

Tackling Global Challenges - “Science and Technology Research Partnership for Sustainable Development (SATREPS)”

Hideki MIZUMA

Japan Science and Technology Agency

Partnerships for Enhanced Engagement in Research (PEER)

Science Participants' Conference 2013,

4 October, 2013

Bangkok, Thailand

Background

- The issues of global concern (climate change, infectious disease, biodiversity degradation, food/water shortage, natural disaster) are becoming imminent threat for humankind and solution by science and technology is craved for.
- Traditional technology transfer used in ODA may not be adequate for addressing these global issues: technical and social innovation through new knowledge and technologies requires high commitment of researchers.
- Most of critical events and phenomena occur in the Developing Countries, hence their collaboration is crucially essential.
- S&T capacity development in DC with an win-win research arrangement is the steadfast approach towards the solution of these challenges.

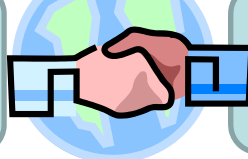
Creation of SATREPS

SATREPS = Created by the strong policy directive from the Council for the Science and Technology Policy (CSTP) chaired by the Prime Minister

“To link S&T with foreign policy for mutual development”

Utilize S&T
for diplomatic purposes

SYNERGY



Utilize diplomacy for the further
development of S&T

“Strengthening S&T cooperation with developing countries for **resolving the global issues**” “in the areas of the **environment and energy, disaster prevention ... and infectious diseases**”

From Council for Science and Technology Policy (CSTP)'s
“Toward the Reinforcement of S&T Diplomacy” (May 19, 2008)

Memorandum of Understanding between JST and JICA

Japan Science and Technology Agency (JST) ex-President, Koichi KITAZAWA, and Japan International Cooperation Agency (JICA) ex-President Sadako OGATA officially signed the Memorandum of Understanding to implement the “Science and Technology Research Partnership for Sustainable Development (SATREPS)” program.



Photo by JICA (Jan.2009)



**JST: Science Funding Agency for
the government of Japan**



**JICA: ODA Agency for the
government of Japan**

SATREPS aims



SATREPS is a JST and JICA program for research projects targeting global issues and involving partnerships between researchers in Japan and developing countries

● About **SATREPS**

Enhancing cooperation in science & technology

~ Building win-win relationships between Japan and developing countries ~

New technology, new knowledge

~ Addressing global issues and advancing science ~

Capacity Development

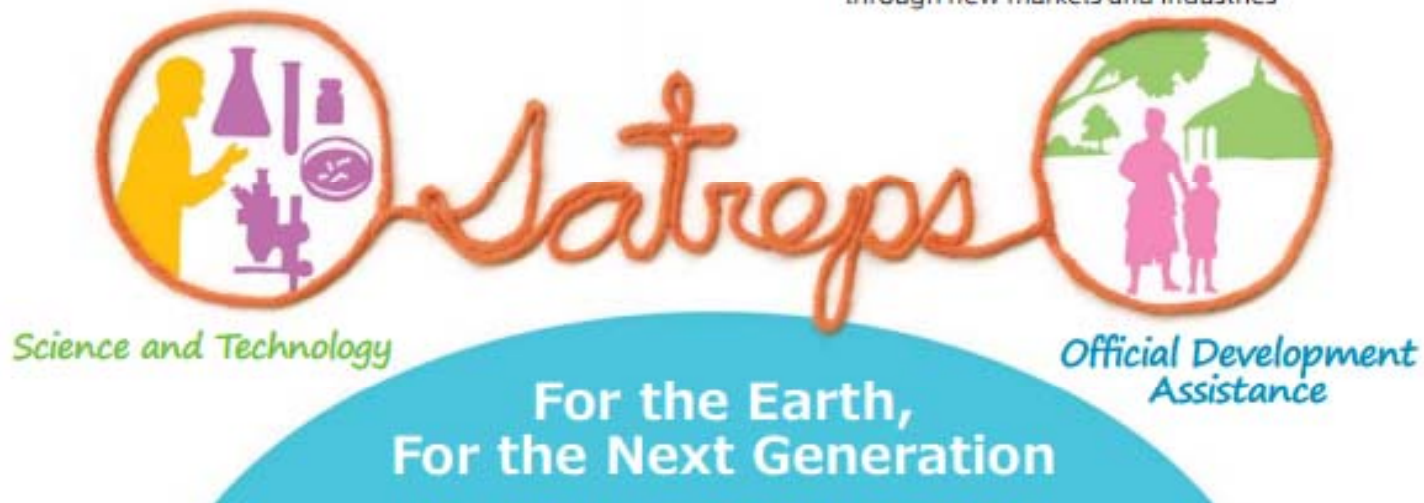
~ Boosting self-reliant R&D capacity and sustainable research systems, training human resources and coordinating networking between researchers ~

