

出國報告（出國類別：開會）

# IPSI-9 第 9 屆全球里山倡議大會與會報告書

服務機關：行政院農業委員會花蓮區農業改良場

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派赴國家：日本

派赴地區：秋田縣

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## 摘要

第 9 屆國際里山倡議夥伴關係組織 (the Ninth Global Conference of the International Partnership for the Satoyama Initiative, IPSI-9) 大會於今年 (2023) 7 月舉辦，為 COVID-19 後首次以實體舉辦，全球會員組織參與踴躍，臺灣會員團體亦有公部門與 NGOs 派員參加。

聯合國第 15 屆生物多樣性大會 (Convention on Biological Diversity, CBD COP15) 於 2022 年甫通過「昆明—蒙特婁全球生物多樣性框架」明確擬定未來 10 年的工作藍圖、提高審查機制的效率和具體行動策略，以達成 2030 年「阻止生物多樣性流失」里程碑。本次 IPSI 大會依循 CBD COP15 決議，以工作坊形式，針對草擬的「5 個行動策略與計畫」，討論里山工作者於 2023-2030 可擔負的國際角色，以及 SEPLs 理念於生物多樣性、氣候變遷與社區鏈結等面向的因應對策。並針對青年參與的議題於會中安排半日的互動討論，期待加強年輕世代對里山倡議與實務工作的投入。

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## 參訪目的

奉派赴日本參加第 9 屆里山倡議國際夥伴關係組織大會 (IPSI-9)，本會議為全球參與、執行及關心里山倡議相關工作者、研究學者與學生交流之大會。IPSI 因受疫情影響已 3 年未舉行實體會議，今年為疫後首次舉辦實屬難得。

本次選定日本東北地區農業大縣秋田縣 (Akita) 為舉辦地，主辦場所國際教養大學 (Akita International University, AIU) 鄰近秋田縣立中央公園與秋田縣森林學習交流館，為當地林業教育與環境保育之重地。秋田市與鄰近周邊亦有不少郊山與農村，部分聚落更符合或努力實踐里山倡議中「社會-生態-生產地景和海景(Socio-ecological production landscapes and seascapes, SEPLs)」人與環境的互動。

花蓮區農業改良場，因地緣關係與產業特性長期投入有機農業與生態農業工作，為最早參與里山倡議的試驗場試所，更為臺灣第一個加入 IPSI 會員的公務部門，亦為活躍的組織成員之一。本場於 112 年 5 月向大會投稿更新本場案例，並獲登於 IPSI 網站上 (附錄一)，恰逢實體會議即將舉行，奉派代表本場出席大會 (附錄二)。與會期間透過演講提問、工作坊與會後交流，將本場工作介紹予其他會員，並吸收其他會員組織之相關經驗。

## 參訪過程

本會議舉辦地點為日本國、秋田市國際教養大學 (Akita International University, AIU)，由國際里山倡議夥伴關係組織秘書處 (Secretariat of the International Partnership for the Satoyama Initiative)、聯合國大學永續性高等研究所 (United Nations University Institute for the Advanced Study of Sustainability, UNU-IAS)、國際教養大學及日本環境省 (Ministry of the Environment, Japan) 主辦，與會學者和工作者來自眾多國家及地區，包含日本、美國、越南、馬來西亞、泰國、印度、肯亞、迦納、馬拉威和衣索比亞等。大會為期4日，並包含1日實地考察參訪 (議程請見附錄三)。

### 一、7/8 開幕日 地點：國際教養大學 Suda Hall (圖一及二)

#### (一) 開幕典禮：主辦方致歡迎詞

UNU-IAS 研究所所長 Shinobu Yume Yamaguchi 歡迎大家至日本參加 IPSI 大會，提到該研究機構在日本有許多研究量能，日本民眾對環境永續的觀念普遍支持，感謝日本政府及學者的支持 (圖三)。AIU 副校長熊谷嘉隆代表致詞，歡迎大家來到秋田市與國際教養大學交流，大學所在位置很接近郊山，校園內就有森林步道，生態環境豐富，研究方向也致力於自然保育，是非常適合 IPSI 大會舉辦之處 (圖四)。秋田縣副知事神部秀行歡迎 IPSI 大會在秋田舉辦 (圖五)，作為本州島東北部的農業大縣，縣內自然資源豐富，人民與自然相處的生活經驗影響當地的產業發展。IPSI 選擇在秋田舉辦，會中安排一日至秋田的鄉村、自然與人文景點考察交流，可讓大家較為深入地了解東北地區，是難得的體驗。最後，IPSI 指導委員會主席 Alfred Oteng-Yeboah 感謝大家出席 IPSI 大會，因疫情停辦 3 年之久，秘書處工作小組過去 2 年多皆線上遠距工作，於 2021 年下半才有舉辦地區性的工作會議及工作坊，能順利舉辦實體會議給秘書處及各地里山夥伴無限鼓勵 (圖六)。

#### (二) IPSI 指導委員會主席、秘書處報告

第八屆大會 (IPSI-8) 之後，雖然 COVID-19 疫情肆虐全球，里山倡議相關工作不中斷，仍有 30 幾個會員陸續加入，統計至 2022 年 7 月，會員已來到 292 個組織和團體，為泛太平洋亞洲區 158 個、非洲 54 個、美洲 37 個、歐洲 29 個與國際組織 14 個，分別來自 70 幾個不同的國家和地區。指導委員會向會員們調查加入 IPSI 之主要目的，其中以知識分享 85%、找尋合作網及伙伴 74%、受 IPSI 概念、願景及行動啟發 71%，另有研究活動與資金募集等目的，大約也是 5 成。在 IPSI 會員合作上，大會特別提到臺灣里山工作者、組織們組成臺灣里山倡議夥伴關係網絡 (Taiwan Partnership for the Satoyama Initiative, TPSI) (圖七)，有效促進各會員之間的交流，且更有組織的推動里山輔導工作。秘書處強調，聯合國宣示 2021-2030「生態系統恢復 10 年」，物種保存、環境復育與生態恢復為工作

目標，在此目標下顯示 IPSI 所努力維護、執行的「社會-生態-生產地景和海景 (Socio-ecological production landscapes and seascapes, SEPLs)」人與環境的平衡精神更能彰顯 (圖八)。

### (三) 5 個行動策略與計畫 (IPSI Strategy and Plan of Action 2023-2030)

IPSI 為了呼應與配合「昆明—蒙特婁全球生物多樣性框架」所提出的方針，擬定了里山工作者可具體遵循與執行的「2023-2030 里山倡議行動策略與計畫」。由秘書處回顧 2013-2020 的行動策略及達成情形，再介紹未來 2023-2030 的 5 面向具體策略、擬定的內涵，且開放與會者提問。亦說明翌日 Café shop 工作坊的進行方式，期望參加者能提出這些策略可具體實施的方法或建議之處。

### (四) 青年參與和貢獻促進自然和諧共存

里山倡議相關工作，在各會員組織內的主要皆為農業工作者，而農業不管是在臺灣或者其他國家，勞動年齡層相比於其他行業，年齡皆偏高。勞動人口的老化使得保育工作的推行更顯困難。IPSI 認為里山倡議的執行與推動，需要重視新世代的參與與傳承，提高年輕群族對里山倡議的了解，才能吸引更多人投入 (圖九)。此節的討論不採取單向輸出的演講方式，而更強調雙向的實體互動，透過台上發問與台下的線上即時回答，讓在場與會者對各議題進行腦力激蕩 (圖十)。

此節更邀請幾位投身里山倡議的年輕工作者上台，分享投入契機、成果或遭遇困難等 (圖十一)，臺灣與會者中，大會邀請東華大學博士後研究員孫夏天和水保署陳希軍工程員分享相關經歷 (圖十二)。

### (五) 開幕晚宴

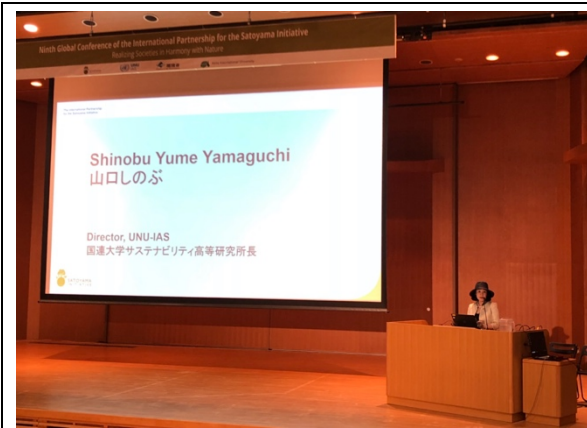
在秋田市全日空皇冠假日酒店舉行，大會安排秋田地區傳統打鼓表演，準備在地名料理如稻庭烏龍麵及米棒。晚會期間與林業署、法鼓文理學院同行之長官與老師，一起討論開幕日大會上所見所聞，並討論翌日將進行的 Café shop 分組議題。



圖一、開幕典禮於國際教養大學 Suda Hall 舉行。



圖二、Suda Hall 為清水模搭配木構裝潢之建築，十分典雅。



圖三、UNU-IAS 研究所所長 Shinobu Yume Yamaguchi 致詞，讚賞日本民眾對環境永續的觀念普遍支持。



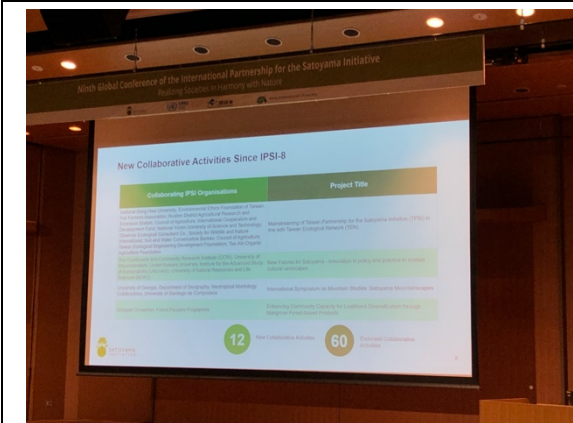
圖四、AIU 副校長熊谷嘉隆代表校方歡迎 IPSI 所有與會者。



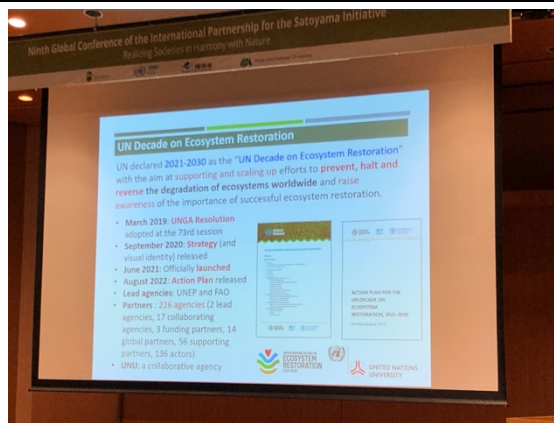
圖五、秋田縣副知事神部秀行，歡迎與會者來農業大縣秋田參加 IPSI，也期待藉此機會讓大家更了解秋田。



圖六、IPSI 指導委員會主席 Alfred Oteng-Yeboah 提及實體會議的舉行給所有里山工作者莫大的鼓勵。



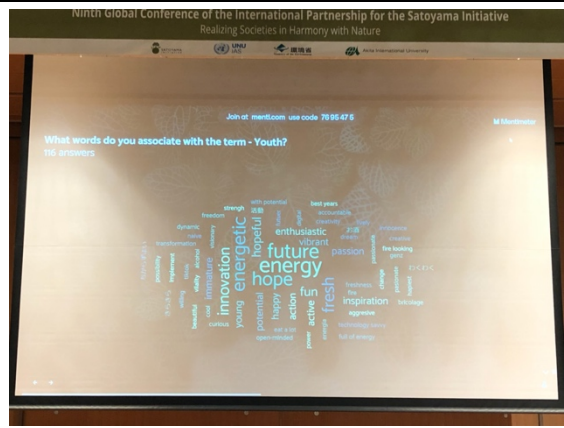
圖七、報告中提及臺灣的 TPSI 組織，組織國內的會員交流。



圖八、聯合國「生態系統恢復 10 年」與 IPSI 的相關性介紹。



圖九、IPSI 希望有實際作為與更積極的行動，吸引年輕族群投入里山相關工作。



圖十、雙向的問達，並將回應統計即時顯現，更能提高參與度。



圖十一、不同國家之年輕里山倡議工作者受邀經驗分享。



圖十二、年輕里山倡議工作者經驗分享，左三為孫夏天博士後研究員，左四為水保署工程師。



## 二、7/9 第二日 地點：國際教養大學 Kobelco Hall (圖十三及十四)

### (一) 主題演講

#### 1. The Biotrade Initiative (由Lika Sasaki分享)

Lika Sasaki 為聯合國貿易和發展會議 (UNCTAD) 的專案管理員，帶來生物貿易 (biotrade) 的工作介紹，UNCTAD是聯合國生物多樣性公約的實踐者，主要致力於找尋、輔導及開發蘊涵生物多樣性精神的資源與衍生品，加值並媒合銷售端，建立公平與永續性的貿易 (圖十五)，更介紹生物貿易堅持與執行的原則 (圖十六)：(1) 生物多樣性的保育；(2) 生物多樣性的永續利用；(3) 公平與等值的分享；(4) 社會經濟的永續發展；(5) 合乎法律；(6) 對工作者權益的尊重；(7) 闡明自然資源的使用與取得的權益。

