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Cross-border higher education in ASEAN plus three: Results of JICA-RI surveys on leading universities and cross-border collaborative degree programs

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Regionalization in East Asia

Economic and political integration

- ASEAN Community Prospect by 2015
- Asian Regional Integration Prospect - ”East Asian Summit” started in 2005 by ASEAN+3 (10 ASEAN, China, South Korea, Japan) with Australia, New Zealand and India to discuss a long-term process for the creation of an East Asia Community
- Hot discussion on TPP

Towards integration of higher education

- Policy discussions on harmonization of higher education in Southeast Asia lead by Southeast Asian Ministers’ Organization/ Regional Centre for Higher Education and Development (SEAMEO/RIHED) and ASEAN University Network (AUN)
- New Asian regional framework of higher education discussed by ASEAN+3 in Thailand in March 2009
- Proposals of “Asian version of ERASMUS”
- CAMPUS Asia (Collective Action for the Mobility Program of University Students) was just started among China, Korea and Japan in 2011
- Inter-regional Cooperation is also in progress.- ASEM

Japanese New Educational Cooperation Policy announced by H.E. Mr. Naoto Kan Prime Minister of Japan at the High-Level Plenary Meeting of the 65th Session of the General Assembly of the United Nations on Sep. 22nd, 2010

- Promote the creation of **regional networks in higher education within and among** regions in order to address common and similar education challenges by sharing experiences and knowledge of Japan and other countries, with the cooperation of Japanese universities.

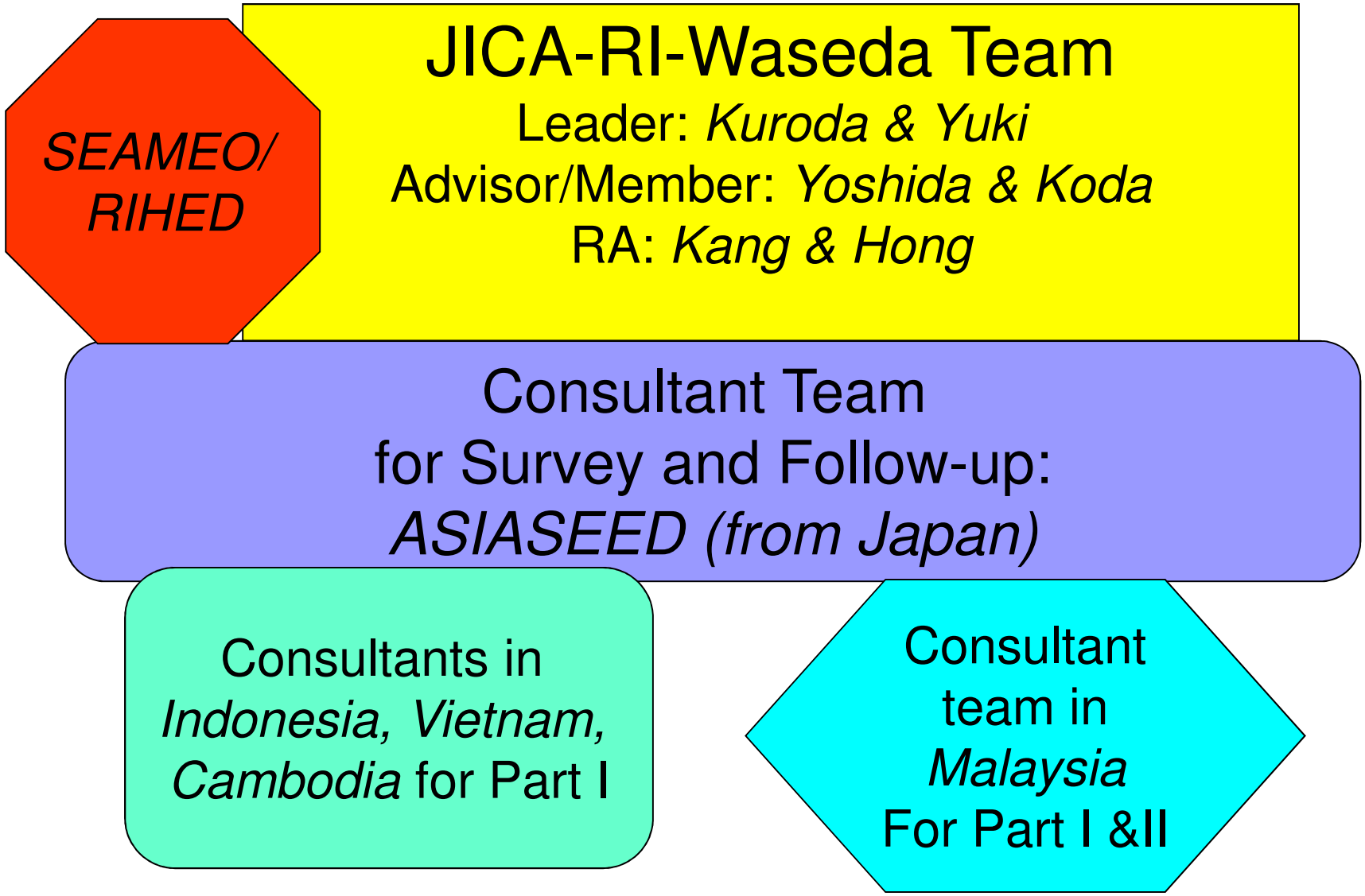
Background

1. Policy discussions on Asian regional integration and harmonization of higher education in the East Asia region.
2. Innovative forms of CBHE collaborative activities (e.g. double degree programs) are growing rapidly in East Asia.
3. Japanese ODA has also supported a few cases of such innovative programs, which require collaborations by institutions across borders.
4. Yet, limitations of prior research in the East Asia region on this topic: existed, but not covered entire region, or national level survey.

JICA Research Institute- Waseda Joint Research Project (2009-2011) on

“Political and Economic Implications of Cross-Border Higher Education in the Context of Asian Regional Integration”

Research Core Team



Structure of the study

Overall question:
What are political and economic implications of internationalization of higher education in Asia?

Three types of surveys:

PART 1-1
Leading universities in ASEAN plus 5 (about 300)

PART 1-2
Cross-border collaborative degree programs in leading universities (about 1000 programs) (e.g. twinning)

PART 1-3
Industry organizations (15 orgs)

Overview of the survey for 300 “leading” universities

Dataset 1: Institutional-level

- **Survey Target**
  - Identify approximately 300 institutions that can be considered as "leading universities" in ASEAN and plus 5 countries, while ensuring representatives from ASEAN countries & avoiding over-representativeness from non-ASEAN.

Sample programs are identified as follows:

- 1st step: we identify universities that appear in any list of 3 university rankings and 8 international (or regional) university organizations' memberships

  ⇒ Applied for 8 ASEAN countries
- 2nd, identify universities that appear at least twice in the above lists ⇒ Applied for 2 ASEAN countries and China
- 3rd, identify universities that appear at least three times in the above lists ⇒ Applied for the rest of countries
- Lastly, added 22 universities suggested by the participants from the Bangkok Workshop.