Practical utilization

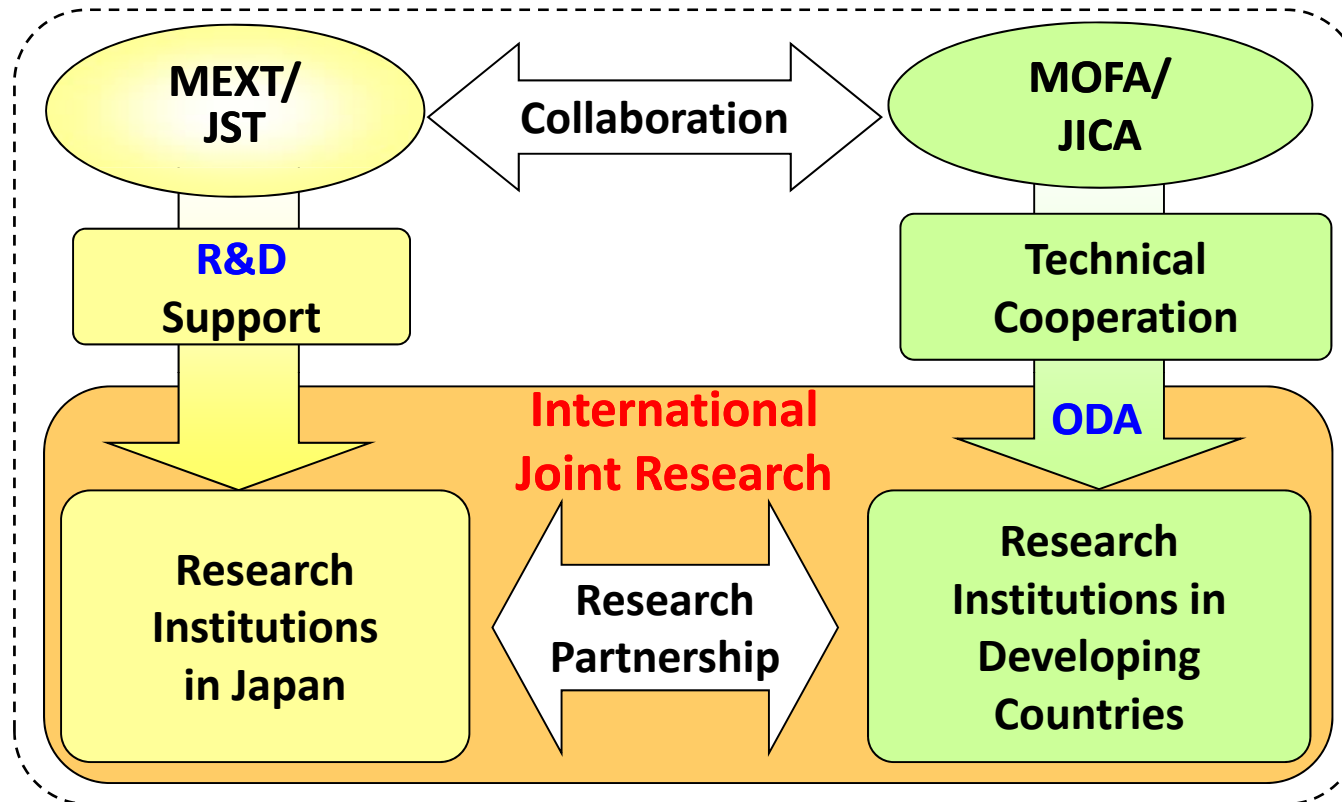
~ Expecting outcomes to make a real contribution to society ~

Science & Technology × Official Development Assistance

SATREPS joins and coordinates functions, activities, and capabilities that were once separate, using scientific research potential as a mediator for developmental diplomacy



SATREPS program structure



Research Period

3-5 years

Research Funding

Approx. 100 million JPY / project / year (JST + JICA total)

Research Areas

5 areas

■ Environment and Energy

▪ Global-scale Environmental Issues

Climate change mitigation & adaptation, Safe water supply, Biodiversity conservation..

▪ Low-carbon Society

Biomass energy, Energy efficiency, Renewable energy..



■ Bio resource Utilization

Breeding and cultivation technology, Bio resource management..



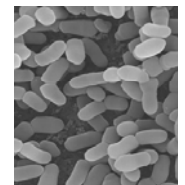
■ Natural Disaster Prevention

Natural disaster mechanisms (Earthquakes, Volcanic..), Natural disaster mitigation..



■ Infectious Diseases Control

Diagnostic tool, Vaccines, Therapeutic products development (Avian influenza, HIV/AIDS, Dengue fever..)



OECD Report

Report on Opportunities, Challenges and Good Practices in International Research Cooperation between Developed and Developing Countries

<http://www.oecd.org/science/scienceandtechnologypolicy/47737209.pdf>

◇ issued by **OECD Global Science Forum** in May 2011

◇ based on workshop in Pretoria (September 2010) with **STRONG African presence**

-19 government officials, 8 researchers; keynote speech by Executive Director of TWAS

◇ Dr. Mohamed Hassan (Former TWAS Director), Dr. Crispus Kiamba (Min. of High. Edu., Kenya), etc.

