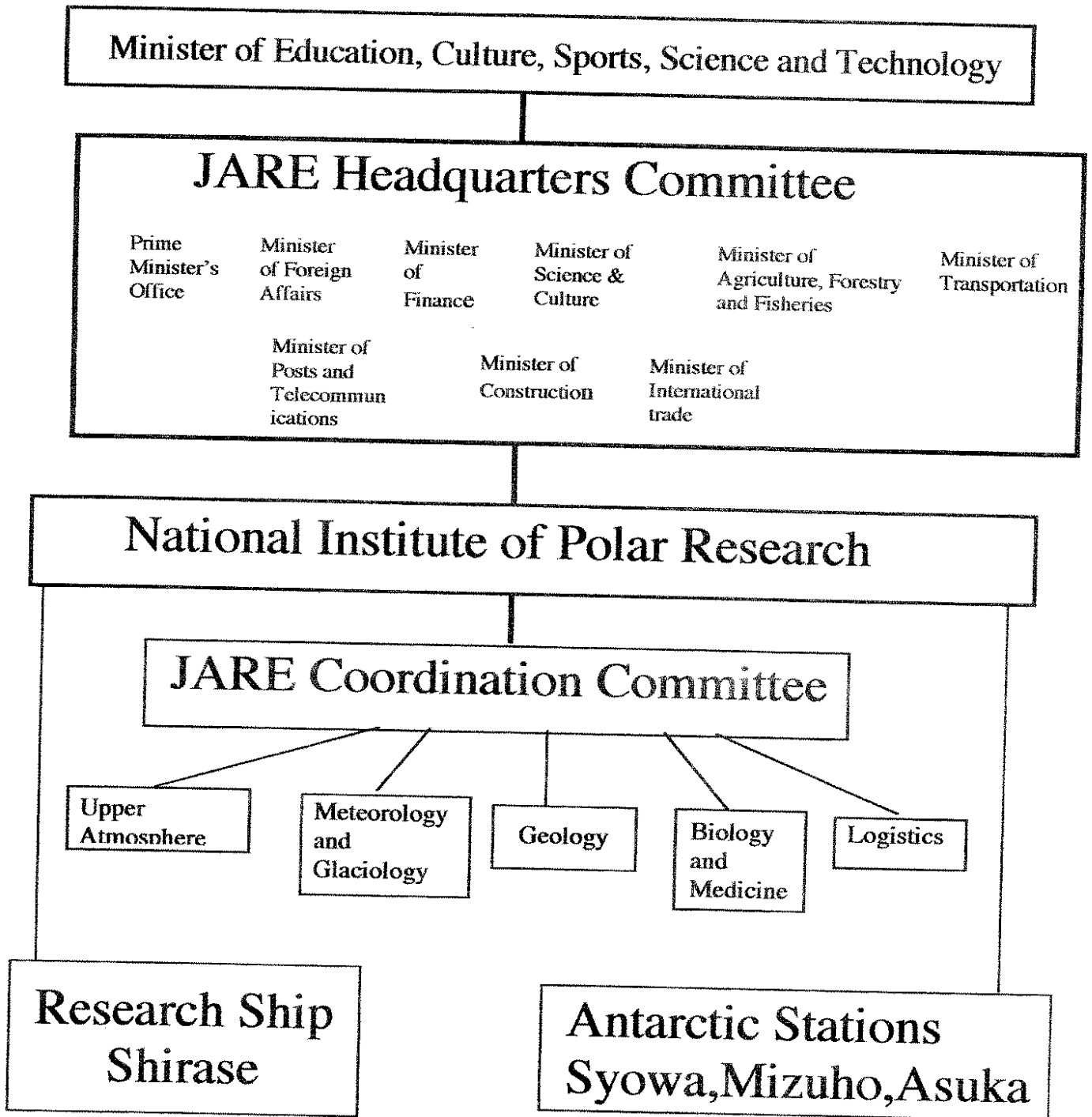


Figure 1. Structure of Japanese Antarctic Program

Each committee is comprised of approximately twenty members drawn from the national research community, principally universities or other government research organizations, or in the case of the Logistics Committee, from representatives of relevant commercial and government operations. More than two thirds of the members of these committees are drawn from outside NIPR.

Recommendations from these committees are passed on to the JARE Coordination Committee within NIPR where the competing requests for facilities, logistics and financial support are discussed and the necessary compromises are made. NIPR then sends the integrated plan, together with budgetary information and requests, to the JARE Headquarters Committee for approval.

The JARE Headquarters Committee contains members responsible for outside activities that effect JARE. These include, for instance, the Prime Minister Office (Defence Agency) who is responsible for the operation of the Japanese icebreaker, the Shirase, Minister of Transportation who is responsible for the Meteorological Agency, etc.

