

2018 CM Seoul Forum

CM 세계화를 위한 국제협력방안

A Strategic Approach on CM Globalization

Based on Lessons learned from CMAK Internationalization Program

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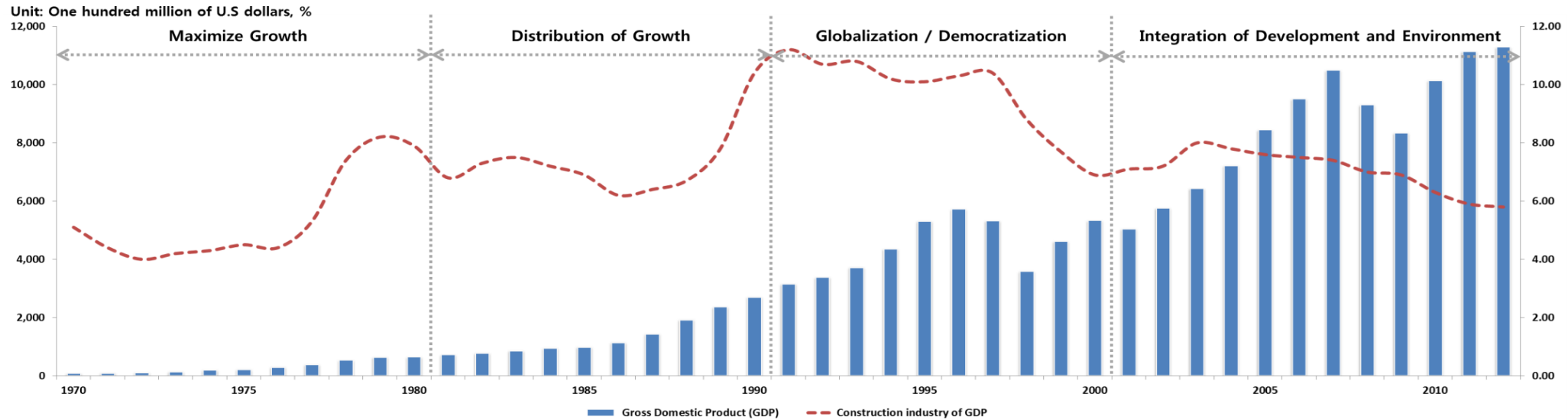
1. Introduction
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ENR Top 225 International Contractors