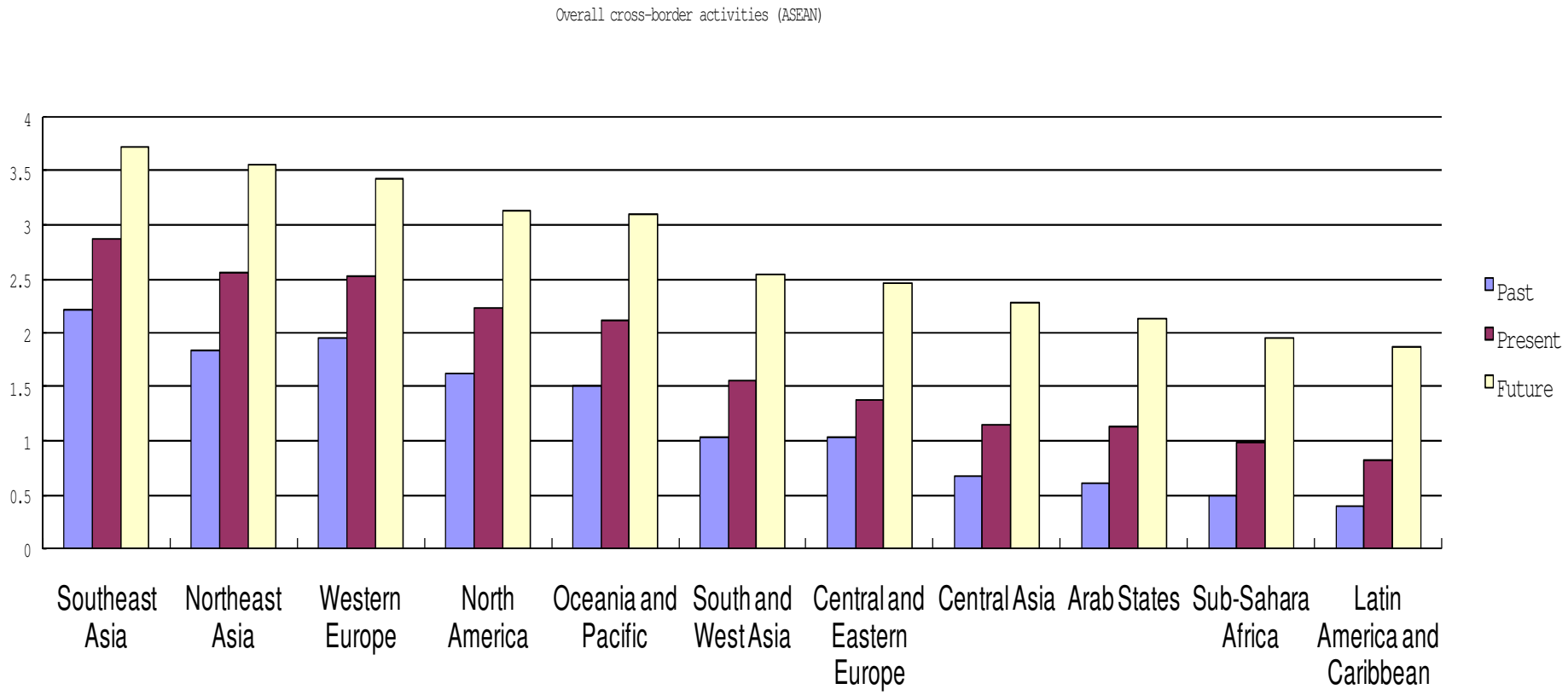
Dataset 1: Institutional-level

Country	Freq.	Response rate (%)	Number of Universities
Brunai Darussalam	0	0%	1
Cambodia	5	83.3%	6
Indonesia	30	49.2%	61
Laos	0	0.0%	1
Malaysia	16	57.1%	28
Myanmar	1	25.0%	4
Philippines	8	25.0%	32
Singapore	0	0%	9
Thailand	9	22.5%	40
Vietnam	14	100.0%	14
China	19	61.3%	31
Japan	17	58.6%	29
Korea	4	44.4%	9
Australia	7	25.0%	28
New Zealand	0	0%	7
Total	130	43.3%	300

* May be less due to the effective answer rate by questions

Dimension : Regional partnerships

Activeness of regional partnerships for overall cross-border activities: Southeast Asia



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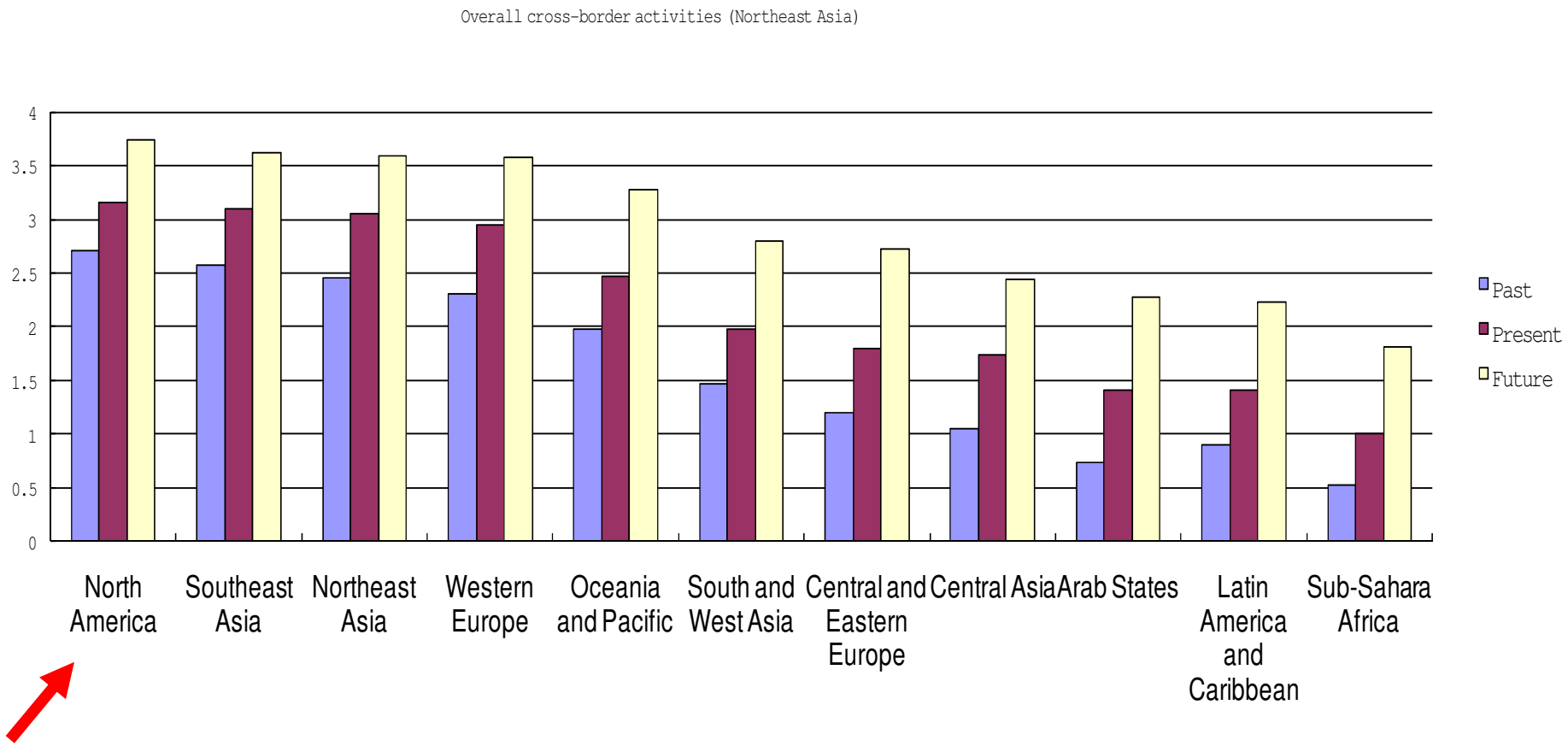
Activeness of regional partnerships for overall cross-border activities: Northeast Asia



