

中國文化大學 112 年度 地理系 移地學習執行成果報告書

- 計畫類別： 高教深耕計畫
- 子計畫名稱： A5-1 提升學生國際視野，強化國際移動力
- 主 題： 日本沖繩島地理實察
- 主辦單位： 地理系
- 活動日期： 2023/6/17-2023/6/22
- 活動地點： 日本沖繩全島
- 參與人數： 12

承辦者	系主任	院長
雷鴻飛	洪念民	蘇平貴

中國文化大學 112 年度地理學系

移地學習成果報告書

壹、 目的

這一次移地學習選擇沖繩島作為目的地，旨在透過沖繩島這一座琉球群島核心島嶼的自然與文化遺產，認識遠東一段花綵列島的地景與歷史，以及琉球群島作為臺灣與日本之間的橋樑，其所扮演的角色。為此，本計畫同時安排了室內學習與地理實察。室內講課邀請琉球大學專業教師引導學員熟悉沖繩島的研究文獻與自然與歷史。地理實察選擇 16 處地點作為範例，要求學員完成獨立地理調查，並撰寫報告。實察主題有六項：地景生態保育、里山與保育經濟學、生態旅遊、文化遺址保護與經營管理、地理空間設計、都市生態；參與學員任選一項作為最後一天實察報告的主題，並鼓勵參與學員將此主題發展成為畢業論文。透過這一次的移地學習，同時發展中國文化大學地理系與琉球大學國際地域創造學部的交流合作，激勵本系區域研究。

This learning program aims to understand landscape and history of a section of the Festoon Islands and the role of the Ryukyu Islands in bridging Taiwan and Japan naturally and culturally through those natural and cultural heritages of the Okinawa Island, the central island of the Ryukyu Islands. To do so, the program arranges both indoor lectures and geographical field surveys. The indoor lectures facilitate students the literature review of both nature and history of Okinawa. The geographical field surveys will be practiced with 16 selected places, and students are required to finish independent geographical surveys and to give the final report that will be presented in the last day in Okinawa. There are six issues that can be chosen as the topic of the final report: the conservation of the landscape ecosystem, Satoyama or Satoumi and conservation economics, ecotourism, the protection of cultural heritage sites and management, geographical design, and urban ecosystem. Students are encouraged to develop their final reports into the essay for their first degrees. Through this learning program, the corporation between the Department of Geography in the Chinese Cultural University and the Faculty of Global and Regional Studies in the University of Ryukyus will be promoted, and the regional study will be encouraged.

貳、 課程大綱

本課程透過 8 小時在中國文化大學地理系的行前課程，4 小時在琉球大學的室內講課，以及連續 3 天的地理實察課程，增進學員認識沖繩島與琉球群島的自然地理與人文歷史。課程中協助同學完成文獻回顧與資料蒐集，透過地景生態保育、里山與保育經濟學、生態旅遊、文化遺址保護與經營管理、地理空間設計、都市生態 6 項主題，以及 16 處沖繩島的自然與文化遺產，引導學員瞭解里山倡議在地景生態保育、社會紋理保護、可持續發展上的意義。

參、 實施方法

3.1 包含執行時間:

2023/6/17~2023/6/22

3.2 地點:

日本沖繩島

3.3 授課學分基本時數之具體學習佐證

1 學分 – 獨立地理實察報告

3.4 參加人數

12 人

3.5 相關行政配套

3.5.1

本計畫將協同日本琉球大學琉球大學理學部物質地球科學科地學系，一起舉辦。由於事涉多日地理實察的戶外活動，時間與地點將由地主國學校領導教師，根據屆時的具體環境條件與安全考量，做最後決定。

3.5.2

行前於中國文化大學地理系教室，安排 8 小時的課程，介紹琉球群島的地景生態與歷史發展，並引導學生選定、發展自己的獨立地理實察課題與畢業論文。

沖繩島 6 天 5 夜行事曆如下：

1) 6/16 星期五。下午抵達琉球，安頓行李住宿。

2) 6/17 星期六。上午琉球大學領導教師安排「琉球的自然地理」、「琉球的人文歷史」兩場講課。自理午餐。午後造訪首里城(しゅりじょう/スイグシク/Sui Gusiku)及其鄰近文化遺產，比較它與臺北古城的經營管理。夜宿大和飯店。

3) 6/18 星期日。上午慶佐次灣 (Gesashi Bay)，實察紅樹林地景生態保育及生態旅遊；午餐自理。隨後再往宇佐濱海灣和沖繩島的極北點邊戶岬 (Cape Hedo)，觀測海岸地景生態特徵，夜宿大和飯店。