HOW THE TOP INTERNATIONAL CONTRACTORS SHARED THE 2016 MARKET

DESIGNER NATIONALITY	# OF FIRMS	INT'L REVENUE		MIDDLE EAST		ASIA		AFRICA		EUROPE		UNITED STATES		CANADA		LAT. AMER / CARIB.	
		\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%
AMERICAN	43	41,874.7	8.9	4,440.2	5.3	9,263.3	7.7	1,598.1	2.6	12,757.5	13.3	NA	NA	11,033.3	58.9	2,782.5	8.2
CANADIAN	3	3,597.2	0.8	842.3	1.0	1,190.0	1.0	208.4	0.3	339.0	0.4	968.6	1.8	NA	NA	48.8	0.1
EUROPEAN	46	210,737.1	45.0	29,594.1	35.2	33,262.1	27.6	14,626.2	23.8	69,591.8	72.5	40,338.5	75.3	5,730.9	30.6	17,593.5	52.1
BRITISH	2	8,817.3	1.9	6,719.6	8.0	330.0	0.3	427.0	0.7	1,232.7	1.3	9.0	0.0	0.0	0.0	99.0	0.3
GERMAN	2	23,560.8	5.0	1,165.2	1.4	8,792.2	7.3	147.3	0.2	1,113.0	1.2	11,204.1	20.9	972.4	5.2	166.6	0.5
FRENCH	3	41,737.3	8.9	1,340.6	1.6	5,850.2	4.9	4,713.7	7.7	21,104.4	22.0	3,774.0	7.0	2,099.7	11.2	2,854.7	8.5
ITALIAN	14	26,673.3	5.7	6,431.1	7.7	4,821.2	4.0	5,781.5	9.4	4,106.9	4.3	2,221.8	4.1	557.5	3.0	2,753.3	8.2
DUTCH	3	8,522.0	1.8	631.4	0.8	847.9	0.7	443.0	0.7	5,979.7	6.2	0.0	0.0	0.0	0.0	620.1	1.8
SPANISH	11	58,988.2	12.6	6,003.4	7.1	11,909.7	9.9	1,147.5	1.9	12,341.5	12.9	16,629.5	31.0	2,042.6	10.9	8,914.1	26.4
OTHER EUROPEAN	11	42,438.1	9.1	7,302.9	8.7	710.9	0.6	1,966.2	3.2	23,713.6	24.7	6,500.1	12.1	58.7	0.3	2,185.6	6.5
AUSTRALIAN	3	8,807.6	1.9	1,797.2	2.1	5,414.0	4.5	152.8	0.2	89.0	0.1	10.0	0.0	1,255.7	6.7	88.9	0.3
JAPANESE	13	24,425.0	5.2	1,433.1	1.7	11,237.9	9.3	282.6	0.5	3,183.2	3.3	7,684.1	14.3	360.2	1.9	244.1	0.7
CHINESE	65	98,722.5	21.1	13,419.2	16.0	38,264.1	31.8	34,559.6	56.2	2,721.0	2.8	1,985.8	3.7	69.7	0.4	7,703.1	22.8
KOREAN	11	33,938.6	7.3	15,387.4	18.3	12,237.3	10.2	2,708.9	4.4	985.6	1.0	410.2	0.8	264.7	1.4	1,944.6	5.8
TURKISH	46	25,591.0	5.5	7,624.7	9.1	8,468.9	7.0	3,136.7	5.1	6,210.4	6.5	148.5	0.3	0.0	0.0	1.8	0.0
BRAZILIAN	2	4,615.8	1.0	91.5	0.1	0.0	0.0	1,468.5	2.4	41.3	0.0	84.9	0.2	0.0	0.0	2,929.6	8.7
ALL OTHERS	18	15,607.9	3.3	9,389.6	11.2	968.4	0.8	2,797.8	4.5	66.6	0.1	1,964.7	3.7	3.6	0.0	417.1	1.2
ALL FIRMS	250	467,917.4	100.0	84,019.3	100.0	120,306.1	100.0	61,539.6	100.0	95,985.3	100.0	53,595.2	100.0	18,717.9	100.0	33,754.0	100.0

Korean Economic History



Source: Bank of Korea economics statistics system, GNP & restructured by utilizing production structure data

Key Issues

- In the past 40 years Korean GDP grew average of 12.79% annually
- Production density of construction sector grew average of 16.47% annually
- Construction sector had a major role in the economic development process of 70s~90s

