

# 2010 ANNUAL REPORT ON NATIONAL SUSTAINABLE DEVELOPMENT

九十九年國家永續發展年報 2010 Annual Report on National Sustainable Development



行政院國家永續發展委員會 編印

Published by National Council for Sustainable Development, Taiwan, R. O. C.

# 99年國家永續發展 年報

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## 前言

**1992** 年聯合國邀集171個國家代表於巴西里約熱內盧舉行「地球高峰會」，通過「21世紀議程」作為全球推動永續發展的藍圖，並呼籲各國共同行動，追求人類永續發展。10年後各國代表於2002年在南非約翰尼斯堡召開「永續發展世界高峰會」，通過「約翰尼斯堡永續發展高峰會行動計畫」，訂定推動永續發展的具體行動及目標期程。

行政院為將永續發展理念納入施政，於民國86年8月23日成立「行政院國家永續發展委員會」（簡稱永續會），專責永續發展政策諮詢及跨部會工作協調。永續會除先後完成「台灣永續發展宣言」、「永續發展策略綱領」及「永續發展行動計畫」等重要文件及推動工作規劃，並於99年度修正永續發展行動計畫、依第二版永續發展指標系統評定98年度國家永續發展成效。

本年報彙集整理99年度我國政府及民間推動永續發展重要成果，包括國家永續發展現況及年度成果（第一章）、分組年度工作簡介（第二章）、98年台灣永續發展指標之評定（第三章）、99年國家永續發展獎（第四章），永續會民間委員專訪（第五章）。永續會組織架構與委員名單，則詳列於年報附錄。

透過「國家永續發展年報」之發行，希望國人及國際人士能更了解我國推動永續發展的努力及成果，並希望能藉此提升全民對永續發展的認知，進而為邁向永續發展願景共同努力。

## 第一章

# 國家永續發展現況及年

### 1.1 會務動態

#### 召開工作會議

行政院國家永續發展委員會（以下簡稱永續會）於99年10月25日召開第30次工作會議，由劉憶如執行長主持，會中議案及決議如下：

- 關於「本會第二版永續發展指標系統報告案」，提案之秘書處表示：本會之第二版永續發展指標系統係以聯合國第三版永續發展指標系統為架構進行研擬，指標數目較第一版指標系統增加52項。鑑於本年係首次以第二版指標系統計算，故仍有少數指標之數據尚未提供或需檢討。秘書處預定於本年底召開「年度指標檢討會議」，邀請本會委員及相關部會出席，做為明（100）年永續指標系統之增減及修正依據；未來亦將比照歷年作法，每年年底召開指標檢討會議，做滾動式修正。
- 主席裁示，現在社會上對於「永續發展」之需求比以前更高，問題也比以前更加嚴重。本指標系統之各項指標及面向是否應修正或強化，委員的態度是一致的。後續可於「指標檢討會議」及「分組會議」中，討論指標之目標、定義、分類及主辦機關等，請各位永續委員參加，並給予指教。
- 關於「2012年聯合國永續發展大會（UNCSD）之參與規劃」報告案，主席裁示：請本會邱文彥副執行長擔任本會參與「2012年聯合國永續發展大會（Rio+20）」之推動小組副召集人，並邀請相關部會及團體，共商參與規劃事宜。



吳敦義院長頒發國家永續發展獎。

# 度成果

3. 關於「本會永續發展行動計畫修正案」，主席裁示：請各分組儘速召開「分組會議」，確認所提「分組行動計畫」後，送本會秘書處彙總陳報。此外，有關「分組會議」之召開，今後以每季召開二次為原則。

4. 關於「永續發展基本法草案作業情形報告案」，主席裁示：請行政院環保署參考委員意見修正，後續依法制作業流程辦理。此外，有關政府在永續發展上之責任，可考量加入「財政」面向。



劉憶如執行長主持工作會議。

## 1.2 重要成果

99年永續會完成之重要工作成果如下：

### 1. 永續會「永續發展行動計畫」

秘書處於本（99）年5月經本會蔡前執行長同意，函請本會各分組以目前行動計畫內容為種子，參考本會永續發展政策綱領，研提「分組別」永續發展行動計畫及99年上半年之執行情形；修正版永續發展行動計畫與現行永續會工作分組架構相互對應。

### 2. 評定我國98年永續發展推動成效

永續會於98年12月31日之第29次工作會議通過以聯合國第三版永續發展指標系統為「架構」、以我國原版永續發展指標為「種子」之新（第二）版永續發展指標系統，並決議自99年起以新（第二）版指標系統評定年度推動成效。98年永續發展指標計算結果

初稿業提第30次工作會議討論，並決議後續於召開檢討會議後，將結果公布於永續會資訊網站（<http://sta.epa.gov.tw/nsdn/>）。

### 3. 辦理「99年國家永續發展獎」

#### 評選及表揚

永續會於99年12月6日舉行「99年國家永續發展獎」頒獎典禮，行政院吳敦義院長於致詞表示，國家的永續發展要建立在環境生態的保護、經濟科技的發展、社會正義及和諧等三個基礎上，這三個面向要兼籌並顧，任何偏頗的主張都會對永續發展造成傷害。

吳院長表示，政府要用虛懷若谷、持平的心情，兼籌並顧地衡量，以達成永續發展。如果對資源的擷取過度，雖然一時有經濟或科技的成就，但會斲傷永續發展的基礎；如果經濟發展不振，國家則會喪失競爭力，失去對人民福祉的提供；如果沒有維持社會正義，對弱勢巧取豪奪，造成富者愈富、貧者愈貧的情況，社會就不能和諧。

## 第二章

# 分組年度工作簡介

## 2.1 節能減碳與氣候變遷組

### 一、建構溫室氣體減量法制基礎

環保署推動「溫室氣體減量法」立法，為開發中國家首例，以國際公約因應、減碳機制設計、協助產業建置競爭能力及全民節能參與等為重點。為利各界瞭解溫室氣體減量之推動時程，多次召開會議研擬「台灣溫室氣體適當減緩行動」：推動策略包括建構法制基礎、落實部門減量、善用市場機制、強化教育宣導及促進國際合作等。

### 二、推動參與聯合國環保公約

(一) 與外交部合辦「2010年台灣與非洲地區環境保護領袖會議」，邀請非洲多國環境部長及官員與會，建立多邊及雙邊的環保合作機制。

(二) 於行政院院會提報「支持UNFCCC哥本哈根協議之函文」，表達支持哥本哈根協議及參與聯合國氣候變化綱要公約各項活動的意願。

(三) 赴墨西哥坎昆出席「聯合國氣候變化綱要公約」第16屆締約方大會，積極參與國際交流，並與各國進行雙邊會談。

### 三、促進氣候變遷國際合作

(一) 辦理多項氣候變遷有關之國際交流活動，全年舉辦8項國際論壇及研討會。

(二) 推動參與台歐盟跨境溫室氣體觀測計畫，並由長榮海運「長巨輪」擔負起全球第一艘商用貨輪參與觀測太平洋區域溫室氣體濃度的任務，且持續進行太平洋跨區域大氣二氧化碳觀測。

### 四、推動溫室氣體減量能力建構相關工作

(一) 依據「環保署管理溫室氣體查驗機構作業原則」，完成1家溫室氣體認證機構資格認可，並審查通過5家查驗機構、認可13項查驗業務。

(二) 完成瓶裝茶飲、夾心酥、光碟片、與LCD-TV等碳足跡計算試行案例，發布「產品與服務碳足跡計算指引」。

(三) 促成台灣電力公司及鎂合金協會簽署SF<sub>6</sub>排放減量合作備忘錄，並於99年9月1日由環保署沈世宏署長見證簽署儀式。

(四) 於99年9月10日發布「環保署溫室氣體盤查登錄管理原則」，建立溫室氣體盤查登錄作業之一致性規範。另統計至99年10月31日止，國家溫室氣體登錄平台已有286家廠商自願提報盤查資料，可於年底前達成300家之年度目標。

(五) 於99年9月10日發布「環保署溫室氣體先期專案暨抵換專案推動原則」。

(六) 推廣環保低碳活動，完成編撰「國民低碳飲食選擇參考手冊（草案）」、「環保低碳活動指引」及建立環保低碳活動網路平台。

### 五、節能減碳宣導

(一) 辦理大型宣導活動：於重要節慶辦理大型活動，全年達5場以上。4月22日世界地球日，在行政院吳院長主持下，正式啟動低碳社區相關建構工作，同時簽署成立「能源服務策略聯盟」及「電動車經營策略聯盟」。

(二) 透過網路宣導「節能減碳」：  
1. 提升「清淨家園顧厝邊綠色生活網



◆ 節能減碳宣導。



◆ 鼓勵業者自動盤查溫室氣體排放量。

## 2.2 國土資源工作分組

### 一、掌握災害情勢，深耕災害防救能量

內政部建築研究所在99年度辦理「氣候變遷下極端降雨事件引致廣域山坡地社區災害評估技術之研究」，完成山坡地社區建築面臨氣候變遷可能衍生災害之因應現況與課題檢討，作為研訂山坡地建築管理政策與相關法令修訂參考。

### 二、因應全球氣候變遷，檢討土地使用管制

內政部依據區域計畫法提出「變更台灣北、中、南及東部區域計畫（第一次通盤檢討）—因應莫拉克颱風災害檢討土地使用管制」，將海域納入區域計畫管制範圍；並嚴格管制山坡地、森林地區及各類環境敏感地之開發行為，除國防及國家重大建設等，不允許做非保育目的之發展及任何開發行為。

### 三、完成災害防救法修正案

修正「災害防救法」並於99年8月4日公布，除賦予國軍主動救災任務，中央及地方

（Ecolife）」，提供民眾自我管理用水（用電）量機制，並建置自行車及蔬食心得分享區；發行「酷樂電子報」，辦理12場次縣市宣導說明會。

- 上網簽署人數超過109萬人，登錄活動日誌筆數將近27萬筆。

（三）辦理99年度「節能減碳行動標章」申請：評選通過者即可獲頒「節能減碳行動標章」，並配合辦理講座宣導會。

（四）融合傳統農民曆與氣象預報，設計「氣候變遷調適國民曆」，提供各類減碳知識，每日節能減碳及氣候調適日常生活行為小叮嚀等。

的救災組織等亦明確規定，防救災業務明確化與專責化，及發揮統籌、調度國內各搜救單位資源功能。

### 四、推動災害防救深耕計畫

依照「災害防救深耕5年中程計畫」，分梯次協助各縣市強化轄內地方公所之災害防救作業能力。本年度共補助台北市等9縣市。

### 五、促進林地復育，培育優質森林

- 完成劣化地復育面積為755公頃。
- 對人工林規劃實施疏伐等中後期撫育，完成人工林撫育8,254公頃。
- 完成海岸造林99公頃及離島造林42公頃。

### 六、推動無痕山林運動，整合全國步道導覽網站

農委會林務局持續推動無痕山林運動師資培訓，並建置「台灣山林悠遊網」網站，整合全國步道導覽網站。

### 七、劣化棲地與具重要生態價值農業濕地之復育

- 劣化棲地復育：持續補助雲林縣口湖鄉溼

## 分組年度工作簡介

地及台南縣學甲鎮溼地之生態園經營管理示範計畫。

- 具重要生態價值農業溼地復育：補助台灣生態工法發展基金會執行「八煙聚落水梯田生態復舊與產業復甦計畫」。

### 八、結合地方、與國際接軌，推動濕地生態復育

內政部營建署積極推動濕地生態復育，99年度成果如下：

- 完成98年度國家重要濕地生態環境調查及復育計畫。
- 推動「國家重要濕地保育計畫（100-105年）」：該計畫自100年實施。
- 合作辦理「第一屆台灣濕地生態系研討會」。
- 辦理「2010國際濕地交流工作坊」活動。
- 研擬「濕地保育法」草案並辦理立法前置工作。