#### 2. The Asian Development Bank's activities for SEPLS ecosystem restoration (由Isao Endo分享)

Isao Endo 為亞洲開發銀行的環境專員，亞洲開發銀行成立的目地為促進亞洲經濟與社會的發展，在發展的同時，該組織也意識到生態保育為經濟發展中不可疏忽的一環。因此該組織在一些經濟發開區，投入資源去研究，如何在開發時減少對該開發地的生態影響 (圖十七)。

### (二) 里山發展機制 (The Satoyama Development Mechanism) 之案例分享

#### 1. Recovery and use of camelids and their fiber as potential resources to improve local livelihoods in the Andean Altiplano (由 Bibiana Vila 分享)

Bibiana Vila 致力於駱駝保育、駱駝品種復育 (圖十八) 與駱駝工作權益維護。安地斯山脈的阿爾蒂普拉諾高原 (Altiplano) 居民，其生活、交通、農事與生產都脫離不了駱駝，駱駝是當地人重要的生產工具。但駱駝在當地長期需血汗工作 (過分負重)，並面臨動物弱化生病問題。Bibiana 與其組織致力於駱駝族群保育，並希望透過駱毛加工與加值應用能讓當地的經濟提升，一旦經濟狀況提升，一級生產的需求會稍降低，駱駝工作環境能獲得改善，居民也更願意投入駱駝保育工作 (圖十九)。

#### 2. Safeguarding wetland ecosystems and pastoral communities in the Kyrgyz Mountains (由 Anara Alymkulova 分享)

吉爾吉斯山脈群中，因地勢關係，雪水融化後累積於一些谷地形成高山湖，這些湖泊面積不大，也可能因每年的降雪量與溫度變異。谷地的湖泊是山地遊牧民族、登山者與高山野生動物非常重要的水源，Son-Kul 湖週邊的遊牧民族仰賴 Son-Kul 湖的水源，並從事簡單的農耕維持生計。過去 10-15 年亦有遊客與登山者漸漸造訪該地，旅遊業雖可帶來人潮，但過多的人造設施與土地開發，對脆弱的高山湖泊造成不小維護壓力。Anara 與其夥伴在 Son-Kul 湖進行水源與野生動物保育工作，輔導居民除農事工作外，亦了解當地的自然環境與野生動物群 (圖

二十)，期待往生態旅遊去發展當地的旅遊業，帶來更永續的經濟模式。

### (三) 2023-2030 里山倡議行動策略與計畫 Café shop 分組討論

IPSI 秘書處為配合推動 CBD COP15「昆明—蒙特婁全球生物多樣性框架」的決議，研擬「2023-2030 里山倡議行動策略與計畫」。隨著國際上 IPSI 會員增加，然各地發展現況不均，為使各地的 IPSI 會員有所依循得在聯合國的框架下推動里山倡議相關工作，具體的行動策略與計畫有其必要性。IPSI 於大會前將草案寄予會員及與會者，並於大會期間舉辦 Café shop，透過不同國家地區、不同成熟度的里山夥伴共同討論 (圖二十一)，使草案可以更加完整，修改後能更符合各地區夥伴對策略、計畫和 IPS 秘書處的期待 (附錄四)。

5 個行動策略與計畫分別如下：

1. 知識共創、管理和應用 (Knowledge co-production, management and uptake)
2. 制度架構和能力培育 (Institutional frameworks and capacity development)
3. 棲地保育措施 (Area-based conservation measures; 含保護區、有效保育地 OECM)
4. 生態系復育 (Ecosystem restoration)
5. 市場機制 (Market-based mechanisms)

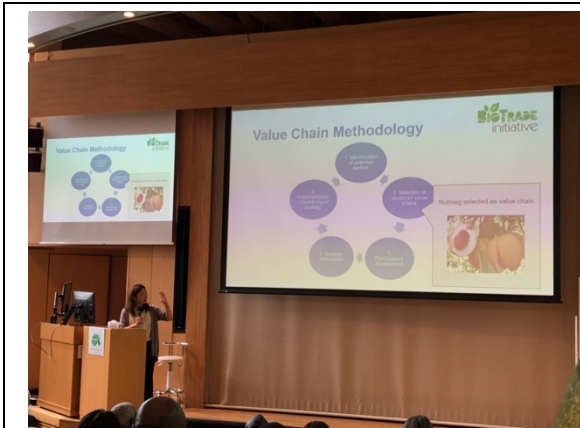
此次參與 1、2 及 3 組的討論 (圖二十二)，在第 1 組「知識共創、管理和應用」中，與會成員有提及，資訊的普及在英語使用者世界相對簡單，但對其他語言區的使用者就沒有那麼友善，或者需要花費更多的力氣與時間。在第 2 組「制度架構與能力培育上」，分享花蓮場 IPSI 相關工作的執行地點，與本場同仁透過參加學術演講、研討會與實地的工作去累積相關經驗。第 3 組「棲地保育措施」，大家對 OECM 的規範強度討論熱烈，大多支持需有明確的指引與規範。



圖十三、第二天之主題演講於 Kobelco Hall 舉行。



圖十四、Kobelco Hall 內亦為木構裝潢，有許多討論教室。



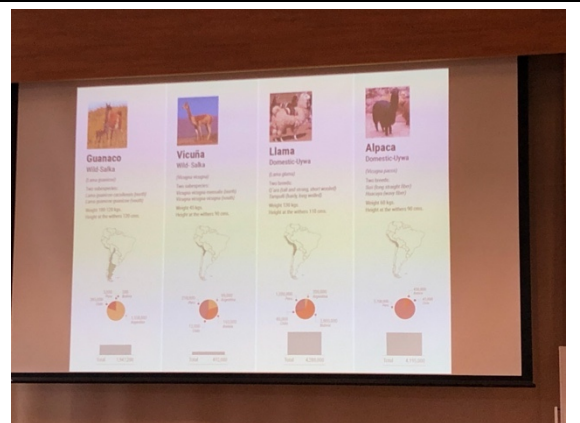
圖十五、產值鏈的建立與評估。



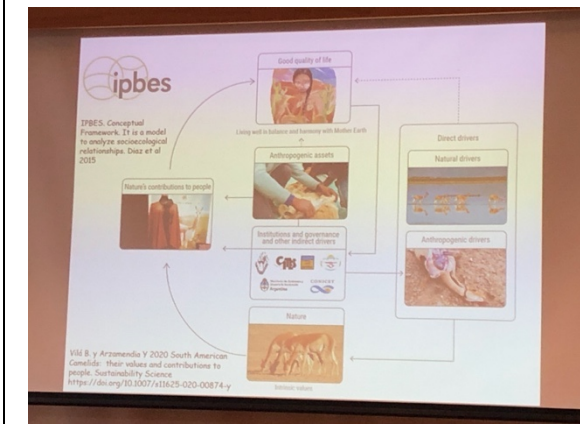
圖十六、生物貿易的 7 大原則。



圖十七、亞洲開發銀行介紹其投入環境保育工作之成果。



圖十八、安地斯山脈地區的駱駝品種與族群，該研究結合物種保育與經濟行為。



圖十九、透過駱毛加工，提高居民收益，進而使得駱駝的工作環境改善。



圖二十、Son-Kul 湖為重要的野鳥棲地，該地的保育工作需更多當地人的參與。



圖二十一、以 Café shop 型式分組討論 5 個行動策略。



圖二十二、於第 2 組「制度架構與能力培育上」參與發言討論。

### 三、7/10 秋田縣男鹿半島、里山案例參訪

本次大會總共規畫 5 條參訪路線，隨機抽選於路線 2 進行參訪。參訪地點分布在秋田縣北部的男鹿半島。

#### (一) 男鹿半島大瀨村干拓博物館

男鹿半島的大瀨村，所在地曾為半島上的淡水湖「巴郎瀉」，該淡水湖原為日本第二大湖 (圖二十三)。日本政府於戰後為提升稻米收穫量，及緩解其國內勞動人口失業問題，在 1950 年代選擇此地進行干拓，即將湖水抽乾、進行土壤改造、開闢為田畝後耕作 (圖二十四)。瀉湖填陸耕作初期，底下之水層之水仍十分豐沛，需安裝排水管路持續排水。

#### (二) 真山傳承館

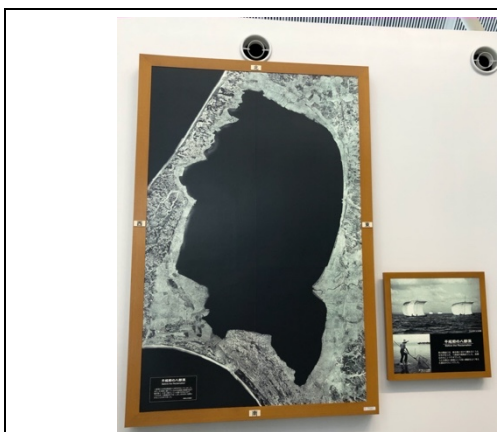
男鹿半島上特有的生剝鬼(NAMAHAGE)文化，日文中的字，源自長時間待在暖爐邊，意指懶散，手腳因被暖爐烘太久而產生斑塊(NAMOMI)的人，生剝鬼為剝除火斑懲戒懶人之意演變而來。其為神的使者 (圖二十五)，傳說每年除夕從真山下山來到村莊，至民家中拜訪，將懶散、不事生產的村民帶回山上，同時也為村莊消災、解厄和除病等 (圖二十六)。至今秋田地區每年除夕仍舉辦生剝鬼節，該傳統被指定為日本國家重要無形民俗。觀賞完行動劇後，同行的臺灣工作者皆很驚豔，對於文化保存的努力也很欽佩 (圖二十七)。

#### (三) 與咖啡男有約

本次 IPSI 里山大會上頻繁出現，亦是里山精神實踐者的咖啡男，分享投入公平貿易咖啡的心得，並展示他前往衣索比亞直接與咖啡農接觸，以近 6 倍價格收購咖啡豆的點滴之紀錄片 (圖二十八)。

#### (四) 螢火蟲咖啡

參訪的最後一站，螢火蟲咖啡，店主為該地土生土長的青農。多才多藝的他，不僅務農，還會烘製咖啡豆、彈鋼琴與大提琴。經營咖啡館是副業，主要使命為以環境友善方式耕作，保育當地環境進而保護當地的螢火蟲。



圖二十三、巴郎瀉原為日本第二大湖。



圖二十四、「干拓」後變成可耕種之田。



圖二十五、男鹿半島特有生剝鬼文化。



圖二十六、透過表演體驗生剝鬼拜訪。



圖二十七、同行臺灣夥伴皆很驚艷於生剝鬼文化與表演。



圖二十八、年輕工作者投身里山咖啡的經驗分享。

#### 四、7/11 閉幕日 地點：國際教養大學 Kobelco Hall

##### (一)大會與 2023-2030 里山倡議行動策略與計畫工作坊總結

最後一日，大會請 Café shop 討論會的桌長與紀錄，上台分享主持心得與各組的討論結論(圖二十九)。各桌長與紀錄除了總結外，大多也提到這樣的討論方式，比單純聽演講來的生動更能激發思考。雖然討論偶有失焦與無法預測，但無法預測本身就是 Café shop 希望能達到的預期之一，大會希望能有人打破框架，給予他們更多的想法。另外若有人見解紓發不夠，或者經過一日後有其他想法也歡迎提出(圖三十)。

##### (二)閉幕式

活動皆順利完成，由 IPSI 秘書處事務局局長渡邊綱男致閉幕詞 (圖三十一)，很高興大會所有活動順利舉辦完成，三年多沒有實體會議，但仍然沒有陌生的感覺，IPSI 工作者就像一個溫馨的大家庭。今年度首度以 Café shop 型式舉行議題觀點分享與討論，透過小組小組的腦力激盪，產生出不可思議的火花，也讓 IPSI 秘書處有更多具體的策略與想法，進而能化為現實。非常感謝大家的參與，希望大家皆有收穫。本次臺灣團陣容浩大，度過充實且收穫滿滿的四天 (圖三十二)。