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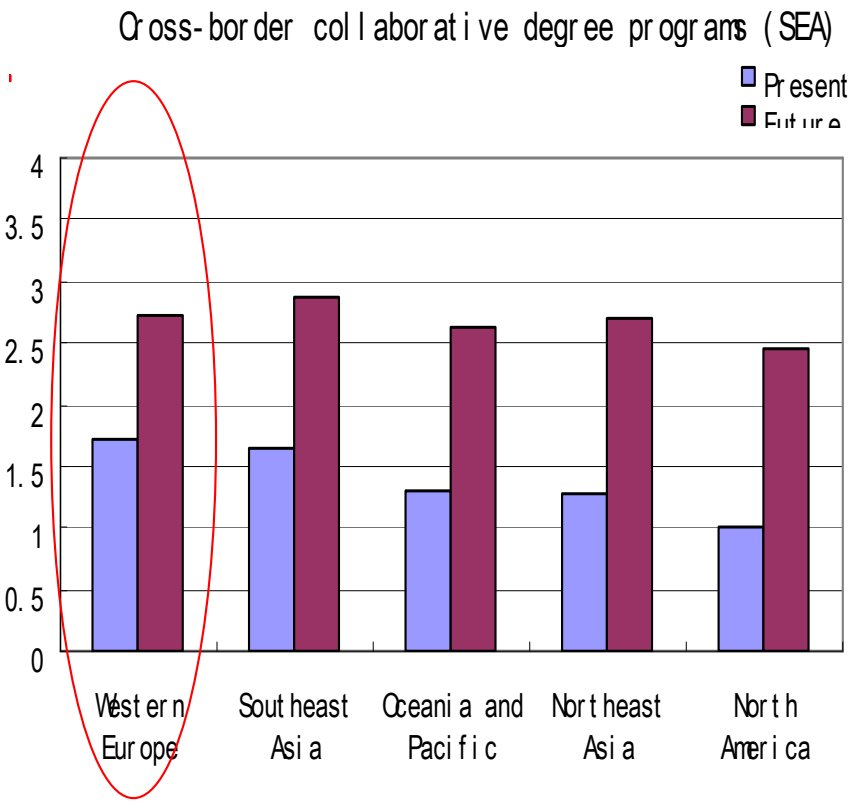
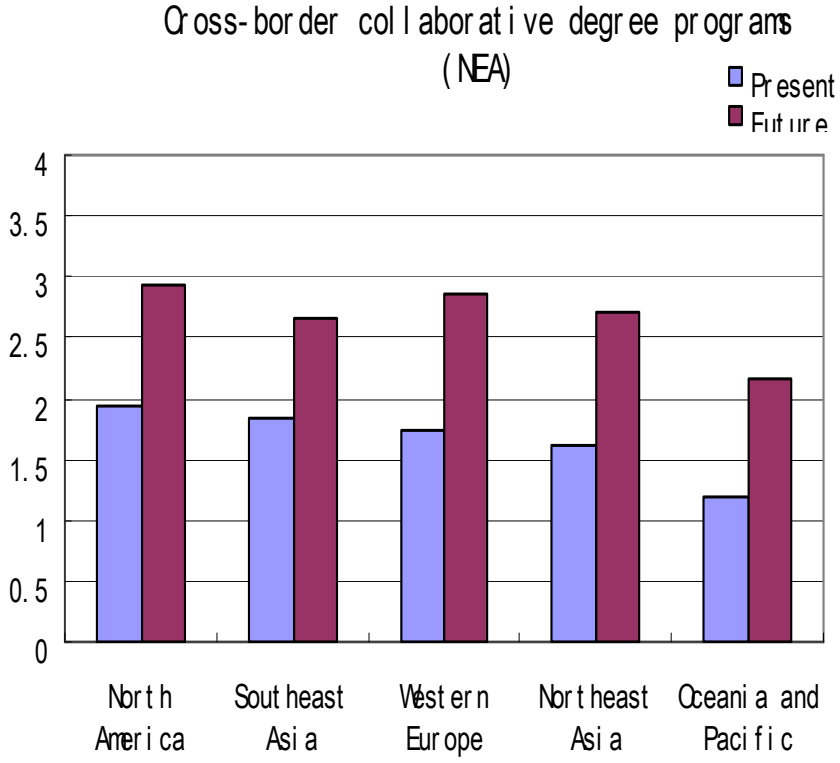
Our sample programs' overview : Institutional-level

- Western Europe is the most active region for SEA cross-border collaborative degree programs. However, SEA prioritizes its own region over Western Europe in the future for "cross-border collaborative degree programs."

Activeness of regional partnerships for "Cross-border collaborative degree program": SEA & NEA





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Suggestions for East Asian Regional Framework of Higher Education on intra-sub-regional cooperation

- First, the finding shows the deeper collaboration related to higher education within each of the sub-regions, Southeast Asia and Northeast Asia. As the findings generally indicate, Southeast Asian universities most prioritize building partnerships with the other universities in their own region, and Northeast Asian universities also place high priority on building partnerships with the other universities in their own region. These findings support the current regional policy directions. Southeast Asia began discussing regionalization in the education sector within its own region with the construction of the ASEAN Socio-Cultural Community, and in 2011, Northeast Asia initiated the creation of the Asian version of ERASMUS, CAMPUS ASIA, within its own region. **These ongoing active intra sub-regional collaborations may lead to the development of a concrete regional framework of higher education for both Southeast Asia and Northeast Asia.**

Suggestions for East Asian Regional Framework of Higher Education on “East Asia” regional cooperation

- Second, for overall cross-border activities, both Southeast Asia and Northeast Asia highly prioritize each other as partners for their cross-border activities, even compared to their priorities for other parts of Asia and the Pacific. **This fact indicates that integrating the two sub-regions may be a functional next step in constructing a regional higher education framework in East Asia.** Therefore, with ongoing active partnerships between the two regions, developing a framework that integrates the two sub-regions, often referred to as ASEAN+3, may function as a useful coordinating forum. In the venue of ASEAN+3, the issue of integration (or harmonization) in higher education has not yet been prioritized. Nevertheless, many expect an increase in awareness of the importance of regional integration in the higher education sector among ASEAN+3 countries in the future.

Suggestions for East Asian Regional Framework of Higher Education on Inter-regional cooperation

- Thirdly, although the process of the East Asian regionalization of higher education may begin with an ASEAN+3 structure, it should not end there; rather, it should expand to involve strong complementary relationships with other active regions of partners such as Western Europe and North America considering the perceived importance of these two regions for both Southeast Asia and Northeast Asia.

Survey for 1,000 cross-border collaborative degree programs

Figure 1. Framework for cross-border higher education

(a) Category of mobility	*(b) Example forms of mobility by "degree of collaboration" between higher education institutions across borders:*	
	Low →	*High collaboration*
	One-side led program →	*Bilateral program*
People mobility (e.g. students, scholars)	Full degree abroad Semester/year abroad	
Program mobility (e.g. courses, program, degree)	Franchised Online/distance	Twining** Double/joint degree**
Provider mobility (e.g. institutions)	Branch campus Virtual university	*Bi-national university*

Note: * Vertical categories come from Knight while the horizontal column (b) is for this research. Words in Italics are our additions. The underlined forms of mobility are our interests in this paper.
**Defined as "cross-border collaborative degree programs" in this paper.

Analytical framework

- Movements (summary of the CBHE framework):
  - Shift (or diversification) from student to program mobility
  - More collaboration between institutions, *"collaborative degree programs"*

- **Research questions:**
  1. What do universities expect from "cross-border collaborative degree programs"? How do the expectations differ from "conventional student mobility"?
  2. How do these expectations differ within "collaborative degree programs" by degree of collaboration?
  3. How about risks?