### 九、加強河川野溪及水庫疏濬方案

（一）為改善莫拉克颱風災後的水體淤積，行政院核定經濟部提報之「加強河川野溪及水庫疏濬方案」，於1年內完成台灣地區河川、野溪及水庫6,500萬立方公尺之土石疏濬量為目標。至99年10月17日止，已執行



● 法國藝術家Myriam作品「候鳥」訴說溼地對候鳥的重要。



● 無痕山林運動師資培訓。

10,251萬立方公尺。其中國軍支援高屏溪、林邊溪及曾文水庫疏濬達300萬立方公尺以上。

（二）河川疏濬量已超過6,100萬立方公尺，其中濁水溪水系約疏濬57公里、高屏溪水系約疏濬55公里，平均通洪斷面分別增加218及428平方公尺，已通過本年5至9月間豪雨及凡那比颱風考驗。

### 十、完成4處水質淨化場址

環保署完成高雄縣岡山農工溼地、苗栗縣東興橋人工溼地、台北縣仁里坂13號及14號人工溼地等4處水質淨化場建置。

然保護區等四類，總計77處，佔台灣陸域面積11.3%，目前持續對保護區的經營管理運作與狀況進行經營管理效能評估。

為讓國人瞭解台灣珍貴的地景資源，關注地景保育，林務局與台灣大學於7月27、28日舉辦「2010年全國地景保育研討會」，並發表「台灣的地景百選」一書。

## 2.3 生物多樣性工作分組

### 一、檢討與改善保護區經營管理策略並推動地景保育

農委會林務局劃設或管轄自然保留區、野生動物保護區、野生動物重要棲息環境、自



↑ 鴛鴦湖自然保留區。



↑ 烏石鼻海岸自然保留區。

## 二、生物多樣性調查及物種資料庫建置

農委會林務局於「拉拉山自然保護區及其鄰邊區域」及「海岸山脈台東蘇鐵自然保護區」進行野生動植物調查，並建置於野生生物資料庫中。

探討檢視「瑞岩溪野生動物重要棲息環境」及「浸水營野生動物重要棲息環境」保育目標、經營管理策略、監測之指標物種與方法。

針對「台灣植物紅皮書」中無法評估稀有等級之植物族群量實地調查並修訂名錄，完成圖文版之「台灣植物紅皮書」印製。



↑ 台灣特有種稀有植物「台灣胡麻花」。

## 三、加強生物多樣性資料整合與國際交流

由國科會與農委會補助中研院生物多樣性中心建置「台灣生物多樣性資訊網」(TaiBIF)，推動跨部會生物多樣性資料的蒐集與整合，並採用GBIF之資料分享工具協助台灣物種出現記錄資料與國際接軌。另外，

也引進生命大百科(EOL)所開發LifeDesks平台，逐步將國科會所出版之紙本生物誌轉為電子版生物誌。

## 四、台灣官方版物種名錄建置

台灣物種名錄方面，共收入8界58門131綱645目3,029科17,210屬52,599種。99年召集國內多位分類學者，透過TaiBNET線上修訂介面，進行多次修訂，資料可靠度大為增加。

於9月召開「2010台灣物種名錄修訂及編輯會議」討論「非台灣分布種」及「台灣離島分布種」之處置、同物異名處理、文獻品質、外來種收錄原則及再版書籍之內容格式等議題。

## 五、正式發行首部「台灣鳥類誌」

農委會林務局與中央研究院合作編寫6年的「台灣鳥類誌」，終在99年5月正式發行。該書蒐集近60年來台灣鳥類的研究與觀察紀錄資料，共列舉曾在台灣出現的533種鳥種。

## 六、作物種原之保存

### 與因應氣候變遷之備份

農委會農試所作物種原中心種子庫長期庫現保存有35,430份材料，並優先針對熱帶及亞熱帶作物種原、台灣原生種原及育成品種等進行備份儲存，且與挪威斯瓦爾巴全球種子庫(Svalbard Global Seed Vault；簡稱SGSV)簽署協定，將我國特有的水稻及雜糧、蔬菜

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等15種作物合計12,639份種子材料送到該種子庫備份保存。

### 七、漁業署與美國西太平洋區域漁業管理委員會（WPRFMC）共同舉辦第五屆國際漁業人論壇

第五屆國際漁業人論壇（IFF5）會議於本年8月3日至5日在台北舉行，計有28個國家、138個機構團體，共300餘人參加，會後並由台美雙方共同發表「台北宣言」（Taipei Declaration），未來將發起12項有關參與海洋空間規劃及減緩漁業混獲之行動，並將該宣言送請聯合國教育、科學暨文化組織（UNESCO）、聯合國秘書長、聯合國糧農組織（FAO）及五大區域性鮪漁業管理組織及台美兩國政府參考。

### 八、減低外來入侵種威脅

農委會林務局統籌進行外來入侵種管理及分工，並建立「已入侵動物管理優先順序評估系統」、執行外來入侵植物全國現狀調查及建立外來入侵植物評估與監測系統，同時也成立「控制入侵種威脅諮詢委員會」，為外來入侵種的漏洞尋求解決方案。

本年度也持續辦理外來種-沙氏變色蜥移除收購，林務局99年6月於嘉義縣首次收購即超出5萬隻。

### 九、外來種生物之入侵風險評估及標準化監測方法研究

農委會林試所完成台灣現有廣植之樹種、造林面積、育苗種類株數，與進出口林木的樹種、數量及木材之資料收集，並完成可能入侵台灣林木病蟲害之初步風險評估，並依

高、中、低風險分類建立清單。

針對日益增加的林木外來入侵種害蟲，經由整合生物學與分布資料，進行全球暖化情境下的分布預測與模式推估，預期建立害蟲防檢疫的評估機制，並且加強潛力害蟲的監測與防堵。

### 十、強化GMO安全管理體系並舉辦相關研討會

為強化GMO安全管理體系，農委會擬定「基因轉殖水產動植物繁殖養殖管理辦法（草案）」，並同時訂定「基因改造動物用生物藥品試驗設施作業要點」。

此外，衛生署食品藥物管理局於9月29日舉辦「新興基因改造植物之研發與管理研討會」。

### 十一、海岸生態棲地評估技術研究

經濟部水利署持續依棲地類型分類，同時考慮採樣方式，歸納出各棲地對應調查項目，並分為必需性調查項目以及選擇性調查項目作為參考。針對台灣海岸主要之海灘、礁石海岸、溼地、潟湖、沙洲與沙丘、河口等六種棲地類型，將全台灣海岸進行分類。

### 十二、原住民族生物多樣性傳統知識保護

為搶救台灣原住民各族群的生態智慧，以及強化生物多樣性的知識研究與管理，原民會已完成鄒族、布農族及魯凱族，共計3個族群300筆田野調查資料，且已上傳文字、影音及影像至資料庫。

### 十三、「2010國際生物多樣性年台灣行動」

為配合聯合國將2010年訂為「生物多樣性年」的宗旨，林務局於5月22日至6月30日在台北植物園以主題—「PLUS ONE! PLUS YOU! 生物多樣性 非你不可！」辦理系列活動。

## 2.4 能源與生產工作分組

### 一、推動溫室氣體減量

經濟部工業局針對國內製造業能源大用戶進行溫室氣體盤查，目前已累計完成380家盤查的輔導。其次，工業局也協助產業推動自願減量工作，促使鋼鐵、石化、水泥、造紙、人纖、棉布印染等224家能源密集產業者，於98年度溫室氣體減量達90萬公噸CO<sub>2</sub>e，並使93~98年度累計減量為624萬公噸CO<sub>2</sub>e。

### 二、推動商圈節能減碳

本年度輔導5個商圈，主要以輔導商圈內之商家推動節能改善措施，透過輔導團對現場逐家拜訪，提出節能改善建議書。此外，至本年底也將完成3家連鎖餐飲業及4家物流業輔導目標。累計計發掘節能潛力約642,050 kWh/年、CO<sub>2</sub>減量約400公噸/年。

### 三、推動「建置永續能源標準、檢測及驗證平台」

經濟部標準檢驗局推動「建置永續能源標準

準、檢測及驗證平台」計畫，藉制修訂永續能源與生產相關國家標準、建立相關檢測技術及提供驗證及溫室氣體查證服務，達到推動及創新國內標準及檢驗基礎環境，並促進綠色能源科技研發及綠色能源產業發展，促使產業邁向「低碳化」。

### 四、輔導中小企業

#### 碳足跡盤查

國內中小企業逐漸感受國際綠色供應鏈採購重要，其中歐萊德國際公司與供應鏈廠商透過經濟部「產品碳足跡輔導」，建置其400毫升及1,000毫升綠茶洗髮精碳足跡盤查，並由國際認證機構SGS核發公正PAS2050查認證，並於99年6月4日獲頒台灣第一批碳足跡標籤。

### 五、「節能減碳服務團隊」成軍及執行成效

2010年為「節能減碳年」，於今年5月18日「節能減碳服務團隊成軍授旗活動」中，馬總統出席授旗，向各界展現政府推動之決心。至9月底，技術團部分已完成159家之盤查，盤查量達2,011萬公噸二氧化碳當量；



馬總統授旗予節能減碳宣導團代表。

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節能技術輔導上，已完成輔導1,299家次的服務，共計發掘減量潛力達54.8萬公噸二氧化碳當量；另在實質減量上，業已完成335家次之服務，相較去年，新增之減量為123.9萬公噸二氧化碳當量。

### 六、再生能源發展成效

再生能源包括風力能、太陽能、生質能、水力能及地熱能等，截至99年9月底止，再生能源發電裝置容量約326.3萬瓩，估計年發電量約109億度。

#### （一）風力發電

統計國內已完工風力發電機組達252座，總容量約49.03萬瓩，估計約供30.64萬戶家庭（4口之家）1年的用電量。此外，目前施工中、已籌設或規劃中的各項風力開發案，總容量超過34.87萬瓩，等於約170座風力發電機組。

#### （二）太陽能

##### 1. 太陽光電部分

截至99年9月底，統計國內太陽能光電系統累計容量為18.93MWp，相當於每年可發電2,272萬度。

國內太陽光電產業估計99年產值達1,900億元以上，廠商達100餘家。另98年太陽電池產量約1,400MWp，為全球第四大，99年國內產量估計達2600MWp，預期將能為全球第三大太陽電池生產基地。

##### 2. 太陽能熱水系統

截至99年9月底止，國內太陽能熱水系統累計裝置面積已達199萬平方公尺，安裝戶數約49.8萬戶，安裝密度居世界主要利用國家第3位。



◆ 風力發電。

#### （三）生質能

- 「能源作物綠色公車計畫」：輔導高雄市及嘉義縣全部公車共507輛全面添加使用生質柴油，在亞洲僅次於日本京都，是第二及第三個公車全部使用生質柴油之城市。
- 「綠色城鄉（Green County）應用推廣計畫」，整合相關政府資源，建構一個完整之生質柴油B1（車用柴油添加1%生質柴油）區域供應體系。於桃園縣及嘉義縣市加油站供應B1予一般消費者使用。
- 「全面實施B1」：石油煉製業及輸入業銷售國內之車用柴油全面添加1%生質柴油（B1）措施，成為亞洲第1個不需補貼措施而能成功全面推動使用生質柴油的國家。
- 「全面實施B2」：自99年6月15日起將生質柴油添加比率加倍提高至2%（B2），預估生質柴油年使用量約10萬公秉。

### 七、推動環保科技園區

利用現有工業區閒置土地，設置高雄、花蓮、桃園、臺南等4座生態化環保科技園區，迄今累計核准96家廠商入區，可創造產值155億元，提供就業人數達2,250人，亦將創造約300萬公噸循環資源物。

