

# The Light Institutional Farm & Training Center

A Practice-Based Research Platform for Agroecology, Food Systems, and Policy Engagement

The Light 農場與培訓中心 | 農業生態學、糧食系統與政策研究的實踐型研究平台

## Keywords 關鍵字

Agroecology | Sustainable Agriculture | Food Systems | Climate Resilience | Food Security | Food Justice | Regenerative Farming | Organic Agriculture | Smallholder Farmers | Women Empowerment | Rural Development | Capacity Building | Global South | East Africa | Uganda | Kenya | Taiwan | Living Lab | Field Research | Policy Research | Agricultural Training | Participatory Research | Community Development | SDGs | Climate Adaptation | Biodiversity | Soil Health | **Water Resources Management** | **Water-Agriculture Nexus** | **Integrated Water Resource Management** | **Watershed Management** | **Agricultural Water Use Efficiency** | Seed Sovereignty | Local Food Systems | Agricultural Extension | Farm School | Vocational Training | NGO | International Development | Research Partnership | **Water Security** | **Sustainable Irrigation** | **Water Governance**

農業生態學 | 永續農業 | 糧食系統 | 氣候韌性 | 糧食安全 | 食品正義 | 再生農業 | 有機農業 | 小農 | 婦女賦權 | 鄉村發展 | 能力建設 | 全球南方 | 東非 | 烏干達 | 肯亞 | 台灣 | 活實驗室 | 田野研究 | 政策研究 | 農業培訓 | 參與式研究 | 社區發展 | 永續發展目標 | 氣候調適 | 生物多樣性 | 土壤健康 | **水資源管理** | **水資源與農業關聯** | **整合型水資源管理** | **集水區管理** | **農業用水效率** | 種子主權 | 在地糧食系統 | 農業推廣 | 農場學校 | 職業訓練 | 非營利組織 | 國際發展 | 研究合作 | **水資源安全** | **永續灌溉** | **水資源治理**

## I. Institutional Positioning

### 一、研究中心定位

The Light Farm & Training Center is a practice-based research platform integrating field implementation, academic research, and policy engagement, with a focus on:

The Light 農場與培訓中心是一個實踐型研究平台,整合田野實施、學術研究與政策參與,聚焦於:

- **Agroecology** (農業生態學)
- **Sustainable Food Systems** (永續糧食系統)
- **Food Justice** (食品正義)
- **Climate Resilience** (氣候韌性)
- **Water Resources & Agricultural Environment** (水資源與農業環境)

The Center is positioned as a **Living Laboratory**, where research is not confined to theoretical models or simulations, but is tested, refined, and advanced within real agricultural settings, real communities, and real policy contexts—**with particular emphasis on the critical interconnections between water resources, agricultural productivity, and environmental sustainability.**

本中心定位為一個「活的實驗室」,讓研究不僅停留在理論或模型推演,而是能在真實農業場域、真實社群與真實政策環境中被驗證、修正與深化,特別強調水資源、農業生產力與環境永續性之間的關鍵連結。

## II. Research Orientation & Academic Value

### 二、研究取向與學術價值

The Light provides an enabling environment for research centers and interdisciplinary teams to undertake:

The Light 為研究中心與跨領域團隊提供一個有利的環境來進行：

Research Activity	研究活動
Applied & Participatory Research	應用型與參與式研究
Long-term Field Observation in agriculture, food systems, and water-agriculture interactions	農業、糧食系統及水資源-農業互動的長期田野觀察
Co-production of Knowledge with farming communities on water resource management and sustainable agricultural practices	與農業社群共創知識,涵蓋水資源管理與永續農業實踐
Policy Analysis & Translation linking empirical research to institutional recommendations on water governance and agricultural environment	將實證研究轉化為政策分析與制度建議,包含水資源治理與農業環境面向

The research methodology we seek responds to contemporary academic calls for interdisciplinary, Global South–anchored, and practice-based approaches, explicitly recognizing water resources as a foundational pillar of agricultural sustainability and food system resilience.