圖二十九、閉幕式前討論會桌長總結討論成果。



圖三十、大會鼓勵以便利貼書寫更多對里山倡議行動策略之建議。



圖三十一、閉幕式由渡邊綱男局長代表致詞，期勉大家會後繼續推行里山倡議。



圖三十二、臺灣與會夥伴於會後交流熱烈。

## 參訪心得及建議

### 一、臺灣里山倡議夥伴間的聯繫

臺灣為最早加入國際里山倡議夥伴關係組織的國家之一，國內的 ISPI 會員組織於今年已達 23 個，有限責任苗栗縣賽夏族林業暨勞動合作社、宜蘭縣政府農業處與節點共創有限公司等 3 個團體是今年剛加入的生力軍。臺灣在林務局(現林業署)主導下，每年定期舉辦臺灣里山倡議夥伴關係網絡(TPSI)，定期分享臺灣夥伴的研究與工作進度和成果。本次 IPSI-9 舉辦前夕，於 6 月 20 日由林務局(現林業署)主辦會前會，臺灣會員組織針對「里山倡議行動策略與計畫」草案模擬 IPSI-9 中舉行之 Café shop 分組方式，就草案內容實際演練討論。這給所有會員在赴日前即初次了解 2023-2030 之行動策略與計畫，並就自己的工作及研究計畫能著墨的點，去思考未來工作是否切合該策略與計畫。定期舉辦的國內之里山倡議夥伴關係網絡會議，個人認為非常有意義，不是單純報告最後成果，亦同時交流執行上各個層面會遇到的問題，不同的單位出發點不同，自然也會看到不同面向。

### 二、會中對於年輕人投入 IPSI 之活動討論

農業人口不足與缺工問題，不只是臺灣的困境而已，此次與會的會員或多或少亦提出，他們國內推動 IPSI 工作者年齡層並不低。臺灣因推行的較早，在會議中聽下來，認為臺灣的現況與困境可能較其他會員國有點不同。在某些國家中，里山倡議仍有考量是否推行的質疑，畢竟戰亂、疾病與糧食安全在那些國家是更主流的現實議題。但國內則是有心要推行，但相對沒有人力願意投入。如今是經融與商業社會，農業相對弱勢，欲讓年輕人投入參與，提高吸引力絕對是必要的切入點，訴諸理念與價值雖是里山倡議的本質，但可能無法獲得立即與大量的認同。需讓里山價值的勞動能轉換成養家活口的實際產出，是里山工作推行不可不思考的點。里山價值的勞動成果與消費端串接，在我國相對是更要繼續努力的點，讓從農且是從友善環境的農作獲得更穩定的收入來源，讓從農不會是弱勢，那麼就更有機會吸引更多年輕輩的工作者投入。

### 三、2023-2030 里山倡議行動策略與計畫

關於 5 個行動策略與計畫，臺灣夥伴於討論會的聲音是非常活躍的，幾乎每個會員皆有分享。國內過去的里山經驗或有參考價值，但也因國情、地區特性不同，國外各地區夥伴執行上能參酌處應會有調整。往後 IPSI 大會擬定細節的施行細則後，國內 TPSI 會員們預期也會將 5 個策略納入執行計畫或案例的依循，以下為討論後個人淺見，期望在實務推動上能有所幫助。

#### 1. 知識共創、管理和應用 (Knowledge co-production, management and uptake)：

一般國人對於 SEPLs (Socio-ecological production landscapes and seascapes, SEPLs) 的知識較陌生，而自然保育相關領域工作者、學生則普遍有所認知，應可透過舉辦研討會、工作坊或者較無門檻之園遊會、假日市集傳遞相關知能。又或者國內許多大型企業及國營事業，被期待須承擔 ESGs 的社會責任，或可透過



公司家庭日或運動會等場合合作曝光。

## 2. 制度架構和能力培育 (Institutional frameworks and capacity development) :

政府應持續於支持相關科學研究、計畫與活動，且此類的研究需長時間營造與建構，其效果與產出非一蹴而就，希望在生態保育與里山倡議相關計畫上，其 OKR 或者 KPI 的擬定可適度的、非完全要求量化的指標，也可納入與考量無法具體量化的產出。

## 3. 棲地保育措施 (Area-based conservation measures; 含保護區、有效保育地 OECM)

保護區與保育地的劃設與經營需要人力，不管體制內或體制外的運營，若要透過政府單位來提升這方面的效益，建議要支持人力(員額或經費)。另外在保護區內進行工程，不論是維修或再開發，皆需要比一般工程更謹慎的評估，包含需採納多方意見(縣府、當地居民及保育團體)，及對施工廠商應檢視過去執行生態相關工程的紀錄。

## 4. 生態系復育 (Ecosystem restoration)

生態系復育是個需要跨領域的議題，應包含動物、植物、生態、海洋甚至是歷史學者，因此要順利推行，跨領域的合作有其必要性。雖在各自崗位努力，但有機會面臨相似的困境，透過合作與交流，也許能針對遇到的共同問題找到合適的解方，又或者在自身領域無法突破的點，能藉由合作迎刃而解。

## 5. 市場機制 (Market-based mechanisms)

生產面的維持除了價值認同的支撐，要持續走下去，生產的糧食或物品需有穩定的銷路。

(1) 保育與友善生產，其成本相對比較高，除了提倡價值可讓價格堆疊外，降低生產成本的方法與策略，應值得投入研究與改善。

(2) 政府可優先編列預算進行 SEPLs 產品的採購，讓這些產品進入校園、公家機關或國營事業，再逐漸擴展。

## 四、本場研究符合 IPSI 的精神與價值

「昆明—蒙特婁全球生物多樣性框架」明確擬定未來 10 年的工作藍圖，目標是達成 2030 年「阻止生物多樣性流失」里程碑。IPSI 大會中各會員熱烈討論的生態多樣性、保護區設立、瀕危物種保護、林相與農地的維持、減少溫室氣體排放乃至於人文與食農教育等，皆與本場現行之工作息息相關。本次大會本場投稿的案例，即為生態多樣性與友善環境耕作為出發點，透過當地原民植物的復育，進行有益昆蟲棲地營造，使得物種多樣性增加。本場植保研究室多年來推動的病蟲害綜合管理，亦以環境友善為出發點。本場其他工作項目亦緊扣溫室氣體減排與食農。經過此次的 IPSI 中的 5 個行動計畫討論，IPSI 的成員們應不再侷限於「社會-生態-生產地景和海景(Socio-ecological production landscapes and seascapes, SEPLs)」的維護，而是以此為核心，去推動更大且更符合 COP15 的願景，我想臺灣的里山工作形式也會以更多元的面向去發展。

## 附錄

附錄一：本場投稿案例

([https://satoyama-initiative.org/case\\_studies/investigation-and-screening-of-aboriginal-plants-as-habitat-creation-plants-for-beneficial-insects-in-tribes-in-hualien/](https://satoyama-initiative.org/case_studies/investigation-and-screening-of-aboriginal-plants-as-habitat-creation-plants-for-beneficial-insects-in-tribes-in-hualien/))

附錄二：IPSI 邀請函

附錄三：IPSI program 議程

附錄四：IPSI POA 行動策略與計畫

# Investigation and screening of aboriginal plants as habitat creation plants for beneficial insects in tribes in Hualien

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## Summary Sheet

The summary sheet for this case study is available [here](#).

## Abstracts

There are many aboriginal tribes in Hualien, Taiwan. Due to the special locations, they play the roles of connecting human farming activities and ecosystem protection. In our research, we try to figure out what kinds of beneficial insects, also called natural enemies, exist in tribal farming fields. And if we hope to keep the beneficial insects in fields, what kind of foods and environment shall be provided. In order to collect the background information in rice paddies and pomelo orchards, we did the investigation of insects' species between different farming methods. In rice paddies, results showed that the population of total insects were higher in organic paddies than conventional ones, especially spiders (Tetragnathidae), Empididae and total parasitoids. Population of key pest planthoppers raised in earlier stage in conventional paddies than in organic ones. In pomelo orchards, the spider populations were obviously more stable in organic orchards. During small fruits stage, population of the key pest thrips was much higher in conventional orchards than in organic ones. In the lifespan assay of *Dirhinus giffardii*, we provided 10 kinds of aboriginal plants as the potential habitat for this parasitic natural enemy. The results showed that 7 of them, especially *Indigofera spicata*, *Vitex trifolia* and *Anster indicus* could extend the lifespan of *D. giffardii*.

## Background Introduction

Aboriginal tribes in Taiwan's east coast are located between Central Mountains and Coast Mountains. Environment in tribes are clean and mostly isolated. The tribes play the important roles of connecting human activities and primitive natural environment, which symbolize the satoyama spirit. Agricultural fields in tribes are located near forests and source or head of river. Because of this unique positions, they possess diverse but fragile ecology. These years due to the climate changes, agricultural production face many external challenges, especially in the regulation and control of pests. More and more producers, including producers in tribes, rely on and raise the usage of chemical pesticides and herbicides. Due to the unique environment as we mentioned, threatens to ecology in tribes will be more severe than in normal countryside. Recognized this difficult situation, we notice and consider the important connection between aboriginal farming and agro-ecosystem. By the combination of aboriginal plants and ecofriendly farming, we hope to strength the ecosystem in tribes. Our ultimate objective is the solution to promote agriculture activities meanwhile maintain sustainable ecosystem in tribes.

## Materials and methods

### A. Investigation on species of key pests and natural enemies in paddy and orchard

Based on the specialty of local agricultural products, the investigation were done in rice paddies in Ceroh tribe, Yuli, Hualien (Fig.1A) and in pomelo orchards in Olalip tribe, Ruisu, Hualien (Fig.1B).

#### 1. Rice paddies in Ceroh tribe

There were 3 organic and 3 conventional investigation paddies (Fig.1A), and each of them was at least 0.3 hectare. Each paddy was divided into several 100m<sup>2</sup> (10m×10m) area, and we randomly chose 3 areas to do the sampling. The investigation underwent 5 growth stages of rice including transplanting, tillering, booting/heading, milky/doughy and yellow ripe stage. During the transplanting stage, we sampled the insects by yellow sticky traps on ridges. In other stages, despite the traps, we also walked into paddies and collected insects by sweeping net (Fig.2). Brought back the collected samples and sticky traps then examined by stereomicroscope (Leica, Germany). The targets of key pests were planthoppers (Delphacidae), leafhoppers, leaffolders (*Cnaphalocrocis medinalis*) and stem borers (*Chilo suppressalis*). The natural enemies were ladybugs (*Micraspis discolor*), spiders (Tetragnathidae), parasitoid wasps (Ichneumonid, Braconidae, Trichogrammatidae, Pteromalidae, Eulophidae and Mymaridae), Empididae and *Ochthera* sp.

#### 2. Pomelo orchards in Olalip tribe

There were 3 organic and 3 conventional investigation orchards (Fig.1B), and each of them was at least 0.3 hectare. Each orchard was also divided into several 100m<sup>2</sup> (10m×10m) area, and we randomly chose 3 areas to do the sampling. The investigation underwent 6 growth stages of pomelo including differentiation of flower bud, flowering, fruiting (small, medium and large) and fallow stage. In each sampling area, we collected the insects by beat netting one pomelo tree (Fig.3), and put yellow sticky traps on grass beneath. Brought back the collected samples and sticky traps then examined by stereomicroscope (Leica, Germany). The targets of key pests were thrips, aphids, flies and stinkbugs. The natural enemies were Anthocoridae, hover flies (Syrphidae), lacewings (Syrphidae), ladybugs (Coccinellidae), parasitoid wasps (Braconidae, Chalcididae, Eupelmidae, Scelionidae and Ichneumonid) and spiders.

### B. Lifespan assay of natural enemies on aboriginal plants

To enrich ecological diversity and create a suitable environment for beneficial natural enemies are the suggested ways to regulate and control pests. At the same time, we can possibly reduce the usage and cost of chemical pesticides. By creating habitat with specific aboriginal plants on ridges and bare land in pomelo orchards, we hoped

preliminary screened and chosen by cultivation traits, flowering season, adaptability to the weather, and abilities or duration time to provide nectar. These aboriginal plants were kept in and provided from Lanyang branch. And then we grew them in the greenhouse in Hualien for experiment. Finally 13 species were chosen and including herbal plants *Anster indicus* L., *Mesona chinensis*, *Gonostegia hirta* (Blume) Miq., *Wedelia chinensis* (Osbeck) Merr., *Houttuynia cordata* Thunb., *Phyla nodiflora* (L.) Greene. and *Indigofera spicata* Forsk., which were grown in 3 inches pots, and woody ones *Vitex trifolia* Linn., *Vitex negundo* L., *Cajanus cajan* (L.) Huth., *Zanthoxylum ailanthoides*, *Hibiscus syriacus* L., and *Callicarpa formosana*, which were grown in larger pots. All the experimental plants were kept to the flowering stage and the assay was done by that time.

