

The Future Vision of RIKEN

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I. PREFACE

RIKEN (The Institute of Physical and Chemical Research) completed a report "Basic Concept for the Future of RIKEN" in March, 2000, in which the basic ideas regarding the future direction of RIKEN were stated.

In order to envision concrete future goals for a sound development of RIKEN, it decided to study and discuss the basic policies for the vision of RIKEN for the next five years based on this report. To this end the Research Planning Committee met many times to discuss this matter, and its report was widely disseminated throughout RIKEN for discussion and feedback. The Board of Executive Directors summarized the result of the above endeavor in this report.

The basic policies stated in this report together with its future modifications will serve as the guideline for setting up concrete future goals, which will be implemented at appropriate times.

II. Basic Premises of this Report

1. Mission of RIKEN

The mission of RIKEN is to contribute to the enrichment of human knowledge by carrying out advanced research from basic to applied on a wide range of scientific and technological topics. It is also to contribute to the welfare of humankind by giving back to society the achievements of such research.

2. Basic Policies and Their Strategies

2.1 RIKEN is to be a multidisciplinary core research institute in Japan as well as in the world.

- (1) It will aim to be one of the advanced scientific and technological research institutions of the world.
- (2) It will maintain its basic organizational system, which guarantees the freedom of research, while being funded by Government agencies.
- (3) It will engage in basic as well as applied research in a balanced way in a wide range of scientific and technological fields so as to maximize its multidisciplinary characteristic.
- (4) It will develop, build and manage research facilities and technological infrastructure for research activities both within Japan and worldwide.
- (5) It will make public its management policies in a clear way and actively engage in public relations in order to be accountable to society and to enhance its visibility. It will also engage in activities to provide opportunities for the general public to be exposed to science and technology.

2.2 RIKEN will recruit top researchers from in and out of Japan, and establish a research system, which is non-static and flexible.

- (1) It will provide a research environment most conducive to good research so as to be able to attract top researchers. To this end RIKEN will continue to develop a new and better research system to improve its effectiveness.
- (2) It will actively recruit top researchers from in and out of Japan through public

announcements and more direct approaches.

- (3) It will implement an employment system, which will allow researchers to work competitively, but at the same time give them a reasonably stable base of livelihood. Such a system should allow flexible employment practices.
- (4) It will grant autonomous research activity to each research organization, which will be subject to formal research reviews in order to further improve research activities.
- (5) It will attempt to make Japanese and English the common languages of communication in its research activities to make them more globally oriented.

2.3 RIKEN will operate two types of research, one on innovative topics (innovative and curiosity driven research) and the other on predetermined goals (goal-oriented research), in such a way that they are mutually beneficial and complement each other.

- (1) The main aim of innovative and curiosity driven research is to explore and develop new research areas by carrying out scientific research, which is innovative and unconstrained by predetermined goals. Such research will be carried out in the Institute Laboratories (ILs) and Research and Technology Centers, which are headed by Chief Scientists, and the Frontier Research System.
- (2) The aim of goal-oriented research is to achieve the goal of a research project, for which there are social needs, and is of sufficient importance and urgency in an intensive way and in a fixed time period. Such research will be carried out by the Centers.
- (3) In each of these types of research RIKEN will make every effort to manage it flexibly and diversely, to maintain competitiveness and its self-determined responses to social needs, and to promote interdisciplinary research strategy. RIKEN will also endeavor to promote cooperation and exchange of personnel and ideas between the two.

2.4 RIKEN will make clear the differences in character between it and universities, but at the same time will emphasize the importance of its complementary and cooperative relationships with universities and industry.

- (1) The following characteristics of the differences between RIKEN and universities will be made clearer and emphasized.

- ① There is flexibility in scrapping and building research laboratories.
- ② No organizational barrier exists between research fields, and researchers from a broad range of fields can collaborate.
- ③ Research is mainly carried out by people who are postdoctoral researchers and above in qualifications.

