



Bio-Bridge Initiative Pilot Project Convention on Biological Diversity



National Institute of Biological Resources
Republic of Korea



Ministry of Environment

National Institute of
Biological Resources



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I. Introduction



Division	Contents		
Titles	Transfer of DNA Barcode Analysis for Biodiversity Monitoring		
Duration	Sept. ~ Dec. 2016	Budget	\$ 42,735
Department	Plant and Animal resources division		
Staffs	Total 13 people		
The Results	<ul style="list-style-type: none">➤ 12 trainee from Asia of DNA Barcoding Analysis program from BBI project of NIBR➤ Report from the project➤ Implementation of Strategic plan BD 2011~2020		



I. Introduction



【 An Objective and Backgrounds 】

- ▶ Catalyzing and facilitating technical and scientific cooperation(TSC) among Parties to the Convention on Biological Diversity(CBD) and to its Protocols on Cartagena Protocol and Nagoya Protocol.
- ▶ Convention on Biological Diversity COPX/39 and COPXI/29 recommended sharing taxonomic tools such as DNA barcoding for identification and analysis of threatened species, invasive alien species, and species subject to illegal trafficking etc.

ABT 9 Invasive alien species

ABT12 Reducing risk of extinction

ABT 13 Safeguarding genetic diversity

ABT19 Sharing Information and Knowledge

II. Strategic Actions



▶ Operation Method :

- Pilot project in 2016, training program of the Workshop
- ※ Collaboration with related divisions of NIBR in aspects which are facilities, experts for lectures and training program etc.

< The procedure >

Government employees, experts, and students who investigate biodiversity in Asia region(dispatch e-mail to CBD focal point or related Institution of Parties) ⇒ trainee confirmation ⇒ financial supporting to participate the program (Sending invitation letters etc.)⇒ the workshop (including Field trips) ⇒ Presentation of outcomes of the workshop (side event in CBD cop13)⇒ A final

II. Strategic Actions



► priorities to participate the workshop

- ⇒ People recommended by the CBD focal point from their own parties
- ⇒ People have degree beyond master in Taxonomy, Ecology and Biology, and Subjects related to Biodiversity etc.
 - People who is officials, experts, students related to Biodiversity work (People who were born since 1975)
 - People have experiences which are Capacity Building Program in Global Taxonomy Initiative
- ⇒ People from East Asia region(동남아시아 > 동북아시아 순서)
 - to consider the mission, vision and mid and long term plan of NIBR
- ⇒ Parties is expected to collaboration in aspect of utilization of useful and valuable bio-resources in future
- ⇒ Gender balance



II. Strategic Actions



▶ 16 people in 12 countries ⇒ 12 people in 8 countries



II. Strategic Actions



- ▶ Lab experiences and a series of roundtable discussions were held to draw attention to the potential obstacles in accepting DNA barcoding analysis tools in participating countries
- ▶ Schedule of the workshop :
14, Nov.(Mon) ~ 25 Nov.(Fri) 12days
- ▶ Dividing into 2 team – Plant and Animal Resources
Analysis Teams (9:00~18:00/day]

II. Strategic Actions



► Dividing into 2 team – Plant and Animal Resources

Analysis Teams (9:00~18:00/day]

materials to analysis : CITES speices, Invasive species(illegal trade) and unknown powdery herbal medicines, feces, and hairs without recognizable morphological characteristics

For identifying species which is necessary for:

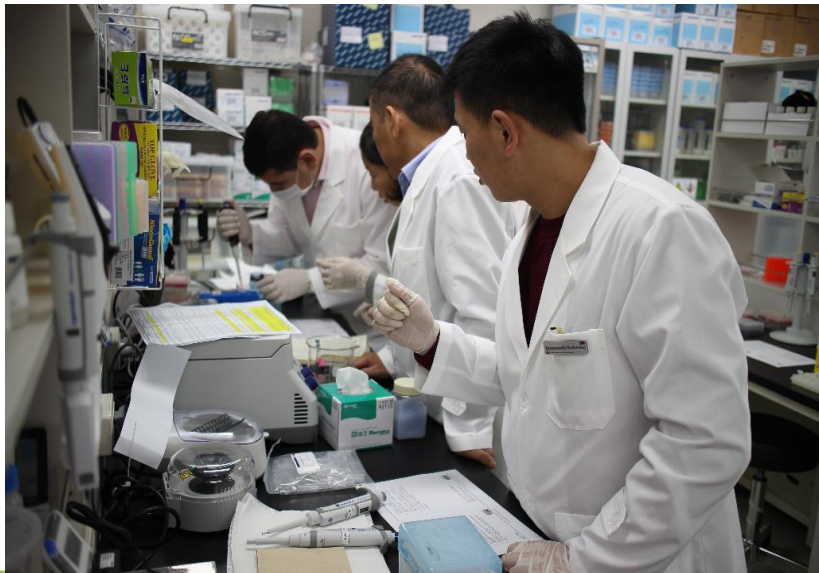
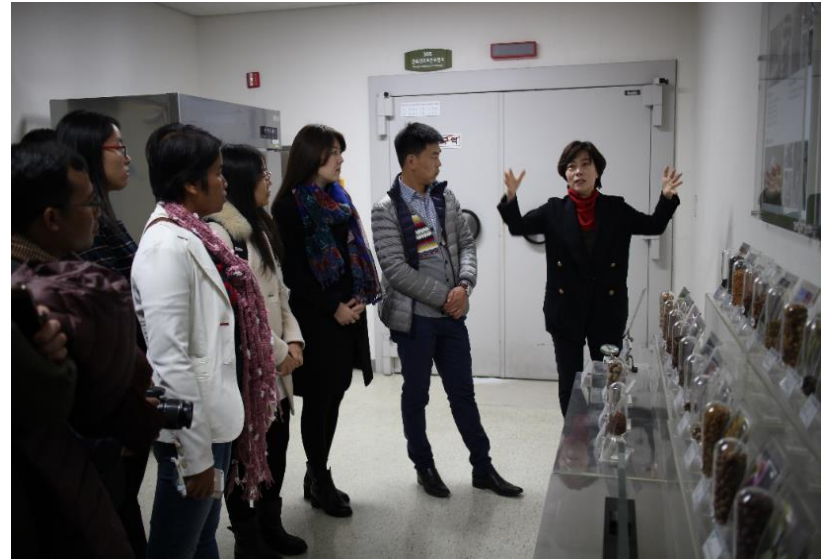
- (1) prioritization and management of protected area,
- (2) agriculture and aquaculture relevant to food security,
- (3) control and management of invasive alien species,
- (4) species inventories and monitoring