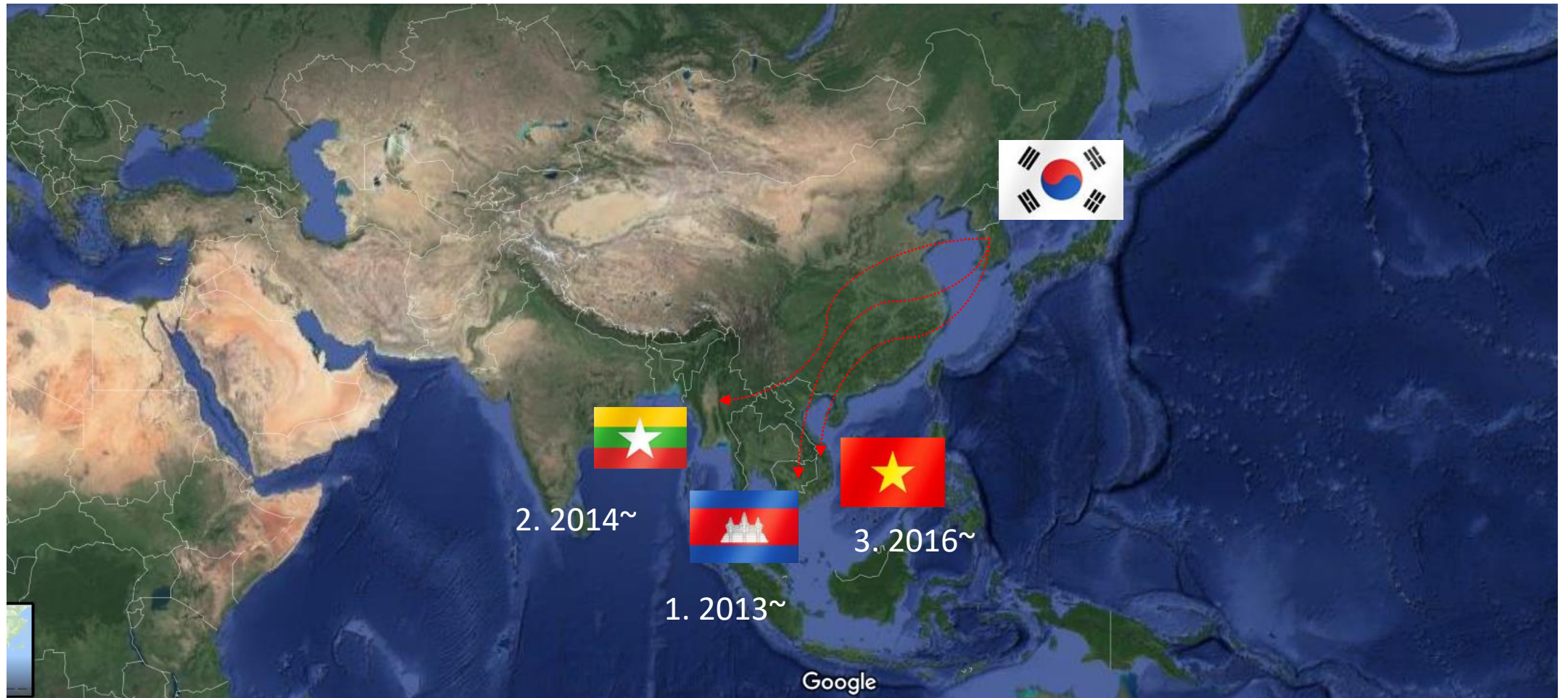
Domestic vs. International Market



Need for CM Internationalization

- Increased international construction market share
- New emerging market in Asian countries
- High competitiveness in construction domain
- New approach needed for high value in construction
- Request for corporation by upgrading current practice

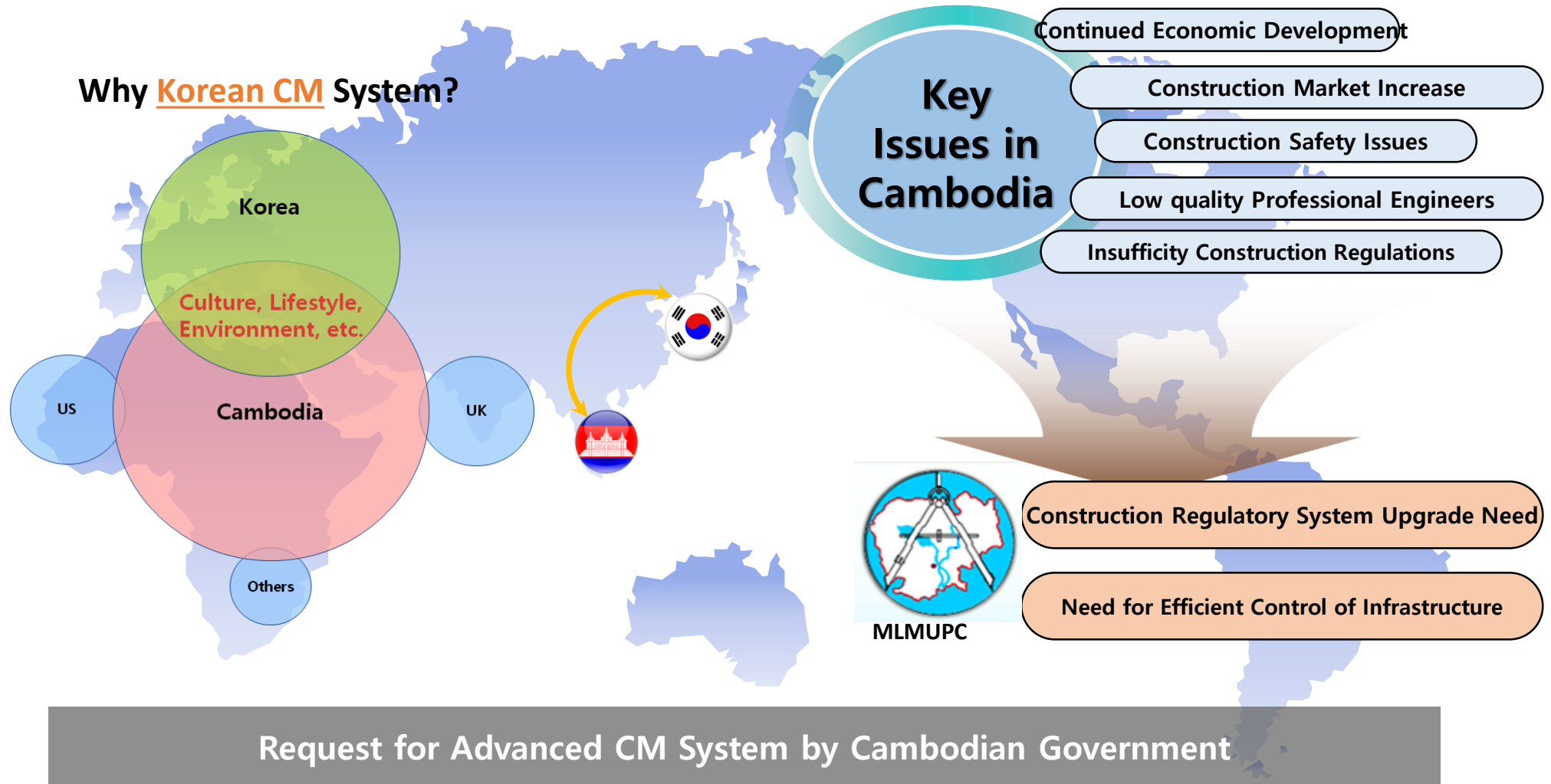
CMAK CM Internationalization Program (Since 2014)