OECD Global Science Forum

Opportunities, Challenges and Good Practices
in International Research Cooperation
between Developed and Developing Countries
APRIL 2011



describes issues and options that deserve the attention of scientists and administrators in industrialized countries and in developing countries, as they seek to design, initiate and manage collaborative research programs and projects that include both scientific and development goals.



SATREPS projects (FY2008-FY2013)



**78 projects
commenced
in 39 countries!**

**Half of the projects in Asia,
1/4 in Africa**

Research Areas	Region			FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
	Asia	Africa	Others						
Environment/Energy (Climate Change)				4	4	0	-	-	-
Environment/Energy (Low Carbon Society/Energy)				-	-	4	3	2	1
Environment/Energy (Global Environment Issues)	41	20	17	3	2	4	1	2	3
Bioresources				-	6	5	2	3	1
Natural Disaster Prevention				3	4	2	2	1	2
Infectious Diseases Control				2	4	2	2	1	3
Total				12	20	17	10	9	10

FY2014 SATREPS

Invitation for Application of Research Proposals (1)

Guidance for Application and the Project Selection Process

<http://www.jst.go.jp/global/english/koubo.html>

JST calls for research proposals for FY2014 from Japanese research institutions from **September 10th, 2013 (Tues) to October 25th, 2013 (Fri) at 12:00 hour (noon) in Japan.**

Based on the needs of developing countries, JST and JICA cooperate to promote international joint research targeting global issues¹ with an objective of future utilization of research outcomes². Implemented through collaboration with Official development Assistance (ODA), the aim of the program is to acquire new knowledge and technology, and to apply the knowledge and technology acquired to create innovations, leading to the resolution of global issues and the advance of science and technology. International joint research under this program also aims to enhance the research and development capabilities of developing countries, and helps create sustainable research systems able to address and resolve issues.

[1] Global issues: Issues that are difficult to resolve by a single country or region acting on its own and that need to be handled by the international community as a whole

[2] Utilization of research outcomes: The research projects should lead to future social and economic benefits, achieved by using newly obtained knowledge and technology to enhance government services or to develop products that can be deployed in the market.

Research fields (number of research areas)	Cooperation request from recipient country	Research period	Research budget from JST
Environment and Energy (2 research areas)	Compulsory	3 to 5 years	Approx. ¥36M/year (including indirect costs) (Approx. ¥180 M in total for a 5-year project)
Bioresources (1 research area)			
Natural Disaster Prevention (1 research area)			
Infectious Diseases Control (1 research area)			

Note1: From FY2014 onwards, “interdisciplinary” proposals (proposals where multiple fields are selected on the research proposal form) are no longer accepted. When submitting a research proposal for a project involving interdisciplinary research that merges or extends over multiple fields or areas, select the area that is the closest match.

Note2: The number of proposals to be selected and the research budget from JST are tentative, and may change due to budgetary considerations.

FY2014 SATREPS

Invitation for Application of Research Proposals (2)

Schedule for application and selection

Applications start date	Tuesday September 10, 2013
Applications deadline (Deadline for ODA applications to reach MOFA is the same)^{*1}	12:00 noon (Japan time) on Friday October 25, 2013 (applications received after the deadline will not be accepted)
Document screening	Early November 2013 to late February 2014
Notification of document screening results	Late February 2014
Interviewing for selection	Late February 2014 to mid March 2014
Conditional approval and notification	Late March 2014
Start of research	April 2014 or later, following signing of the R/D^{*2}

*1 MOFA must receive an application for ODA from the government of the recipient country by the deadline. This is one of the conditions for selection.

*2 Around the same time as the selection of research projects in Japan, notification regarding selections for the corresponding ODA technical cooperation will be made to governments of recipient countries. Subsequently, when the R/D is signed between JICA and the counterpart, the research project will be formally approved for awarding, and international joint research will begin. Selection of the research project in Japan will be announced to the public at an appropriate time after notifying the PI of conditional approval.

SATREPS Achievements



In the tropical Thailand, the Dengue virus infects 50 million people annually, and a quarter million people are seriously affected. Our project aims for developing new therapeutic drugs, and has successfully created antibodies against the virus. In Sept. 2012, the international application under the Patent Cooperation Treaty has been filed. Drug development in collaboration with major pharmaceutical companies is now under consideration.

“Research and Development of Therapeutic Products against Infectious Diseases, especially Dengue Virus Infection” (Adopted in FY2008/Thailand)



The Carbon Capture and Storage (CCS), which might become the first plant in Southeast Asia if successful, is currently under development. The inquiries from the foreign governments have been increasingly received. This project aims to capture the CO₂ emitted from the Gundih gas field and sequester it underground.

“Pilot study for carbon sequestration and monitoring in Gundih area - East Java Province, Indonesia” (Adopted in FY2011/Indonesia)



Manufacturing technology for High Bio-Diesel (HiBD) derived from Non-food biomass is under development. In July 2012, our research institutions concluded an agreement with an automobile manufacturer (Isuzu Motors Co. (Thailand) Ltd.) to begin driving tests (50,000kms in 2 months) using practical vehicles in Thailand.