4) 6/19 星期一。上午前往海生館，認識琉球群島的海洋動物種類；午餐自理。接著轉往體驗王國，園區有各式匠人工藝體驗，探討文化遺產。晚餐自理，夜宿大和飯店。

5) 6/20 星期二。上午照訪港川外人住宅比較台灣美軍眷區；午餐自理。下午造訪識名園 (しきなえん)，認識琉球古典庭園設計，比較它與板橋林家花園的異同。夜宿大和飯店。

6) 6/21 星期三。上午琉球大學報告獨立地理實察成果，下午自由活動。夜宿大和飯店。

7)6/22 星期四。上午登機賦歸。

肆、 經費編列

項目	單價及計算方式	金額	備註
境外教師鐘點費	2,000*12	24,000	
教師來回機票	10,000*1	10,000	
授課鐘點費	13,230*(職級 *18hrs)	13,230	
健保補充保費 (2.11%)	279	279	
學生補助	(2,000*9)+(5,000*1)	23,000	9 位一般學生獎助 2 千元，1 位成績優異獎助各 5 千元
印刷費		0	2,000/團
禮品費		2,484	2,500/團
雜支		804	
總計		73,797	

伍、 效益評估

1. 學生獲益

- 認識琉球的自然與社會，增進東亞地理知識。
- 提升學生海外實踐獨立地理調查的知能。
- 以自然、文化遺產為對象，研討地景生態保育、里山與保育經濟學、生態旅遊、文化遺址保護與經營管理、地理空間設計、都市生態六項課題，以瞭解里山倡議在地景生態保育、社會紋理保護、可持續發展上的意義。
- 協助學員發展自己的興趣，以及畢業論文課題。

2. 姊妹校深化程度

- 發展與姊妹校日本琉球大學教學研究的合作機會與可行方式。
- 吸引、爭取琉球大學學生來校交換學習。
- 透過姊妹校，挖掘可資利用的琉球地理資訊。

3. 國際化交流程度

- 強力訓練學生英語溝通能力，並能使用簡單的日語。
- 認識日本自然與社會，增進東亞地理知識，鼓勵學生建立國際友誼。

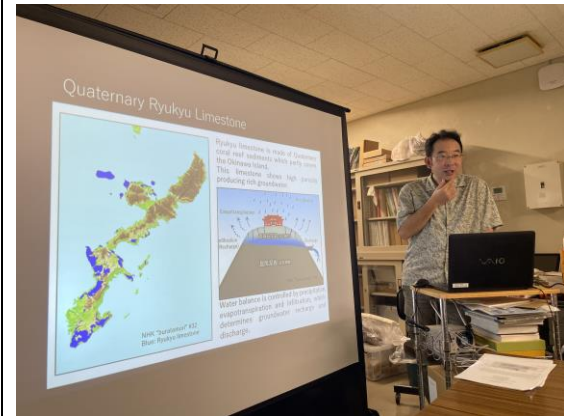
陸、 活動照片



地理系師生與琉球大學 Fujita 副院長、Arakaki 教授、Ogata 教授合影



地理系師生於琉球大學進行 4 小時課程



地理系師生於琉球大學進行 4 小時課程



地理系師生於琉球大學進行 4 小時課程



地理系學生利用雷射測距儀測量紅樹林地形景觀



雷鴻飛教授說明嘉陽層摺曲地質岩層狀況



學生利用施密特 (sclerometer) 測量岩層硬度及利用傾斜儀測量岩層坡度



地理系師生於沖繩水族館合影，了解水族館海洋生物及地景介紹



地理系師生於體驗王國合影，探訪沖繩傳統工藝匯集地，了解沖繩當地文化特色



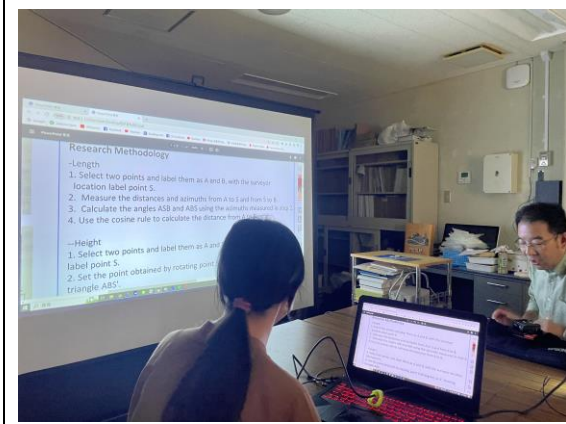
探訪港川外人住宅，比較陽明山美軍眷區，港川多為平房，占地面積大，規劃完整



參觀世界遺產識名園，探訪庭園造景，了解沖繩王室的別園建築



地理系師生與 Arakaki 理學部院長、校長秘書、Fujita 副院長、Ogata 教授合影



學生進行實地考察報告發表



學生進行實地考察報告發表

Rock Strength



By the Schmidt Hammer, the strength of sandstone in the Kayo Formation (red square; A) is read as 54.7/50.8. The limestone of Triassic at Cape Hedo (red circle; B) is 40.6 and that of Quaternary at Melody Bay (red star; C) is 33.4/16.8. The Quaternary limestone is the weakest with a significant anisotropic character. It used to be quarried (C) for building in Okinawa. The map is after Azama (2008:17)