CMAK International Collaboration Program

- Program Objective: To share Korean CM practice with Asian developing countries in order to maximize the value of internationalization in Construction
- Program Structure: Approx. two year time period
 - Step 1: Conduct construction market/technology research
 - Step 2: Propose construction-related regulatory framework
 - Step 3: Develop CM manual for owners and service providers
 - Step 4: Implement CM education/training module
 - Step 5: Establish Industry Internationalization Committee
 - Final goal: Launch pilot/demonstration construction projects

Cambodia: CMAK Program (Since 2013)



Cambodia: CMAK Program (Since 2013)

■ Cambodia Construction Law Framework

1st Working Group Meeting

MLMUPC interview/survey

Technology/Market research

Establish communication network



2nd Working Group Meeting

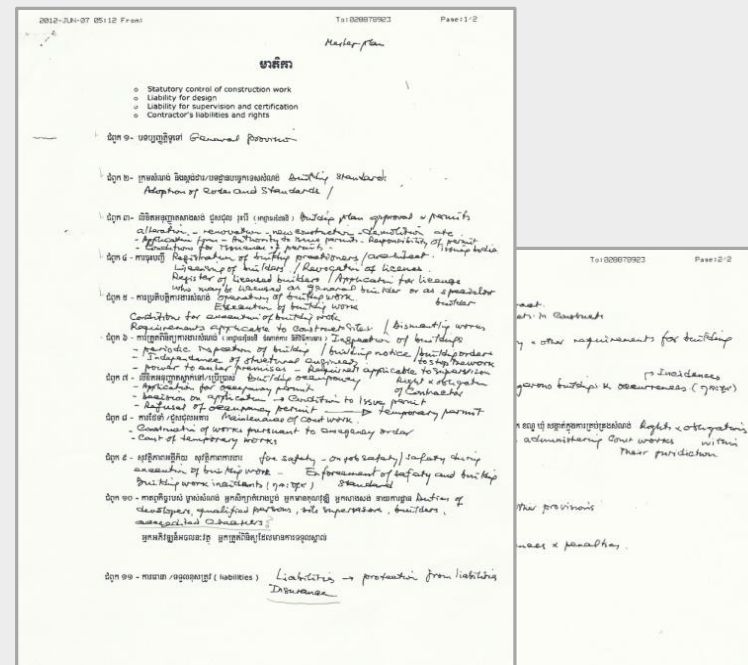
Understanding of Korean Cambodia CM system