## 2.5 交通與生活工作分組

### 一、推動公路公共運輸發展計畫

- 補助部分縣市汰舊、購置全新或較新車輛，共計508輛大客車。並補助臺中市、臺南市辦理公車評鑑作業及公路總局轄管之公路客運評鑑作業。
- 建置公路汽車客運動態資訊管理系統：預期101年底，將納入全國54家公路客運營運中的高速公路國道客運200條路線及地區公路客運1,200條路線資訊，提供民眾即時車輛動態資訊。
- 為整合公路公共運輸電子票證跨區使用，便利民眾多卡通用，訂定「交通部公路公共運輸多卡通電子票證整合補助作業要點」。

### 二、持續推動軌道運輸建設及提昇服務效能

- 持續推動臺北都會區捷運建設，蘆洲線業於11月3日通車、新莊線等多條線路正施工中，工程路總長度約為73.8公里，共64個車站。
- 推動花東鐵路電氣化及服務效能提升，建構一鄉一特色車站、經典車站綠建築風貌。
- 建立鐵路立體化計畫先期作業審查機制，即整合鐵路立體化與都市更新步調，達成交通活絡與都市更新雙重目標。
- 辦理台灣桃園國際機場聯外捷運系統建設計畫。
- 加速推動高鐵在苗栗、雲林設站工作。

### 三、辦理東部自行車路網示範計畫

為發展自行車運動觀光作為東部地區發展之骨幹性產業，已於98年5月起開始執行「東部自行車路網示範計畫」，預計於99年底前東部自行車道可望達到約917.7公里之規模。

此外，亦完成「自行車道系統規劃設計參考手冊（第二版）」、「自行車騎乘安全使用手冊」及「交通部東部自行車入口網」。另於10月中旬辦理「2010台灣自行車節」系列活動，帶動台灣自行車旅遊的風潮。

### 四、建構全台智慧型運輸系統

#### 1. 辦理交通服務e網通計畫

(1) 擴充及維運「全國路況資訊中心」網站：蒐集及提供跨公私部門之不同交通事件資訊，提供查詢服務，並規劃提供XML資料格式供加值業者提供路況服務。

(2) 擴充及維運「陸海空客運資訊中心」網站：整合跨軌道、公路、海運及空運業者之客運班表、路線與票價。

2. 完成高快速公路整體路網交通管理系統建置：整體路網交通管理系統已於99年底建置完成，智慧化道路總長度達1,360公里，全面性提升高快速公路之行車安全與順暢。

### 五、推廣生態旅遊

- 觀光局馬祖國家風景區管理處於99年6月至9月辦理「2010馬祖賞鷗生態季」。
- 觀光局雲嘉南濱海國家風景區管理處及東部海岸國家風景區管理處，協助辦理各項自行車漫遊體驗生態資源活動。

### 六、提升公路設施維護效能及山區道路邊坡災防預警能力

#### 1. 規劃建置全國公路養護資料庫：持續發展及



◆ 公路基本資料管理系統畫面。

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擴充公路基本資料管理系統之功能。

2. 提升山區道路邊坡災防預警能力：針對山區道路研發適合國內道路邊坡崩塌監測預警自動化系統、持續道路邊坡現地崩塌事件蒐集彙整與分析。

### 七、推動全民綠色消費

#### 1. 強化環保標章制度及建立碳標籤制度

(1) 目前環保署已制訂112項環保標章規格標準，且於99年1月起所有環保標章及第二類環境保護產品申請案統一線上申請，至99

年9月止，已核發環保標章使用證書及環境保護產品第二類產品證明書共計221家次廠商、865件產品。

(2) 在推動產品碳足跡標示制度方面，環保署於98年12月15日發布「台灣碳標籤」圖示，成為全球第11個推動碳標籤的國家。截至99年10月，已有8家廠商12件產品之「產品碳足跡標籤證書」申請案經審查通過。

2. 強化公私部門及民眾綠色採購：自96年起全面推動機關綠色採購，並採網路申報執行成果有效掌握各級機關綠色採購情形。在民間企業及團體方面，98年計有600家向該署申報綠色採購成果，綠色採購金額共20.5億元。

3. 綠色消費教育宣導：辦理種子人員培訓作業14場次計597人參與。

## 2.6 科技與評估工作分組

### 一、推動「台灣氣候變遷情境推估與資訊平台建置」跨機構計畫

國科會於2009年底推動三年期「台灣氣候變遷情境推估與資訊平台」計畫（簡稱TCCIP），該計畫由國家災害防救科技中心負責規劃執行，藉由相關機構及大學之氣候研究學者共同合作，整合國內研究資源與能量，進行台灣氣候變遷之推估與建立災害衝擊情境。

99年度已初步完成IPCC統計降尺度24個模式推估結果，並已將成果提供給水利署及相關學者，作為氣候變遷衝擊評估、政策調適研究、以及研擬防災標準之參考。

TCCIP計畫之推動產出將分析IPCC第四次評估報告（AR4）結果，並進行24個全球氣候模式（GCM）之台灣區域統計降尺度，以及利用日本氣候變動革新計畫（Kakushine

Progame）所提供之20km 高解析度GCM之結果，提供台灣地區未來可能之氣候變遷推估結果。

### 二、制定與推廣國科會生態分布資料管理系統規範草案

我國生物多樣性資料之整合是行政院生物多樣性推動方案之基礎工作，99年度即委託農委會林業試驗所執行「建立生態分布資料之後設資料庫與原始數據倉儲系統」計畫，其目的在於：1. 制定國科會補助合約修訂後生態分布資料繳交的辦法、管考、資料使用政策與規範，以及倉儲資料的國際接軌與合作研究。2. 被委託為國科會資料管理單位所需之運作規範、軟硬體架構、資料格式標準、及異地備份之選擇。

此外，本年度也舉辦4場國科會生態分布資料管理系統說明會，會中除了將制定好的規範草案與相關研究人員說明外，還示範了資料建立元數據的方式。



### 三、推動永續環境綠色園區計畫

國科會南部科學工業園區積極規劃依經濟、環境、社會層面推動該區成為高科技產業綠色園區典範。

#### (一) 永續經濟

1. 發展綠能產業：引進太陽能、LED產業合計22家廠商。
2. 推動綠建築認證：目前取得候選綠建築證書與綠建築標章核可共29件。
3. 推動綠色運輸：設置園區自行車道，提供園區愛心腳踏車；興辦南科免費巡迴巴士接駁服務。
4. 推動清潔生產：99年辦理園區廠商節水輔導，預計可每年節水35萬噸。累計節水輔導48家次，共節省3623萬噸/年。

#### (二) 永續環境

1. 土地合理利用：園區總綠覆面積達477.63公頃（佔總面積之45.5%），總透水面積大於50%。

2. 景觀綠美化：99年度種植5,500株以上類型喬木。
3. 環境品質監測：99年編列約2,700萬元進行園區環境品質監測。
4. 排水整治：園區已完成設置6個滯洪池，總蓄洪量可達193萬立方公尺。
5. 生態保護：99年5月於園區30公頃生態保護用地內設置人工裸地，園區內調查記錄到黑翅鳶等七種保育鳥類。

#### (三) 永續社會

1. 文物保存：完成「新寮遺址搶救發掘研究計畫」等。
2. 公害防治：園區建置「南科整合式災害風險應變體系」，並於99年榮獲行政院「第二屆政府服務品質獎」。
3. 民眾參與：辦理「學童探索營活動」等多場教育宣導活動。
4. 社區關懷：99年6月獲內政部建築研究所指定南科園區為全國之綠色生態社區（EEWH-EC, Eco-Community）示範案例。



↑公園綠地。



↑學童探索營活動。

## 2.7 城鄉發展工作分組

### 一、推動綠建築

內政部建築研究所長期致力於推動綠建築研究，99年度執行「生態城市綠建築推動方案」之成果，截至9月底共計通過231案綠

建築標章及候選綠建築證書，預估每年約可省電5.8萬度、省水264萬噸及減碳3.9萬噸；為提升節能效益，本年度辦理之「建築能源效率提升計畫」，預計完成29案節能改善工程，於降低都市熱島效應方面，預計完成18件「綠建築更新診斷與改造計畫」改善工程。

## 分組年度工作簡介

綠建築推廣方面，於99年4～9月辦理「綠建築環境教育示範基地現場導覽活動」64場，累計參與人數1,769人次。並配合99年6月

### 2.8 健康與福祉分組

#### 一、推廣有機農業

農委會為推動有機農業，迄今年9月底認證有機農畜產品驗證機構13家，輔導驗證通過有機農糧作物1,566戶、3,576公頃。另至10月底止，輔導建置39處稻米產銷專業區，輔導果樹、蔬菜及雜糧特作及有機栽培之產銷履歷4,930.7公頃。認證有機畜產品驗證機構1家，有機畜產品2戶。

該會並持續推動CAS台灣優良農產品標章及吉園圃標章制度，迄9月底止計輔導1,682個蔬果產銷班通過吉園圃審查，生產面積21,091公頃；亦公告制訂11項畜禽產品「台灣良好農業規範（TGAP）」，輔導畜禽業者依據TGAP規範改善生產作業，並落實畜禽產銷履歷制度。



農委會輔導建置39處稻米產銷專業區。

5日行政院節能減碳推動會舉辦「節能減碳我最大-食衣住行育樂新生活體驗展」，負責主辦「住福養生館」展覽活動。

#### 二、修訂再生建材標準規範

於綠建材及再生建材方面，內政部建築研究所99年度截至9月底共計通過綠建材標章85件，產品種類涵蓋達779餘種。

#### 二、評估並降低國民健康風險

原民會於7月28日公布97年原住民族人口及健康統計年報，分析原住民人口、死因、癌症及全民健康保險門診及住院等資料。建立原住民長期健康資料，供追蹤及制定原住民族衛生政策參考。

衛生署於8月14日召開「醫院搶救生命大作戰-篩檢效率王及生命搶救王出爐」記者會，說明補助232家醫院辦理癌症醫療品質提升補助計畫之癌症篩檢推動現況，及表揚癌症篩檢表現優異醫院。

衛生署至9月底已完成4種癌症篩檢約327萬人次，子宮頸癌、乳癌、大腸癌及口腔癌篩檢率分別達58.3%、17.9%、17.7%與24.6%。該署並持續督導醫療院所及衛生局所，針對癌症篩檢陽性個案進行追蹤管理。

#### 三、調查並降低環境污染物風險

針對國際關注環境荷爾蒙物質的影響，環保署選定市售清潔劑、油漆及兒童玩具等三大類與民生用途相關之商品，進行壬基酚（NP）及壬基酚聚乙氧基醇（NPEO）、氧化三丁錫（TBT）及鄰苯二甲酸二正辛酯（DNOP）等物質之含量檢測，依檢測結果顯示，均符合毒性化學物質管理法規定。

環保署調查98年全國戴奧辛排放量為53g I-TEQ，較97年下降約10%，並較

基準年91年排放量327g I-TEQ大幅減量84%，顯示國內近年來戴奧辛管制具有相當成效。

環保署於99年7月完成全國1,837家加油站的土壤及地下水污染普查，預計於102年針對尚未污染調查的800餘家加油站完成調查。

環保署於9月15日修正公告「環境用藥禁止含有之成分及檢驗方法」，其中增列斯德哥爾摩公約列為持久性有機污染物之安特靈等7項殺蟲劑成分為環境用藥禁止含有之成分。

## 2.9 教育與宣導分組

面對全球暖化危機及重視永續環境的世界趨勢，99年國立教育廣播電臺於調頻網規劃製播環境教育主題系列廣播節目，共16個節目參與，年度製播200餘集。

辦理「節能減碳、計算一『夏』」暑期學習行動記者會，也邀請民間企業團體一同加入減碳，提供15項每日輕鬆實踐的環保行動，號召民眾在兩個月內，徹底將綠行動內化為生活習慣，預期達成500萬公斤減碳量。