II. Strategic Actions



Time step.	Date	Activity	Action in detail
1	14(Mon) Nov	- Arrival at the lodge and Registration	
2	15(Tue) Nov	- Registration - Opening ceremony, Lecture(1~3)	Ceremony with President of NIBR
3	16(Wed) Nov	- Lecture(4~6) - Demonstration of lab works(1 and Discussion	DNA extraction
4	17(Thu) Nov	- Demonstration of lab works(2) - Discussion	PCR (Polymerase Chain Reaction)
5	18(Fri) Nov	- Experiments (participants in person) - Discussion	DNA extraction, PCR
6,7	19(Sat), 20(Sun) Nov	- Field trips (other institute related to Biodiversity)	
8	21(Mon) Nov	- Lecture(7~9) - Experiments and Discussion	Assembling of sequences
9	22(Tue) Nov	- Field trip (visiting Amore-Pacific)	
10	23(Wed) Nov	- Lecture(10~12) - Experiments and Discussion	Alignment of sequences, Making NJ tree and Analysis
11	24(Thu) Nov	- Experiments and Round table discussion - Survey for participants	Questionnaire survey, Ceremony with President of NIBR
12	25(Fri) Nov	- Closing ceremony - Departure to each country	

II. Strategic Actions



III. Outcomes



▶ 12 good trainee and friends in 8 countries



III. Outcomes



► Preparation the final report



Convention on Biological Diversity



CBD Bio-Bridge Initiative Project

The Workshop on DNA Bar-Coding Analysis Technology for Biodiversity monitoring

생물다양성 모니터링을 위한 DNA바코드 분석 워크숍

Duration

14. Nov. 2016 (Mon) ~ 25. Nov. 2016(Fri)

Venue

National Institute of Biological Resources


Hosted and organized by


 National Institute of Biological Resources

Biodiversity

CBD

DNA Bar-Code



Rapid identification of species
using DNA barcoding

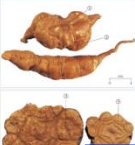



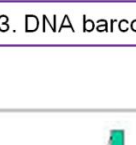

National Institute of Biological Resources
(NIBR)

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개나리 (Korean Forsythia)
 우리 나라 고유 식물로
 분포가 넓고, 전통적으로 인공재
 목재의 원료로 사용되며, 목재
 방부제, 방충제, 주사약
 성분으로 사용되며, 노목

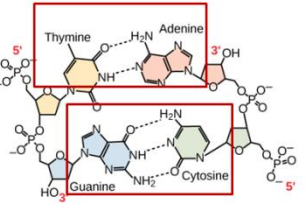
4. Application of DNA barcoding : identify true ones

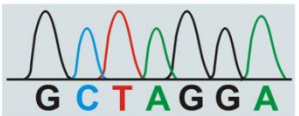
- Distinguish misused, mixed products from real ones

Polygonaceae	Asclepiadaceae	
1. 하수오 <i>Fallopia multiflora</i>	2. 백수오 <i>Cynanchum silfifolii</i>	3. 이엽우피소 <i>Cynanchum auriculatum</i>
		
		

3. DNA barcoding







G C T A G G A

III. Outcomes and expected effects



- ▶ Contribution to Implementation of Strategic Plan for Biodiversity 2011-2020 and Achievement of Aichi Target in Asia
 - to enhance synergies among the biodiversity and related convention or its protocols
- ▶ Many developing countries are able to monitor and management of their biodiversity
 - easier than before condition without the capacity to identify species of interests and unknown species
 - to support enhancing capacity building of parties which have high(mega) biodiversity
- ▶ narrow the gap between developing countries and developed countries in scientific and technical aspect

IV. The consideration of our work



- ▶ **The number of parties for participating the program**
- ▶ **Members who have different background**
- ▶ **Periods of the training program**
- ▶ **Needs of each parties (their condition and situation)**
→ materials which will be analyzed the training program
- ▶ **Mid and long term plan (outcomes from the program)**



Catalyzing, facilitating and transferring technical and scientific cooperation(TSC) among Parties on CBD and to its Protocols



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Thank you very much

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