Korea-Cambodia cooperation Plan

Discuss Government-level collaboration strategy



Cambodia Construction Law Draft

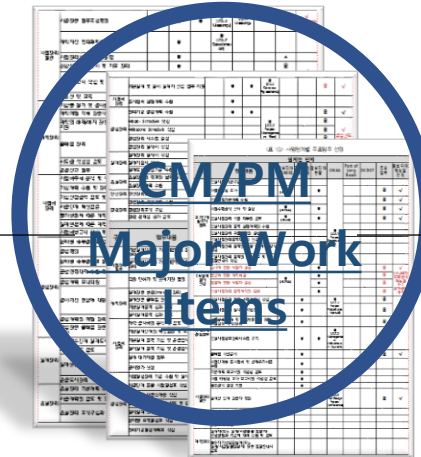


- ពិធីប្រកាសនិព្វាណក្នុងសាលាប្រឹក្សាសាលាសិក្សាស្រាវជ្រាវ
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Myanmar: CMAK Program (Since 2015)

- CM/PM major work items for Myanmar CM Manual
 - Prioritize CM/PM work items throughout Industry Expert Survey of Korean and Myanmar
 - Quality/Safety issues have been highlighted by Myanmar government
 - Extract 47 work PM/CM work items and compile detailed-level work manuals

<Industry Expert Meeting>



<Myanmar Government Discussion>



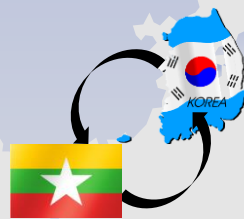
Based on Industry survey and Myanmar government feedback
47(Owner:10, Consultant:37) work items complied

Myanmar: CMAK Program (Since 2015)

■ Expected Contributions

"Korea-Myanmar Collaboration Strategy"

- Secure Myanmar Technology/Market Analysis & Human network for Market Launch
- Myanmar CM competency level upgrade and new business opportunity outreach



"Myanmar CM Internationalization Program"

"Provide Myanmar CM Regulation/Manual"

- Establish Myanmar government CM Regulation action plan
- Internationalized CM Regulations for future Collaboration
- Synergetic effect on both Korea-Myanmar construction industry

Vietnam: CMAK Program (Since 2016)

- CM Seminar with Vietnam Ministry of Construction (approx. 100 people)



“한국-베트남
상생전략 도출”