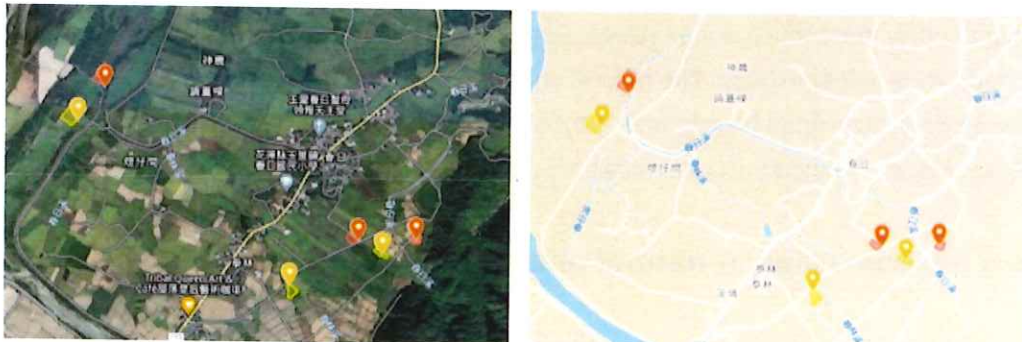
## 1. Lifespan assay of parasitic natural enemy

*Dirhinus giffardii* (Hymenoptera: Chalcididae) (Fig.4) were reported having great effects on controlling fruit fly (*Bactrocera dorsalis*) in orchards in Taiwan. In our research, *D. giffardii* was the representative species of parasitic natural enemy. The eggs were kindly provided by Miaoli DARES. 3 days after the insects hatched, we put one mature female *D. giffardii* on the assay plant and observed its survival time. The experimental groups were plants with flowers or not, and the control group was only water provided. This year we did the assay on 10 plants except *V. negundo*, *Z. ailanthoides* and *H. syriacus*. In case of escaping of insects, the herbs pot were put in the PET cup (11.7cm in bottom diameter) and cover the lid with 30 cm 100-mesh net on it (Fig.5). The woody plants were covering by 71×48 cm (L×W) 100-mesh net.

## 2. Lifespan assay of predacious natural enemy

Ladybug *Cheilomenes sexmaculata* (Coleoptera) (Fig.6) were the representative species of predacious natural enemy. This ladybug was the product from Good Farms Co., Ltd. The experimental groups were plants with flowers or not, and the control group was only water provided.

A.



B.





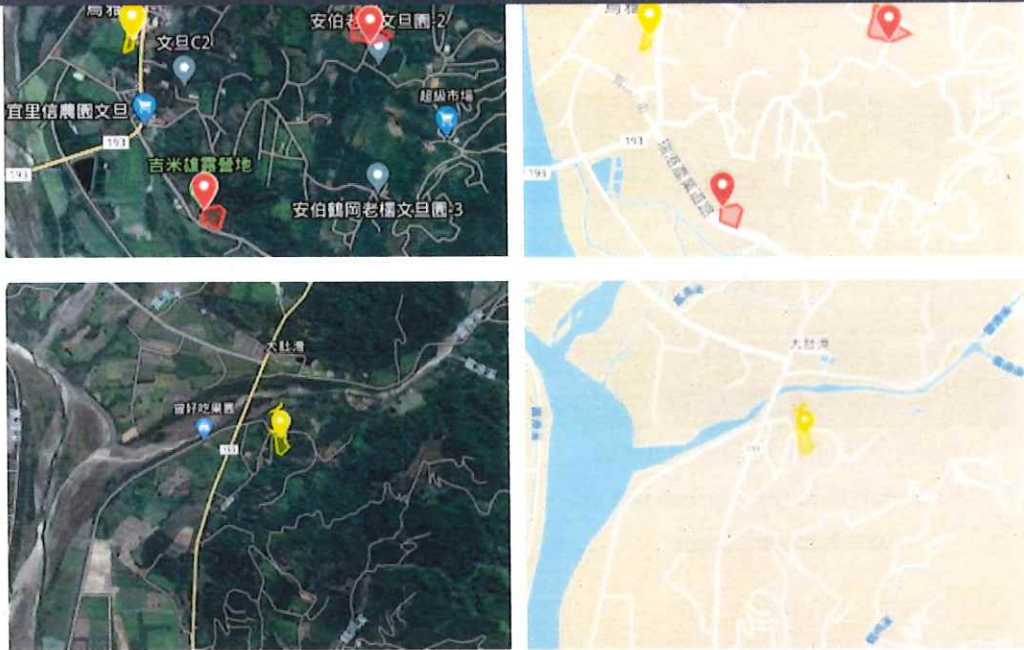


Figure 1. Investigation fields. A. Rice paddies in Ceroh tribe. B. Pomelo orchards in Olalip tribe. Yellow sites are organic fields and red sites are conventional ones.



Figure 2. Sampling insects by sweeping net in rice paddy.



Figure 3. Sampling insects by beat netting in pomelo orchard.



3.5 - 4 mm

Figure 4. *Dirhinus giffardii* is the representative parasitic insect. Source:



Figure 5. The lifespan assay of aboriginal plants in greenhouse.



Figure 6. Ladybug *Cheilomenes sexmaculata* is the representative predacious insect.

## Results

### A. Investigation on species of key pests and natural enemies in paddy and orchard

#### 1. Rice paddies in Ceroh tribe

In our sampling investigation, the number of insects were higher in organic paddies than in conventional ones, especially spiders (Tetragnathidae), Empididae and leafhoppers (Fig.7). In conventional paddies, the population of planthoppers (pest) suddenly raised in booting stage and maintained this high level till the harvest. And total number of parasitoid wasps stayed flat (Fig.7A). However, in organic ones, late to the milky stage the population of planthoppers raised to the same level and showed the trend of decline in yellow ripe stage. At the same time total number of parasitoid wasps increased (Fig.7B).

The yellow sticky traps data from ridges showed similar trend in two kind of paddies. Total number of parasitoid wasps and Empididae were higher before heading stage in organic ridges than in conventional ones (Fig.8). The population of parasitoid wasps reached to the highest level, 266 in organic paddies and 187 in conventional ones, in transplanting stage. The population decreased in tillering stage while slightly increase again in booting/flowering stage.

#### 2. Pomelo orchards in Olalip tribe

In our beat netting investigation, the number of insects were mostly under or around 50, and there were more natural enemies in organic orchards, especially spiders (Fig.9). The spider population were obviously more stable in organic orchards. During small fruits stage, the population of thrips (pest) intensely reached to 345 in conventional orchards (Fig.9A). However, in organic orchards, population of thrips and aphids were highest in flowering stage, average 46 and 54.7, which were still low compared with conventional ones (Fig.9B).

The yellow sticky traps data from grass beneath pomelo trees showed that parasitoid wasps were the dominant beneficial insects. The population reached the highest level in differentiation of flower bud stage (Fig.10). In small fruit stage, parasitoid wasps population reached to 551 in organic orchards and obviously higher than 262 in conventional ones. In addition, 326 out of 551 was identified to Braconidae (data not showed), which was the main natural enemies to fruit flies and moths. In medium fruit stage, population of ladybugs reached to 22.3 in organic orchards and obviously higher than 1.6 in conventional ones.

### B. Lifespan assay of natural enemies on aboriginal plants

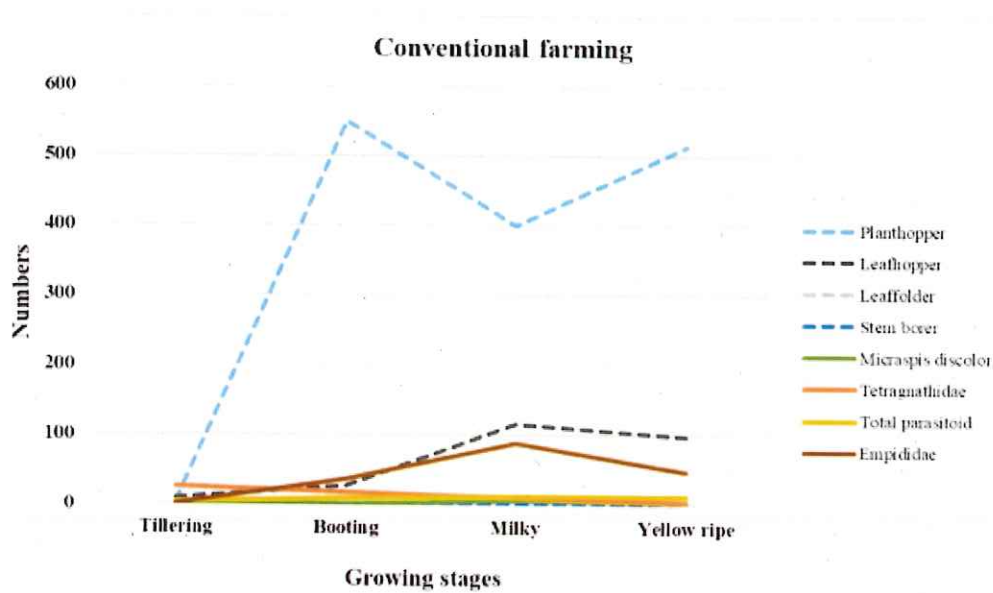
#### 1. Lifespan assay of parasitic natural enemy

The results showed that 7 aboriginal plants including *A. indicus*, *M. chinensis*, *V. chinensis*, *H. cordata*, *I. spicata*, *V. trifolia*, *C. cajan* and *C. formosana* could extend the lifespan of *D. giffardii* (Fig.11). And it could survive the longest on *I. spicata* (31.1 days), *V. trifolia* (30.8 days) and *A. indicus* (30.2) (Fig.12).

## 2. Lifespan assay of predacious natural enemy

Lifespan of ladybug *C. sexmaculata* is average 0.5-3 months depend on environment and food. In our first trial, ladybugs were all died in two days. And then we put aphids together in the assay to see whether ladybugs could survive longer. However, ladybugs survived only 2 days more. Finally, we used the pupa in our assay and solved the survival problems. When ladybugs underwent eclosion on experimental plant we start to record its survival time. We took some time to solve the survival problems. And now this part of experiment is still ongoing.

A.



B.

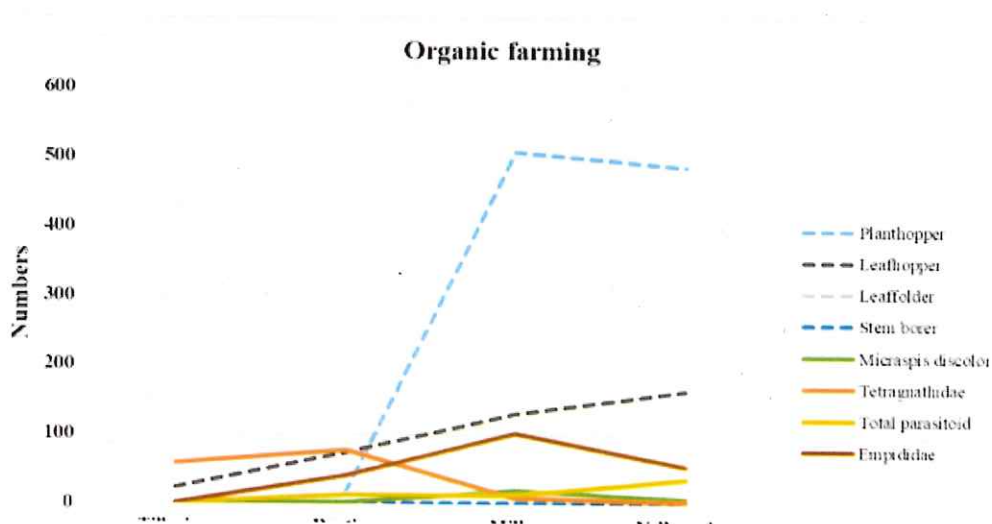
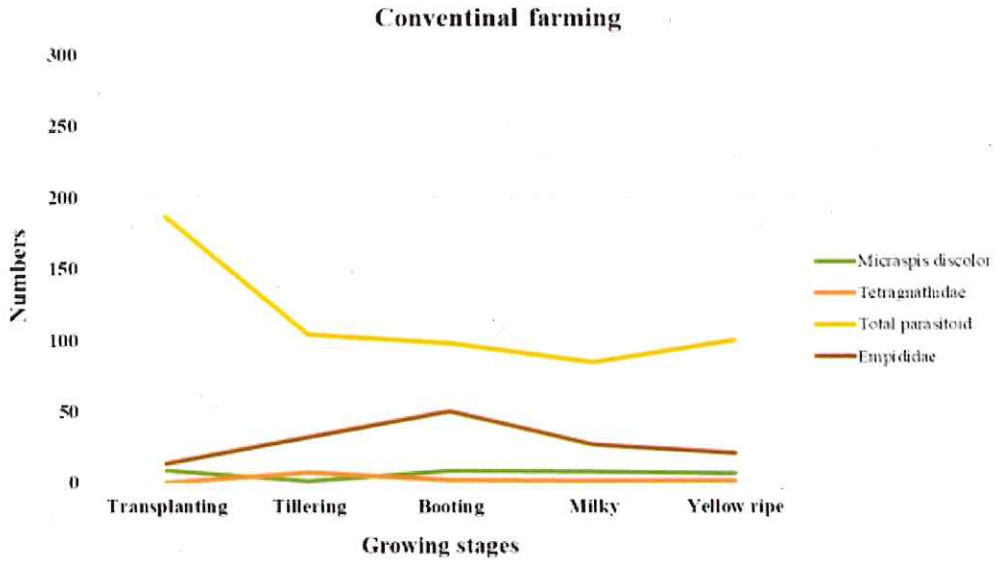


Figure 7. The insect species and number in rice paddies by sweeping net. A. Conventional farming. B. Organic farming. Pests are in dotted lines and natural enemies are solid lines.

