JASTIP
Japan - ASEAN
Science, Technology and
Innovation Platform

130th Anniversary of
Japan-Thailand Diplomatic Relations
2017

130th Anniversary of Japan-Thailand Diplomatic Relations
4th JASTIP Symposium
"Biomass to Energy, Chemicals and Functional Materials"
3 - 4 July 2017
Thailand Science Park Convention Center, NSTDA

JASTIP: Achievements and Challenges

Kono, Yasuyuki
JASTIP Project Leader
Kyoto University

Launch of JASTIP

Feb. 26th, 2016
Japanese Ambassador Residence
Bangkok

Outline of JASTIP

Japan-ASEAN collaboration platform of science, technology and innovation toward SDGs

JASTIP Head Office

NSTDA @Bangkok

Environment · Energy

National Science and Technology Development Agency (Thailand) (NSTDA)

Bio-resources · Biodiversity

Indonesian Institute of Sciences (LIPI)

Disaster Prevention

Malaysia-Japan International Institute of Technology (MJIIT)

ASEAN SDGs research communities

ASEAN universities and research institutes

Japanese SDGs research communities

Japanese universities and research institutes

Outstanding characteristics of JASTIP

- Research first
- Open science, innovative collaboration
- Diversity as a driver

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What we have achieved

- Setting up the central part of the platform
- Establishing a wide publicity
- Expanding the network of collaboration in Japan and ASEAN

Joint Laboratory: Environment & Energy

Environment・Energy : Develop sustainable energy to achieve stable energy supply

R&D into Efficient Biomass Utilization Technology and its Social Applications

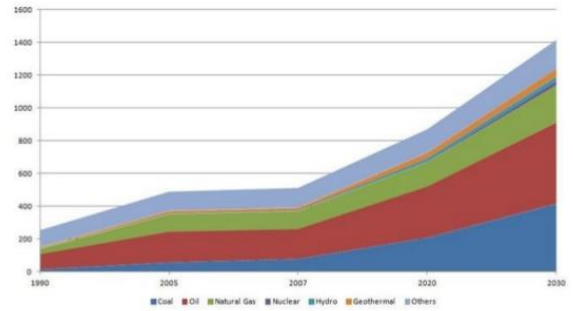
Energy demand increasing throughout ASEAN, particularly Thailand

Need for social application of new technologies for clean, efficient energy using the large sources of biomass refuse in the ASEAN region

Thai R&D in efficient "solvent treatment" of biomass refuse into liquid fuels, carbon fuels, electricity, and useful carbon*

R&D and application of efficient biomass technologies using "solvent treatment" in ASEAN countries

Primary Energy Consumption



BAU: Total primary energy consumption increased from 339 MTOE in 1995 to 511 MTOE in 2007 or 3.6% per annum, and will growth 4.5% per year from 2007 to reach 1,414 MTOE in 2030.

*SATREPS Project: "Technical Cooperation for development of clean and efficient utilization of low rank coals and biomass by solvent treatment"

Satellite Lab: Thailand National Science and Technology Development Agency (NSTDA)

Over 2600 employees (over 400 doctorate degree holders)
Four Research Centers (**BIOTEC**, MTEC, NECTEC, NANOTEC), and a Technology Management Center
Energy/Environment, Food, Health, Bio-resources, Production/Service Industries

ASEAN Human resource development

Research training for domestic and neighboring country researchers. BIOTEC Post-doctoral Fellowship, Human Resource Development Program in Biotechnology for Cambodia, Laos, Myanmar, and Vietnam (CLMV)

Support for social implementation

Established space and pilot plants for industry and a training center at the Thailand Science Park (TSP), where a satellite center will be established. Actively engaged in technology transfer and support for R&D.