Dataset 2: Program-level

- **Our sample programs from survey on** "cross-border collaborative degree programs*" in the "leading" universities in the East Asia, conducted by JICA-RI in 2009/10 (*see next slide for definition)

Sample programs are identified as follows:

- **1st step**: Identify all "cross-border degree programs" in 300 leading universities, mainly through:
  - MOE site, if available
  - Key country publication, if available
  - Website of each university's international office or equivalent
  - Key word search in website of each university (key words such as double/joint, twinning, and sandwich), possibly in English as well as each country language
  - Key word in Google site (with country, university, and program type's name)
- **2nd step:** Grouping the programs with the certain criteria (e.g. Partner university, major, degree type)
- **3rd step**: Cleaning the indentified program list

Our definition of "cross-border collaborative degree programs"

"Higher education degree programs, which are institutionally produced or organized with cross-border university partnership by at least two institutions in two countries or more."

This includes, for example, double/joint, twinning, and sandwich programs. This does not include, for example, conventional student exchange programs and branch campus.

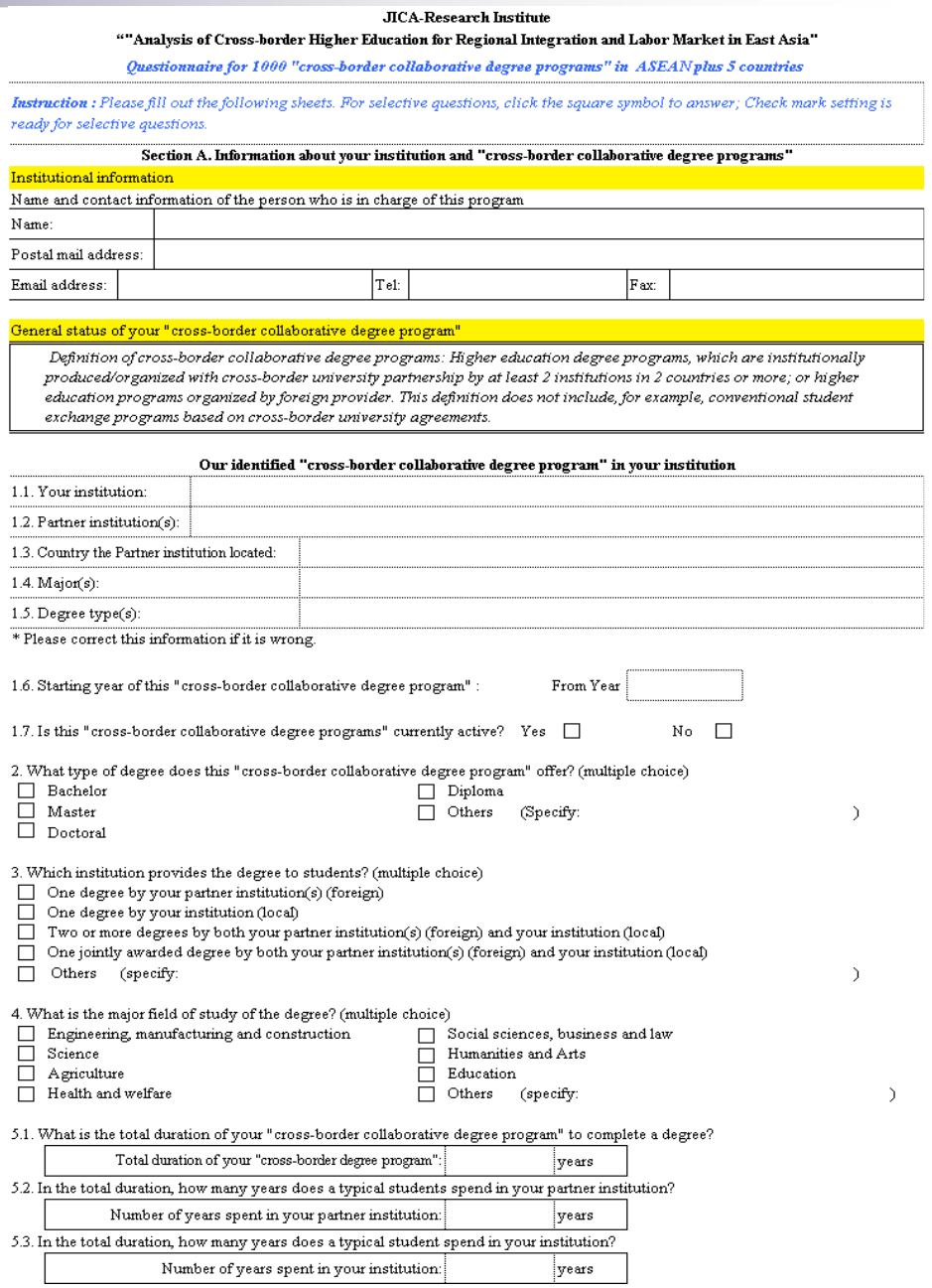
Our questionnaire to sample programs

We sent a questionnaire to 1,048 programs in 300 leading universities via email.

Main contents

1) General information of the program
   - Partner region
   - Level of degree
   - Major
   - Duration of programs
   - Number of students
   - Curriculum and teaching staff
   - Finance

2)Expected outcomes & Challenges



JICA-Research Institute

""Analysis of Cross-border Higher Education for Regional Integration and Labor Market in East Asia"

Questionnaire for 1000 "cross-border collaborative degree programs" in ASEAN plus 5 countries

Instruction : *Please fill out the following sheets. For selective questions, click the square symbol to answer; Check mark setting is ready for selective questions.*

Section A. Information about your institution and "cross-border collaborative degree programs"

Institutional information

Name and contact information of the person who is in charge of this program

Name:					
Postal mail address:					
Email address:		Tel:		Fax:	

General status of your "cross-border collaborative degree program"

Definition of cross-border collaborative degree programs: Higher education degree programs, which are institutionally produced/organized with cross-border university partnership by at least 2 institutions in 2 countries or more; or higher education programs organized by foreign provider. This definition does not include, for example, conventional student exchange programs based on cross-border university agreements.

Our identified "cross-border collaborative degree program" in your institution

1.1. Your institution:	
1.2. Partner institution(s):	
1.3. Country the Partner institution located:	
1.4. Major(s):	
1.5. Degree type(s):	

* Please correct this information if it is wrong.

1.6. Starting year of this "cross-border collaborative degree program" : From Year

1.7. Is this "cross-border collaborative degree programs" currently active? Yes ☐ No ☐

2. What type of degree does this "cross-border collaborative degree program" offer? (multiple choice)

☐ Bachelor ☐ Diploma
☐ Master ☐ Others (Specify:)
☐ Doctoral

3. Which institution provides the degree to students? (multiple choice)

☐ One degree by your partner institution(s) (foreign)
☐ One degree by your institution (local)
☐ Two or more degrees by both your partner institution(s) (foreign) and your institution (local)
☐ One jointly awarded degree by both your partner institution(s) (foreign) and your institution (local)
☐ Others (specify:)

4. What is the major field of study of the degree? (multiple choice)

☐ Engineering, manufacturing and construction ☐ Social sciences, business and law
☐ Science ☐ Humanities and Arts
☐ Agriculture ☐ Education
☐ Health and welfare ☐ Others (specify:)

5.1. What is the total duration of your "cross-border collaborative degree program" to complete a degree?

Total duration of your "cross-border degree program":		years

5.2. In the total duration, how many years does a typical students spend in your partner institution?

Number of years spent in your partner institution:		years

5.3. In the total duration, how many years does a typical student spend in your institution?

Number of years spent in your institution:		years

Our sample programs

- Full sample: **1,048** programs
- Subset of sample : **254** programs (who responded to our questionnaire)

(Number of responses as of May, 2010)