A.



B.

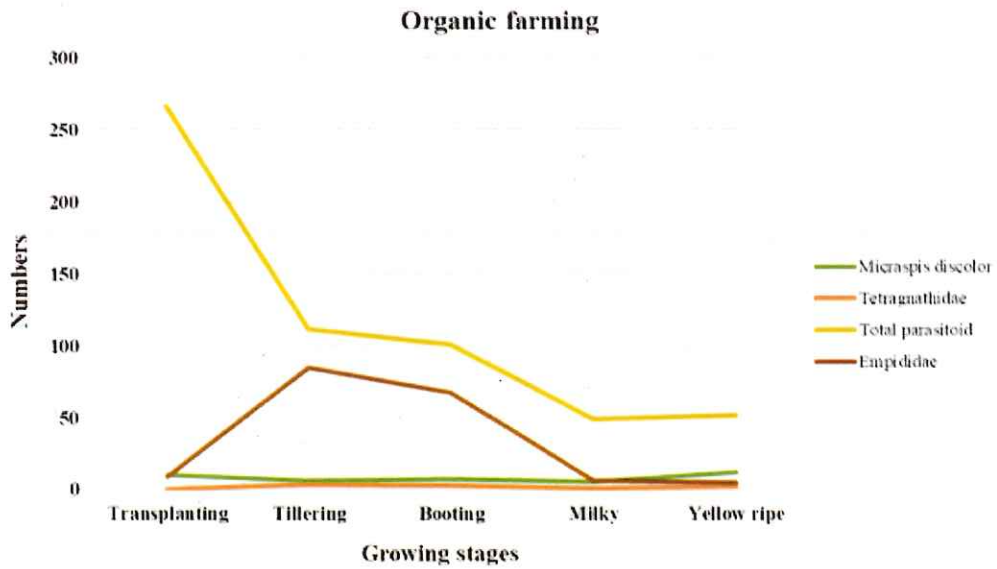
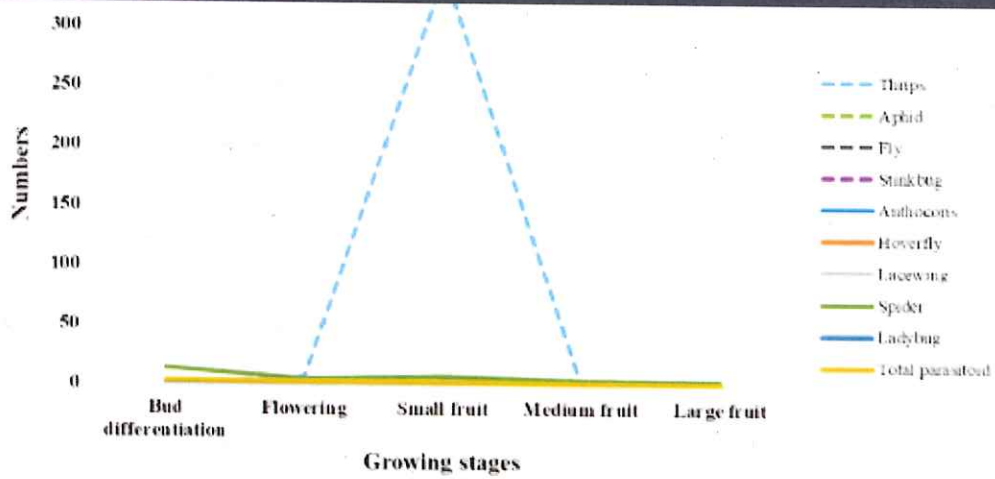


Figure 8. The insect species and number in ridges by yellow sticky traps. A. Conventional farming. B. Organic farming. Pests are in dotted lines and natural enemies are solid lines.

A.



B.

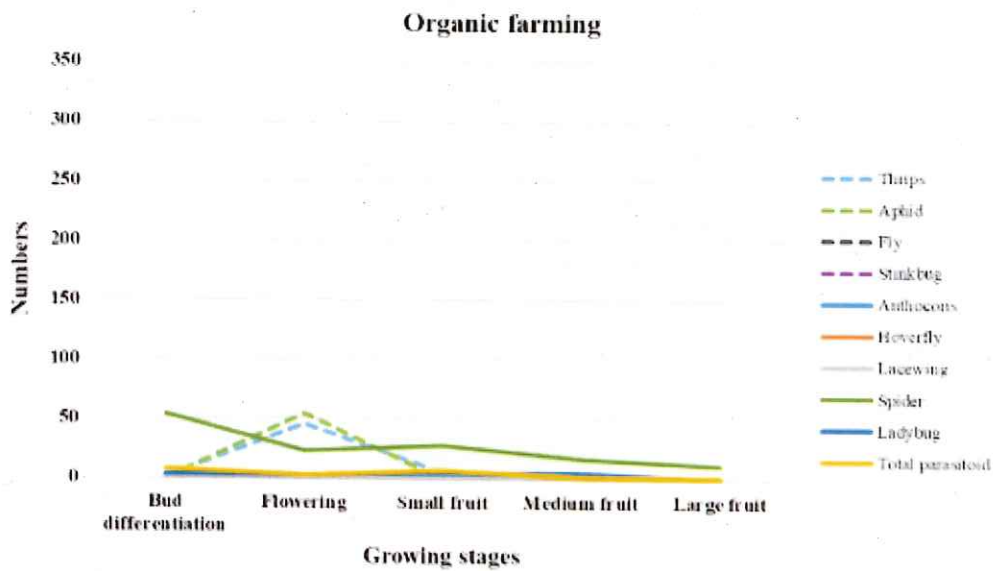
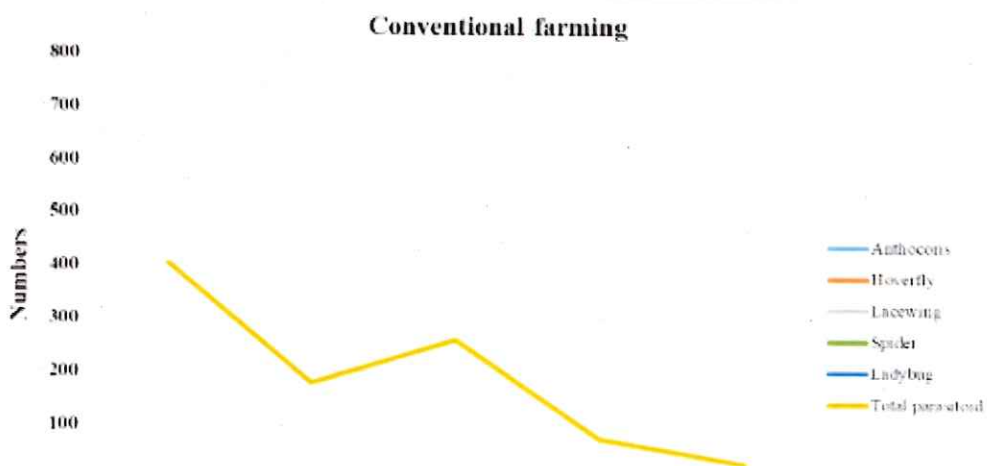


Figure 9. The insect species and number in pomelo orchards by beat netting. A. Conventional farming. B. Organic farming. Pests are in dotted lines and natural enemies are solid lines.

A.



Growing stages

B.

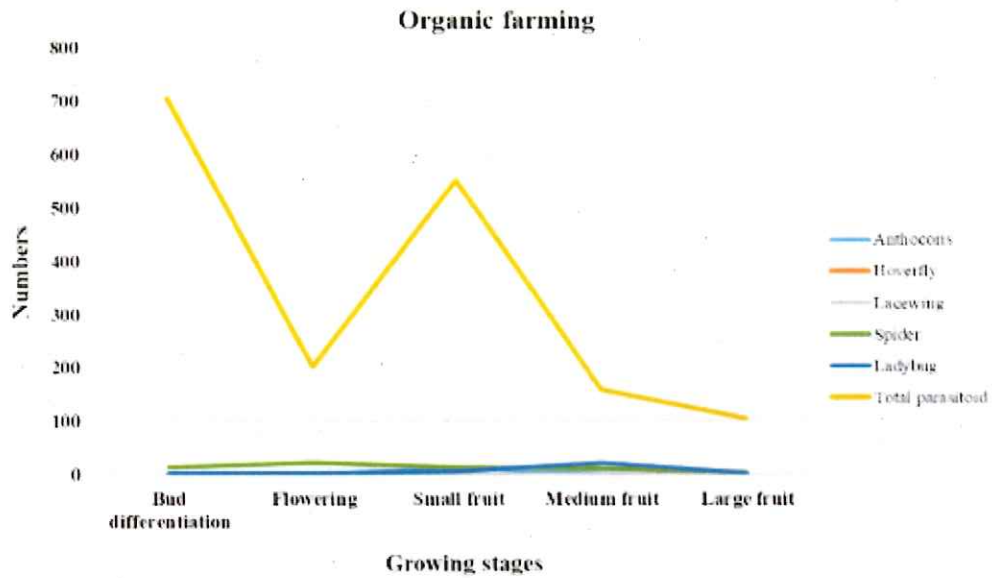


Figure 10. The insect species and number in pomelo orchards by yellow sticky traps. A. Conventional farming. B. Organic farming. Pests are in dotted lines and natural enemies are solid lines.

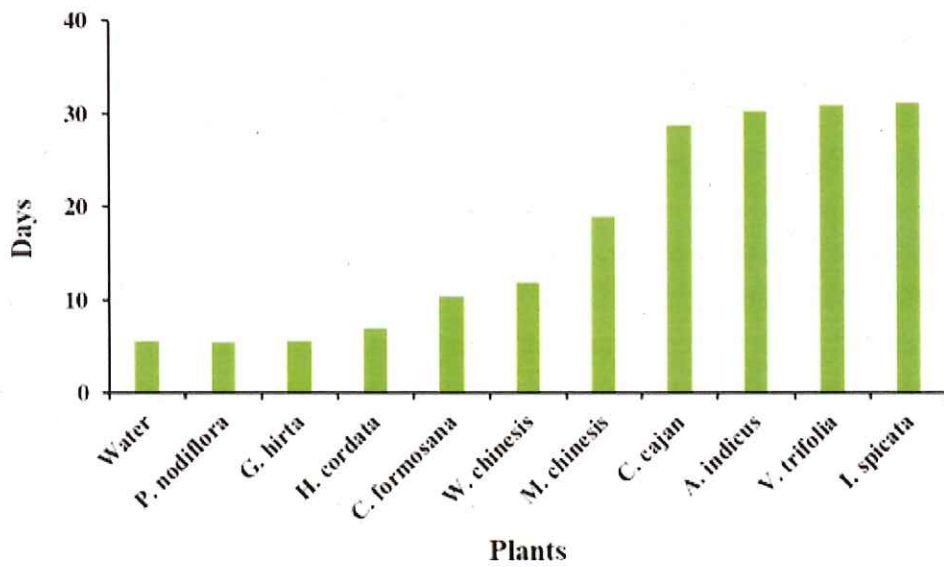


Figure 11. Life assay of *Dirhinus giffardii* on aboriginal plants.