新聞局安排該局製播之「永續發展-國土保育篇」、「節能減碳—我們辦到了篇」，以及經濟部策製「節約用水—回收水再利用篇」、「愛地球！關・我們的事」）、「珍愛地球—冷氣外洩 錢飛不見紙飛機篇」，分別於4家無線電視台、原民台及客家電視台公益時段播出，加強宣導節能減碳，珍惜資源。該局並與Discovery 頻道合製「台灣綠生活」系列影片—「從小地方做起」、「搶救台灣生態」及「打造綠建築」3部高畫質紀錄

片，並在該頻道播出。

為協助地方配合環境教育法、推動環境教育政策，辦理「99年度全國環境教育政策執行方針研討會」，透過專題講座及相關資源整合，規劃地方環境教育執行計畫與策略。

教育部配合經濟部，協同國科會、環保署和內政部辦理世界環境日「節能減碳我最大—食衣住行育樂新生活」嘉年華，參與人數約2,700人次。

辦理高中節能減碳創意教案徵選活動，甄選出優良教案6件製作光碟分送各校，期由教學落實環保教育。

9月29日舉行「2010綠色科技學生論文競賽」，共23校68篇論文報名；10月18舉行「第二屆綠色科技創新創意競賽」，共209組713人報名。此兩項競賽除鼓勵學生創意思考之廣度及深度外，再增加設計、實作與驗證成果能力，讓學生提早體會未來競爭模式，並藉由專題實作過程瞭解團隊合作及知行合一的重要性。



◆ 馬英九總統(中)主持「節能減碳、計算一『夏』」暑期學習行動記者會。



◆ 「節能減碳我最大-食衣住行育樂新生活」活動。

## 第三章

# 98年台灣永續發展指標

為客觀檢視我國永續發展推動成效，行政院永續發展委員會於民國91年參照聯合國1996年公布之PSR架構永續指標系統，進行我國永續發展指標之研擬，並於92年5月完成我國永續指標系統之建置。此外，每年公布指標系統計算結果於永續會資訊網站，供各界參考利用（網址：<http://sta.epa.gov.tw/NSDN/CH/DEVELOPMENT/INDEX.HTM>，詳圖3-1）。

聯合國經3年測試其1996年（第一）版永續發展指標系統運用後，發現壓力-現況-回應（PSR）之指標系統架構，難以反映各國之施政策略、現況與需求。經邀集相關國家代表討論研議後，於2001年發表theme、subtheme及indicator三層次之第二版永續發展指標系統（韓國2006年公布之國家永續發展指標系統即完全參照聯合國第二版指標系統

架構）；2007年10月，聯合國再公布其第三版永續發展指標系統，其架構維持theme（面向）、subtheme（議題）及indicator（指標）三層次，惟指標數由58項增加至96項。此外，國際永續發展相關評比指標如環境永續指數（Environmental Sustainability Index、ESI）或環境績效指數（Environmental Performance Index、EPI），其架構亦類似聯合國第二版或第三版之三層次架構。

為與國際趨勢接軌，永續會於民國97年12月25日之第25次工作會議決議，以聯合國第三版永續發展指標系統為「架構」、以我國現行永續發展指標為「種子」、參考國際永續發展相關指標，研擬我國新（第二）版永續發展指標系統；此外，自民國99年起以新（第二版）永續發展指標系統，計算及檢視我國永續發展推動情形。

圖3-1 民眾可於永續會網站查詢87至98年度指標。



網址：<http://sta.epa.gov.tw/NSDN/CH/DEVELOPMENT/INDEX.HTM>

# 之評定



● 永續會各工作分組人員學習「永續發展指標資訊系統」。

為研擬新版永續發展指標系統，行政院永續會自98年2月起召開4次「永續發展指標部會協商會議」，邀集相關部會代表及永續會民間委員與會，確定新指標之永續性及可取得性；另亦辦理4場「永續發展指標分區座談會」以集思廣益。最終於98年12月31日永續會第29次工作會議，討論通過我國第二（新）版永續發展指標系統。

我國第二（新）版永續發展指標包含12個面向（theme）、41個議題（subtheme）及94項指標（指標數目較原版增加52項）。有關94項指標內容係包括：37項我國原（第一）版指標、34項聯合國第三版永續發展指標、3項ESI或EPI國際評比指標及20項新創指標（新創指標係對照政策綱領或永續會民間委員的

意見而增訂）。惟數個新創指標將於99年間進行初次調查，民國100年方有數據產出。此外，永續會每年底將進行指標結果之檢討，並依檢討結果作指標項目、內容或計算公式之滾動式修正。

為以第二版指標系統進行我國98年永續發展推動現況之檢視，永續會於99年8月下旬辦理2場「國家永續發展指標資訊系統說明會」，邀請各項指標主政機關代表與會，鍵入2百餘項指標相關數據；永續會秘書處俟後計算、統計及研析98年永續發展指標結果，98（2009）年指標評量結果詳如本會網址<http://sta.epa.gov.tw/NSDN/CH/DEVELOPMENT/INDEX.HTM>。

## 第四章

# 99年國家永續發展獎

「國

家永續發展獎」自民國93年起辦理，「99年國家永續發展獎」之評選包括書面初審、委員實地複審、及決選等三階段，選拔出：教育永續發展類、企業永續發展類、社團永續發展類、永續發展行動計畫類等四類，計12個單位獲獎，並於99年12月6日在行政院大禮堂舉行頒獎典禮，由吳敦義院長頒獎。各得獎單位介紹如下：

### 教育永續發展獎

#### 臺北縣三峽鎮建安國民小學

建安國民小學，為與社區一同朝向節能減碳與綠色生活的目標邁進，設置「建安『省』政府」課程。此課程秉持「在自然環境自然學習，從生活實踐學習生活」精神，希望落實「省水、省電、省廢」的目標，成為校園與社區永續發展的基礎。

該校將實踐經驗擴大到家庭、社區與鄉里，為在學校與社區永續發展的基礎上，促進國家社會永續發展，於是成立「低碳社區

推廣中心」。

#### 永續發展綠色家園

從學校教育做起，將社區的歷史人文與生態環境資源融入學校課程，使學習擴大到教室以外的社區情境，建立一個可持續發展的“小暗坑”社區。

學校的環境建置、資源保護、生態課程等環境政策如下：

1. 以「工程變課程，環境生態化，生態課程化」方式進行環境軟硬體規劃。
2. 建構「建安生態校園」。
3. 推動各項環境教育計畫與活動。
4. 以水資源保育為主軸，推動三峽雙溪六校成立「326永續校園聯盟」。
5. 爭取小暗坑螢火蟲生態社區營造成為教育部社區教育體系示範學校。
6. 推動三峽「橫溪護溪聯盟」。
7. 推動成立台北縣螢火蟲家族學校與兒童護螢聯盟、台灣蝴蝶家族聯盟。
8. 開發生態課程、分享生態資源與知識。

該校掌握其環境與特色，結合綠建築及系



建置太陽能。



戶外教學場域 活化校園空間。

統整合的觀念，進行校園空間規劃與設計，在94-99年間循序漸進改善校園環境品質。以下是這些年永續校園的具體做法：

- 1. 能源永續（99年）**：建置太陽能（集熱管與風、光互補發電）、水資源循環再利用（水撲滿）、隔熱（西曬問題與屋頂防漏與隔熱）。
- 2. 健康永續（98年）**：建置高空繩索體驗場。
- 3. 水資源永續（97年）**：建置污水淨化人工溼地，進行水污染防治、水質檢測、微生物觀察、復育水生植物。
- 4. 教學環境永續（96年）**：建置步道系統。
- 5. 工程永續（94～95年）**：建置蝴蝶園、透水鋪面、雨水回收再利用、親和性微笑圍牆與水生池小鹿溪。

「建安省政府」致力於各項節能減碳工作，有顯著的成果。省電達42%，獲台電節電比賽北區第一名；垃圾秤重從每人日平均10克降至9克，班級績效最高紀錄降至每人每日4.9克；一學期回收的電池則達130餘公斤；廚餘也從前年平均每人日67克，降至16克。

### 大人造環境，環境教小孩

學校教育必須洞察社會脈動與環境隱微之機，以創新、有效、真實的課程，配合整體、系統、永續的環境營造，讓學生浸潤在良好的環境下，獲得徹底全面的改變，以建



↑高空繩索體驗。



↑隔熱（屋頂防漏與隔熱）。



↑水資源循環再利用（水撲滿）。

構日後打造永續家園的願景與自信。

建安國小從點、線、面，逐步發展與實踐永續環境的願景，多年下來，已接待過國內20餘縣市以及中國、香港、新加坡、瑞典、英國、比利時、馬拉威、史瓦濟蘭等20餘國代表外賓參訪交流，每年提供將近8000人次遊學名額。這所山區小校以其永續與綠色的「台灣經驗」，揮動教育的彩翼，揚起蝴蝶效應的漣漪，期待引發強大的環境保護、生活改造行動颶風。

### 建安省政府，打造綠領新世代

長久以來，建安國小秉持「在自然環境自然學習；從生活實踐學習生活」的信念，始終相信「教育的核心價值永遠以孩子為起點」。透過綠色生態與能源學校的教育基礎，組建全國第一個以學生為主體的兒童學習組織「建安省政府」與跨校性兒童環保社團「臺北縣護蠻童盟會」。該校以永續學校教育為支點，學習歷程為橫桿，運用永續生活的素養與知能，成為綠領新世代，舉起地球好未來。

## 99年國家永續發展獎

### 教育永續發展獎

#### 宜蘭縣蘇澳鎮岳明國民小學

**岳**明國小以「海角樂園，幸福岳明」為學校發展願景。學校結合在地自然環境與社區人文特色資源，並透過局部改造工程與課程教學，建構生態、循環、節能、健康、安全、人文關懷之永續校園與永續發展教育，逐步邁向全校式永續環境教育學校。其願景圖像如下：

校園是孩子成長的另一個家，環境對孩子的一生影響關乎重大，因此應將校園打造成孩子學習的空間。理想的校園是一個永續大教室，充滿了空間和自然的對話，孩子們在其中能與自然充分互動，使其不再面對冷冰

冰的建築體與工程鑿跡。這樣的理想可從生活面、生態面、精神面等三個面向來落實：

**一、生活面**：動手做，創造美好生活環境；一起做，實踐低碳健康生活。

**二、生態面**：認識自然，與自然為友；師法自然，向大地學習。

**三、精神面**：關懷環境與弱勢，營造人文友善校園。

岳明國小結合在地自然環境與社區人文特色資源，其校園永續環境規劃極富遠見，陸續獲得教育部92、93、97、99年的永續校園局部改造計畫，以及96~98年的活化校園閒置空間建立能源教育基地的計畫補助。目前該校已完成太陽能光電板、太陽能熱水器、雨水中水回收再利用系統、永續生活教育體驗基地、親和性校園、環保綠廁所、能資源暨環境監測系統、綠光教室、海洋透水廣場等永續校園設施。

#### 建置「時空部落」永續生活教育體驗基地

此基地以日常生活中的「飲食」為源頭，



永續生活課程。



◆ 濕地探索課程。



◆ 學田米農耕課程。

命名為「時空部落」，結合緊鄰的社區小農菜園與水田，營造一個循環型的小農園（Permaculture）。旨在提供一個可以讓學生和民眾體驗永續生活的教育基地，有以下設施：

1. 多功能綠色餐廚空間。
2. 結合物質循環、水循環、節能等永續發展概念的設施：堆肥廁所、落葉堆肥、工具室、瓜棚架、蔬果園、廢棄建材再利用、原生文化永續建築、太陽能光電、雨水回收再利用等設施。

