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Assuring Diversity in Grants-in-Aid

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I don't recall exactly when but it was a few decades ago when I noticed a banner proudly hung behind the desk of the head of MEXT's Research Aid Division, saying "*Kakenhi* Reached ¥100 Billion!" Achieving that level had been a major objective within Japan's scientific community of that time. Subsequently, the efforts of competent authorities bore fruit in doubling that amount to ¥200 billion. Now in FY 2010, the Grants-in-Aid budget has again been significantly increased to an amount exceeding ¥260 billion. A Fund has also been introduced into the Grants-in-Aid program that allows grants in some categories to be carried over into the next fiscal year. This new system is poles apart from the past era when researchers had to endure a paucity of Grant-in-Aid funding. These enhancements are having a positive effect on advancing science and technology.

At the same time, however, I cannot help but feel a need to reconsider the Grants-in-Aid policy and system, particularly with regard to the program's role in promoting research amidst the dramatic changes taking place in these times and the expanded opportunities they engender. The government has a number of budgets for promoting science and technology; however, its 3<sup>rd</sup> S&T Basic Plan places emphasis on Grants-in-Aid, stipulating them to be used for advancing basic research aimed at pursuing massive knowledge accumulation, research diversity, and universal knowledge that transcends the drifts and shifts of the times—research that is carried out upon the free ideas of the researchers themselves. That Japanese research has won several Nobel Prizes in the natural sciences has unquestionably benefited from this kind of Grant-in-Aid support. Indeed, Grants-in-Aid furnish Japan's most instrumental S&T funding infrastructure.

Over recent years, however, the circumstances surrounding Grants-in-Aid have undergone consequential change. This is particularly the case with the relationship between Grants-in-Aid and the R&D budget for strategic policy-driven projects, which are either in an antipodal or complementary juxtaposition to Grant-in-Aid projects. The scale of the budget for policy-driven research is overwhelming larger than that for Grants-in-Aid. Moreover, with the basic premise of the 3<sup>rd</sup> S&T Basic Plan being “selection and concentration” in research funding, investment is being directed into a few high-priority fields. As a nation-building policy this may be deemed appropriate; as a result, however, funding is being concentrated in the hands of researchers in certain specific fields. Along with the incorporation of the national universities, the most powerful universities are enticing researchers capable of securing grants to their campuses, causing a phenomenon of “selection and concentration” of both researchers and [Grants-in-Aid funding](#) within Japan’s university community.

This phenomenon has also emerged within the Grants-in-Aid program itself. As seen in the government’s White Paper on Science and Technology, in FY 2010 the acquisition of large-scale funding for both Grant-in-Aid and policy-driven research projects was concentrated in a dozen or so universities. Comparing Japan’s research funding system to that of the US, where mid-size universities also receive research funding allocations, one cannot help but feel it to be distorted. This situation raises concern that Grants-in-Aid, which are mandated to seek universal knowledge unaffected by passing trends while advancing research based on researchers’ own free ideas, are rather themselves being affected by prevailing trends.

A number of Japanese universities, such as Tokyo and Kyoto Universities, are ranked high as international institutions. However, I believe more than that to be salient. I, myself, had experienced research and education at Kyushu University, Tokyo University and RIKEN before being appointed president of Toyohashi University of Technology. Compared to those universities, TUT is of smaller scale and receives a much less, insufficient amount of Grant-in-Aid funding. We in the university’s administration have devoted much thought to what in essence is the university’s standing; and, in the process, have found ourselves impressed with the highly creative research and R&D results it has achieved on par with those of prominent universities. Though fewer in number, at times these results have even eclipsed those of the bigger universities. I am sure that similar situations also exist in mid-size universities in other regions of Japan. Accordingly, there is a considerable gap between my sense of the capacities of regional universities and the amount of Grants-in-Aid allocated to them.

I cannot help but perceive as problematic the manner in which “selection and concentration” is executed regarding policy-driven research (needless to say) and Grant-in-Aid research within Japan’s science-promotion policy domain. Currently, the basic operating budgets of universities are being cut as a matter of policy, including those of national universities that tasked with the job of advancing much of Japan’s basic research, while research funding allocations for faculty members have been reduced to nearly zero. With insufficient Grant-in-Aid funding being circulated to regional universities, it’s feared that various research seeds they are incubating will fade into oblivion. This, it can be argued, flies in the face of the government’s policy for promoting national universities not to mention the intent of the Grants-in-Aid program.

Strategies for sustaining life within extreme environments are rooted in the “maintenance of diversity.” In the same vein, advancing science and technology requires the steadfast maintenance of research *diversity* over the medium to long term, even when in the short term it is necessary to place emphasis on “selection and concentration” to strengthen the competitiveness of universities in advancing policy-driven research aimed at promoting national S&T and industry. Ultimately, it is the diversity of selection that emerges from the bottom which constitutes the purest form of “selection and concentration.” For Japan, with its paucity of natural resources, to make itself into a nation truly rooted in science and technology, it will need to hone its capacity to sprout and cultivate a variety of new research seeds; that is, to steadfastly advance basic research across a *diverse* spectrum of fields. Doing so is a function of Grants-in-Aid, which in this context is antipodal to policy-driven research programs.

In line with the stated purpose of Grants-in-Aid, it is my suggestion that the overall grant selection ratio be raised to above 25%. At the same time, I believe it will be necessary to imbue the program with special provisions for fostering young researchers and for advancing the unique research activities of regional universities, whose role it is to maintain and expand diversity.