A.



B.



C.



Figure 12. Aboriginal plants that could extend the lifespan of *Dirhinus giffardii*. A. *Indigofera spicata*. B. *Vitex trifolia*. C. *Anster indicus*.

## Conclusions and future works

Whether investigation in paddies or in pomelo orchards, the results showed that the population of natural enemies were higher and more stable in organic fields. The reasons might be there were no chemical pesticides and herbicides usage in organic fields. Meanwhile there were grass or plants on the ridges and orchards, and that provided food and habitats for beneficial insects. In pomelo orchards, the population of key pest- thrips in small fruit stage were highly different between two farming fields. We also recorded that the spiders could exist stably in organic orchards. Spiders are main predators to many pests. Based on our data, spiders may play the important role in pest regulation in pomelo orchards. We also recorded that Barconidae were the main parasitoid wasps (data not showed) in organic orchards. They are the main parasitic natural enemies of fruit flies. If there is Barconidae population stably survive in orchards, they may help to regulate key pests. This kind of parasitoid wasps may also be the indicator species in our further research.

The purpose of the lifespan assay is to screen out the suitable aboriginal plants for habitat creation. Based on preliminary results, we can see that *D. giffardii* can survive on *I. spicata*, *V. trifolia* and *A. indicus* the longest time. These plants are common aboriginal plants and they all possess good cultivation traits. If these plants grow and stably exist in fields, they can provide alternate shelter for parasitoid wasps. So, now we continuously cultivate these plants in our experimental fields and greenhouse. And we are going to plant these plants in rice ridges and pomelo orchards in our future assay. Investigation and comparison will be carefully done between the assay with these plants or not. In the future, we hope to provide the solution for promoting agriculture activities meanwhile maintain sustainable ecosystem in tribes, especially in organic ways.



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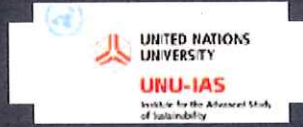
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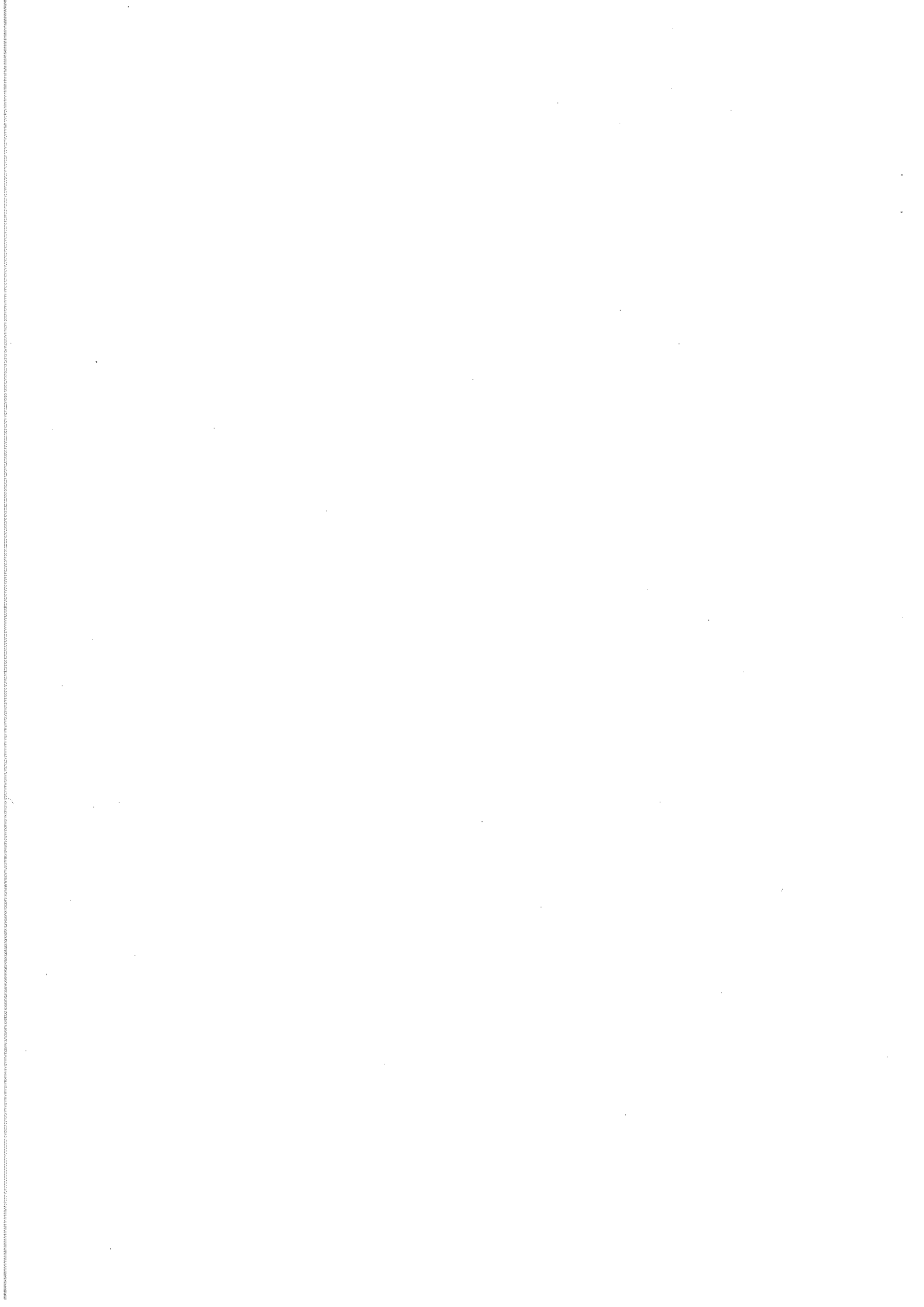
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19 May 2023

Ms. Chia-Yi Wu  
Hualien District Agricultural Research and Extension Station of the Council of Agriculture

Dear Ms. Wu,

**Re: Invitation to the 9th IPSI Global Conference (IPSI-9), 8-11 July 2023 in Akita, Japan**

On behalf of the Secretariat of the International Partnership for the Satoyama Initiative (IPSI), the United Nations University Institute for the Advanced Study for Sustainability (UNU-IAS), I am pleased to invite you to the 9th IPSI Global Conference (IPSI-9), to be held at the Akita International University, Japan, from 8-11 July 2023. IPSI-9 will be co-organized by the IPSI Secretariat at UNU-IAS and Akita International University.

Please find the preliminary outline of the conference attached to this letter for your reference. The expenses for your participation, including round-trip airfare, accommodation and travel allowance will be covered by UNU-IAS.

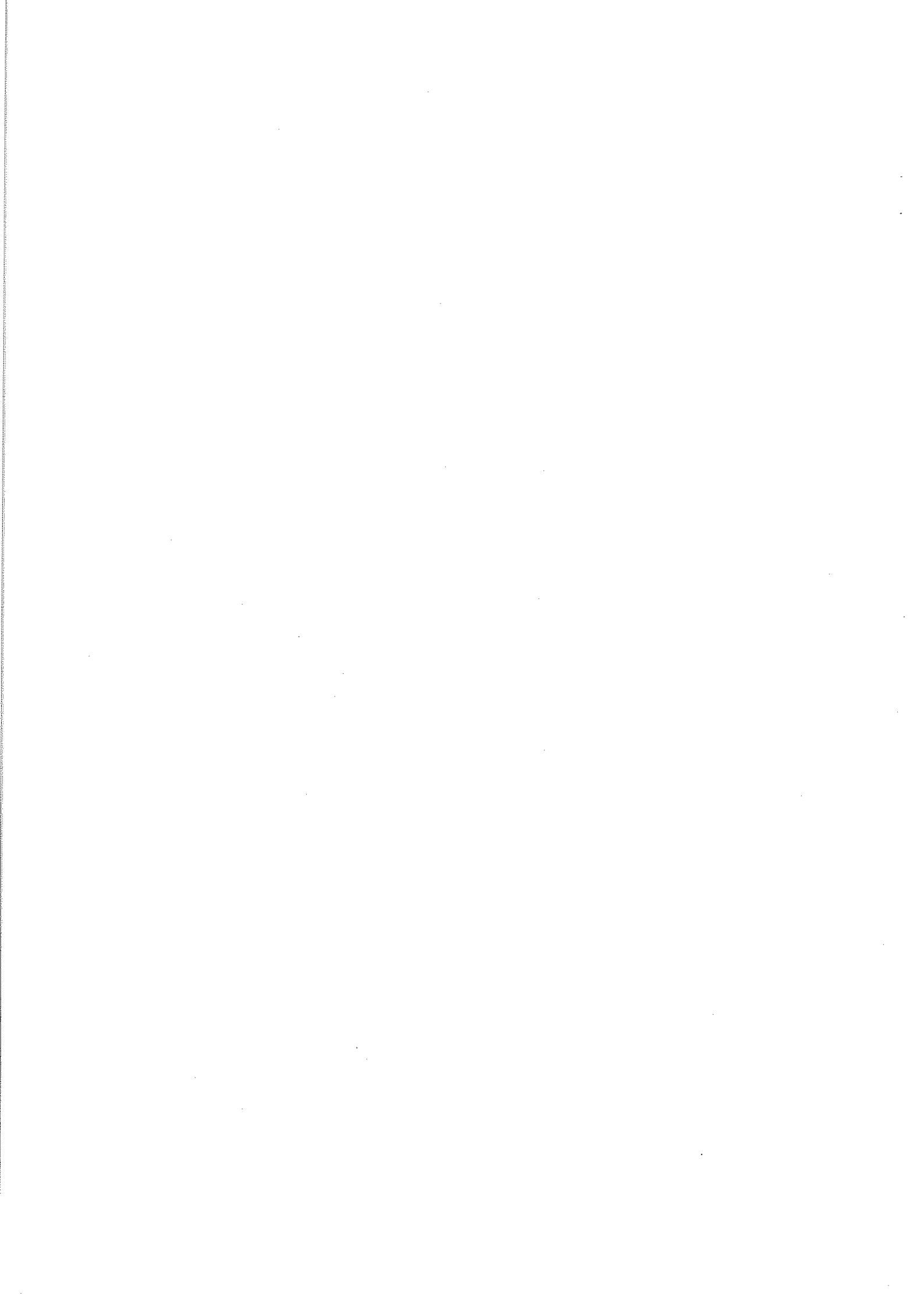
We look forward, with great pleasure, to seeing you at IPSI-9. If you have any inquiries, please do not hesitate to contact the IPSI Secretariat ([ipsiglobal@unu.edu](mailto:ipsiglobal@unu.edu)).