“Innovation on Production and Automotive Utilization of Biofuels from Non-food Biomass” (Adopted in FY2009/Thailand)

Human Resource Development through MEXT Scholarship Program

- ✓ Human resource development through the Japanese Government (MEXT) Scholarship Program From FY 2010, MEXT established a “**Global-Issue Section**” within Japanese government scholarship program (University Recommendation) for SATREPS projects.
- ✓ The aim of the Global-Issue Section is to develop young researchers with the potential to be future key players in relevant research in their own countries by taking a doctorate at Japanese institution.
- ✓ Invitation for this Japanese government scholarship program is implemented by MEXT, and scholarship is budgeted separately from SATREPS. To be eligible for this program, a doctoral degree needs to be received within the term of the SATREPS project.

Japanese Government (MEXT/Monbukagakusho) Scholarship Program website

http://www.mext.go.jp/a_menu/koutou/ryugaku/06032818.htm (Japanese)

<http://www.studyjapan.go.jp/en/toj/toj0302e.html> (English)

*Please note that the availability of this scholarship program can be altered depending on the final budget.

SATREPS

For the Earth, For the Next Generation

Thank you for your attention !



Japan Science and Technology Agency



Reference

Online Community (SNS): Friends of SATREPS

Launched June 1, 2011

Interested in global issues? Join Friends of SATREPS!
Membership is free, and **anyone can take part, communicate** with other project participants, researchers, students, people from the private sector, NGOs, etc.
Join the conversation. Join the SATREPS community.

URL <https://fos.jst.go.jp/>

Friends of SATREPS



Membership ranking by country

1. Japan
2. Indonesia
3. Thailand
4. Malaysia
5. Vietnam
6. Phillipines
7. Ghana
8. Algeria
9. South Africa
10. Brazil
11. USA
12. Srilanca
13. Egypt
14. Turkey
15. Afghhanistan
16. Mexico
17. Bangladesh

(As of August 15, 2012)

- Registered members : **Over 4,300!**
- Countries involved : **Approx. 95**
- Number of communities: **Approx. 300**

Community Categories

- Nature/Environment
- Energy
- Bioresources
- Natural Disaster Prevention
- Life/Health
- Developing Country Assistance
- Others

Friends of SATREPS (FOS) services

Through Friends of SATREPS, you can:



Receive news and information about related events

Receive news about the SATREPS program, current projects, and information about related events.



Cooperate with current projects

Take part in SATREPS community by finding ways to cooperate with one of the current projects. Ideal for students with an interest in the environment or for companies/NGOs involved in related initiatives.



Work on preparations for new projects

Put together a project team for a new SATREPS project proposal, find teammates, and brainstorm on proposal details.



Share information and ideas

Share ideas and information with community members on topics such as environment and energy issues, bioresources, control of infectious diseases, and natural disaster prevention.

- ◇ FOS is created as a **platform for communication** among like minded people.
- ◇ Members are a **rich source of information** about life and culture in the field. **Discoveries and encounters** are not limited to research topics.
- ◇ Stay up to date on developing country news. **Communication channels** between researchers, companies, and other entities outlast research projects.

Friends of SATREPS communities



海面上昇に対するツバル国の生態工学的維持 (10)



海大陸気候研究会(Maritime Continent community) (23)



Indian's DHS (14)



非食糧系バイオマスの輸送用燃料化基盤技術プロジェクト (1)



アフリカサヘルの水・衛生システム Water and Sanitation System for Sahel, Africa (27)



Reducing Geo-Hazard Damage in Malaysia/マレーシアにおける災害による被災低減 (16)



気候変動予測とアフリカ南部における応用 (Climate Variations in South Africa) (38)



Earthquake/Volcano Monitoring in the Philippines フィリピン地震火山監視 (13)

インドネシアにおけるCCSの開発研究 Development CCS in Indonesia (4)



ペルーにおける地震・津波減災技術/Earthquake and Tsunami Mitigation in Peru (16)



天然ゴムを用いる炭素循環システムの構築プロジェクト/ESCANBER (10)

Friends of SATREPS community sample

~ Ghanaian Young Scientists ~

2012年
01月24日
17:29

4: [Mildred Ainoa-Bosompem](#)

thank God for your safe arrival. learn hard and be good. Take care dear

2012年
01月24日
18:23

5: [ISAAC TUFFOUR](#)

Welcome to Japan.. Kofi. We thank God for His travelling mercies.I am sure you will have a wonderful time here. As for me I am wrapping up to come back to Ghana. My stay here has been a wonderful one. Last week was a "marathon week".so much work in the lab with good results obtained.We wound up the weekend at Huis Ten Bosch(a beautiful amusement park here in Sasebo). Yesterday, I finished my sight-seeing adventure at the Nagasaki Peace Park and Penguin aquarium. Today has been very busy for me. I just finished giving a presentation in my departments journal club. It was awesome. I also gave a progress report on my experiments and work I have done here. I am grateful to all who made this trip possible. It has really given me good exposure. Dr Suzuki...your hometown(Sasebo) is a wonderful place

2012年
01月24日
18:23

6: [ISAAC TUFFOUR](#)

Lest I forget...I saw snow fall for the first time today.It was really an amazing feeling eventhough the weather was quite cold...