### 百年漁村、永續社區

該校的學區涵蓋三個社區：港邊社區、港口社區以及岳明社區。其中港邊社區發展



◆ 海洋教育樂觀型一帆船課程。

協會於1994年成立，2001年在縣政府及中央政府的支援下，港邊社區發展協會以永續經營的社會面向、生態面向及文化面向均衡發展為主軸，推動『無尾港生態社區』發展計畫。近年來，在社區組織自主性健全發展下，逐漸建構以社區利益發展、參與保護區之自然資源保育為藍圖，以及觸動社區居民對保護區的自然資源保育與社區發展利益共構定位的省思，朝向永續發展的目標前進，致力推動社區保育及發展區域性環境教育、建立永續性發展平台，96年更獲選為全台十大經典農漁村之一。

### 永續發展教育

該校結合「永續校園」、緊鄰的「無尾港水鳥保護區」以及「港邊生態社區」等自然、人文等空間資源，發展「海洋永續環境教育」特色課程，共包含：永續校園、社區學習、濕地生態探索、海洋教育等四大主題。課程採用多科融入式的教學方法，將環境永續發展中的重要概念融入學校課程中，內容豐富精彩，包含：帆船課程、海洋浮潛、農耕體驗、永續建築、低碳綠活、能源科技、動植物生態探索、社區服務等富含永續發展意涵的課程。

## 99年國家永續發展獎

### 教育永續發展獎

#### 嘉義市蘭潭國民小學

##### 掌握環境優勢 串連蘭潭自然生態廊道

**嘉**義市蘭潭國小位於嘉義市區東面偏南的蘭潭風景區內，一直致力於將學校營造成多元物種生存的自然環境，目前已成為蘭潭自然生態廊道的一部分，「蘭亭樓」為最靠近生態園的教室。該校發展天文、科學、環境生態及資訊等教育，以自然人文之精神為學校特色課程。

94學年度起推動「環境創意教學」計畫，結合五年級班群，發展以「綠色蘭潭 溫馨永續」為主題之環境教學活動，將自然領域和藝文、語文領域結合，讓孩子具有理性的分

析頭腦和感性的藝術眼光，培養他們成為具有適應未來生活能力的全人公民。

##### 關注環境議題 融入永續課程落實教學

95學年度起，該校教學團隊感於地球氣候劇烈變遷、持續惡化以及暖化情形日益嚴重，將環保責任納為課程規劃的重點，鼓勵師生與社區家長參與保護環境的行動，共同規劃與營造一個融合環境、科學、生態、美感、語文及生命等課程的學習空間。

本位課程集中於保護地球永續發展的「環境教育」議題，發展「綠色蘭潭・小樹學堂」課程方案，構築一個充滿人文關懷與生活創意的小樹學堂，讓永續教育的精神在蘭潭國小「永續深根」。透過「文學苗圃遊」、「藝術巧手做」、「環境探索趣」、「行動生活樂」、「科學研究勤」等環境教育的核心目標，發展出五組套裝課程，15項主題課程，75個單元課程，融入於各學年的課程計畫中，並培訓校園生態小小解說員，投入環境生態教育的永續經營。



◆ 生態教育—自然觀察。



◆ 蘭潭少年與他的朋友們（鐵雕藝術）。



◆ 小小解說員為學弟妹介紹環境。

97學年度起，組織教師成立「節能減碳小組」，在校內推動節能減碳課程及行動，並到嘉義市各校進行節能減碳宣導與分享，執行教育部「推動校園活化暨發展特色學校」方案，讓每一位孩子在學校課程中都能習得應有的能力，也透過視訊系統、專題演講、有獎徵答等模式，加深學生的認知，建立正確的態度，落實嘉義市教育發展願景與接軌國際環保潮流的永續環境教育理念。

#### 積極環境營造 發展友善親和人文校園

基於環境永續，於97年拆除水泥圍牆，完成「親和性圍籬工程」，將學校介面與社區介面完全結合，融入周邊綠色生態環境。其他的永續校園工程包含：多層次植栽、太陽能光電系統、太陽能及風力發電路燈、省電



◆ 藝術巧手做的成品。

LED燈設計、全方位透水鋪面及堪用建材再利用等。將永續校園建築的概念融入其中，成為進入蘭潭風景區休憩的驛站，也讓學生在如公園般的美麗情境中學習成長。98年更全面更換校內燈管為T5省電燈管、安裝省水龍頭及省水馬桶，從設備基本面，落實環保節能愛地球的全面行動。

此外，學校歷任校長發展永續校園之規劃，不論是透水性鋪面、多層次植栽規劃、原生種植物栽種、雨水中水回收系統、再生能源的運用或生態溼地的呈現等等，均讓學校每個角落成為永續學習的教室。

#### 持續追求永續發展

- 持續「天地有情、蘭潭有愛、快樂童年、盡在蘭潭」的人文關懷。
- 建立「健康成長（Health）、敦品勵學（Moral）、樂觀進取（Positive）、追求卓越（Excellence）」溫馨永續的希望（HOPE）校園。
- 依循「人文第一、科技相佐、精緻創新、國際視野」嘉義市教育發展綱領願景的導引，努力完成「太空科學教育館」的設置，讓蘭潭國小成為全國天文、科學、環境、生態、永續教育的重鎮。

## 99年國家永續發展獎

### 企業永續發展獎

#### 住華科技股份有限公司

住 華科技股份有限公司是由住友化學 (Sumitomo Chemical) 及稻畊產業 (Inabata Sangyo) 合資，移轉日本的先進製程技術與資金，在2001年於高雄市楠梓加工出口區設立總公司，供應面板廠商中小型尺寸產品。因應台灣面板產業快速發展以及客戶需求，2003年在南部科學工業園區設立台南廠。

2005年在新竹科學園區設立新竹分公司，建置彩色濾光片廠 (Color Filter)，拓展到台灣彩色濾光片市場；2008年將總公司由高雄移至台南，高雄廠生產線遷移到台南廠，此舉對南科發展面板產業具有指標性意義。2009年在南科開始第3期建廠工程，實現住華在地投資的承諾。

住華以企業社會責任為基礎持續推動永續發展，均衡照顧到經濟、責任照顧 (Responsible Care, RC) 與社會面向。在安全

第一下，持續創新技術，提供面板產業關鍵材料，建立企業價值並回饋社會。目前第3期建廠工程專案已進入裝機階段，預計2011年量產，可創造更多就業機會，廠房的設計也朝省能源方向規劃。

環保方面，以ISO14064：2006溫室氣體排放量盤查與查證管理系統 (GreenHouse Gas Emissions Verification) 的基礎，盤查住華的溫室氣體排放量。品質保證方面，推動公司內部作業標準程序合理化，以及規劃導入QC080000管理系統。職場安全方面，以災害分級管理強化緊急應變的能力，並運用安全提案，改善工作場所潛在危險點。社會參與方面，除持續支持臺南市立仁愛之家與台南縣德蘭啟智中心、也針對八八風災的受災對象提供協助。

住華科技在推動永續的實績包括：

**1. 環境與資源保育：**提升製程藥液回收設備處理能力，年節省約千萬元；製程水回收再利用獲南部科學工業園區管理局表彰；以ISO 14001, OHSAS 18001, TOSHMS, Responsible Care management系統性管理環安衛議題，並使災害發生率 (Fr) 由2005年4.53降低到2009年0.25。導入ISO14064與14067系統性管理能資源耗用議題；2009年的能源投入量比2005年降低了54.8%；2009年的水使用量比2005年降低了53.1%。



◆ 父親節舞台劇。



◆ 住華科技生產線。



◆ 住華盃日文演講比賽。

**2. 經營與管理績效：**成立法令遵循委員會，設有舉發保護制度；發展災害分級管理與營運持續管理對策；參與大專院校與社福團體活動，如：住華盃全國大專校院日文演講比賽、邀請社福團體參加所舉辦的藝文活動。

**3. 技術發展：**研發高Ty偏光板可使亮度增益6%，讓背光源減少能源的損耗；產線自動

化，節省人力、提高產能與品質；ISO 9001與QC 080000系統性管理顧客滿意度議題，2009年滿意度達97.3%。

**4. 其他貢獻：**聘用在地人才，提供海外派駐訓練；於第十屆平面顯示器元件產品技術獎獲頒「外商合作貢獻獎」。

住華希望成為多元的IT相關產業材料供應商，鎖定在為股東、顧客、員工及台灣社會帶來利益，並以各對象的英文第一個字縮寫為「SWOT」。

#### ● 為股東 (Share Holders)

與股東之間的長期關係，創造公司的成長，回饋股東應得利益。

#### ● 為顧客 (World Digital Life)

顧客的滿足，致力新技術、高品質製品的研發生產。

#### ● 為員工 (Our Happiness)

員工的幸福，重視員工福祉，給予合理待遇及回饋。

#### ● 為台灣 (Taiwan's Prosperity)

對社會的貢獻，積極採用本土員工，並培養研發人才。

在過去，八田與一完成嘉南大圳，讓嘉南平原的農業興盛；現在，南科是光電產業的重要聚落，住華期許成為日本企業在台灣的代表，對地方有所貢獻。

## 企業永續發展獎

### 世堡紡織股份有限公司

近年地球暖化與環保意識抬頭，專門研發生產製造平織、針織的機能性、功能性特殊布料的世堡紡織，自1993年即研究開發「將放在不對地方的垃圾（寶特瓶）；變成有用資源的黃金（回收寶特瓶再生織物系列產品）」。

在產製流程，首先整合ISO 9001及ISO



◆ 綠意盎然的工廠大門。

## 99年國家永續發展獎

14001與OHSAS 18001、TS16949為四合一系統。推行工業減廢中衛體系，整合上中下游廠商建立綠色供應鏈，宣示不使用違反環境相關物質的責任保證，遵守歐盟ROHS、EUP指令，建立原物料及進料檢驗體系、環保相關物質的含量數據、製造過程的保證體系。

此外採用生態化設計提昇產品的能源效率，鼓勵開發綠色產品，實施產品生命週期評估、環境化設計、環境成本會計與改善清潔生產技術，並整合供應鏈，整體經濟效益達1億6仟多萬元。

### 投入環保產品 獲多項國內外認證

1997年生產回收寶特瓶再生織品，榮獲台灣精品、環保標章、TUV再生材質認證，同時開發環保性100% PP新材料製成可回收的成衣，更通過國際環保紡織標章Oeko-Tex Standard 100認證。

為響應環保，廠內設置雨水回收再利用系統，收集儲存雨水供衛生、消防、冷卻與灌



世堡廠區的菜園。



生態池。

溉、清潔等用水，節省水資源，不僅自助且助人，敦親睦鄰解決颱風來襲無水之苦。太陽能景觀燈、2,400坪廠區廣植綠蔭、生態池、藥用保健植物園區，減廢減量資源回收利用，落實廠區「生產、生活、生態」並重的理念。

世堡的環境政策，著重廢棄物減量、回收、再利用，致力達到環保規劃管理。綠色採購、綠色行銷措施，積極研發環保性纖維與認證，生產環保布料綠色產品，研製再利用各種板材、帽袋等再生建材與織品。

多年貫徹環保作為下，經美國內衣大廠及嬰兒車第一品牌、全球第一大飲料公司可口可樂驗證通過，成為合格的供應商，更於2010年榮獲德國TUV全球第一張環保系統/材

質驗證及MIT微笑標章等肯定。

持續開發環保系列產品，如毛毯、生活包、環保袋、環保衣、帽子等，並於廠內設置「環保產品展示專區」，讓國內、外參訪人士實際了解回收寶特瓶再生織物完整的流程與節能的利



太陽能路燈。



用，提供大眾參訪學習，推廣環保概念，善盡企業社會責任。

### 研發精進技術 傳承綠色給下一代

世堡致力建置綠色夥伴，導入生產、設計綠色產品，不斷創新求變，制定前瞻性與全球化具體環境目標，對產品、活動、服務所造成之環境負荷持續改善。環境政策積極實施廢棄物減量、回收、再利用，遵守環保法令，建置環保區全面提升對環保意識的教育宣導，定期稽核改善與管理審查，製定環保手冊對外公開、宣告環保永續作為，配合政