	Full samples	Subset samples	Response rate
	(a) Number of Programs	(b) Number of Programs (All responses)	(b/a)% Percent
Brunei Darussalam	7	0	0%
Cambodia	3	4	**133%**
Indonesia	**133**	**32**	**24%**
Laos	0	0	0%
Malaysia	112	2	2%
Myanmar	1	0	0%
Philippines	13	0	0%
Singapore	81	2	2%
Thailand	72	7	10%
Vietnam	**150**	**85**	**57%**
(Sub total of **ASEAN**)	*572*	*132*	*23%*
China	**157**	**85**	**54%**
Japan	92	26	28%
Korea	69	1	1%
Australia	154	10	6%
New Zealand	4	0	0%
(Sub total of **plus 5**)	***476***	***122***	***26%***
Total	**1,048**	**254**	**24%**

Region of partner university

Rank	All	%	Northeast Asia	%	Southeast Asia	%	Oceania and Pacific	%
1	Western Europe	31.3	North America	28.9	Western Europe	34.1	Northeast Asia	33.5
2	Northeast Asia	23.1	Western Europe	25.8	Northeast Asia	22.4	Western Europe	32.3
3	North America	20.2	Northeast Asia	19.2	North America	19.6	Southeast Asia	21.5
4	Oceania and Pacific	11.4	Southeast Asia	17.9	Oceania and Pacific	17.5	North America	5.1
5	Southeast Asia	10.9	Oceania and Pacific	5.4	Southeast Asia	4.0	Central and East Europe	1.9
							Latin America and Caribbean	1.9

(n= 1,048)

- Western Europe appears to be the most popular partner region for “cross-border collaborative degree program” for 300 leading universities in the East Asia region.
- Each sub-region of the East Asia has different preferences on regional partner.

Activeness of regional partnerships

Rank	Region-region		%
1	Southeast Asia - Western Europe	195	18.6
2	Northeast Asia - Southeast Asia	185	17.7
3	Southeast Asia - Oceania and Pacific	134	12.8
4	Southeast Asia - North America	112	10.7
5	Northeast Asia - North America	92	8.8
6	Northeast Asia - Western Europe	82	7.8
7	Northeast Asia - Oceania and Pacific	70	6.7
8	Northeast Asia - Northeast Asia	61	5.8
9	Oceania and Pacific - Western Europe	51	4.9
10	Southeast Asia - Southeast Asia	23	2.19

(n= 1,048)

Country of partner university

Rank	All		Northeast Asia		Southeast Asia		Oceania and Pacific	
1	USA	193	USA	82	Japan	116	China	41
2	France	138	Malaysia	34	USA	105	France	36
3	Japan	122	France	29	Australia	92	Singapore	22
4	Australia	107	UK	25	France	73	Hong Kong	11
5	China	73	China	22	UK	42	Malaysia	9
6	UK	70	Korea	16	Netherlands	26	USA	6
7	Malaysia	52	Australia	15	Germany	21	Denmark	3
8	Germany	33	Hong Kong	13	Belgium	12	Germany	3
9	Netherlands	31	Indonesia	12	Sweden	12	UK	3
10	Singapore	30	Canada	9	China	10	Others**	2
11	Hong Kong	24	Germany	9	Malaysia	9		
12	Canada	18	Singapore	8	New Zealand	8		
13	Indonesia	18	Japan	6	Canada	7		
14	Korea	17	Netherlands	5	Thailand	6		
15	Sweden	17	Others*	3	Indonesia	5		

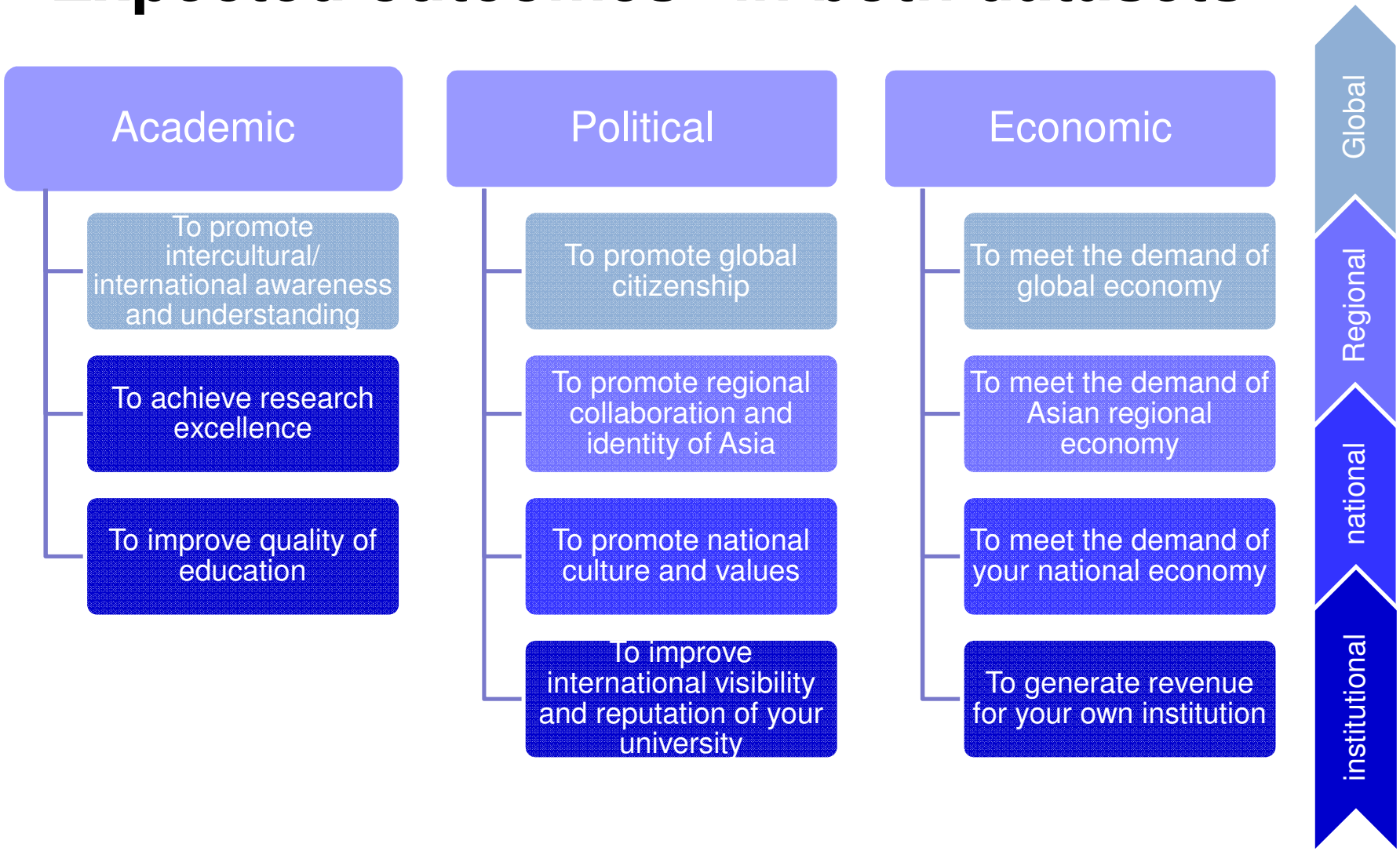
* Italy, Russia, Sweden and Taiwan

** Canada, Fiji, Italy, Russia, Sweden, Switzerland and United Arab Emirates

(All n= 1,048; Northeast Asia n=318; Southeast Asia n=572; Oceania and Pacific n=158)

- Overall, the most popular partner country is USA (18%).
- Partnership among Southeast Asian countries is hard to find.