Policy linkages

As a national agency, the NSTDA brings technological developments directly into the country, and transfers technology to private industry (e.g., Biomass technologies)

Strong partnerships with Japanese organizations

Kyoto Univ., Akita Univ., Tokyo Inst. of Technology, Tokyo Inst. of Polytechnics, Nagaoka Univ. of Technology, Tottori Univ. Osaka Univ., Chiba Univ., Hiroshima Univ.、Meijo Univ. Yamagata Univ. Waseda Univ. NEDO/AIST, etc.
Shimadzu (Asia Pacific), Shiseido, Toyota Motors (Asia), Nippon Steel & Sumitomo Metal Co., Hosokawa Powder Technology Research Institute

Joint Laboratory: Bio-resources & Biodiversity

Bio-resources・Biodiversity : Biodiversity as a resource – Effective utilization of useful tropical plants

Enhancing tropical biodiversity databases to investigate useful tropical plants

Need for **ownership-based resource development** enacting the Convention on Biological Diversity for genetic resource development

Joint research focusing on the entire region is logical in terms of biology and resource studies considering overlaps of flora in the ASEAN region

Enhancing biodiversity databases to investigate useful tropical plants

R&D into tropical plant breeding, conversion into fuel and functional materials

Need for international cooperation between ASEAN nations and developed countries developing biomass technologies for **new environment-friendly industries** around sustainable production and advanced uses of biomass in ASEAN region, based on **the characteristics of bio-resources across the region.**

Methods to convert useful tropical plants into fuel, functional materials, and food, and joint development of high-strength, durable wood structures and materials

Satellite Lab: Indonesian Institute of Sciences (LIPI)

Forty-one branches - Indonesia's largest national research institute

Partnership with two biological science research centers

Research Center for Biology

With a world-leading collection of animals and plants, the center conducts national-level research into use of biodiversity as a resource.

Research Center for Biomaterials

National research institute researching property analysis of Indonesian timber resources, conversion to functional materials, and timber deterioration control.

LIPI Innovation Support is available for applications and social implementation

LIPI has strong links to NSTDA and TISTR in Thailand in the fields of biodiversity and bio-resources. Opportunities to enhance Pan-ASEAN networks in these fields.

ASEAN Network

Strong partnerships with Japanese organizations (Research Center for Biology)

Kyoto Univ., Kagoshima Univ., Hokkaido Univ., Tottori Univ. Faculty of Engineering, Hokkaido Univ. of Education, Hokkaido Institute of Technology, Kanazawa Univ., Univ. of Shiga Prefecture, National Institute for Environmental Studies, Forestry and Forest Products Research Institute, National Institute of Technology and Evaluation, JICA

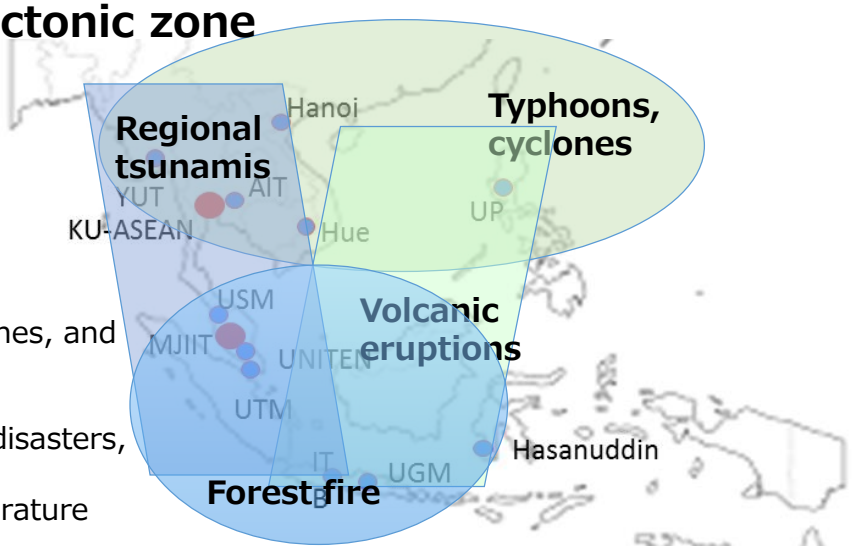
Joint Laboratory: Disaster Prevention

Disaster Prevention: Mitigation of large-scale disaster risks through comprehensive disaster prevention and early warning systems

Establishing technology and social techniques to respond quickly and effectively to inevitable disaster events and increasing disaster risks

Large-scale disasters in the ASEAN wet tectonic zone

Tropical/subtropical wet climates, geological active areas.
Frequent earthquakes, volcanic activity, landslides, sediment production.
Rapid population increases, concentrations in cities and sloping areas, and increased disaster risks.