- (2) It will become a hub for research collaboration with universities and industry by strengthening and expanding RIKEN based Biogenic Resources Center, Cyclotron Center and other Research and Technology Centers.
- (3) It will strengthen its ties with universities by arranging for Chief Scientists to have joint appointments with them as professors.
- (4) It will cooperate with graduate schools to educate graduate students by fully utilizing joint graduate school programs with universities and its junior research associate (JRA) program.
- (5) It will actively accept university based researchers on sabbatical leave so that they can concentrate on their research for a certain period.
- (6) It will develop joint graduate school programs with Asian universities to contribute to the education of scientists in Asia.
- (7) It will contribute to socio-economic development by actively transferring its research achievements to industry.

2.5 RIKEN will be ever mindful of its optimal size, and will not undertake hastily conceived expansion of research programs, which cannot be properly managed and supported administratively.

- (1) The present scale of research activities at RIKEN is beginning to go beyond the limit of its management and administrative capability. Therefore, it will strengthen and restructure its management, administrative and clerical systems, which should always be appropriate for the on-going reorganization of its research system.
- (2) It will strengthen its research hubs, and at the same time it will not extend its activities to new domestic and foreign sites without clearly defined policies.
- (3) It will endeavor to maintain a proper balance between the scale of the innovative type research system and that of the goal-oriented research system.
- (4) It will avoid an excessive concentration of researchers in specific research areas, but at the same time it will maintain a critical manpower size in any research area so as to be able to carry out its multidisciplinary research programs in a more

effective and efficient manner.

III. Basic Policies of the Future Vision

1. Reorganization of Research Hubs

- (1) There will be two research hubs: Kanto Hub (Wako Headquarters, Tsukuba and Yokohama Institutes) and Kansai Hub (Harima and Kobe Institutes)
- (2) Establishment of a research base at a domestic site other than the above must be carefully considered, taking into account the availability of local resources and a substantial merit of performing research to RIKEN at the site under consideration. If an expansion is deemed merited, a management system will be implemented on a time-limited basis in collaboration with local organizations.
- (3) Establishment of a research base abroad will be treated in the same way as in a domestic case, but with a particular emphasis on the degree of desirability for RIKEN and the expected scientific achievement from the monetary investment. Establishment of a research base at RIKEN by a foreign research organization will be considered in the same way as above, and if deemed mutually desirable and needed, it will be implemented.

2. Reorganization and Management of Research System

- (1) In order to effectively and efficiently manage the entire RIKEN research organization, Wako Headquarters, Tsukuba and Yokohama Institutes in Kanto Hub, and Harima and Kobe Institutes in Kansai Hub are to be the basis of the RIKEN research organization.
- (2) Each laboratory which makes up Wako Headquarters and four regional Institutes within the Hubs should have the following new basic research organizational structures: The Central Laboratory, which will consist of the Institute Laboratories and Research and Technology Centers headed by Chief Scientists, and the Frontier Research System, which are of innovative research type, and the goal-oriented Centers. RIKEN will strengthen their varied characteristics and functions in a mutually enhancing way.

- The Institute Laboratories and Research and Technology Centers headed by

Chief Scientists will be reorganized to constitute the Central Laboratory in order to strengthen and vitalize their cross-disciplinary aspects. The Director of the Central Laboratory should exercise strong leadership to maximize the research activities of its member Institute Laboratories and Research and Technology Centers in close consultation with the Chief Scientist Assembly and with assistance from the Research Promotion Divisions. The Director will also actively explore new areas of research to be carried out in the Central Laboratory, and energetically promote research collaboration with other institutes and the dissemination of research achievements of the Central Laboratory. The Central Laboratory will competitively apply for research grants from outside RIKEN, and enhance medium sized research projects, requiring funds of the order of 100 to 300 million yen per year.

- The Frontier Research System will be managed in innovative ways on a trial basis to arrive at a management system, which is focused on research flexibility and freedom. A committee to review and select research project proposals will be established, and its selection criteria and procedure will be made clear. The interaction with the Central Laboratory and the Centers will be strongly encouraged.
 - A critical manpower size will be secured for each goal-oriented Center so as to ensure full realization of its multidisciplinary potentiality.
- (3) The management responsibilities of regional Institutes as well as those of the Director of the Central Laboratory, Directors of the Frontier Research System and the Directors of the Centers will be clarified. (Refer to Section 3, Reorganization and Strengthening of Management and Administration for further details)
- (4) Wako Headquarters and Tsukuba and Yokohama Institutes in Kanto Hub will evolve as follows.