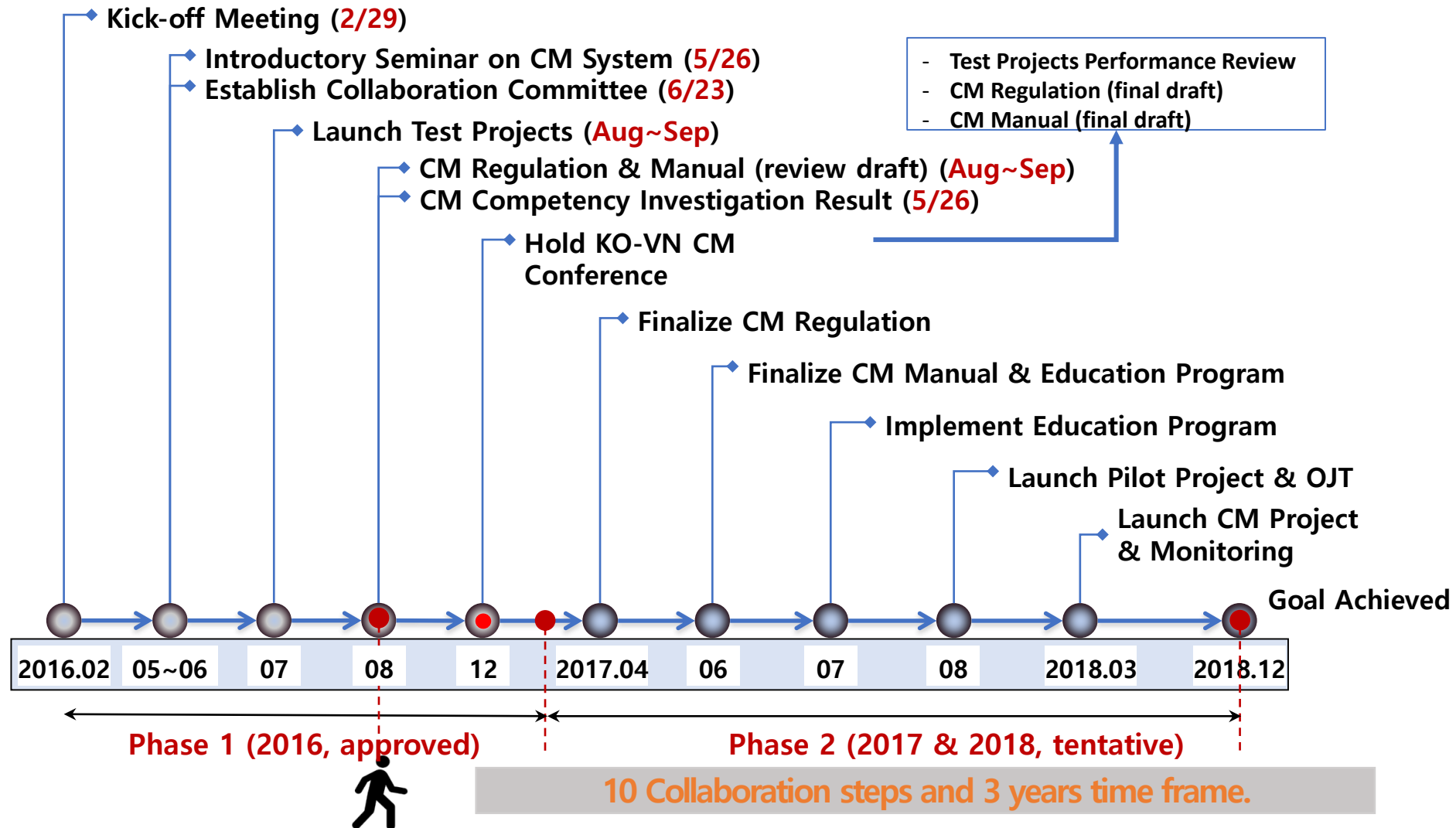
- CM Seminar with Vietnam Real Estate Association (approx. 70 people)



“다양한 건설
프로젝트 수주의
토대를 마련”



Vietnam: CMAK Program (Since 2016)



CMAK CM Education Program

<Application Forms-Vietnam>

< 5 Day CM Education Schedule-Myanmar>

Date	Time	[Day 1]	[Day 2]	[Day 3]	[Day 4]	[Day 5]
08:00		Course Guide (08:00~8:30)				
9:00		CM Introduction (08:30~10:00)	Cost Management (08:00~11:30)	Design Management (08:00~11:30)	Quality Management (Completion) (08:00~11:30)	Safety/Environmental Mngmt. (08:00~11:30)
10:00		Contract Management (10:00~11:30)				
11:00						
12:00		Lunch (11:30~13:00)	Lunch (11:30~13:00)	Lunch (11:30~13:00)	Lunch (11:30~13:00)	Lunch (11:30~13:00)
13:00						
14:00		Risk Management (13:00~15:00)	Schedule Management (Planning) (13:00~15:00)	Design Management (VE) (13:00~15:00)	Safety/Environmental Mngmt. (13:00~18:00)	Course Exam (13:00~14:00)
15:00						Course Discussion (14:00~16:00)
16:00		Cost Management (Budget Planning) (15:00~18:00)	Schedule Management (Review/Operate) (15:00~18:00)	Quality Management (Planning) (15:00~18:00)		Awards (16:00~17:00)
17:00						
18:00						

<Coursework: Myanmar, Vietnam>



<Trainee's Feedback from Myanmar>

Statement	Mean	Stand. Dev.
Are you satisfied with the contents of each course?	4.33/5	0.57
Has this education program improve CM understanding?	4.20/5	0.60
Has this education program improved awareness of the need for CM?	4.28/5	0.50
Has this education program improved awareness of the effectiveness of CM?	4.35/5	0.48

<Trainee's Feedback from Vietnam>

Statement	Mean	Stand. Dev.
Are you satisfied with the contents of each course?	4.31/5	0.95
Has this education program improve CM understanding?	4.31/5	0.63
Has this education program improved awareness of the need for CM?	4.31/5	0.95
Has this education program improved awareness of the effectiveness of CM?	4.38/5	0.96