Regional scale disasters

Typhoons, cyclones (Philippines to Indochina Peninsula)
Storm surges, heavy rainfalls (floods, landslides, debris avalanches, and heavy storms.)
Volcanic eruptions (Philippines, Indonesia, Malaysia)
Pyroclastic and volcanic mud flows, ash dispersal, aviation disasters, and temperature declines.
Forest fires Atmospheric diffusion of smoke, long-term temperature falls, and health effects.
Tsunamis Indian Ocean Tsunami caused by Sumatra Earthquake (Dec. 2004)

Advance warning systems and international cooperation against regional disasters
Platform to develop technology/social techniques mitigating risks from population increases and increasing scale of disasters

Satellite Lab: Malaysia-Japan International Institute of Technology (MJIIT)

Cooperation platforms with other Japanese universities

Building platforms for human resource development
Promotion of academia-industry collaboration

Twenty-three MJIIT partner universities + Kyoto Univ., Tsukuba Univ. Tokyo Univ.
ASEAN international graduate school courses within MJIIT to promote international joint research
Inter-disciplinary and international system of human resources development for disaster prevention in the ASEAN region
Promotes industrial disaster prevention and civil disaster prevention contributions as a part of CSR

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ASEAN Summit statement 2016

28th and 29th ASEAN Summits held on 6-7 September 2016 in Lao PDR .

JASTIP was mentioned in the Chairman's Statement of this ASEAN Summits.

"63. We noted with appreciation the increasing efforts to strengthen cooperation with dialogue and other partners in science, technology and innovation (STI). We welcomed the launching of the inaugural Exchange Programme for Young ASEAN Officials under the Sakura Science Plan; the Japan-ASEAN Science, Technology and Innovation Platform (JASTIP) and the Young Southeast Asian Leaders Initiative (YSEALI)....."

19th ASEAN-Japan Summit held on 7 September 2016 in Lao PDR.

JASTIP was mentioned in the Statement of this ASEAN-Japan Summits twice.

"19. ……..we noted with satisfaction the progress made on various exchange programmes under the Japan-East Asia Network of Exchange for Students and Youths (JENESYS) 2016, Ship for Southeast Asian and Japanese Youth Programme (SSEAYP), "WA-Project" and Sport for Tomorrow, Sakura Science Plan, ASEAN and Today's World (AsTW), Japan-ASEAN Science, Technology and Innovation Platform (JASTIP), as well as the ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net) Project Phase III. Moreover, recognizing various achievements between ASEAN and Japan in the field of Science, Technology and Innovation, we acknowledged the importance of promoting joint research and implementation of its outcome such as Science and Technology Research Partnership for Sustainable Development (SATREPS), e-ASIA Joint Research Program (e-ASIA JRP) and Japan ASEAN Science, Technology and Innovation Platform (JASTIP)/Collaboration Hubs for International Research Program (CHIRP)……

