THE ACADEMIC APPROACH OF RESEARCH ON NORTH AFRICA

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ABSTRACT

Alliance for Research on North Africa (ARENA) was launched in April 2004, as an academic research center with the purpose of promoting comprehensive research concerning the North African Region by way of integration of humanities and sciences. Linking North Africa’s unique and various potentials with Japan’s advanced science and technology, ARENA’s research focuses on the region of North Africa, from the Mediterranean to the Sahara, including Egypt, Libya, Tunisia, Algeria, Morocco and Mauritania. Since April 1, 2007, ARENA has been promoted in its organizational position to an inter-department research institute of the University of Tsukuba from being under an umbrella of a graduate school.

Being inspired by its institutional promotion, ARENA intends to further implement unique and useful research activities. Currently, in cooperation with CANMRE (Centre de l’Afrique du Nord et de la Méditerranée pour la Recherche et l’Enseignement) which was established in Tunis April 2006 as the first oversea base of the University of Tsukuba, ARENA endeavors to develop a new research and education system by multi-disciplinal approach through the integration of various fields of sciences, aiming at establishing a new academic field “North African Studies.”

Since its establishment, ARENA has achieved plenty of valuable activities in the fields of Bioscience, Arid Land Environment Studies, Humanities and Social Sciences, Information Technology and Management. Taking advantage of such fruitful results in each field, ARENA has significantly contributed to further development and progress of academic activities in the North African countries, through conducting researches on the basis of the specific nature and unique features of the Region, promoting academic exchange, and supporting education and training of young researchers. These achievements could contribute to shifting the pivot of academism from Europe and America to North Africa and Asia, and might lead up to creating a Japan-led new academic area, aiming for co-existence of different civilizations.

Throughout past seven years, ARENA made many achievements in various scientific fields, such as in desert studies, biotechnology, language and culture, information and communication technology, management, and world heritage studies. An important feature of ARENA is that it conducts comprehensive research by integrating humanities and sciences.

Since 2000, we have had Tunisia-Japan Symposia on Society, Science and Technology (TJASSST), and the 10th edition of TJASST2009 was held last year. The number of presentations in the TJASST2009 significantly increased to 265, comparing 160 presentations in the TJASST2008. 98 scholars presented (48 from university of Tsukuba, 50 from other Japanese universities), and nearly 100 Japanese participated in the symposium. TJASSST has taken root as the biggest opportunity to encounter and discuss between Tunisian and Japanese researchers. To make the Forum more fruitful, we need to call participants from various universities and institutions.
“Valorization of Bio-resources in Semi Arid and Arid Land for Regional Development” (Science and Technology Research Partnership for Sustainable Development) project, Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA) collaborate to promote international joint research that target global issues with developing countries, was started last year. This project targets the arid land in Tunisia in North Africa, and we will deploy the investigation of useful bio-resources based on food culture and traditional medicinal information, investigation of vegetation distribution, investigation of temperature/soil saline characteristics, perform exhaustive component analysis and functionality analysis of bio-resources. Furthermore, the project will develop the technologies for cultivation/breeding methods that aim at adapting to the environment, and will seek a high-degree utilization of arid land bio-resources by introducing food utilization and processing technologies.

ARENA also started implementing a three years project (FY2010-FY2012) entitled “Establishment of Integrative Research Base by Humanities and Sciences on Valorization of Useful Plants for Regional Development in North Arica” funded by the JSPS under the “Asia-Africa Science Platform Program”. The purpose is to conceptualize and establish a regional development model by valorizing useful endemic plants in North Africa and developing seeds for industrialization that consistent with embedded tradition and culture in Islamic society, collaborating with universities in Tunisia, Egypt, Morroco and Algeria.

The North African Region has its own historical and cultural background based on its geopolitical position. But the Region also faces various challenges in the contemporary complicated international relations, with regard to stability of society, economic development, education of youth, etc. ARENA believes that it could help achieve more realistic and practical solution of such problems and make persistent contribution to the international society, by developing its research activities with deep comprehension and deliberation through the interdisciplinary approach and from different viewpoints of natural science and human sociology focusing on that Region.

KEYWORDS

Alliance for Research on North Africa (ARENA), CANMRE (Centre de l’Afrique du Nord et de la Méditerranée pour la Recherche et l’Enseignement), Tunisia, Egypt, Libya, Algeria, Morocco, Mauritania

<< ARENA Home page ; http://www.arena.tsukuba.ac.jp/ >>
The academic approach of research on North Africa

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What are the interests in North Africa? —Point of view of Natural Science—

Environmental characteristics of North Africa
Wide Biodiversity due to drought gradient in narrow range
The influence of the global climate change appears drastically

Variation of Aridity in Narrow area
Easy access to Arid Environment
Unique bio resource
“HUB” for all African nations in Research Activities
Basement for South-South cooperation

Model Field for study about the solution against the issue on the global environment

Desertification
Corruption of Bio diversity
Sustainable Exploitation of Bio resources

Tunisia Japan Symposium on Science Society and Technology (TJASSST10)2009

Participants from Japan
Since 2000
Alliance for Research on North Africa (ARENA) : Tsukuba, Since 2004

Center de l'Afrique du Nord et de la Méditerranée pour la Recherche et l'Enseignement (CANMRE) in Tunis, Tunisia

The center aims to promote the joint research with Tunisian Institutions, academic exchanges between North African countries and Japan, provides public relations of the University of Tsukuba in North African region, and contributes to the development of higher education in the region.