府政策融入社會環保公益活動與國際接軌，降低環境污染衝擊，以尊重自然與環境融合為目標。

2010年是世堡的蛻變年，建立新的綠色環保品牌Supertex RPET，以「綠色生產、綠色分享」等概念，生產綠色普及國際化的回收再生綠色產品。

「談論環保、實踐環保、過環保的生活」，誠如Supertex RPET的品牌承諾，“世”代表世世代代、生生不息。“堡”代表保護土地、愛護地球，未來仍致力將綠色傳承給下一代。

### 社團永續發展獎

#### 嘉義縣頂菜園發展協會

**隨**著時代的變遷，傳統農村已不復見。嘉義縣新港鄉共和村頂菜園庄在社區人口嚴重外移之下，一度成為一個只剩下老弱的、幾近消逝的農村聚落。

然而，民國88年「921」大地震促動了社區營造，92年嘉義縣頂菜園發展協會成立，號召社區居民投入社區家園再造，以實際行動找回社區共同記憶，挑戰農村轉型，要營造一個幸福社區。

搶救社區的第一步便從五分車鐵道開始。這條鐵道迄今已有百年的歷史，曾為台糖重



↑頂菜園鄉土館。

## 99年國家永續發展獎

要的運輸路線，而社區更是北港往嘉義的第一個停靠站。糖業結束，這條鐵道也隨之蕭條，隱埋於荒煙蔓草中。但是，對社區居民來說，卻充滿一段歷史與童年的記憶。

雖然過往景象已不復見，回憶卻仍深烙居民心中。為了找回這些記憶，社區居民集合眾人的智慧、毅力，讓掩埋於地底的五分車鐵道重見天日，並修復板頭車站，全面綠美化沿線鐵道，改變整體社區環境。同時，將在地詩與鐵道結合，發揚鐵道的文化內涵。鑑於農村資源的流失，以農村「開封府」的概念進行農村文物的搶救工作，讓這些有著老祖宗智慧、意義非凡的文物得以保存，經過創意、巧思、化腐朽為神奇後，促成社區鄉土文物館的成立，不僅提供學校戶外教學，也為傳承與延續農村文物注入新力。98年因農村文物資源回收，獲環保署評核為環保有功團體特優單位，但社區營造工作並未停歇，鄰近的板頭社區受到感召而一同營造幸福社區，挑戰農村轉型，98年也獲農委會肯定評為金種子社區。

在社區發展方面，推動文化、休閒觀光旅

遊，將鐵道旅遊軸線延伸至北港，結合在地文化、生態與環保，發展鄰近北港溪之社區觀光產業。99年「古笨港社區精采一條路」獲文建會評選「深度旅遊類」優等。

『相信有一天，火車ㄟ轉來』是社區營造的願景。儘管火車不再出現，社區居民憑幼時的記憶及老照片，用廢棄材料打造山寨版的社區火車，卻保存並還原了當時情境，傳統工藝更塑造、提昇社區文化。而今，每月帶來近萬的遊客，振興了周邊產業與經濟消費，帶動社區及產業的發展，隨著離鄉的遊子陸續返鄉就業創業，社區老人、小孩也有所依託，使得社區現在成為充滿一個希望、幸福之地。

### 永續發展：

**一、頂菜園社區順口溜：**農村文物愛保護，水師版畫十二路，跤趾剪黏來起步，客人火車走大路，笨港竹筏來撐渡，庄頭和諧會進步。

**二、轉型社區企業：**頂菜園由荒村到成為社區的產業，至今每年遊客數突破10萬人次以上，這樣的成果是取之於社區，理應回饋於社區，優先照顧社區的弱勢團體。

**三、搭起青年返鄉的平台：**頂菜園發展協會讓平凡的社區逐漸發光，在電視、媒體



◆ 社區願景-相信有一天火車ㄟ轉回。



◆ 多元就業開發方案。



◆頂菜園收割營。

報導之下，帶來每月近萬人次的遊客，開啟讓更多離鄉的子弟返鄉打拼，一起開創頂菜園的新契機。

**四、生根在地、立足嘉義、邁向國際：頂菜園在嘉義新港鄉的廢農地「種」出新生**

命，結合鄉土情懷與社區觀光，成為社區產業的新動力，更積極與國外NPO組織建構相互交流，期許未來以不同的風貌，提昇文化水準，讓「頂菜園」嶄露於國際，推動「頂菜園」的永續經營。

### 社團永續發展獎

#### 雅文兒童聽語文教基金會

**雅**文兒童聽語文教基金會是來自美國的Ms. Joanna A. Nichols和夫婿鄭欽明先生所創立，由於小女兒雅文患有先天性極重度聽力損失，夫妻倆遍尋名醫，期望能讓她開口說話，最後他們選擇『聽覺口語法』來教導。

為讓台灣聽損兒童擁有同樣學習機會，夫婦倆於85年成立雅文基金會，將聽覺口語法引進台灣，並自加拿大聘請專家來台協助師資培育，讓聽覺口語法在台紮根。目前全台有四個中心，並與中原大學於校內設立聽語研究暨訓練中心，進行聽損早療工作。

#### 醫療照護—聽損兒童早期發現與療育

為有效降低聽損兒童接受療育年齡，雅文向大眾進行嬰幼兒聽損早期發現的宣導，94年起持續與衛生署國民健康局合作，設置免費聽力諮詢專線，辦理相關研討會，邀集各界專家解析聽力篩檢實施現況，並為新生兒聽力篩檢進行建言。

99年起，國健局開始實施『經濟弱勢家庭新生兒聽力篩檢補助方案』，各縣市也陸續啟動免費新生兒聽力篩檢。至今，全台四中心提供聽能管理、聽覺口語法教學、社工服務及家庭扶助之早療服務，近3年服務人數逾3,000人，全台六歲以下聽損兒童服務涵蓋率至99年底，將達8成，根據統計，所服務個案中成功融合至普通教育體系者已逾7成。

## 99年國家永續發展獎

### 弱勢族群服務—弱勢聽損家庭整合性援助

除療育，聽損兒亦需要合適的聽能輔具：助聽器或人工電子耳，然而輔具價昂，對一般家庭是沉重負擔，為避免聽損兒因經濟因素影響接受早療的機會，雅文積極爭取企業資源，募集早療經費及聽輔器材購置基金，讓家長在無後顧之憂下，進行聽語服務，經濟弱勢家庭早療經費近3年已協助逾40名聽損兒童，投入療育課程。對於偏遠地區及資源缺乏的聽損家庭，提供遠距教學與到宅語言輸入課程，年服務逾500人次，本會設置的聽輔器材基金專戶，專款專用於經濟困難家庭之聽輔器材補助，每年約有1/10個案家庭受惠所設置之輔具銀行，每年租借服務約220人次。

### 文化維護—聽損專業培育及文化擴散傳承

97年起於中原大學特教系開設「聽覺口語法」學程，以系統培植兒童聽語創/復健之



◆ 對家長進行聽覺口語法教學。

專業新血，並與中研院語言所、中原大學特教系合作，加速轉換及開發華語聽損療育專業，於華語地區進行師資培育，有助於樹立台灣於華語世界聽損療育之專業位階，對於文化擴散發揮實際影響力。

同時，向外宣揚聽損關懷文化，多次辦理一般、企業、學生志工及關懷種子體驗與培訓，近3年參與人次超過2,500人，另組織愛心家長志工隊，以聽損家長輔導員角色啟動弱勢支持服務網絡，建構善的循環，讓受助家長也能助人。

雅文由專業聽覺口語師、聽力師及社工師組成，是聽損兒家庭的後盾，致力於「讓台灣沒有不會說話的聽損兒」願景：

- 讓聽損兒童能聽會說、多元發展，成為社會有貢獻個體。
- 組織愛心家長志工隊，以聽損家長輔導員角色啟動弱勢支持網絡。
- 遠距教學突破地域交通限制，服務範圍效益躍升。
- 實驗聽損融合示範幼托園所，帶動社區教育系統接納與投入。
- 聽損教育種子廣佈，推助社會弱勢關懷文化。



◆ 聽損兒的舞蹈表演。

## 社團永續發展獎

### 彰化縣環境保護聯盟

「彰化縣環境保護聯盟」（簡稱彰化環保聯盟），於民國86年5月20日更名沿用至今，其前身為1988年成立的「台灣環境保護聯盟彰化分會」。彰化縣鹿港鎮是個人文萃集、精英眾多的文化古都，自國內首例環境運動-鹿港反杜邦事件後，促使國人環境保護意識抬頭，更帶動民間環保組織紛紛設立。



2008年抗暖化大遊行，反對彰工火力電廠開發。



2004大肚溪口野生動物保護區南側的生態旅遊與環境體驗。◆簽署海岸宣言—保護彰化海岸。



潔淨的生活環境，可以確保身心靈的健全。在工業發展前，乾淨的空氣、水、土壤隨處可見；然而，隨著人類文明的發展，這些卻逐漸消失，乾淨的環境也變得彌足珍貴。該會的宗旨是結合並串聯、協助關心環保的相關人士與團體，以推展環保運動、環境教育，維護台灣生態環境。

彰化環盟為落實環境保護，主要杜絕前端的開發案，而非對事後開發造成的危害進行補救。該會反對阻擋高污染，以及不適合台灣、彰化發展的開發案之設置，例如彰工火力發電廠（燃煤發電）、中科四期、國光石化（八輕）都包含在內。

1988年至1999年間主要反對杜邦，以及伸港興建垃圾掩埋場等重大高污染開發案；舉辦跳蚤市場，宣導愛惜資源、二手資源再利用；辦理守護山河的大專青年環保志工培訓營，讓更多生力軍加入環保行列。

1999年後至今，該會持續關注環境議題，反對高污染、高耗水、高耗能、高排碳等對當地環境不利、利害關係人眾多的產業開發案，蒐集、串連各地汙染證據、學界、組織，執行中科四期、國光石化、焚化爐等個案。同時，推廣生態旅遊、進行環境教育及生態保護的工作。

「永續發展」的意涵，是以滿足當代之需要，又不損及後代滿足其需要的發展。彰化



## 99年國家永續發展獎

是農業大縣與海陸大糧倉。彰化海岸屬於國際級重要溼地，廣大泥質潮間帶，具豐富的生產力，是提供潮間帶海洋食物的重要生產地，需要被政府積極保護，使它的重要性與特殊性為人所知。

然而，隨著工業化發展，污染廢水流向低處海洋，使得污染物日積月累的沉積在保水性佳的泥質地，造成彰化海岸的嚴重污染，同時，空氣品質也被列為最劣等的三級空品

區，顯示環境無法再繼續承受更多的污染。

為了減輕海岸污染程度，防止其繼續惡化，彰化環盟透過專業的學術訓練，蒐集了許多證據，讓利害關係人知道，該開發案對其及後代子孫造成的損失及危害程度，讓更多人知道情況的嚴重，是以，持續從利害關係的角度來看環境問題，喚醒更多人關心環境、保護環境。

政府若能積極落實環境保護、總量管制，讓彰化以及台灣各地的污染程度，不再向上攀升，遏止毫無限制、控管的開發與污染，讓立法、行政、司法單位以及全體國人將「保護環境 人人有責」這句話牢記於心，人人便可以安居樂業、永續健康。