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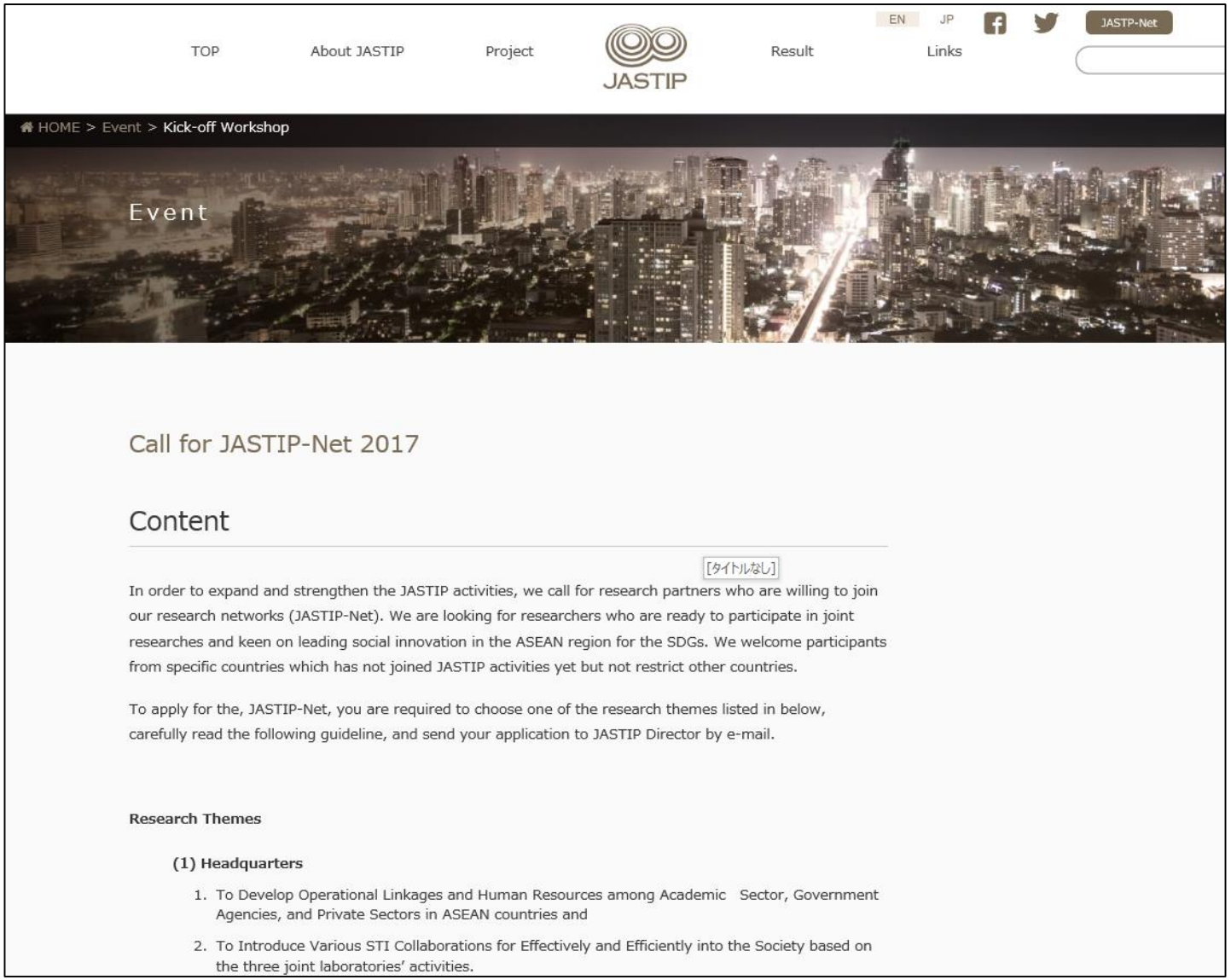
JASTIP-Net



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Event

Call for JASTIP-Net 2017

Content

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In order to expand and strengthen the JASTIP activities, we call for research partners who are willing to join our research networks (JASTIP-Net). We are looking for researchers who are ready to participate in joint researches and keen on leading social innovation in the ASEAN region for the SDGs. We welcome participants from specific countries which has not joined JASTIP activities yet but not restrict other countries.

To apply for the, JASTIP-Net, you are required to choose one of the research themes listed in below, carefully read the following guideline, and send your application to JASTIP Director by e-mail.

Research Themes

(1) Headquarters

1. To Develop Operational Linkages and Human Resources among Academic Sector, Government Agencies, and Private Sectors in ASEAN countries and
2. To Introduce Various STI Collaborations for Effectively and Efficiently into the Society based on the three joint laboratories' activities.

http://jastip.org/en/eventinfo/call-for-jastip-net-2017/

What we have to make efforts

- Need to further enhance the visibility of JASTIP
- Strengthening the linkage of JASTIP activities with the private sector
- Connecting JASTIP with other funding schemes

130th Anniversary of
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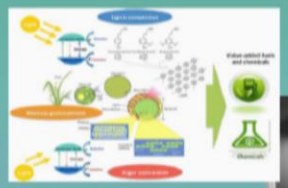
The 4th JASTIP Symposium
"Biomass to Energy, Chemicals and Functional Materials"

3rd and 4th July 2017

Venue: NSTDA, Rangsit, Thailand



This symposium focuses on biorefinery research, which is an interdisciplinary research field beyond energy & environmental research, and bioresources & biodiversity research. Biorefinery is a biomass conversion processes to produce value-added chemicals including biofuels and bioplastic.