① Wako Headquarters

In addition to being the central administration office for the entire RIKEN research organization, it will serve as the management and administration base for its affiliated Institutes such as the Central Laboratory, Frontier Research System, and Brain Science Institute to further their development. It will proceed with the expansion of the research infrastructure according to a well-thought-out master plan to acquire a US military property and a government property contiguous to Wako Campus.

② Tsukuba Institute

It will focus its activities on the Biogenic Resources Center and related research sections such as the mutagenesis research section. The Biogenic Resources Center will serve both as a research and service facilities to become a core hub for nationwide biogenic resource centers.

③ Yokohama Institute

It will evolve as a group of life science research centers such as Genomic Sciences Center, Plant Science Center, Single Nucleotide Polymorphism (SNP) Center and Immunology and Allergy Science Center.

(5) Harima and Kobe Institutes in Kansai Hub will evolve as follows.

① Harima Institute

It will develop a next generation synchrotron radiation light source. It will review the management of SPring-8 from a point of view of efficiency, and endeavor to further develop and improve research activities of SPring-8. It will evolve as the core Institute in Kansai Hub.

② Kobe Institute

It will establish and develop Center for Developmental Biology.

3. Reorganization and Strengthening of Management and Administration Systems

- (1) Executive Directors are responsible for decision-making and supervision for matters concerning the management of the entire RIKEN research organization, cutting across administrative and research boundaries. At the moment RIKEN is in a rapid expansion stage, and the current number of the Executive Directors is likely to become inadequate for a proper management of RIKEN. It is hoped that the number of Executive Directors will be increased in the future as need arises. It is also desirable that a new position of part-time Executive Directors be created, who will be responsible for specific cross-boundary matters.
- (2) Currently, some Executive Directors stationed in Wako serve also as the Directors of the Institutes in the Hubs. As the number of Executive Directors is increased they will become Directors in residence of these Institutes. The Executive Directors assigned to Wako Headquarters will be responsible for the cross-boundary management of Wako Headquarters as well as the entire

RIKEN research organization. Until their number is increased, the Executive Directors will be assisted by fortified administration and clerical sections to ensure adequate management of RIKEN.

- (3) The Directors of the Central Laboratory, Frontier Research System and the Centers will have certain authority and responsibilities, which will be clearly defined.
- (4) A new organization called the "Administrative Assembly" will be established, consisting of the entire Executive Directors, including the Directors of the Institutes in the Hubs, Directors of the Central Laboratory, Frontier Research System, and Centers. It will deliberate important matters concerning the administration of research and to facilitate close cooperation between the management and administration sectors. (The "Administrative Assembly" will replace current informal "Research Liaison Meeting," and will be an official assembly with its role and functions clearly defined within the RIKEN hierarchy.)

4. Review System to Select Important Areas of Research

(1) RIKEN will pursue research in the following areas.

- ① Search for and creation of new materials and their characterization
- ② Study of the basics of information and engineering technologies.
- ③ Clarification of the structures and functions of living organisms.
- ④ Study of biological resources, and medical science and technology.

A review system will be established to identify important fields of research among the above so that RIKEN can always be engaged in foresighted research.

(2) For this purpose "Research Planning Committee" is established under the jurisdiction of the Board of Executive Directors to identify important fields of research and prioritize them.

5. Reorganization and Management of Evaluation System

(1) In order to systematize and make effective the evaluations by the RIKEN Advisory Council (RAC) and other advisory councils, a cross-boundary administrative and clerical system dealing with evaluations will be established and strengthened.

(2) Evaluations will always be objective and be made public. Evaluations will be

reflected in the expansion or reduction of research activities, funding and personnel actions so that evaluations will have more practical consequences.