2012年
01月24日
21:13

7: [Kofi Dadzie Kwofie](#)

Hello everyone,
I thank you all for your advice and well wishes. Mitsuko-Sensei, Thank you so much for everything. Your advice really got me reflecting deeply. I will never lose focus. Infact, This opportunity has inspired me to work harder, read more and learn as much as I can. I will once again, on behalf of my colleagues and on my own accord express our deepest and profound appreciation to ALL who made it posible for us, RAs, to visit Japan, Most especially Mr. Shig Okaya. This kind gesture will forever remain with us. I believe this will be a land mark in our journey to a bright and succesful future as Scientists (As Mitsuko-sensei will put it). Doomu arigatou gozaimas- imashte to all of you, Yamaoka-Sensei, Ohta-Sensei and Shoyama- Sensei. We really appreciate you all.

2012年
01月24日
21:33

8: [Kofi Dadzie Kwofie](#)

Just Like Isaac, I also had the opportunity to see snow fall, it was really a sight to behold. Even the people of Tokyo were really excited because it's really hadn't snowed in Tokyo in last six years. So you see, I brought snow to Tokyo...hahaha! I have also been to TMDU and the reception was really great. I have started some parasite culturing to be used for Bioassays. I have also had the opportunity to visit AKIHABARA. They really got lots of amazing stuff. So far so good...Wish you all the best this week. Sayonara....

2012年
01月24日
21:33

9: [Keren Minta-Asare](#)

eiiii Ghananyiii.....A friend in need is a friend indeed.

Young researchers from Ghana keep in touch with each other and talk about their experiences while working in Japan.

About this community:
Open to all young scientists in Ghana with interests in "sustainability of the earth" & "health of the population"

First snow!

Voices of Friends of SATREPS members



“I used to work on groundwater projects in Africa. Now I'm hoping to put that experience to use again and meet lots of new people, too.” (Engineer, Japan)

“Communication is one of a researcher's jobs, but it's easily forgotten when the research work is interesting. Friends of SATREPS is a great opportunity to keep communicating.”
(Researcher, Japan)

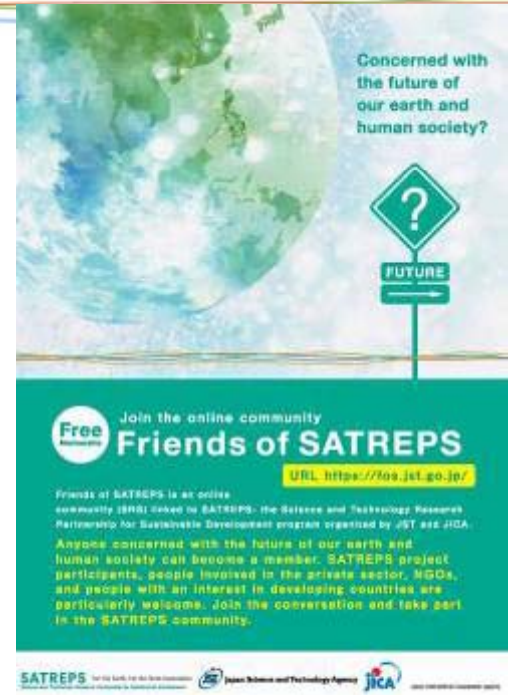
“I am a science Journalist in Nigeria. I am also the station head of my station. I studied chemical engineering but practice journalism now.” (Journalist, Nigeria)