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Co-organized by

LIPI NSTDA

Supported by

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In Collaboration with

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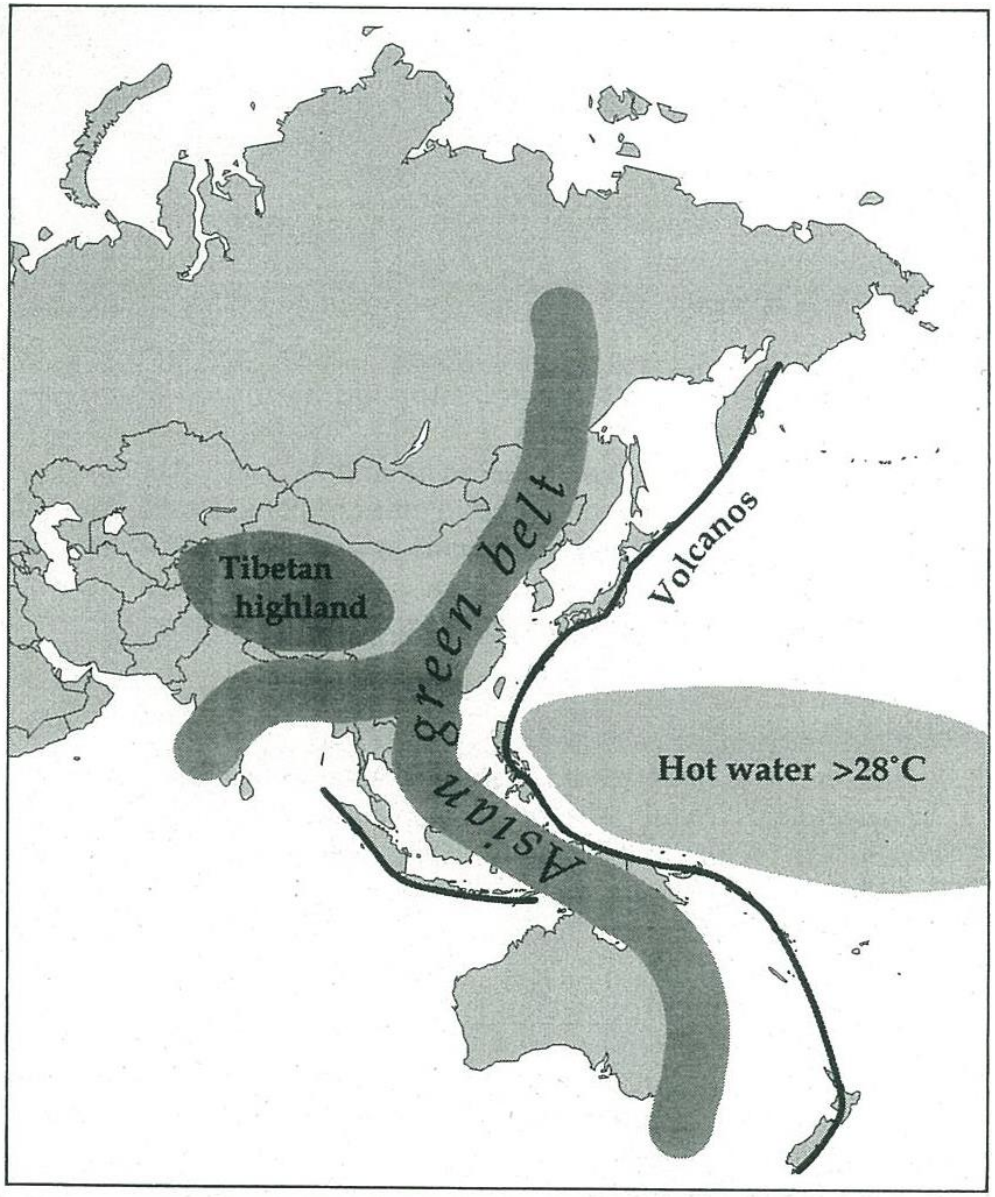
Biomass in the Asian Green Belt



Asian green belt and
“engines” that support high diversity.

Volcanos provide nutrients and
Tibetan highland and hot water at
western Pacific provide rich rainfall.

(Inoue 1996)

Thanks for joining us!

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