The scientific goals and objectives of JARE are established by the five JARE Committees, which have a composition dominated (approximately 70%) by university scientists and scientists from other government research organizations. The logistics committee is principally comprised of representatives from commercial activities associated with the JARE program. These committees determine the focus, structure and detail of the scientific program. University and other government scientists also comprise a large proportion of the researches that participate with JARE each year.

Commercial interests have had a long and close association with the Japanese Antarctic Program. Many of the companies have been associated with the program since its inception. These companies have been contributed to the operation and maintenance of most of the vehicles, electrical generation, cooking, telecommunications, building, mechanics and aircraft. These companies nominate their technicians annually provide summering or wintering personnel to man the station. The Japanese Self Defence Force operates the Japanese icebreaker the Shirase. These operational costs are allocated to the Japanese Self Defence Force.

Each year JARE sends approximately 60 people to Antarctica. This comprises approximately 20 summering personnel and 40 wintering personnel. Of the wintering personnel 15-20 are directly involved with the logistics and the running of the bases. A further 5-7 staff are involved in routine meteorological, ionosphere and geophysical observations. A further 5 summer staff are associated with routine observations or duties (e.g. Marine Safety Agency, Geological Survey). The remaining positions are filled by scientific research staff.

NIPR is also the home of the Department of Polar Science (School of Multidisciplinary Sciences), Graduate University of Advanced Studies. PhD students can enrol in this institution and be supervised and administered from within NIPR. These graduate students make an important contribution to the NIPR research program.

International Collaboration

Japan is an active and engaged participant in the Antarctic Treaty and related agreements such as Commission for the Conservation of Marine Living Resources (CCAMLR). It is also active in pursuing international collaboration in scientific research. Japan believes that the future for scientific activities in the Antarctic will involve much stronger international collaboration and that future research will increasingly need strong multinational or bilateral participation. In recent years Japan has been involved in highly successful joint programs with Australia, Canada, China, Germany and the Russian Federation. We believe that the high costs and risks associated with Antarctic science will increasingly lead us to participate in joint international scientific programs. It is easier to engage in large, complex and expensive scientific research if the logistic costs are shared.

In addition to these large programs, under the Antarctic Treaty, Japan annually accepts and funds an exchange scientist to participate in JARE. It also sends 2-3 scientists each year to participate in other national Antarctic programs (e.g. NZ, USA, China, Australia).

Each year JARE runs five international Antarctic symposiums, in biology, meteorology and glaciology, geology, meteorology and upper atmosphere physics. Papers from these symposia together with other submitted papers are published in five internationally referred journals.

JARE Budget

JARE has an annual budget of approximately ¥4,000,000,000~5,000,000,000. About 50~60% of budget is allocated to the icebreaker operation at Defence Agency. A budget for routine observations is allocated to the relevant agency and it is about 5% of total JARE budget. The remaining budget of about 35% of total JARE budget is allocated to the NIPR. This allocation is separate from the NIPR budget, which comes directly from the Minister of Education, Culture, Sports, Science and Technology. A separate budget allocation from the Minister of Education also supports the operational and administrative costs of the graduate students in the Department of Polar Science (School of Multidisciplinary Sciences, Graduate University of Advanced Studies).

The JARE allocation at NIPR is spent on the operation of our Antarctic bases. Scientists put in requests for logistics and other non-recurrent costs through the JARE committees. These requests have recently included the charter of additional ships (eg the Tangaroa in 2001 and 2002), and helicopters or large equipment items and contributions to other national programs. These requests go through the JARE Coordination Committee and are included in the budget proposal that goes to the JARE Headquarters Committee. This latter committee has the ultimate responsibility for authorising the acquisition of large additional items. Recently, for instance this has involved discussions for a replacement icebreaker for the Shirase.

In JARE, scientists in the JARE committees determine the use of the remaining approximately 16% of the operational budget for logistic use. Larger additional items may require a special request to the JARE Headquarters Committee. The logistics section of NIPR responds to the requests of the JARE committees and does not instigate activity unless requested. The ongoing operations of the bases and ship,

however, are not in general subject to change by request from the committee. These activities operate routinely with little change from year to year.

Japan is currently looking to the future and reviewing its major logistic operations. The Shirase is in urgent need of replacement and we are reviewing the most flexible alternatives.

Japan is also investigating future air operations. We have recently been using small fixed wing aircraft for intra Antarctic flights to access our ice-drilling site at Dome Fuji and have also used Russian aircraft to access Antarctica from Cape Town. We see the need for air access to our bases as a priority. There is strong local demand for the possibility of shorter Antarctic visits. We are interested in discussing with the Australian Antarctic Program the possibility of working together to establish a regular intercontinental air service. This will require an additional financial allocation for Japan and I would expect in Australia also.

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