facebook

Friends of SATREPS

<https://fos.go.jp>



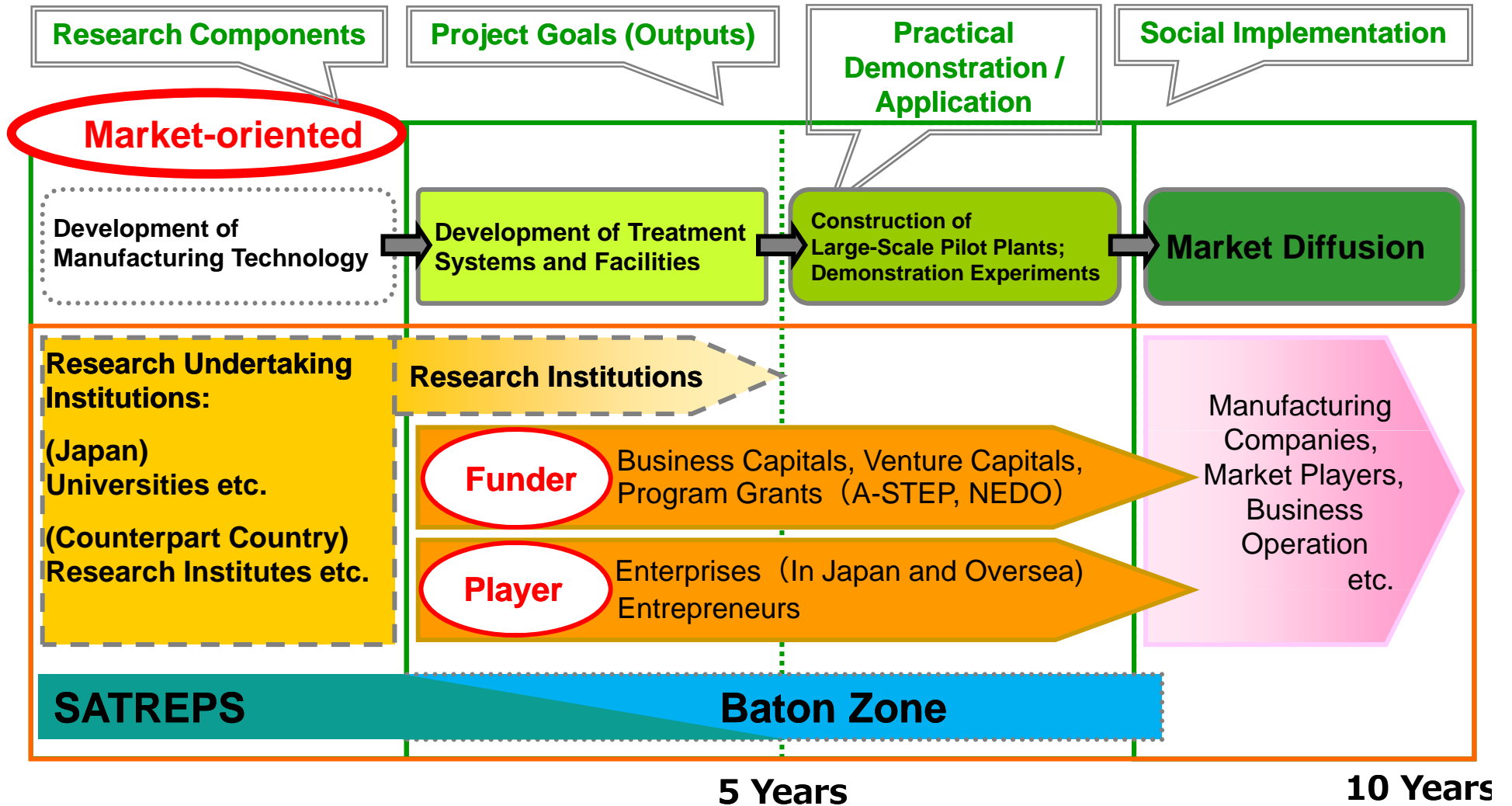
<http://www.facebook.com/Friends.of.SATREPS>