“Expected outcomes” in both datasets



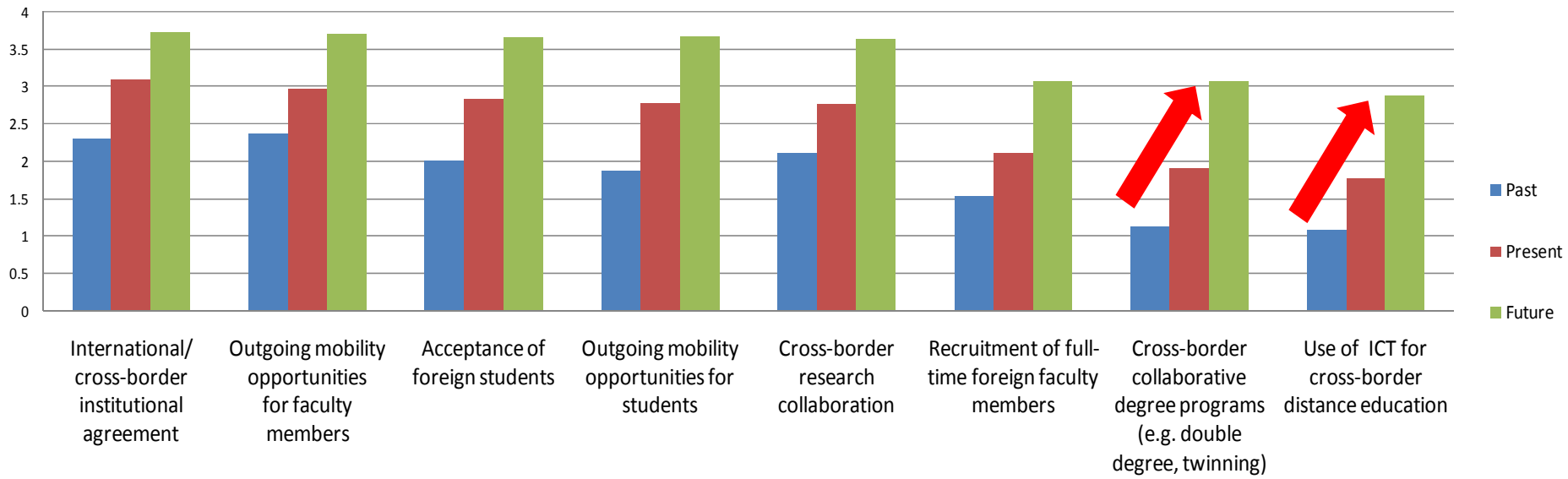
“Challenges” in dataset 2

Academic	Administrative	Social
●Difficulty of assuring quality ●Irrelevance of education content ●Difficulty of employment prospect ●Lack of accreditation	●Insufficient financial resource ●Insufficient administrative capacities ●Miscommunication with partner university ●Difficulty of credit transfer recognition ●Differences in academic calendars ●Difficulty of recruiting students ●Difficulty of resolving language issues	●Inequity of access ●Brain drain ●Overuse of English as medium ●Loss of cultural or national identity

(1) “Leading” universities data indicates…

- The vigor of innovative activities such as “cross-border collaborative degree programs” and “use of ICT for cross-border distance education.” are expected to grow extensively in the future.

Activeness of cross-border activities



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(1) “Leading” universities data indicates…

- Overall, universities perceive academic and political dimensions of outcomes as more significant than economic dimension.
- Differ by collaboration? The expectation “to improve quality of education” is slightly higher on program mobility than student mobility.

	"Expected outcomes"	Student mobility: Acceptance of foregin students	Student mobility: Outgoing mobilty for students	Cross-border collaborative degree programs
Academic	To improve quality of education	3.1	3.2	**3.6**
	To achieve research excellence	2.9	3.1	3.2
	To promote intercultural/ international awareness and understanding	3.3	3.4	3.3
Political	To promote global citizenship	2.9	2.9	2.9
	To promote regional collaboration & identity of	3.1	2.9	2.8
	To promote national culture and values	3.1	2.9	2.9
	To improve international visibility & reputation of your university	3.4	3.3	3.4
Economic	To meet the demand of global economy	2.6	2.6	2.7
	To meet the demand of Asian regional economy	2.6	2.6	2.6
	To meet the demand of your national economy	2.8	2.7	2.7
	To generate revenue for your own institution	2.6	2.0	2.5

4: Highly significant, 3: Fairly significant, 2: Moderately significant, 1:Slightly significant, 0:Not significant.

(2) Sample program datasets, overall, indicates

- Key motivations for East Asian programs are in academic and political dimensions.
- The most important challenge for East Asian programs appears to be “recruiting students”, followed by “resolving language issues”.

Rank	Expected outcome	Mean
1	Improve international visibility and reputation of your institution	3.02
2	Improve quality of education	3.00
3	Promote intercultural/international awareness and understanding	2.97
4	Meet demand of your national economy	2.78
5	Achieve research excellence	2.69
6	Promote regional collaboration and identity of Asia	2.68
7	Promote global citizenship	2.66
8	Meet demand of global economy	2.63
9	Meet demand of Asian regional economy	2.63
10	Promote nationl culture and values	2.59
11	Generete revenue for your own institution	2.08

Rank	Challenges	Mean
1	Difficulty of recruiting students	2.11
2	Difficulty of resolving language issues	1.98
3	Insufficient financial resource	1.78
4	Difficulty of assuring quality	1.77
5	Diffences in academic calendars	1.73
6	Insufficient administrative capacities	1.67
7	Difficulty of employment prospect	1.59
8	Irrelevance of education content	1.58
9	Miscommunication with partner university	1.50
10	Lack of accreditation	1.47
11	Difficulty of credit transfer recongnition	1.46
12	Brain drain	1.40
13	Inequity of access	1.37
14	Loss of cultural or national identity	1.26
15	Overuse of English as medium	1.22

Academic dimension
Political dimension
Economic dimension

Administrative dimension
Social dimension

4:Highly significant, 3: Fairly significant, 2: Moderately significant, 1:Slightly significant, 0:Not significant.

Expected outcomes by home region

- Overall, key motivations for East Asian programs are in academic and political dimensions.
- Economic dimension is more significant in Southeast Asian programs than in Northeast Asian programs.

	ALL		Northeast Asia (Japan,Korea, China)		Southeast Asia (All ASEAN countries)	
Rank	Expected outcome	Mean	Expected outcome	Mean	Expected outcome	Mean
1	Improve international visibility and reputation of your institution	3.02	Promote intercultural/international awareness and understanding	2.77	Improve quality of education	3.69
2	Improve quality of education	3.00	Promote global citizenship	2.60	Improve international visibility and reputation of your institution	3.52
3	Promote intercultural/international awareness and understanding	2.97	Improve international visibility and reputation of your institution	2.55	Meet demand of your national economy	3.35
4	Meet demand of your national economy	2.78	Promote regional collaboration and identity of Asia	2.52	Promote intercultural/international awareness and understanding	3.31
5	Achieve research excellence	2.69	Achieve research excellence	2.43	Achieve research excellence	3.08
6	Promote regional collaboration and identity of Asia	2.68	Promote nationl culture and values	2.43	Meet demand of global economy	3.02
7	Promote global citizenship	2.66	Meet demand of Asian regional economy	2.34	Meet demand of Asian regional economy	2.99
8	Meet demand of global economy	2.63	Meet demand of global economy	2.32	Promote regional collaboration and identity of Asia	2.98
9	Meet demand of Asian regional economy	2.63	Improve quality of education	2.27	Promote global citizenship	2.88
10	Promote nationl culture and values	2.59	Meet demand of your national economy	2.24	Promote nationl culture and values	2.87
11	Generete revenue for your own institution	2.08	Generete revenue for your own institution	2.00	Generete revenue for your own institution	2.24

Academic dimension **Political dimension** **Economic dimension**

Highly significant:4, Fairly significant:3, Moderately significant: 2, Slightly significant: 1, Not significant :0

Challenges by home region

- The most important challenges for East Asian programs appear to be recruiting students and resolving language issues.
- Both Northeast and Southeast Asian programs are less likely to face risks in social dimensions.