Ryukyu Bakuro

Ryukyu lacquer bakuro is made of slaked lime and organic materials such as rice straw, seaweed glue, etc. Water is added to make it reacting biologically and to result in a dark yellow to light brown color, which is mainly used for roof tile work, e.g., in Shikina-en (D). It is also used as a non-flammable material for the exterior, and is a mirror of the site condition of Okinawa.



Oura Mangrove Forest

The Oura mangrove forest (F), with 800-m in length and 300-m in width, locates at the estuary of the Oura river, and is primarily consisted of three plant species: Rhizophora mucronate, Bruguiera gymnorrhiza and Kandelia obovate. Trees' height reach 7 to 10 m, being shorter than those in C n Gi  (Mekong delta) but much taller than those in Tamsui (North Taiwan). Rather coarse surface materials with high episodic energy environment characterize this landscape ecosystem.



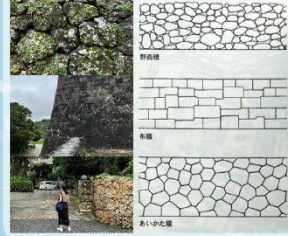
Human-Local Relations

Higashi museum (G) is a community museum for both its natural history and cultural life. Shifting from the traditional forestry and fishery life toward the sustainable life with the tourist industry, this community holds a precise awareness in maintaining its nature and culture bases. A park next to the museum offers experience activities, such as zip lines and pig farm, to allow visitors having a vivid view of the locals, meanwhile Waki Dam and Fukuchi Dam with the offshore artificial reefs in Taira Bay guarantee the safety for both physical and ecological aspects of the local life.



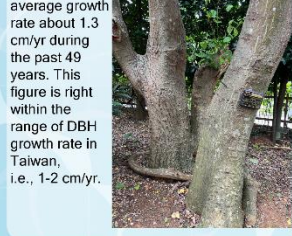
Pilling Rocks in Pattern

Since the Gusuku period (a time before the Sanzan, 1322-1429), three ways of masonry have been developed in Okinawa, including nozura-zumi (the rough one), nuno-zumi (the rectangular one), and aikata-zumi (the finest one). All can be observed in Shurijo (D) and many traditional buildings. Physics of such traditional craft is still waiting to be explored.



Growth Rate of DBH

In Shijinaen (E), there is an India Coral Tree (*Erythrina variegata var orientalis*) with three branches whose DBH is read as 41.4, 26.4 and 37.8 cm respectively. It is then equivalent to a tree whose diameter is around 61.9 cm. If it started to grow at 1974 when the garden was rebuilt, then its DBH gives an average growth rate about 1.3 cm/yr during the past 49 years. This figure is right within the range of DBH growth rate in Taiwan, i.e., 1-2 cm/yr.



Crabs on Shore

On the left shoreline of the Oura River (F) next to a submersible bridge, the number of crab holes for every 15.5 x 15.5 cm square unit is counted along a profile of 1.55 m. The long axle of maximum particle in every unit decreases from 3 cm down to less than 1.5 cm in a 30-cm distance, then increases up over 5 cm toward the river. This change of particle size through the profile coincides with the change of the crab hole number, and shows the potential significance of particles size upon the population of crab.



Parrotfish and Reef Coast

The parrotfish is responsible for the formation of tropical beaches on the Earth. A reef coast of 0.5 km in width may have 50 parrotfish per meter shoreline keeping in balance with 0.01 mm/day growth rate of coral/algal reef, if each consumes and poops 100 cm³/day reef debris. This pooping debris offer the material not only to prevent wave attack, but also to supply the formation of beach rock. Thus, easier and diverse habitats will be formed. You can observe parrotfish's pooping show in Okinawa Aquarium (H) as well as in diving around Okinawa.



To Okinawa

Locations and Activities:

- Okinawa Aquarium
- Melody Beach
- Shikina-en
- Shurijo
- Oura Mangrove Forest
- Kayo Formation in Teninyu
- Higashi Museum
- Cape Hedo (Northend of Okinawa)

Tourist Information

Web Resources

Visit Okinawa Japan
Bakuro Wiki
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中國文化大學地理系
雷鴻飛製作
陳淨筠編輯設計
邱嘉泰及地球移地
教學全體成員協助