twitter

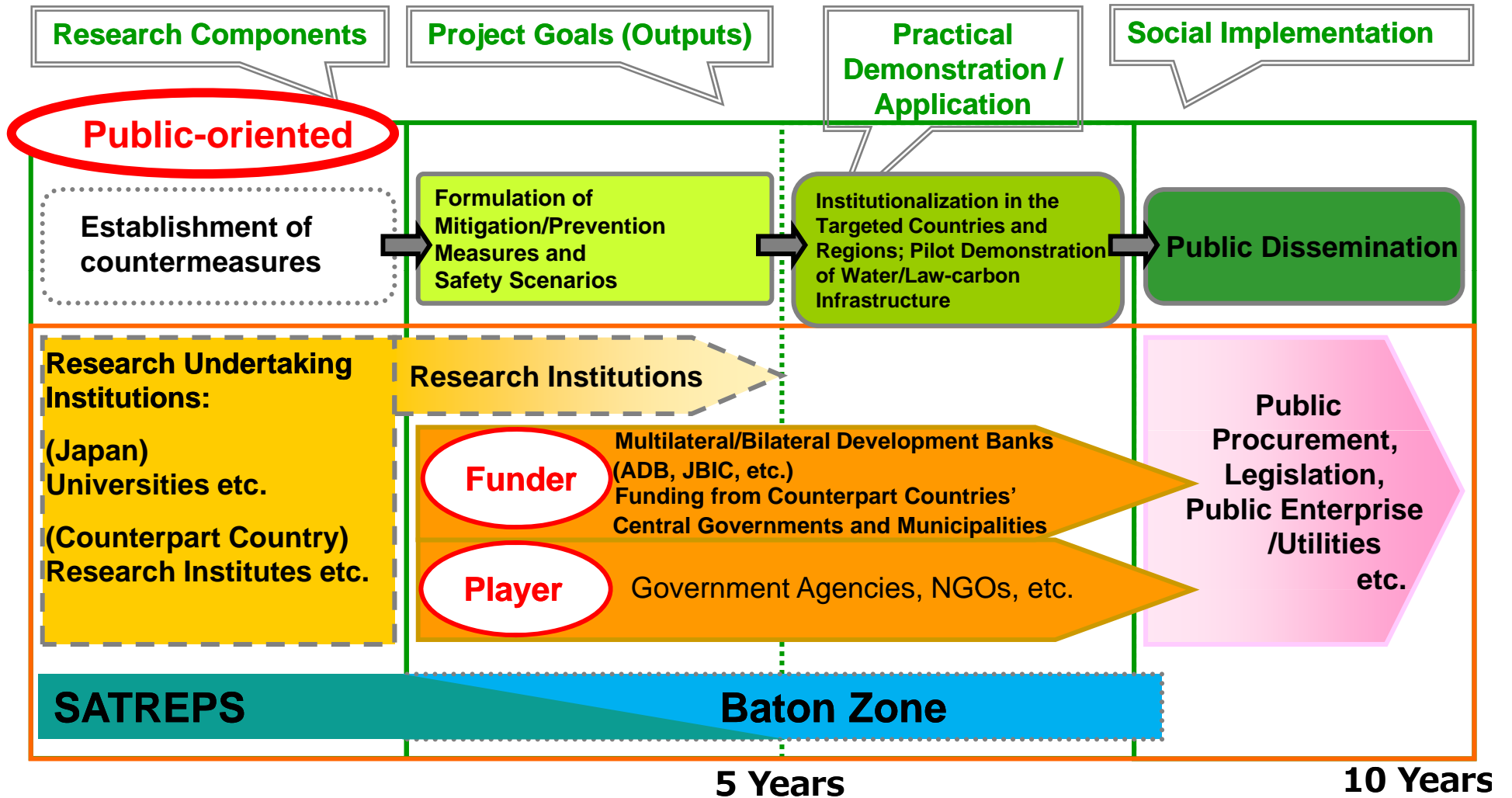
@SATREPS
Hash tag : #SATREPS



Exit Strategy (Target-oriented): Market Goods

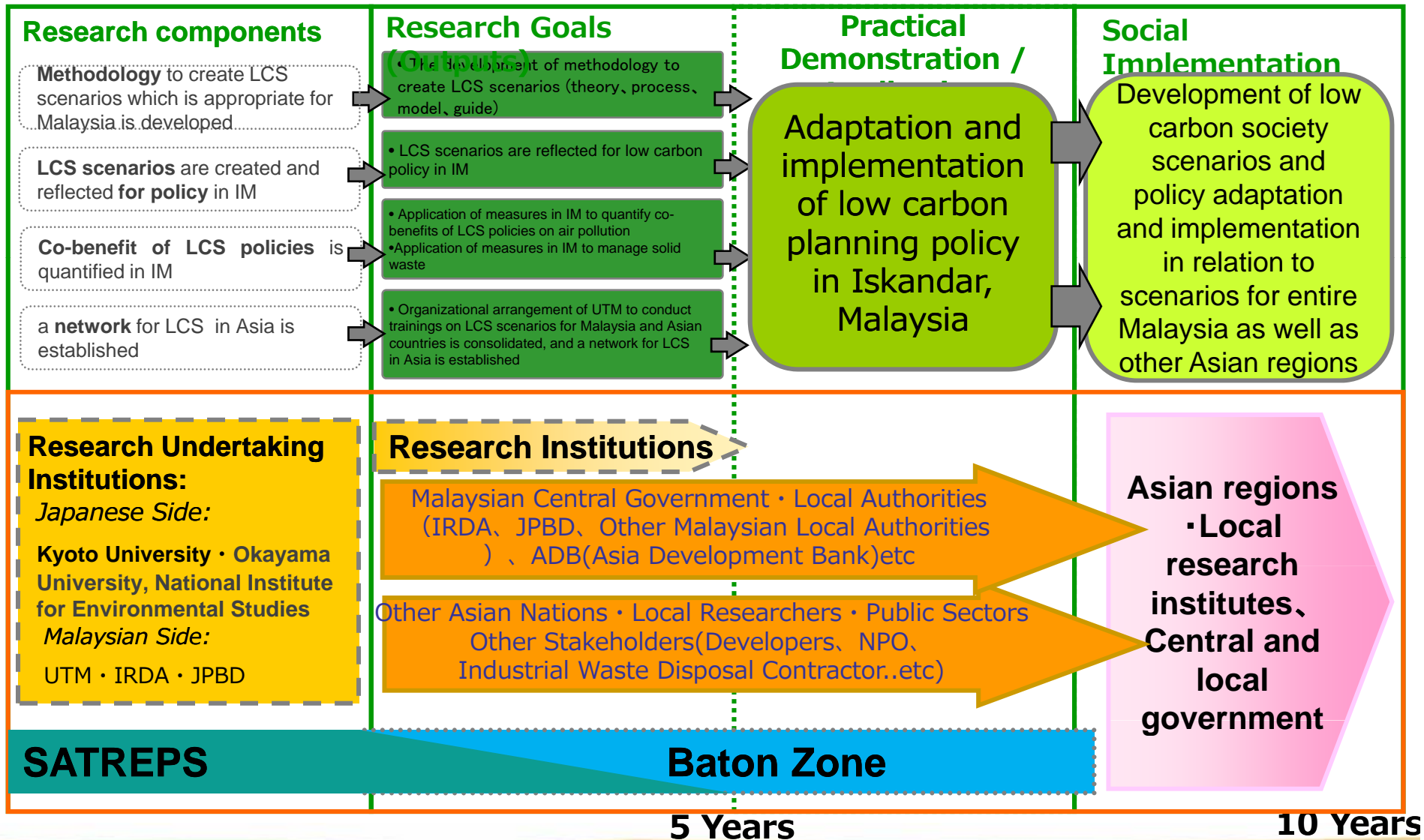


Exit Strategy (Target-oriented): Public Goods



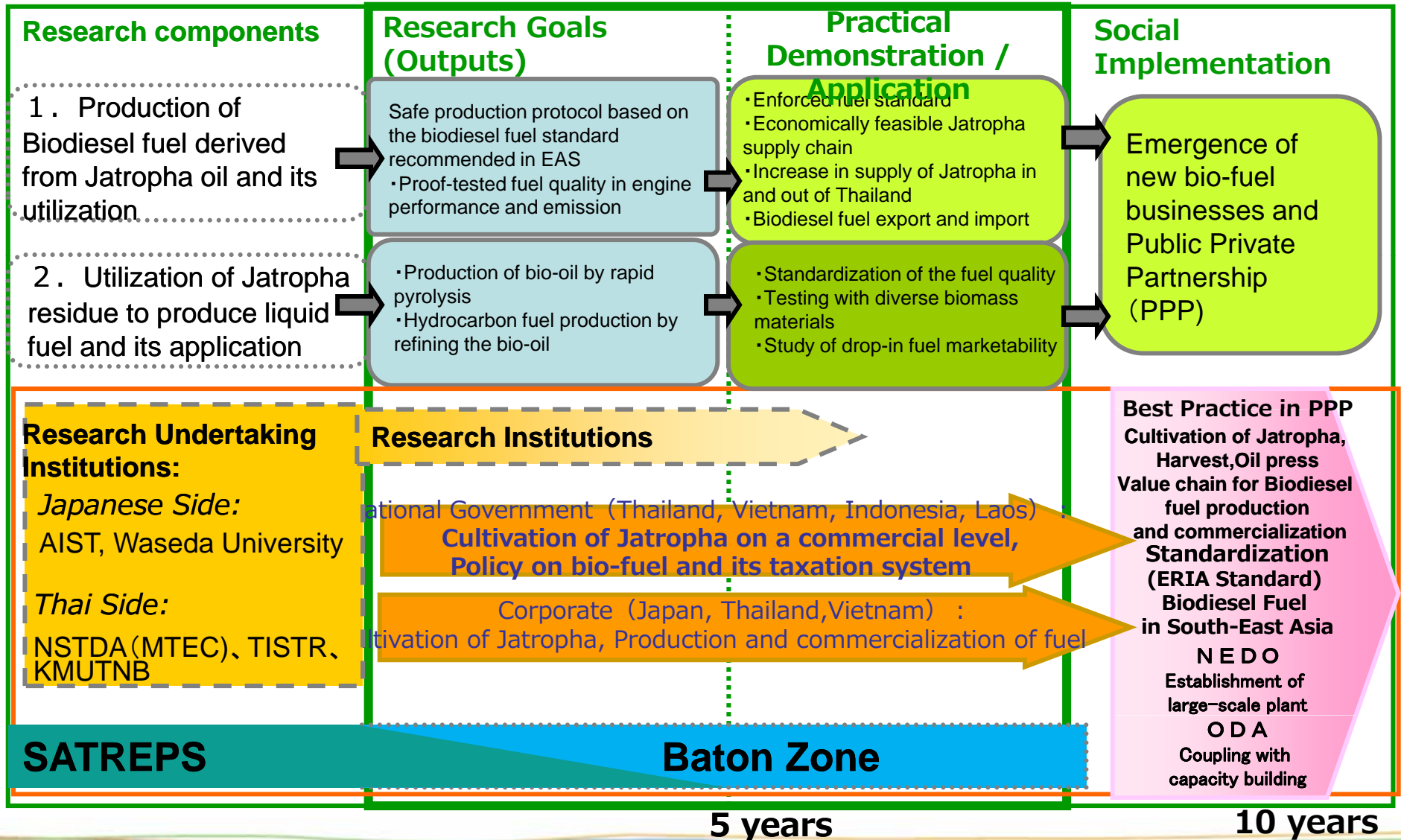
Exit Strategy of SATREPS Projects (1)

「 Development of Low Carbon Society Scenarios for Asian Regions 」
(Malaysia)



Exit Strategy of SATREPS Projects (2)

「Innovation on Production and Automotive Utilization of Biofuels from Non-food Biomass」
(Thailand)



Exit Strategy of SATREPS Projects (3)

「 Research on Ethanol Production from Sugarcane Wastes 」
(Brazil)