Sincerely yours,

渡辺 綱男

Tsunao Watanabe  
Director

Secretariat of the International Partnership for the Satoyama Initiative (IPSI)





**Programme**

**The Ninth IPSI Global Conference (IPSI-9)**

8 - 11 July 2023

Akita International University, Akita, Japan

*Organised by:*

Secretariat of the International Partnership for the Satoyama Initiative; United Nations University Institute for the Advanced Study of Sustainability; Akita International University; and the Ministry of the Environment, Japan

*Hosted by:* Akita International University

*IPSI-9 Chair:* Kazuhiko Takeuchi (President, IGES / Visiting Professor, UNU-IAS)

<b>DAY 1 8 JULY</b>	<b>General Assembly: Opening Plenary – Suda Hall, Akita International University</b> Organisers: IPSI Secretariat, AIU, and MOEJ
8:00 - 8:30	<b>Registration</b>
8:30 – 9:00	<b>MC:</b> Tsunao Watanabe (Director, IPSI Secretariat) <b>Opening Remarks:</b> <ul style="list-style-type: none"> <li>• Shinobu Yume Yamaguchi (Director, UNU-IAS)</li> <li>• Yoshitaka Kumagai (Vice President, AIU)</li> <li>• Naohisa Okuda (Senior Advisor, MOEJ)</li> <li>• Hideyuki Jinbu (Vice Governor, Akita Prefectural Government)</li> </ul>
9:00 – 9:15	<b>Agenda item 1: Report from the Chair of the IPSI Steering Committee</b> Alfred Oteng-Yeboah (Chair, Ghana National Biodiversity Committee) <ul style="list-style-type: none"> <li>a. IPSI membership</li> <li>b. IPSI collaborative activities</li> </ul>
9:15 – 10:20	<b>Agenda item 2: Report from the IPSI Secretariat</b>
10:25 – 10:40	<b>Break</b>
10:40 – 11:45	<b>Agenda item 3: Report from the Chair of the Sub-committee on the IPSI Strategy and Plan of Action (PoA)</b>  QA and discussion to adopt the PoA
11:45 – 11:55	<b>Agenda item 4: Guidance on the breakout sessions and housekeeping</b>



**Lunch Break 12:00 – 13:30**

<b>DAY 1 8 July</b>	<b>IPSI-9 Public Forum – Suda Hall, Akita International University</b> Organisers: IPSI Secretariat, GYBN, and AIU
13:30 – 17:30	<b>Reshaping Our Future: Youth Empowerment and Contribution to Living in Harmony with Nature</b>  For a full programme, please see here: <a href="#">IPSI-9 Public Forum Programme</a>
18:30 – 20:00	<b>Reception - ANA Crowne Plaza Hotel Akita</b> Organisers: IPSI Secretariat and AIU

<b>Day 2 9 July</b>	<b>Plenary – Kobelco Hall, Building D, Akita International University</b> Organisers: IPSI Secretariat and AIU
9:30 – 10:10	<b>Keynote Presentations:</b> <ul style="list-style-type: none"> <li>• <b>The Biotrade Initiative - 15 minutes</b> Lika Sasaki (Programme Management Officer, UNCTAD) Q&amp;A – 5 minutes</li> <li>• <b>The Asian Development Bank’s activities for SEPLS ecosystem restoration – 15 minutes</b> Isao Endo (Environment Specialist, ADB) Q&amp;A – 5 minutes</li> </ul>
10:10 - 10:40	<b>Case Study Presentations from SDM Projects:</b> <ul style="list-style-type: none"> <li>• <b>Recovery and use of camelids and their fiber as potential resources to improve local livelihoods in the Andean Altiplano – 10 minutes</b> Bibiana Vila (Director, VICAM)</li> <li>• <b>Safeguarding wetland ecosystems and pastoral communities in the Kyrgyz Mountains – 10 minutes</b> Anara Alymkulova (Programme Manager, Institute for Sustainable Development Strategy Public Fund)</li> </ul> <p>Q&amp;A – 10 minutes</p>
10:40 – 10:45	<b>Guidance on Breakout Sessions</b>
10: 45 – 11:00	<b>Break</b>



	<b>Breakout Sessions - Building D, Akita International University</b> Organisers: IPSI Secretariat and AIU
11:00 – 12:00	<b>Breakout Session 1</b>
12:00 – 13:30	<b>Lunch Break</b>
13:30 – 14:30	<b>Breakout Session 2</b>
14:30 – 15:30	<b>Breakout Session 3</b>
15:30 – 16:00	<b>Break</b>
14:00 – 16:50	<b>Plenary: Wrap-up Session - Kobelco Hall, Building D, Akita International University</b> Organisers: IPSI Secretariat and AIU
16:00 – 16:35	<b>Report from the breakout sessions facilitators</b>
16:35 – 16:40	<b>Housekeeping</b>

<b>Day 3</b> <b>10 July</b>	<b>Study Tour</b> Organisers: IPSI Secretariat and AIU Information on the study tour will be given at the conference.
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<b>Day 4</b> <b>11 July</b>	<b>General Assembly: Closing Plenary – Kobelco Hall, Building D, Akita International University</b> Organisers: IPSI Secretariat and AIU
	<b>Report from the public forum on youth</b>
	<b>Next steps and future events</b>
	<b>Break</b>
	<b>Group photo</b>
11:10 – 11:30	<b>Closing Remarks:</b> <ul style="list-style-type: none"> <li>• Isato Kunisada (State Minister, MOE-J)</li> <li>• Alfred Oteng-Yeboah (Chair, IPSI Steering Committee)</li> <li>• Tsunao Watanabe (Director, IPSI Secretariat)</li> </ul>

**Lunch Break 11:30 – 13:30**

**Buses to Akita Station and Akita Airport 14:00**

Please check out from the hotel in the morning and bring your luggage to the venue if you will request transportation to Akita Airport after lunch.



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<b>Day 4</b> <b>11 July</b> <b>13:15 – 14:45</b>	<b>*19th IPSI Steering Committee Meeting – Room B206, Akita International University</b> Organisers: IPSI Secretariat and AIU *SC members only
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#### **Buses to Akita Station and Akita Airport**

Please check out from the hotel in the morning and bring your luggage to the venue if you will request transportation to Akita Airport after lunch.



## **Strategy and Plan of Action 2023 -2030 of the International Partnership for the Satoyama Initiative**

## **Background:**

The Satoyama Initiative is a global initiative that aims to realize societies in harmony with nature through the conservation and sustainable management of socio-ecological production landscapes and seascapes (SEPLS). The initiative promotes the sustainable use of biodiversity so that societies can enjoy a stable supply of various natural assets and ecosystem services well into the future.

SEPLS are dynamic mosaics of habitats and other land and sea use where harmonious interactions between people and nature maintain biodiversity while providing humans with goods and services needed for their livelihoods, survival, and well-being in a sustainable manner. SEPLS are found in many places in the world under different names and are deeply linked to local culture and knowledge. When well-managed, SEPLS can significantly contribute to the three objectives of the Convention on Biological Diversity (CBD) and the Sustainable Development Goals (SDGs).

While SEPLS provide a wide range of provisioning, regulating, cultural, and supporting services, they can contribute to combating desertification by conserving land from degradation and to climate change mitigation and adaptation, among other things, by conserving and enhancing carbon sinks and reservoirs, and increasing resilience to adapt to adverse effects of climate change at the land and seascape levels. SEPLS also root the identities of Indigenous Peoples and Local Communities.

The Satoyama Initiative was developed to support or re-instate harmony between societies and nature by promoting sustainable socio-economic activities such as sustainable agriculture, fisheries, and forestry that are in line with natural ecological processes. To facilitate and accelerate the implementation of activities under the Satoyama Initiative, the International Partnership for the Satoyama Initiative (IPSI) was launched in 2010 during the 10th Meeting of the Conference of the Parties to the Convention on Biological Diversity.

The Partnership is open to all organizations engaged with SEPLS. As of June 2023, IPSI comprised 304 members committed to supporting SEPLS for the benefit of biodiversity and human well-being through the implementation of their individual and collaborative activities. IPSI members include national and local governmental organizations; government-affiliated organizations; non-governmental and civil society organizations; Indigenous Peoples and Local Community organizations; academic, educational and/or research institutes; industry and private sector organizations; and United Nations and other intergovernmental organizations. Not all the stakeholders working on SEPLS are IPSI members, but IPSI is open to collaborating with all interested stakeholders and sharing knowledge and experiences with other networks.

The large and growing number of IPSI members, their diversity, and the wide range of activities they carry out in diverse geographical, ecological, edaphic, historical, climatic, cultural, and socio-economic conditions, including the conservation of biodiversity at the genetic, species, and ecosystem levels are key assets for the Partnership. However, there is a need to further promote coordination, cooperation, co-evolution, and synergy and, thus, maximize results and impacts based on effective and efficient resource use in implementing activities under the Satoyama Initiative.

The purpose of the present strategy is to enhance complementarity and synergies among the activities of IPSI members, on the one hand, and guide IPSI members and other partners, on the other hand, to contribute to implementing activities related to the Satoyama Initiative at the local, national, regional, and international levels.

## **Vision**

The vision of the International Partnership for the Satoyama Initiative is to realize societies in harmony with nature. In such societies, human communities practice, develop, and maintain socio-economic activities aligned with natural processes, bearing in mind, among other things, the impacts of loss of biodiversity, desertification, climate change, and disease transmission. By managing and using biological resources sustainably and thus maintaining and nurturing biodiversity and ecosystem resilience, humans will experience productive landscapes and seascapes that provide a stable supply of ecosystem services and goods well into the future.

## **Mission:**

The strategic mission of the International Partnership for the Satoyama Initiative is to:

- a. Promote and support the concept of SEPLS and actions towards their revitalization and sustainable management building on the knowledge and culture of Indigenous Peoples and Local Communities, within the partnership and with non-member networks and/or organizations working with socio-ecological production landscapes and seascapes (SEPLS)
- b. Enhance the contribution of SEPLS to achieve the objectives of the Rio Conventions and the implementation of other relevant international agreements, including, among others, the 2030 Agenda for Sustainable Development, the Kunming-Montreal Global Biodiversity Framework, and the United Nations Decade on Ecosystem Restoration; and
- c. Promote the concrete benefits of SEPLS to the environment and society, including biodiversity conservation, restoration and sustainable use, climate change mitigation and adaptation, disaster risk reduction, livelihood support, relevance to health, sustainable food systems, and human well-being.

## Strategic objectives

The present Strategy and Plan of Action 2023-2030 identifies five strategic objectives as described below.

- **Knowledge Co-Production, Management, and Uptake:** Conduct research and knowledge management related to landscape and seascape approaches to address direct and underlying causes responsible for the loss of biological and cultural diversity as well as ecological and socio-economic services from SEPLS.
- **Institutional Frameworks and Capacity Development:** Strengthen institutional frameworks and develop capacity to integrate landscape and seascape approaches into policies and cross-sectoral strategies related to biodiversity, climate change, sustainable land and sea management, health, agri-food systems, and disaster risk reduction to maintain or enhance the benefits of SEPLS to the environment and society.
- **Area-Based Conservation Measures:** Promote effective conservation and management through protected areas and other effective area-based conservation measures (OECMs), recognizing indigenous and traditional territories where applicable, and facilitate their integration into the wider landscape and seascape to contribute to the relevant targets of the Kunming-Montreal Global Biodiversity Framework.
- **Ecosystem Restoration:** Promote the restoration of SEPLS and contribute to the goals of the United Nations Decade on Ecosystem Restoration and relevant targets of the Kunming-Montreal Global Biodiversity Framework.
- **Sustainable Value Chain Development:** Promote sustainable practices, market-based mechanisms, and value chains to support sustainable production, including customary sustainable use and economies that rely on traditional knowledge and cultural values and practices, from SEPLS to contribute to the achievement of relevant targets of the Kunming-Montreal Global Biodiversity Framework.

The following principles apply to all of the strategic objectives.

- i. Strengthen networking and cooperation among members at local, regional, and global scales;
- ii. Promote full, effective, and equitable participation of Indigenous Peoples and Local Communities, irrespective of race, ethnic group, religion, and gender, while supporting women, youth, and people in vulnerable and marginalized situations; and
- iii. Comport fully with the principles of Section C of the Kunming-Montreal Global Biodiversity Framework.

### Implementation:

The IPSI Secretariat will work with the Steering Committee and IPSI members, as soon as possible, to develop an actionable implementation plan for achieving the strategic objectives and priority actions below. This plan will include resource mobilization activities and, if possible, a conceptual diagram illustrating the relationships between the objectives and actions, as well as improvements to the functioning of IPSI, such as the IPSI Collaborative Activities mechanism, membership procedures, partner engagement, and events, as soon as possible.

# 1. Knowledge Co-Production, Management, and Uptake

Strategic objective: Conduct research and knowledge management related to landscape and seascape approaches to address direct and underlying causes responsible for the loss of biological and cultural diversity, as well as ecological and socio-economic services from SEPLS.

Outcome: By 2030, IPSI has produced a number of knowledge products and collaboratively developed a relevant research portfolio and tools to enhance benefits to nature and people.

## Priority Actions:

1. Collect, publish, and share knowledge on the conservation, sustainable use, and restoration of SEPLS through the IPSI online portal of case studies, among others.
2. Support IPSI members, in particular those working with Indigenous Peoples and Local Communities, to produce case studies and relevant knowledge materials to enhance knowledge of community-led and traditional systems of SEPLS management.
3. Encourage synergies between modern science and traditional knowledge systems on the benefits of landscape and seascape approaches for conservation and sustainable use of biodiversity including through tools such as geospatial data, scenarios, and modelling.
4. Develop and promote IPSI collaborative activities that contribute to integrated research and capacity development action on the conservation and restoration of SEPLS, including recommendations to enable socio-ecological resilience.
5. Implement outreach activities to transfer knowledge and build further recognition and visibility of the Satoyama Initiative, IPSI, and SEPLS concept taking advantage of social media channels, international meetings, and other relevant events.
6. Review and synthesize information from case studies submitted by IPSI members, including through the publication of the Satoyama Initiative Thematic Review (SITR), promotion of further cooperation between IPSI and IPBES, and facilitation of the transfer and uptake of this knowledge by relevant science and policy processes<sup>1</sup>, capacity building, and education initiatives.
7. Support efforts to explore the concept of “biocultural diversity” and its relevance to SEPLS.