6. Reorganization of Employment Contractual System

- (1) A new system of employment contract called the Rolling Tenure System will be introduced in addition to the existing mandatory retirement age and term appointment systems for researchers. This will facilitate recruitment and retention of able researchers. After its introduction, if the Rolling Tenure System proves to be effective, an optimum employment system in which all researchers are first placed on the Rolling Tenure System may be adopted.
- (2) The Rolling Tenure System is a system in which a researcher's employment term contract is renewed (rolled) every year regardless of age, if his/her performance warrants a renewal. The period of employment contract can be set flexibly.
- (3) In the mandatory retirement age system a researcher is given a five-year contract at the time of employment, and if his/her research performance is above a certain level, he/she will be transferred to the mandatory retirement age system, in which he/she is guaranteed employment until the mandatory retirement age.
- (4) A researcher who is highly esteemed internationally and is capable of obtaining outside funds to carry out research independently of RIKEN resources will be appointed as a "Tenured Researcher." He/she will be provided research environment consistent with his/her own funds. The current Special Laboratory System will be absorbed into the Tenured Researcher System.
- (5) Researchers on different employment contracts such as the mandatory retirement age, term appointment and rolling tenure systems will be able to go from one system to another, within their own research organization or in other RIKEN organizations if they should change their research affiliations.
- (6) There will be a clerical support system to find employment for researchers on term appointments upon the termination of their appointments.
- (7) A flexible working condition such as the introduction of the flextime system will be implemented.
- (8) The mandatory retirement age system will be the basis for employment of clerical and technical personnel, but a more flexible system such as employment on a contract basis will be considered to secure able personnel.

7. Establishment of a Technology Transfer System

- (1) "RIKEN Technology Licensing Office" (TLO) will be created to actively promote technology transfer to industry of research achievements made at RIKEN. Commercialization experts will serve as coordinators at TLO to actively search out seeds for commercialization among research being conducted at RIKEN.
- (2) Investment to RIKEN ventures (venture businesses utilizing RIKEN patents) will be made possible to nurture their growth. The venture support system will also be utilized to support the training of industrial personnel and to promote industrial utilization of research achievements of RIKEN.
- (3) Information concerning patent applications filed by RIKEN will be made public before patents are granted so as to enable speedy and effective cooperation with industry.
- (4) In cooperation with industrial research and development activities the results of genome science research will be transferred to industry.
- (5) "RIKEN Science Park" will be established to serve as a source of information for academic-industrial cooperation.

8. Reorganization and Strengthening of Administration Organization

- (1) The administration organization, which supports the research organizations, will consist of RIKEN Headquarters and the Research Promotion Divisions of the regional Institutes and the Centers. The new organization will strengthen and expand the functions of Wako Headquarters, and at the same time will make the responsibilities of Research Promotion Divisions clearer. The net result should be a more efficient operation of the entire RIKEN clerical functions
- (2) Wako Headquarters will consist of Planning, General Affairs, Accounting (Finance), Contract (Contract Management), Research Affairs, Buildings and Grounds (Facilities & Utilities), and Public Relations Divisions, and Safety, International Cooperation and Audit Offices. The following points are to be emphasized in this reorganization.
 - ① The present Public Relations Office within General Affairs Division will be upgraded to Public Relations Division to strengthen its public relations and educational activities.
 - ② The functions mentioned in Sections 4 and 5 (identification of important research areas and evaluation of research) will be made more adequate and

strengthened in Planning Division.

- ③ Educational and training activities for safety, research ethics, bioethics, and research management will become more active and fortified.
- (3) Research Promotion Divisions will be established at Tsukuba, Yokohama, Harima and Kobe Institutes as well as in the Central Laboratory, the Frontier Research System, the Brain Science Institute and future research organizations for which such a division is deemed necessary. Research Promotion Division will consist of planning, general affairs and accounting (finance) sections.
- (4) An effort will be made to make administrative information bilingual (Japanese and English) so as to promote the internationalization of the clerical offices. For the time being some bilingual Japanese and non-Japanese persons will be employed.
- (5) An increase in the number of clerical personnel is indispensable to a responsible administrative operation. For this purpose the number of clerical personnel will be greatly increased during the next five years including contractual employees. In addition, outsourcing of some operations will be encouraged to streamline and simplify administrative operations.