	ALL		Northeast Asia (Japan,Korea, China)		Southeast Asia (All ASEAN countries)	
Rank	Challenges	Mean	Challenges	Mean	Challenges	Mean
1	Difficulty of recruiting students	2.11	Difficulty of recruiting students	2.37	Difficulty of recruiting students	2.07
2	Difficulty of resolving language issues	1.98	Difficulty of resolving language issues	2.27	Difficulty of resolving language issues	1.95
3	Insufficient financial resource	1.78	Diffences in academic calendars	2.19	Insufficient financial resource	1.87
4	Difficulty of assuring quality	1.77	Difficulty of employment prospect	2.12	Difficulty of assuring quality	1.81
5	Diffences in academic calendars	1.73	Insufficient administrative capacities	2.06	Diffences in academic calendars	1.53
6	Insufficient administrative capacities	1.67	Difficulty of credit transfer recongnition	2.04	Irrelevance of education content	1.46
7	Difficulty of employment prospect	1.59	Miscommunication with partner uni	1.95	Insufficient administrative capacities	1.46
8	Irrelevance of education content	1.58	Irrelevance of education content	1.93	Inequity of access	1.36
9	Miscommunication with partner univ	1.50	Lack of accreditation	1.93	Difficulty of employment prospect	1.33
10	Lack of accreditation	1.47	Difficulty of assuring quality	1.86	Miscommunication with partner uni	1.27
11	Difficulty of credit transfer recongnition	1.46	Insufficient financial resource	1.83	Brain drain	1.26
12	Brain drain	1.40	Loss of cultural or national identity	1.82	Lack of accreditation	1.25
13	Inequity of access	1.37	Brain drain	1.77	Difficulty of credit transfer recongnition	1.18
14	Loss of cultural or national identity	1.26	Overuse of English as medium	1.74	Overuse of English as medium	0.96
15	Overuse of English as medium	1.22	Inequity of access	1.55	Loss of cultural or national identity	0.96

Academic dimension **Administrative dimension** **Social dimension**

Highly significant:4, Fairly significant:3, Moderately significant: 2, Slightly significant: 1, Not significant :0

Our sample programs' overview : Program-level

- Post-graduate level is more popular than the undergraduate level.
- Both level, social science is the first popular field, and engineering is the 2nd popular.

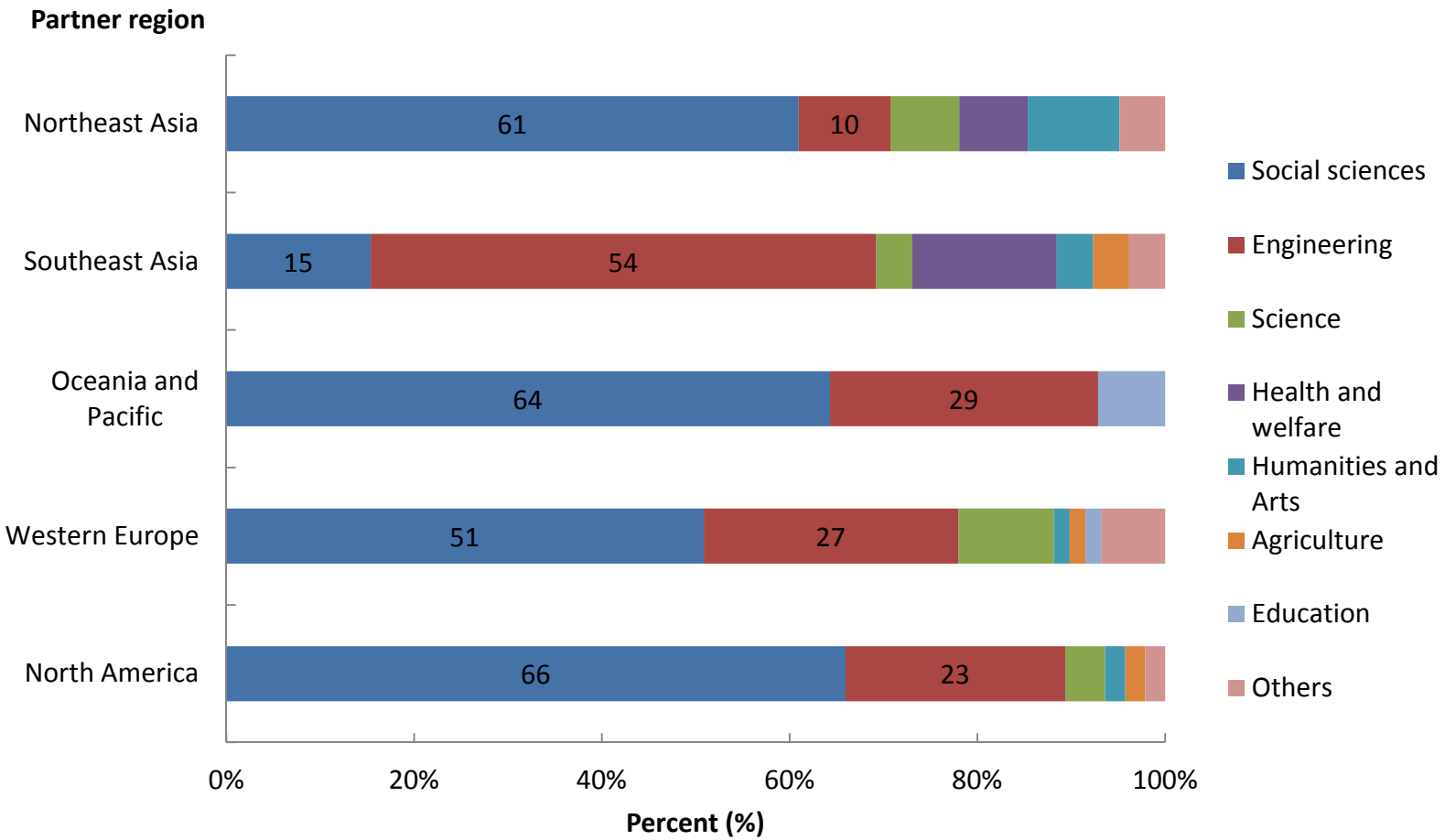
Level of degree

Master	43%
Bachelor	35%
BA& MA	5%
Doctoral	5%
MA& Dr	2%
BA& MA& Dip	1%
BA& Dip	1%
Diploma	1%
MA& Dip	1%
BA& MA& Dr	0%
Others	0%
Missing	6%
	100%