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<sup>1</sup> Relevant processes can include: the United Nations Decade on Ecosystem Restoration and the United Nations Decade on Ocean Science for Sustainable Development.



## 2. Institutional Frameworks and Capacity Development

Strategic objective: Strengthen institutional frameworks and develop capacity to integrate landscape and seascape approaches into policies and cross-sectoral strategies related to biodiversity, climate change, sustainable land and sea management, energy, water, health, agri-food systems, and disaster risk reduction to maintain or enhance the benefits of SEPLS to the environment and society.

Outcome: By 2030, guidance and tools are developed to strengthen institutional frameworks and capacities to integrate the concept of landscape and seascape approaches into policies at regional, national, and sub-national levels, cross-sectoral strategies and actions.

### Priority Actions:

1. Foster the integration of landscape and seascape approaches into relevant policies of the Convention on Biological Diversity and other Multilateral Environment Agreements (MEAs), including the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convention to Combat Desertification (UNCCD), to ensure synergies and coherence in their implementation.
2. Develop guidance and tools to integrate landscape and seascape approaches into policies related to biodiversity conservation and sustainable development, including the NBSAPs, LBSAPs, and cross-sectoral strategies, and strengthen the implementation capacities of national and sub-national actors.
3. Mainstream landscape and seascape approaches into plans and strategies on COVID-19 recovery, health, and disaster risk reduction.
4. Invite decision makers to provide information on the multiple benefits of SEPLS management, including its importance in achieving the SDGs and the Kunming-Montreal Global Biodiversity Framework, and in efforts to mainstream biodiversity into other production sectors.
5. Develop the capacity of broad stakeholders, especially policymakers, to support the implementation of landscape and seascape approaches at the ground level and share experiences through workshops and events.

### 3. Area-Based Conservation Measures

Strategic Objective: Promote effective conservation and management through protected areas (PAs) and other effective area-based conservation measures (OECMs), recognizing indigenous and traditional territories where applicable, and facilitate their integration into the wider landscape and seascape to contribute to the relevant targets of the Kunming-Montreal Global Biodiversity Framework<sup>2</sup>.

Outcome: The total areas of PAs and OECMs engaged by IPSI members and effectively managed has increased, recognizing indigenous and traditional territories.

Priority Actions:

1. Generate knowledge on SEPLS's contribution to biodiversity conservation and restoration in protected areas and OECMs.
2. Promote recognition of qualified SEPLS as PAs and OECMs through increased awareness of their benefits, including among decision-makers, through communications, education, and public awareness activities.
3. Enhance institutional cooperation between IPSI, governments, and private and civil society organizations, from local to international levels.
4. Promote peer learning and capacity development activities to consider the relationships between OECMs and SEPLS and the potential for production landscapes and seascapes to be recognized as OECMs.
5. Document and share lessons and best practices on the management of SEPLS, including watershed, integrated coastal, and ridge to reef management.
6. Promote the use of the Indicators of Resilience in SEPLS and other related tools to ensure the effective management of PAs and OECMs.
7. Identify the particular challenges related to area-based conservation in volumetric seascapes, taking into account their unique features, and develop appropriate support mechanisms with a focus on the UN Decade of Ocean Science for Sustainable Development.

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<sup>2</sup> The relevant targets include: Target 1 (All areas are planned or managed to bring loss of areas of high biodiversity importance close to zero); Target 3 (30% of areas are effectively conserved); Target 4 (Threatened species are recovering, genetic diversity is being maintained and human-wildlife conflict is being managed); Target 7 (Pollution reduced, halving nutrient loss and pesticide risk); Target 8 (Minimize impacts of climate change and ocean acidification including through nature-based solutions and/or ecosystem-based approaches); Target 9 (Management of wild species is sustainable and benefits people); Target 10 (Areas under agriculture, aquaculture, fisheries and forestry are managed sustainably); and Target 11 (Nature's contributions to people are restored, maintained and enhanced).

## 4. Ecosystem Restoration

**Strategic Objective:** Promote the restoration of SEPLS and contribute to the goals of the United Nations Decade on Ecosystem Restoration and relevant targets of the Kunming-Montreal Global Biodiversity Framework<sup>3</sup>.

**Outcome:** By 2030, research on the restoration of SEPLS has been conducted, and a significant amount of degraded ecosystems have been restored and/ or are under restoration through sustainable SEPLS management.

### Priority Actions:

1. Catalyse action across different stakeholders, from local to international, for the restoration of SEPLS and ecosystem services.
2. Promote collaborative research activities of IPSI members to fill gaps in science, technology, and traditional ecological knowledge on the restoration of SEPLS, particularly the benefits of integrating traditional knowledge and modern science.
3. Promote peer-to-peer learning, capacity development, and outreach activities on themes related to the restoration of SEPLS, contributing to Task Forces of the UN Decade on Ecosystem Restoration.
4. Support the collaborative publication of case studies, policy briefs and research papers focused on the restoration of SEPLS.
5. Support on-the-ground actions towards the restoration of degraded SEPLS, which will in turn lead to sustainable and enhanced productivity.
6. Undertake communication, education, and public awareness programs on the factual and potential contribution of the SEPLS concept to enhance restoration at IPSI and other related events and meetings.

## 5. Sustainable Value Chain Development

**Strategic Objective:** Promote sustainable practices, market-based mechanisms, and value chains to support sustainable production, including customary sustainable use and economies that rely on

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<sup>3</sup> The relevant targets include: Target 1 (All areas are planned or managed to bring loss of areas of high biodiversity importance close to zero); Target 2 (30% of degraded areas are under effective restoration); Target 4 (Threatened species are recovering, genetic diversity is being maintained and human-wildlife conflict is being managed); Target 7 (Pollution reduced, halving nutrient loss and pesticide risk); Target 8 (Minimize impacts of climate change and ocean acidification including through nature-based solutions and/or ecosystem-based approaches); Target 9 (Management of wild species is sustainable and benefits people); Target 10 (Areas under agriculture, aquaculture, fisheries and forestry are managed sustainably); and Target 11 (Nature's contributions to people are restored, maintained and enhanced).

traditional knowledge, and cultural values and practices, from SEPLS to contribute to the achievement of relevant targets of the Kunming-Montreal Global Biodiversity Framework<sup>4</sup>.

**Outcome:** By 2030, sustainable market linkages for SEPLS products have been established/enhanced, sustainable traditional practices reinforced, and information on the benefits of certification, sustainable production and consumption, circular economy, and sustainable value chains have been made available to IPSI members.

**Priority Actions:**

1. Collect evidence across sectors about the impact of economic and policy incentives and enable a favorable policy environment for a circular economy, sustainable value chains, and rural-urban linkages to support products from SEPLS.
2. Identify the challenges of the current market economy system faced by IPSI members.
3. Document best practices and success stories and promote replication of economic, market, and financial mechanisms that increase the resilience of SEPLS.
4. Work to improve consumer awareness about sustainable production and consumption, including the role and value of SEPLS.
5. Enhance cooperation across government, business, and financial sectors, and relevant regional/international organizations to develop and enhance biodiversity-oriented value chains, including affordable green certification and branding.

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<sup>4</sup> The relevant targets include: Target 15 (Businesses assess and disclose biodiversity dependencies, impacts and risks, and reduce negative impacts) and Target 16 (Sustainable consumption choices are enabled, and food waste reduced by half).

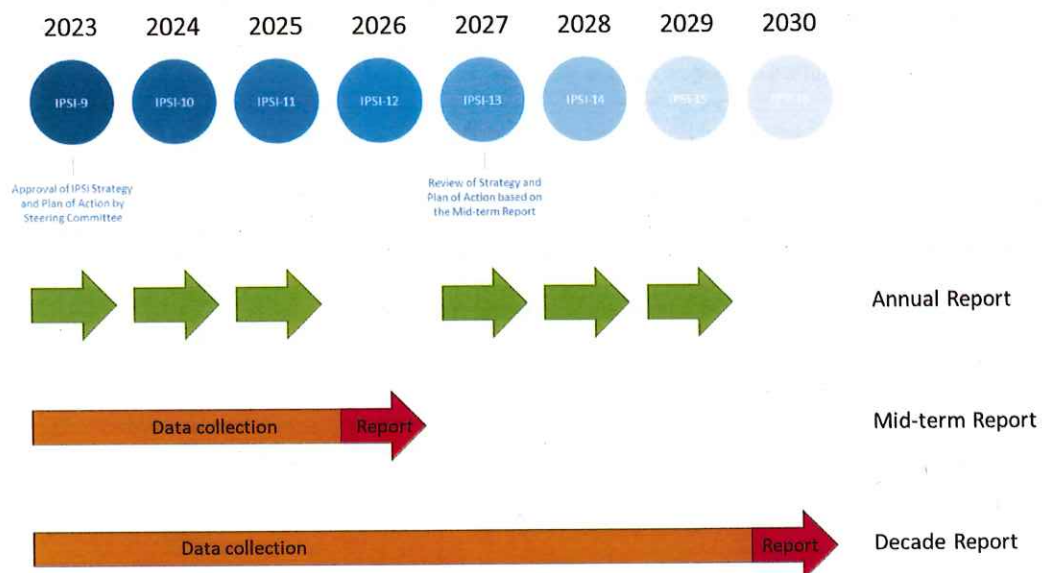
## Monitoring, Reporting, and Evaluation

IPSI will develop and implement a system for monitoring progress in the implementation of the strategic objectives and priority actions and assess their overall policy impact. Two main mechanisms will be used to report progress: annual reports of IPSI activities and program implementation reports.

Annual reports will track activities from the previous fiscal year and present major achievements related to the strategic objectives, including, among others, updates on the partnership, major events, collaborative activities, knowledge products, and Steering Committee decisions.

A mid-term implementation report covering from 2023 to 2026 will be developed to provide a systematic and impartial assessment of the IPSI program and strategy to determine its relevance, efficiency, effectiveness, impact, and sustainability to support the vision of societies in harmony with nature. The report will seek to strengthen the IPSI program, share learning lessons and identify gaps. Based on the outcomes and recommendations of the mid-term report, the IPSI Steering Committee will have the opportunity to update and make the necessary adjustments to its Strategy and Plan of Action, as needed. The mid-term report could provide relevant information to related IPBES reports, Global Biodiversity Outlooks, and Local Biodiversity Outlooks.

A final implementation report covering 2023-2030 will be developed to evaluate the achievements and the overall impact of IPSI on the goals and targets of the Kunming-Montreal Global Biodiversity Framework, SDGs, and other relevant initiatives, and including a survey of IPSI members on their individual contributions. The report will seek to highlight lessons learned and create the groundwork for the development of the next IPSI Strategy and Plan of Action, as appropriate.



## Indicators:

The following indicators will be taken into account to measure the progress of implementing the strategic objectives during the process of developing mid-term and final implementation reports. These indicators may be revised and updated in line with the finalisation of the monitoring framework for the Kunming-Montreal Global Biodiversity Framework expected to take place at Sixteenth meeting of the Conference of the Parties (COP-16) to the Convention on Biological Diversity (CBD).

	Key indicator	Strategic objectives
1	Number of IPSI members	1
2	Number of case studies	1
3	Number of publications on SEPLS produced by IPSI and its members, including academic papers, SITR, books, and reports	1
4	Number of IPSI newsletters published	1
5	Number of academic papers and publications which refer to IPSI-related work	1, 2
6	Number of MEA decisions and NBSAPs referring to IPSI-related work	2
7	Number of IPSI-related conferences and meetings	2
8	Number of people trained by relevant capacity development activities	2
9	Increased capacities of IPSI members and related stakeholders in knowledge documentation and transfer, research, and educational activities concerning SEPLS management	2
10	Number and area of SEPLS reported as PAs and/or OECMs	3
11	Better management effectiveness of PAs and/or OECMs through SEPLS management	
12	Number of IPSI member organizations engaged in restoration activities	4
13	Number and area or volume of SEPLS under ecosystem restoration	4
14	Number of IPSI members able to take advantage of sustainable trade initiatives	5
15	Number of case studies documenting best practices and success stories of economic, market, and financial mechanisms	5
16	Increase in uptake of products from SEPLS and the SEPLS concept in activities of actors outside the SEPLS (e.g. consumers, planners outside SEPLS, private sector)	5
17	Number of initiatives implemented for each strategic objective.	All
18	Number of SDGs targets to which IPSI made a contribution	All
19	Number of targets of the Kunming-Montreal GBF to which IPSI made a contribution	All