Current Status of CMAK Program

Cambodia	Myanmar	Vietnam
CM Program Financial Support Termination (2015. 8)	1 st Korea-Myanmar ICC Meeting (2016. 1. 7)	Kick-off Meeting (2016. 2. 29)
Propose Korea-Cambodia Industry Collaboration Committee (ICC) (2015. 10. 5)	2 nd Korea-Myanmar ICC Meeting (2016. 5. 1)	Establish ICC & Introductory Meeting (2016. 6. 23)
Discuss ICC Working Group on Operation & Pilot Project (2015. 12. 3)	Meeting with MOC Minister Win Khaing & Vice Minister Kyaw Linn (2016. 7. 26)	Launch Test Projects (2016. 8월~9월)
Meeting with Cambodia MLMUPC Officers (2016. 2. 3)	Exchange Letter to Minister Win Khaing (2016. 8. 5)	Draft CM regulation & Manual (2016. 8월~9월)
Interview with Ministry of Foreign Affairs Officer (2016. 8. 1)	Exchange Agreement with MOC officer Thein Zaw (2016. 8. 15)	Evaluate Competency level of CM/PM in Vietnam (2016. 5. 26)
Letter for Relationship Improvement with MLMUPC (2016. 12. 6)	Test Project Site Visit and Preliminary Investigation (2016. 10. 20)	Finalize CM/PM Manual and ceremony event (2016. 12. 16)
Discuss for ICC Pilot Project in Cambodia (2017. 8. 25)	Discuss Pilot Project in Yangon (2017. 8. 16)	Korean-Vietnam ICC working group meeting (2017. 9. 6)
Exchange of Korean-Cambodia ICC Agreement (2017. 8. 30)	Tentative Pilot Project of North Oakalapa Hospital Project (2017. 12. 19)	MOU with Hochimin VNREA and under review of pilot project (2017. 11. 24)
Current Status Exchange of ICC Agreement & Future Plan will be discussed	Current Status Study on Tentative Pilot Project (North Oakalapa Hospital) with Myanmar Government	Current Status Based on MOU with Vietnam HQC Pilot Project, Submit CM Proposal, Under Review process

CMAK Research Team Keep on Auditing ICC for Pilot Project, On-Job Training(OJT) for activation of CM/PM Manual for beneficiary countries

Lessons Learned: Beneficiary Country

- Government support diminishes due to political instability
- Low understanding of CM/PM effect on public construction
- Focus more on hard-cost, little concern on soft cost
- Deficient amount of money for financial support on managerial technology, i.e, CM/PM
- Recognition of Advanced CM/PM system, but difficulty of persuasion of private-sector
- Difficulty of cut-off from existing construction practice

Lessons Learned: Benefactor Country

- Construction industry is “people” industry
- Poor support for securing Internationalization- minded professionals
- National level construction systematic support and cooperation needed
- Company-level support is short-term oriented
- Difficulty in personal/financial support from mid-low sized construction companies
- CMAK program: private-level diplomatic program
- Not a short-term performance oriented approach
- Building a trustworthiness between countries is the key

How to improve CMAK Program

- Systemize & Best Practice of CMAK Internationalization Model: “Market Research->Technology Competency Analysis->Regulation Improvement->Education Module Development->Pilot Project Launching->Expand Collaboration ”
- Secure sustainable Collaboration program by establishing human/technical network
- Expand Volunteered companies by various project delivery methods (i.e, CM@Risk, PMforFee, PPP etc)
- Provide collaboration business model (i.e., Local office, Agency, Partnership, Consortium, etc)
- Win-win strategic approach for both Beneficiary and Benefactor countries by establishing long-term trustworthiness by ex post facto effort

Conclusions

- Construction industry is people-oriented, key to success in how to build trustworthiness among participants
- CMAK internationalization program is an effort to build trustworthiness between the participant countries
- Trustworthiness requires a big mount of time and effort, so the program should be a journey not a short-term event
- The full support of this program can expand the economic opportunities in the global construction in the near future
- Not only for economic benefit, the world-wide quality level improvement throughout building the better world
- Therefore, pan-government level support required by establishing long-term trustworthiness between beneficiary and benefactor countries
- Positive results automatically follows: Win-win synergetic effect

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Thank you for your attention!