### 永續發展行動計畫執行績優獎

#### 行政院衛生署國民健康局 ——國家癌症防治五年計畫

「癌 症防治法」自民國92年立法院公布施行後，衛生署國民健康局依法定期召開中央癌症防治會報及癌症防治政策諮詢

委員會，進行橫向與縱向業務協調，並研擬「國家癌症防治五年計畫（94~98年）」，積極辦理各項防癌宣導、檳榔防制、癌症篩檢、診療品質提升、病友服務及安寧療護、資料庫建置及監測、人力培訓及癌症研究等癌症防治工作，中程目標以提高主要癌症篩檢率與五年存活率為主，長期目標則達癌症



● 與乳癌病友一起呼籲定期篩檢。



◆衛生署楊志良署長宣導推廣安寧療護服務。



◆推動弱勢勞工檳榔健康危害防制工作。

標準化死亡率之下降。

## 癌症防治成果

**(一) 整合癌症防治架構：**藉由「中央癌症防治會報」與「癌症防治政策委員會」，進行中央相關部會與衛生署相關局處業務之橫向整合；並建立中央及地方癌症防治整合機制，共同推動防癌業務。

**(二) 建立健康生活型態：**透過多元媒體通路規劃，有效提升民眾防癌認知，提升癌症防治宣導可見度，如積極推動各場域檳榔

健康危害防制工作、製作發送相關宣導手冊及單張等。

**(三) 推動癌症篩檢工作：**推廣具成本效益之子宮頸癌、乳癌、大腸癌及口腔癌篩檢服務，截至98年底4項癌症篩檢率分別為58%、16%（45~69歲）、10%及28%；並建立篩檢陽性個案轉介追蹤體系，以確保篩檢個案後續完成確診服務。

**(四) 落實癌症診療管理：**94年訂定「癌症診療品質保證措施準則」，97年開始辦理癌症診療品質認證，截至98年底計有40家醫院通過，並於網站公告名單供民眾就醫選擇參考。另建立癌症篩檢及診療品質測量指標，藉由資訊回饋與院際標竿學習，促使醫院全面提升癌症照護品質。

**(五) 推廣癌症病友及安寧療護服務：**透過政府、醫院與民間團體合作模式，提供癌症病友年服務約15萬人次，也使癌症病人安寧療護利用率由民國94年13.4%大幅提升至98年39%，服務滿意度達九成以上。

**(六) 辦理防治人力培訓：**結合相關學會辦理癌症防治相關專業人力培訓，並建立專業認證制度，規範相關人員和機構資格，以全面提升癌症篩檢與診療品質。

**(七) 整合癌症資料及推動癌症研究：**建置完整癌症登記與癌症篩檢資料制度，並自93年起收錄常見癌症之期別與詳細治療追蹤資料，定期分析回饋醫院檢討使用，並定期公布癌症相關流行病學統計，以及作為癌症政策評估與訂定實証依據。

為落實馬總統降低癌症標準化死亡率政見，本五年計畫結束後，衛生署國民健康局業已奉行政院核定「第二期國家癌症防治計畫-癌症篩檢（99~102年）」，藉由整合政府、醫院和社區資源，營造主動出擊關照生命的人本醫療文化，全面提升民眾防癌能力與養成定期癌症篩檢行為，預期6年內癌症總死亡率下降10%。

## 99年國家永續發展獎

### 永續發展行動計畫執行績優獎 行政院環境保護署水質保護處 ——河川水質維護改善計畫

**行** 政院環保署的河川污染整治工作，成績卓著；全國50條重要河川嚴重污染長度比例在98年已下降至5.9%；而未（稍）受污染長度比例，則增加至67.2%。

河川污染整治從四項具體工作著手，其主要成果如下：

#### 一、都會型河川復育與整治， 活化都市水岸景觀：

截流污水、引進清水、活化水岸環境，改善汙染河川。



↑鳳山溪大東公園生態池。

(一) 基隆市田寮河：每日截流5萬8,000公噸的汙水，進入和平島污水處理廠。

(二) 台北縣中港大排：每日截流4萬8,000公噸的汙水至八里污水處理廠，並引入五股污水處理廠放流水再淨化處理，同時進行河廊營造。

(三) 高雄縣鳳山溪：每日截流污水及雨水2萬6,785公噸，並輸送進入鳳山污水處理廠處理後之5,000公噸的放流水，至大東公園新設之人工溼地，再次淨化，放流鳳山溪。

(四) 屏東縣萬年溪：每日截流1萬3,900公噸汙水，執行水源補助及渠道水質淨化等整治工程。

(五) 台中市柳川：利用截流側溝，將22,800公噸生活污水輸至福田水資源回收中心處理；開放式子母溝則施作薄層流，處理河道中之晴天污水。

#### 二、整合相關部會資源， 執行重點河川污染整治

將淡水河、南崁溪、老街溪、濁水溪、新



◆ 環保彩虹荷苞嶼。

虎尾溪、急水溪、鹽水溪、二仁溪、愛河等列為優先整治對象。具體作法如下：

（一）邀集中央及地方主管機關、專家與環保團體，組成污染整治小組，督導協調整治工作。

（二）建立各縣市政府河川環境績效指標、提供實行策略及措施。

（三）完成河川支流排水污染調查，規畫進度及期程，提出有效作法。

（四）加強水源區污染稽查管制，以保護

◆ 高雄舊鐵橋溼地。

民飲用水水質，98年辦理五大流域養豬拆遷復養查核3,111家次。

（五）強化水污染源稽查等相關管制、推動事業分級分業管理，嚴加控管工業區污水下水道系統放流水標準，並建置放流口水質監測系統。

### 三、建置現地處理工程，具體改善河川水質

選用適當工法，進行整治措施，截取排入



◆ 水清魚游人樂活示意圖。

## 99年國家永續發展獎

河川的晴天支流排水處理，達成以生態為基礎，淨化水質目標。

全國共計建置現地處理設施93處，總面積達517公頃；設計處理水量：54萬公噸/日；設計BOD去除量：8,352公斤/日。淡水河流域23處最多，其中大漢溪流域11處水質淨化系統及新店溪流域江翠礫間接觸曝氣氧化工程水質處理成效最為顯著，創造之人工濕地具生態保育、景觀遊憩與教育功能，華江濕地形成淡水河系生態廊道。

### 四、擴大民間參與，推動河川巡守工作

成立義工巡守隊、鼓勵民眾認養自然淨化等公共設施，規劃河川教育課程等活動，凝

聚保護河川共識。

目前全國成立的359隊水環境巡守隊，執行通報處理河岸、河面或水庫髒亂、舉發處理污染案件不計其數，巡檢路線達2,800餘公里。對外並進行政策宣導，發表相關文章、辦理淨溪、淨川活動等宣導活動及誓師大會、授旗頒獎典禮。



◎ 環保署沈世宏署長主持「環保家園百年好河」活動。

### 永續發展行動計畫執行績優獎

#### 行政院農委會林務局 ——生物多樣性推動方案

**農** 委會林務局為配合1992年國際簽署的生物多樣性公約所揭橥的三大目標：保育生物多樣性、永續利用其組成及公平合理分享遺傳資源所產生的利益，開始推動相關政策及措施規劃。「生物多樣性推動方案」自90年起研擬，經行政院於通過，配合「國際2010生物多樣性目標」修訂行動方案，計有6大目標及38項行動計畫。

### 一、評估劃分自然區 保護生物多樣性

農委會林務局克服了艱困的調查工作，繪製天然植群圖，訂立台灣國家植群分類統一

標準。此圖是包含國土資源及保育基本資訊的重要工具，也是保護區劃設優先順序、長期生態監測、環評之參考依據。

為強化保育生物多樣性，依野生動物保育法、文化資產保存法及森林法，劃設及管轄自然保留區、野生動物保護區、野生動物重要棲息環境、自然保護區等四類別，自2009年進行保護區經營管理效能評估，藉由國際資訊引介與能力建構，建置更加完備的保護區體系。

為促進生物多樣性的永續利用，自91年起推動社區林業計畫，建立兼具生產、生態、生活的永續利用之社區的理念，與居民攜手合作，朝自然生態保育、永續經營的道路前進，促進人與自然環境的共生共榮。至98年底共執行1,345個林業示範社區計畫，累計已



◆ 國際生物多樣性年台灣行動開幕。

輔導達753社區。

## 二、擬定嚴密策略 防止外來種入侵的負面影響

為減低外來入侵種，危害生物多樣性，進而造成物種滅絕，林務局統籌進行外來入侵種管理及分工，建立外來入侵植物評估與監測系統、蒐集台灣地區歷年進口之外來脊椎動物名錄以及外來入侵植物之現狀調查。98年與全球入侵種專家群（ISSG）簽訂合作備忘錄，進行IUCN國際入侵種資料庫網頁中文化，成立「控制入侵種威脅諮詢委員會」，為外來入侵種的問題尋求解決方案。另外，



◆ 於嘉義地區宣導並收購沙氏變色蜥以移除外來入侵種。

建立「已入侵動物管理優先順序評估系統」及跨部會分工管理機制，聯合地方政府與民眾建立已入侵生物長期防治計畫，進行已入侵種的移除及監測計畫，以降低經濟損失及生態衝擊。

## 三、落實國內宣導教育 貫徹國際保育執行

為強化民間參與生物多樣性的工作，加強行政人員的宣導教育，規劃製作「繽紛的生命—淺談生物多樣性」之數位課程，供線上學習，每年並舉辦生物多樣性推動方案實務訓練班。在社會宣導上，自97年辦理「地球急診室—生物多樣性教育巡迴特展」、「522國際生物多樣性日活動」、「啟動每一天 看顧每一刻—生物多樣性推動方案成果展」，98年辦理「522國際生物多樣性日外來種防治行動」，99年更融合過去10年來的成果，辦理「2010國際生物多樣性年 台灣行動」系列活動。在教材推展方面，與美國自然保育基金會（WWF）合作，編譯「野生新視界」系列—「基礎篇」教師手冊與學生手冊，及「海洋生命」等教材。92年起開始舉辦一系

## 99年國家永續發展獎

列課程，培訓國內相關種籽教師，協助政府推動生物多樣性工作。在國際上，自85年至98年共支持183個國際保育計畫，執行國家遍及全球五大洲38國。

### 四、前瞻未來 永續共生

2010生物多樣性目標為：保護生物多樣性的組成部份、促進永續利用、查明生物多樣性的威脅、維護生物多樣性支援人類福祉所提供的物資及服務、保護傳統知識、發明與應用及確保足夠資源等六大主要領域。林務局未來將持續協調各部會共同推動生物多樣性工作與國際合作，為永續環境、社會、經濟，共創地球村的永續發展，執行生物多樣性公約的策略計畫。



● 社區林業—台南大內曲溪社區與參訪團體進行經驗交流座談。



● 捐贈南非共和國反盜獵飛機。

### 永續發展行動計畫執行績優獎

#### 台北縣政府水利局 —淡水河整治計畫

為 落實推動環境永續發展，臺北縣政府致力於淡水河流域整治。專案管制砂石場及事業廢水、快速提昇用戶接管率，配合多年來對於淡水河流域建構完成的環境監測及生態研究成果，規劃現地處理工法及截流處理之治水策略，完成有效性、階段性的整治工作。

#### 建置現地處理系統 營造河岸生態環境

為有效改善境內河川水體品質，自民國91年起，台北縣於可利用的灘地構築水質淨化之現地處理系統，以抽引支流排水進入淨化系統進行水質淨化方式，以降低污染物排入

及營造河岸生態廊道棲地環境。

經審慎評估污染成因、生態條件、水質改善效益、河川基流等因素，以10座礫間淨化場及8座人工溼地所建構的現地處理工程，處理全縣境內約20%污水，達成污染祛除及生態環境重建的目的。

#### 江翠礫間淨化場 生態復育最佳典範

位於臺北縣板橋市萬板大橋新店溪上游左岸堤外高灘地的江翠礫間淨化場，於99年2月完成礫間淨水設施及上部江翠礫間水岸公園後，開放供民眾遊憩及參觀淨水成效。其特色為充分利用有限空間，構建地下化之礫間接觸曝氣氧化淨水設施，採用生物處理法。此外，以氨氮及生化需氧量之祛除功效，達到90%以上之污染去除率，已成為絕佳之現地處理成效及生態復育廊道。