International Academic Network

Japanese ODA Loan Project: Borj Cedria Technopark
Science and Technology Park Development Project

Japanese ODA Loan Project: Borj Cedria Technopark

Loan agreement signed in: June 30, 2005
Loan amount: 8.21 billion yen

29 young researchers were given the opportunity to study for doctorates in science and technology at Japanese universities (Oct. 2007-Mar. 2010)
Partnership for International Cooperation

- African Development Bank

Yokohama, 28 May 2008

Science and Technology Research Partnership for Sustainable Development (SATREPS)

Implemented through collaboration with Official Development Assistance (ODA), the aim of the program is to acquire new knowledge leading to resolution of global issues and advancement of science and technology based on the Joint research between developing countries and Japan.

Such international joint research under the program will also address the research and development of capacity and contribute to the sustained research activities in developing countries.

 Valorization of Bio-resources in Semi-Arid and Arid Land for Regional Development

ARENA
Univ. of Tsukuba
Hiroko Isoda

Center of Biotechnology of Sfax, Tunisia
Sami Sayadi

Patents search result of North Africa plants

Increase chance of discovery of novel activities

Flowchart of the study

Bio resource in arid and
Olive, Grapes, Aroma plants, Medicinal plants

Searching useful bioactive substances

More than 20 bioassay system
Auto-client, Anti-cancer
Anti-inflammatory, 145 types of material all done by next gen.

Biopropecting

To detail studies

Component analysis
Pharmacological analysis

To detail studies

Industrialization

Botanical care, Improvement of life styles related disease

Patents search result of North Africa plants

Valorization of Bio-resources in Semi-Arid and Arid Land for Regional Development

International collaboration

JST JICA Science and Technology Research Partnership for Sustainable Development

Valorization of Bio-resources in Semi-Arid and Arid Land for Regional Development

Science and Technology Research Partnership for Sustainable Development
QUESTION and ANSWER

Akio Takenaka: Thank you, Dr. Han for that excellent presentation. And this is a good example of the multilateral cooperation between Japan and North African countries. Okay, I’d like to yield a few minutes for receiving some questions or comments from the floor. Okay.

Kazumi Yamaoka: Thank you, Jim. My name is Kazumi Yamaoka from JIRCAS. Thank you for your nice, excellent and interesting explanation. Based on your explanation in this slide, I found no name of any private company joining this kind of research activity. You mentioned only the universities and research institute. However, according to your slide, one example of such research program showed that the goal of research activities is to find out functional materials, which are very interesting like medicine, functional food, or cosmetics. I think it’s very attractive to the private companies. So I’d like to know the real situation of the participation of private company in this kind of program.

Han Junkyu: So actually, we have a chorus call research with some companies using some of such functional materials. And also, now we are preparing the database of the functional information of medicine plants. And also, such information is very useful to the companies. The companies found some base material and some component for medicine, functional food and cosmetics.

Akio Takenaka: Okay? Okay.

GanesanBalachander: Just to follow the question. You talked about traditional usage and there is already information, all over the world, about bio-prospecting, concern about prior informed consent with local communities and benefit sharing. So actually, who is going to get the benefit? You talk about companies, but there are the communities involved and there is local knowledge and they have been using it. Is there some way of sharing benefits with the communities? And have you thought about that mechanism? Secondly, a gentle comment. Around the world, bio-prospecting is more like a lottery. Very few actual products have come about through this kind of process. I’m not saying this won’t succeed, but one needs to keep in mind that expectations are not very high that somehow if you do bio-prospecting that you will get a lot of resources coming.

Akio Takenaka: Do you have the same?

Ram Badan Singh: Yes, on the same line. I’ll pick up from where my colleague on my right, Mr. Balachander left. Again, on bio-prospecting, You did mention that you believe in working with the trust on both sides. You underlined that, which means a very high degree of transparency. You also mentioned that a very large number of the products have been patented and there are a large number still to be patented. And then, there is the international system. One is called the International Treaty on Plant Genetic Resources which follow the products of agriculture and food products, for Japan is not a signatory. And the exchange of genetic material of this kind involves obviously the material transfer agreements, pre-informed assessment of the situation. And then, there is the sharing of the assets, which are derived from these bio-prospected materials. So on one hand, Japan is not signatory of the international treaty. On the other hand, tremendous works on applied natural resources are ongoing. There are quite a few patents, so in the benefit-sharing along with the harmonization with existing international agreements, there seems to be some disparity. And probably, hopefully, if not you and Tsukuba University, the government of Japan should be able to take this into account so that when we do all these beautiful work, I think, there will be less chance of any contradiction with any of the international agreements.
The second point is that your good work in ARENA is something wonderful. Dr. Han, we must congratulate you. CIRAD, is also doing the same kind of work that JIRCAS is doing. And CIRAD wants to combine with JIRCAS wherever this good work is going on. I must mention to you that where ARENA is working, there is also ERENINA. I hope you know what ERENINA is. While you’re working for ARENA, there is ERENINA – working for the North African and the Arabian countries and that’s the same countries with which you are working at. And this ERENINA is one of the regional forums of agricultural research institutions for North African and Arabian countries. So ERENINA and ARENA should have immediate linkage so that both will be working on the same lines as the other already existing and operating international systems. As Christian mentioned, JIRCAS collaboration with CIRAD is appropriate, so is the ARENA collaboration with ERENINA. Hence, I highlighted this point.

Han Junkyu: So our goal is to make some products from functional materials. And we also try to add value to the plants from their origin in North Africa as medical plants. And so we hope that some benefits are provided to the origin countries like Tunisia and Egypt. And also, we have some collaboration with other European institutes, like Montpelier University. So we have some collaboration not only with North African site but also with some European Institutes.

Akio Takenaka: Okay. Any other questions? And Dr. Han understands and speaks Japanese very well so if you have any question in Japanese, it is acceptable for him. Okay, probably the problem is the benefit from these materials, for example, the rural development is very important for the original countries. And okay, so thank you very much again, Dr. Han.