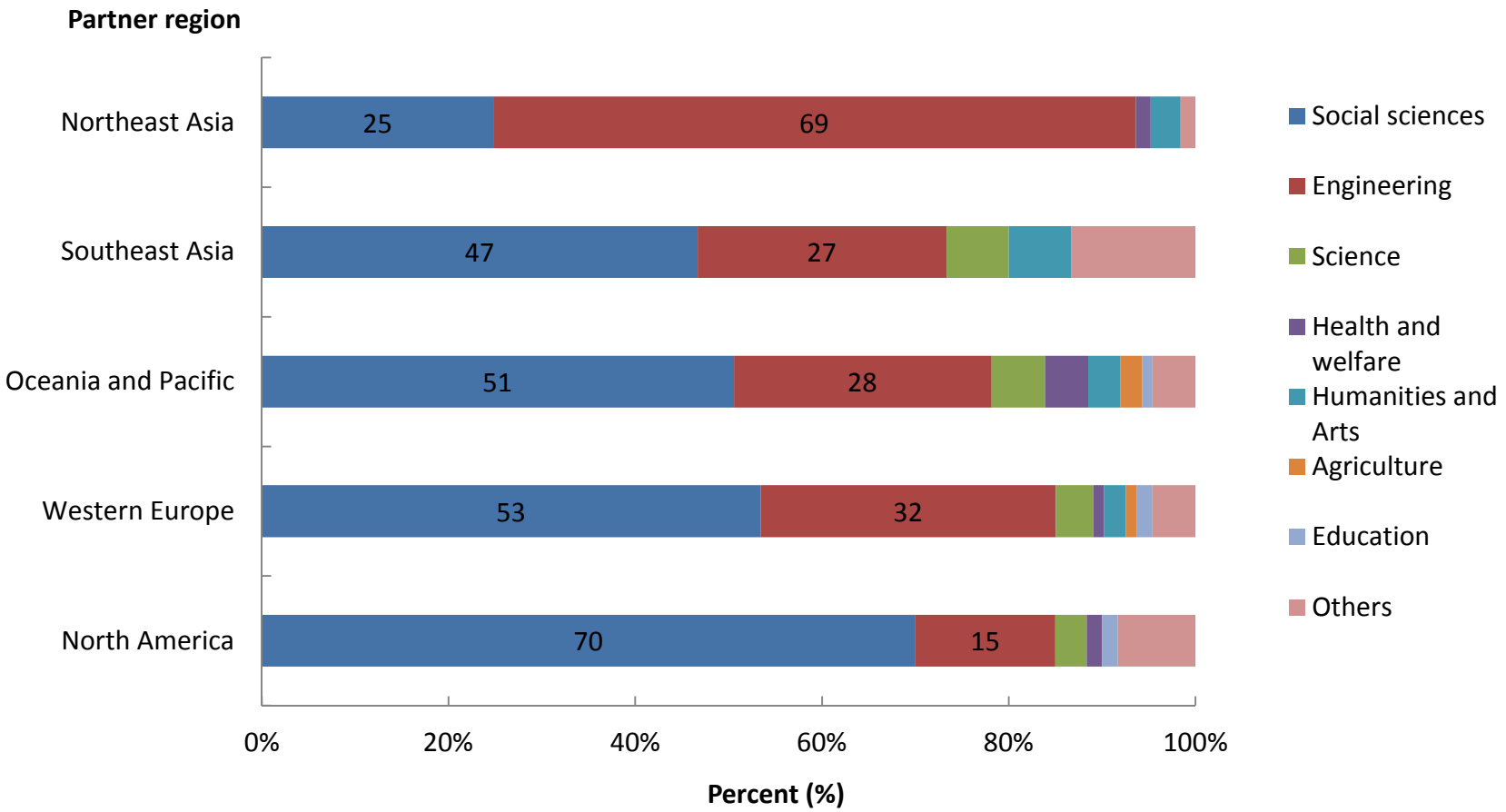
Major field

	Master	Bachelor
Social sciences	57%	30%
Engineering	13%	28%
Science	6%	5%
Health	5%	3%
Humanities & Arts	2%	3%
Agriculture	2%	1%
Education	2%	1%
Others	15%	28%
	100%	100%

Major field by partner region: Southeast Asia



Major field by partner region: Northeast Asia



(3) Sample programs separated into 2 groups by "degree of collaboration"

- How? Based on each of the following three criteria*

Table: Number of sample programs by "degree of collaboration"

Low ⟵ ⟶ *High collaboration*

*		One-sided	Both-side	NA or Missing	Total
1st	**Location of study**	46	187	21	254
2nd	**Curriculum provider**	43	176	35	254
3rd	**Degree provider**	92	145	17	254

*(* See also Annex 1)*

- Interest
  - Are "expected outcomes" perceived as more significant by both-side partnership programs than by one-sided programs?
  - Are "challenges" perceived as less significant by both-side programs than by one-side partnership programs?

- **Academic & Political dimension** of expected outcomes is perceived as more significant by "both-sided partnership program" than by "one-sided program"

	Location of study		Curriculum provider		Degree issuer	
Expected outcome	One-sided Mean	Both-sided Mean	One-sided Mean	Both-sided Mean	One-sided Mean	Both-sided Mean
To improve quality of education	2.90	3.13	3.25	3.11	2.98	3.09
To achieve research excellence	2.53	2.82	2.63	2.89	2.56 <	2.83
To promote intercultural/ international awareness and understanding	2.58 <	3.16	2.85 <	3.17	2.89	3.09
To promote global citizenship	2.51	2.78	2.65	2.82	2.66	2.72
To promote regional collaboration and identity of Asia	2.45 <	2.81	2.55 <	2.88	2.71	2.71
To promote national culture and values	2.45	2.70	2.53	2.76	2.67	2.60
To improve international visibility and reputation of your university	3.08	3.11	3.13	3.19	3.05	3.07

Note: ">" or "<" indicates that the difference between Group 1 and Group 2 is statistically significant. (<0.1)

4:Highly significant, 3:Fairly significant, 2:Moderately significant, 1: Slightly significant, 0:Not significant

- **Social & Academic & Administrative** dimension of challenges is perceived as more significant by “one-sided program” than “both-side partnership program”

Challenges	Location of study		Curriculum provider		Degree provider	
	One-sided Mean	Both-sided Mean	One-sided Mean	Both-sided Mean	One-sided Mean	Both-sided Mean
Inequity of access	1.60	1.33	1.70 >	1.34	1.58 >	1.27
Brain drain	1.75 >	1.35	1.73	1.40	1.66 >	1.27
Overuse of English as medium	1.53 >	1.16	1.53	1.24	1.48 >	1.09
Loss of cultural or national identity	1.58	1.22	1.50	1.28	1.51 >	1.13
Difficulty of assuring quality	**2.03**	1.75	**2.13** >	1.75	**2.06** >	1.62
Irrelevance of education content	1.68	1.57	1.60	1.67	1.69	1.53
Difficulty of employment prospect	1.48	1.63	1.58	1.62	1.73	1.51
Lack of accreditation	1.58	1.46	1.54	1.52	1.57	1.44
Insufficient financial resource	1.95	1.78	1.83	**1.90**	**1.94**	1.70
Insufficient administrative capacities	**2.05** >	1.60	1.80	1.73	**1.94** >	1.51
Miscommunication with partner university	1.68	1.47	1.55	1.54	1.71 >	1.38
Difficulty of credit transfer recongnition	1.80 >	1.40	1.58	1.47	1.69 >	1.35
Diffences in academic calendars	1.73	**1.79**	1.63	1.86	1.86	**1.71**
Difficulty of recruiting students	**2.05**	**2.19**	**2.23**	**2.23**	**2.10**	**2.19**
Difficulty of resolving language issues	1.84	**2.08**	**1.95**	**2.13**	1.87	**2.13**

Note: “>” or “<“ indicates that the difference between Group 1 and Group 2 is statistically significant. (<0.1)

Numbers in bold refer to top 3 expected outcomes by each aspect.

4:Highly significant, 3:Fairly significant, 2:Moderately significant, 1: Slightly significant, 0:Not significant

Conclusions

- **“Partnership based program” is *more effective* than “One side led collaborative program”** in cross-border higher education to achieve expected outcomes in various dimensions.

- **“Partnership based program” has *less challenges* than “One side led collaborative program”** in cross-border higher education in various dimensions.

→ Equal Partnership is the key for success of cross-border collaborative degree programs!

Thank you very much!