我們尋求的研究方法回應當代學術對跨學科、以全球南方為錨點、以實踐為導向的研究取徑需求,明確將水資源視為農業永續性與糧食系統韌性的基礎要素。

### III. Core Objectives for Research Collaboration

#### 三、研究中心合作的核心目標

##### 1. Education & Research Capacity Development

###### 教育與研究人才培育

The Center strengthens the role of sustainable agriculture, **water resources management**, and food systems within research training:

本中心強化**永續農業**、**水資源管理**與糧食系統在研究培訓中的角色：

- Field-based courses and applied research programs **integrating water-agriculture nexus studies**
- 田野導向課程與應用型研究計畫, **整合水資源-農業關聯研究**
- Thesis and dissertation field sites for Master's and PhD research **on agroecology, water management, and environmental sustainability**
- 碩士與博士論文田野研究場域, **聚焦於農業生態學、水資源管理與環境永續**
- Joint supervision, visiting scholar programs, and researcher exchanges **focusing on interdisciplinary water-agriculture-climate research**
- 聯合指導、訪問學者計畫與研究人員交流機制, **深化以水資源-農業-氣候為核心的跨領域研究**

##### 2. Food Security & Food Justice Research

###### 糧食安全與食品正義研究

The Light frames food systems as social, economic, **environmental**, and governance challenges:

The Light 將糧食系統視為社會、經濟、**環境**與治理挑戰：

- Food security and access **in relation to water availability and agricultural water security**
- 糧食安全與可近性, **連結水資源可得性與農業用水安全**
- Resilience of local and regional food systems **through sustainable water resource management**
- 在地糧食系統的韌性, **透過永續水資源管理達成**
- Inequality, power relations, and institutional structures **in agricultural development and water governance**
- 農業發展與水資源治理中的不平等、權力與制度結構

### 3. Research–Policy Interface

#### 實證研究與政策分析的連結

Functioning as a research–policy interface, the Center enables research teams to:

作為實證研究與政策分析的連結平台,本中心協助研究團隊:

- Test policy assumptions in real-world agricultural contexts **including water resource allocation and management models**
- 測試政策假設於真實農業情境,包含水資源分配與管理模式
- Generate primary data from field-based practice **on water use efficiency, irrigation systems, and watershed management**
- 產生田野實踐的第一手數據,涵蓋用水效率、灌溉系統與集水區管理
- Enhance contextual relevance and operational feasibility of policy research **linking agricultural productivity with water resource sustainability**
- 提升政策研究的在地相關性與可操作性,連結農業生產力與水資源永續性

### 4. Advancing Agroecology in Policy Research

#### 農業生態學的政策研究推進

Research outputs from The Light contribute to:

The Light 的研究產出貢獻於:

- Policy briefs and technical notes **on sustainable agriculture and integrated water resource management**
- 政策簡報與技術說明,涵蓋永續農業與整合型水資源管理
- White papers and advisory documents **addressing water-agriculture-climate nexus**
- 白皮書與政策諮詢文件,處理水資源-農業-氣候關聯
- Comparative studies on agriculture, food systems, **water governance**, and climate policy
- 農業、糧食系統、**水資源治理**與氣候政策的比較研究

## 5. Academic, Industry & Policy Dialogue

### 產業、學術與政策三方對話

Collaboration with research centers, think tanks, and responsible industry partners to advance:

與研究中心、智庫與負責任產業夥伴合作,推進:

- Sustainability indicators and assessment methodologies **for agricultural water use and environmental impact**
- 永續指標與評估方法,針對農業用水與環境影響
- Institutionalized research agendas **integrating water resource management into agricultural development frameworks**
- 制度化研究議程,將水資源管理整合進農業發展框架
- Transition from demonstration projects to research-based models **in water-efficient agriculture and climate-smart farming**
- 從示範計畫轉型為基於研究的模式,聚焦於節水農業與氣候智慧型農業

## 6. Long-Term Research & Data Accumulation

### 長期研究與資料累積

The Center emphasizes research depth and continuity, well suited for:

本中心強調研究深度與連續性,非常適合:

- **Longitudinal studies** on soil health, water quality, agricultural productivity, and ecosystem services
- 長期追蹤研究,涵蓋土壤健康、水質、農業生產力與生態系統服務
- **Repeated experiments and comparative research** on irrigation techniques, water conservation practices, and climate adaptation strategies
- 重複性實驗與比較研究,針對灌溉技術、節水實踐與氣候調適策略
- Development of cumulative, verifiable research datasets **linking water resources, agricultural outcomes, and environmental indicators**
- 發展可累積、可驗證的研究資料集,連結水資源、農業產出與環境指標

## 7. Strengthening Global South Research Agency

### 強化全球南方研究能動性

The Light prioritizes leadership and agency of Global South research institutions through:

The Light 優先支持全球南方研究機構的領導力與能動性,透過:

- Capacity building in research design and implementation **on context-specific water resource challenges and agricultural environment issues**
- 研究設計與執行的能力建設,針對在地特定的水資源挑戰與農業環境議題
- Participation in international research networks **addressing water security, food security, and climate resilience in East Africa**
- 參與國際研究網絡,處理東非的水資源安全、糧食安全與氣候韌性
- Evidence-based engagement in policy discourse **on water governance, sustainable agriculture, and rural development**
- 基於實證的政策論述參與,聚焦於水資源治理、永續農業與鄉村發展

Knowledge production is locally grounded while globally relevant, **particularly in addressing water scarcity, agricultural sustainability, and climate adaptation in resource-constrained contexts.**

知識生產從在地出發,同時具全球相關性,特別是在處理資源受限環境中的水資源短缺、農業永續性與氣候調適議題。

## 8. Integrated Research on Agriculture, Environment, Water & Climate

### 農業、環境、水資源與氣候變遷整合研究

The Center positions agriculture as part of the climate solution **and recognizes water resources as the critical nexus connecting agricultural production, environmental health, and climate resilience:**

本中心將農業定位為氣候解決方案的一部分,並將水資源視為連結農業生產、環境健康與氣候韌性的關鍵樞紐:

- **Agroecosystem management** integrating soil, water, biodiversity, and climate considerations
- 農業生態系管理,整合土壤、水資源、生物多樣性與氣候考量
- **Climate adaptation and mitigation strategies** through water-efficient agriculture and regenerative practices
- 氣候調適與減緩策略,透過節水農業與再生實踐
- **Integrated approaches** to land use, water resource management, environmental protection, and agricultural development
- 整合性取徑,涵蓋土地利用、水資源管理、環境保護與農業發展
- **Water-energy-food nexus** research in smallholder farming systems
- 水資源-能源-糧食關聯研究,聚焦於小農系統




## IV. Role in the Research Ecosystem

### 四、The Light 在研究體系中的角色

The Light Farm & Training Center functions simultaneously as:

The Light 農場與培訓中心同時扮演以下角色：

Role	角色定位
 Field-based research platform for agroecology and water-agriculture systems	農業生態學與水資源-農業系統的田野研究平台
 Training site for researchers and graduate students in sustainable agriculture and water resource management	研究人員與研究生的實地訓練基地,涵蓋永續農業與水資源管理
 Testing environment for policy-oriented research on water governance, agricultural environment, and climate resilience	政策導向研究的測試與驗證場域,針對水資源治理、農業環境與氣候韌性
 Global South–anchored hub for international collaboration on water security, food systems, and sustainable development	以全球南方為核心的國際研究合作節點,聚焦水資源安全、糧食系統與永續發展

**The Light transforms agricultural practice into a researchable, comparable, and policy-relevant knowledge platform**—linking field realities with academic inquiry and institutional decision-making, with water resources serving as a foundational thread connecting agricultural sustainability, environmental health, and community resilience.

**The Light 將農業實踐轉化為可被研究、比較與政策化的知識平台**,連結田野、學術與制度,並以水資源作為貫穿農業永續性、環境健康與社區韌性的基礎主線。

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