### 考量在地需求 打造多功能休憩場所

台北縣政府徵詢附近里民及代表意見，增強工程之功能性及上部水岸公園景點特色，以符合民眾期待。並召開多次會議，考量在地居民之需求及臺北縣整體高灘地運動生活圈理念，以溼地生態觀察區、柳樹護岸景觀區、露天行動咖啡廣場、自然卵石溪流生態區、思源意象廣場區、環園自行車道、遙控賽車競技場、餐飲休憩區、藝文表演廣場、兒童及體健設施區等分區主題式景觀公園，替代原有的大片草地，展現出更活潑且多樣化活動機能，滿足民眾不同使用需求。

### 使用環保素材 推廣永續經營理念

考量江翠礫間淨化場的永續經營，降低操作維護成本，每噸污水處理成本約1.5元；使用不需更換濾材及添加藥物之反循環排泥機制。江翠礫間淨化場設置之軟、硬體，不僅可達成污水處理成效，亦建構臺北縣淡水河

整體現地處理系統。

自99年2月啟用以來，多處國內外政府機關、社團、學術單位等參訪，設施使用率及民眾參與度皆高，現正規劃成立環保小尖兵等導覽單位。未來為推廣環保及生態永續發展之理念，將向社會大眾及各式團體推介礫間淨化之原理、成效以及生態保育，充分發揮工程之社教及資訊分享等永續目的。

### 致力品質提升 重現全新地景

為實現縣政及生活整體質感之提昇，營造國際級水岸地景，縣府團隊致力整頓流域水岸。江翠礫間水岸公園的竣工，揭示了臺北縣對於環境、生態再造及永續經營的重要里程碑，開創親水賞鳥的生態水域與人地共生之美滿環境，以為升格後的新北市之環境及人文，注入源源不絕之生命力及永續生態力，使淡水河重現往日悠遊、親水的樂活親切力。



江翠礫間水岸公園。

## 第五章

# 永續會民間委員專訪



## 我們需要 均衡發展的未來

林耀國 委員 (荒野保護協會榮譽理事長)

20世紀科技、工業、文化、社會等方面的快速變遷，是人類歷史上前所未有的。進入21世紀初，由於上一世紀快速發展所導致的環境變遷，在全球性、區域性或地方性的環境議題，都持續地考驗世界各國對於環境危機的應變能力。這些影響地球環境不同向度的議題與造成的影響，不論人類願不願意承認或能否接受它的存在，都要共同面對且無法逃避。在1992及2002年的地球高峰會議上，對地球環境永續的迫切需求明顯得到全人類的關切。為了地球的永續，毫無疑問的，人類的各項活動將受到這個趨勢相當大的影響。在這些無可避免的問題衝擊下，相關的科學、技術層面得快速因應，找出有效方案去改善和改變，但是，最重要的根源，是全體人類面對環境的態度、價值與行為，必須要有相對應的建立與調整。

台灣位於地震頻繁的太平洋火環帶，脆弱的地質特性與氣候變遷等多重因素下，近幾年環境災難不斷，朝野開始討論永續發展的重要性，然而，我的觀察是現階段「永續發展」仍只是個似懂非懂的名詞，政府及民間不永續的思維與作斑斑可見。從莫拉克風災乃至蘇花公路大崩塌，仍看不到政府以全國性永續發展的視野提出有效的因應策略。

一個沒有登陸的颱風，造成蘇花公路的崩落，許多家庭天人永隔的悲劇再次上演，台灣各界掀起蘇花改的論戰熱潮，花蓮人的確

需要一條安全回家的路，這是在地人的基本權利。但，蘇花改是否就是一條安全回家的路？以台灣東部地質結構的脆弱與複雜等不確定性，沒人敢打包票，然在地方政治人物強勢運作下，理性的討論空間遭受擠壓。就東部長期發展而言，花蓮人需要的是更多元的聯外通道，以及具前瞻性的區域路網與發展政策。不應將蘇花改簡化成唯一選項，或將之視為促進花東發展的萬靈丹。

永續發展必須讓環境、經濟和社會三個面向均衡發展，並配搭有效的執行機制，在能夠滿足當代的需要，又不致危害到未來世代的發展原則下，以環境的永續做為經濟與社會發展的基石。台灣，毫無疑問的是個山高水急、不宜過度開發的海島，卻總面臨爭論不休的環境問題。每每環境災難所帶來的震撼，不久即被漠視遺忘，在經濟掛帥的呼喊聲中被沖刷殆盡。山林野地、飛禽走獸的內在價值，永遠抵不過眼前利益，台灣人民似乎始終無法找到在經貿發展與自然保育間的平衡點，而人與自然間的那座高牆，也正以各種開發形式吞噬著福爾摩沙的山河。

我們真正需要的是均衡發展的未來，我也相信經濟發展的最終目的不應只是經濟成長，更應是人民整體生活品質的提升。數十年來我們在不斷追求經濟發展之餘，面臨水污染、空氣污染、核廢料、垃圾處理、國土流失、野生動植物瀕臨滅絕等問題。蘇花公路救援的過程，除了驚心動魄的土石崩塌，淒厲的受災噩耗，還有救難人員的危險與龐大的救援成本。在高度發展的工業區附近，環境污染造成居民健康慢性受損的隱藏危機，年幼孩子與無辜居民，吸著被汙染的空氣，喝著被污染的水。我們該認真思考，這

個世代發展過程中，創造的到底是契機，還是危機？

事實證明，財富與人民的快樂指數之間，並無必然的關聯，我們犧牲了環境，卻也無

法從中獲得利益，反而債留子孫，剝奪了後代擁有優質生存環境的基本權利，這人類期待中的均衡發展及真善美的未來，需要我們共同承擔與努力。



## 原住民族 應扮演重要角色

陳士章委員（台灣原住民族人文關懷協會理事長）

**莫** 拉克颱風重創南台灣，特別在所謂的原住民族地區，為數不少原住民部落以及族人賴以為生的傳統領域受災最為嚴重。造成原住民部落的淹沒、生命的損失、或整個家園的流離失所，規模之大，前所未見。

歸因之下，原鄉地區除缺乏整體的國土保安規劃的可能肇因之外，全球暖化所帶來「極端氣候」的頻繁且加劇，這一氣候變遷的巨大陰影，亦成為學術界討論原住民家園重建與未來發展時，無法規避的重要變數。

申言之，原住民族地區雖是遭遇到嚴重的「天災」，但「人禍」的部份，自數個世紀以來，主流社會進入許多原住民族的傳統領域地區，將當地的原生植被砍伐並進行開發、栽培，結果引發環境變遷、土地情況改變等嚴重影響。

聯合國環境和人類安全組織預估指出，2050年時全球至少有2億人口的「氣候難民」——因為整個社區面臨氣候變遷影響基礎居住條件而被迫永久遷徙的難民；而由氣候變遷產生的難民，不單面臨到生存與居住的問題，尚有在新環境下的文化認同。全球氣候變遷的問題已嚴重影響許多不同的社群，尤其是那些對於氣候變化影響貢獻最少的群體。原住民族與傳統領域的土地有著深厚連結，惟其傳統文化與知識被當代科學所忽略。

在國際間，推動承認原住民族對於土地和

自然資源的權利、習慣法以及原住民族的傳統知識之價值，如1992年里約環境宣言以及21世紀議程揭露原住民族傳統知識在永續發展的任務上所扮演的關鍵角色：「原住民與在地社群的知識與傳統習慣，對於環境治理與發展有著極其重要的作用。各國應承認並支持與維護原住民族的特性、文化和利益，確保原住民族能有效地參與實現永續發展的活動。」從1972年斯德哥爾摩宣言至2005年京都議定書正式生效，國際間以永續發展為願景的環境發展與人權保障，結合政府與在地社群的力量實行環境行動方案，肩負起對目前及未來世代重要的責任與義務。

2007年至2010年聯合國原住民族常設論壇主題：氣候變遷、生物文化多樣性和生存：原住民族的治理與新挑戰。提出：(一)作為生物多樣性和文化多樣性的管理者，原住民的傳統生態知識可對制訂和執行適當和可持續的調適措施做出重大貢獻。亦可協助建立低碳的永續社區之途徑；(二)數千年來，原住民族持續在適應氣候變遷；但，當今氣候變遷的範圍之大，速度之快和產生的各種影響之多，是前所未有的，對原住民的調適能力是一個重大挑戰；(三)科學家、決策者和國際社會作為一個整體，應與原住民族協商，依其傳統知識和經驗進行研究，保護和促進原住民族的自然資源管理、環境技術、生物多樣性和文化多樣性以及低碳的傳統謀生方式（畜牧業、輪作或者臨時性耕種；打獵、收集野生生物和誘捕；海洋和沿海謀生方式、高山農業等）。

綜上所述，原住民族對於台灣的國土保安復育與永續發展，應扮演不可或缺的角色。

## 永續會民間委員專訪



### 追求人與自然 和諧共存

周春娣委員

(環保媽媽環境保護基金會創辦人兼董事長)

由國家層級成立一跨部會、連結政府與民間的平台—行政院永續會，推動全面性的永續發展工作，和其他國家相較，政府對永續發展的重要性，已有較成熟的體認。

#### 永續會為協調、溝通平台 整合各方意見

永續會成立十多年來，在此平台上，不僅各部會進行橫向溝通，彼此分工協調，來自各方的民間委員更能藉此表達不同的聲音，這是永續會最值得肯定之處。於永續會成立前，國內在談論環境議題時，因其涉及許多相關部會的權責，但缺乏一共同平台來協調整合各方的意見，而永續會即彌補這方面的不足，並提供多方溝通的互動平台角色。

永續發展基本法第一條：「為促成當代及未來世代國民均能享有寧適安全的環境、活力開放的經濟及公平福祉的社會，以確保國家長久發展，特制定本法。」即言明，追求永續發展是為確保當代與後代子孫的福祉，其宗旨非常明確，而我投身環保工作數十年，基金會的成立要旨與精神，即與永續發展的理念相契合。

惟觀察全球各國的發展趨勢，目前追求經濟發展的呼聲似有蓋過環保聲浪的跡象，人們追求短期可見的經濟利益，卻輕忽環境的重大犧牲。以國內而言，近來如中科三期、國光石化案等具爭議性的開發案，都值得商

權，一味追求經濟發展，過於重視GDP數字，對國家中長期發展並非好事，更有違「為未來世代促成公平福祉的社會」之永續精神。

所幸，目前有永續會這樣的開放平台，針對經濟與環境兩者之間的衝突議題，民間委員可對政府委員提出直接的建議，各種建議和意見在此匯集、交流，共同激盪、討論出一最佳、並兼顧各方利益的解決方法。在此，希望政府部會能多廣納建言，傾聽來自民間最真切的呼籲與聲音，並充份落實於政策與執行計畫中，而非只是滿足於一些表面化的數據或績效。

#### 傾聽民間聲音 制定與落實於政策

在推動地方永續發展工作上，有別於一條鞭式的上令下效，希望中央能夠充份授權，提供各地方縣市自由發揮創意的空間，能針對在地人民所需，因時因地制宜的政策，才是真正落實永續。長期在南部耕耘，讓我們更能深入基層，傾聽在地人的心聲，政府推動許多政策的初衷也許是樁美意，但若沒有貼近當地人民的需求，結果往往會適得其反，甚至若政府不插手，任其自然發展，結果反而更好，比如：曾在一植樹活動，為達到官方要求的績效數字，將已長得很茂盛、且符合當地氣候的林木拔除，卻種上不適應天候與土壤的樹苗，這豈不有違植樹的初衷？

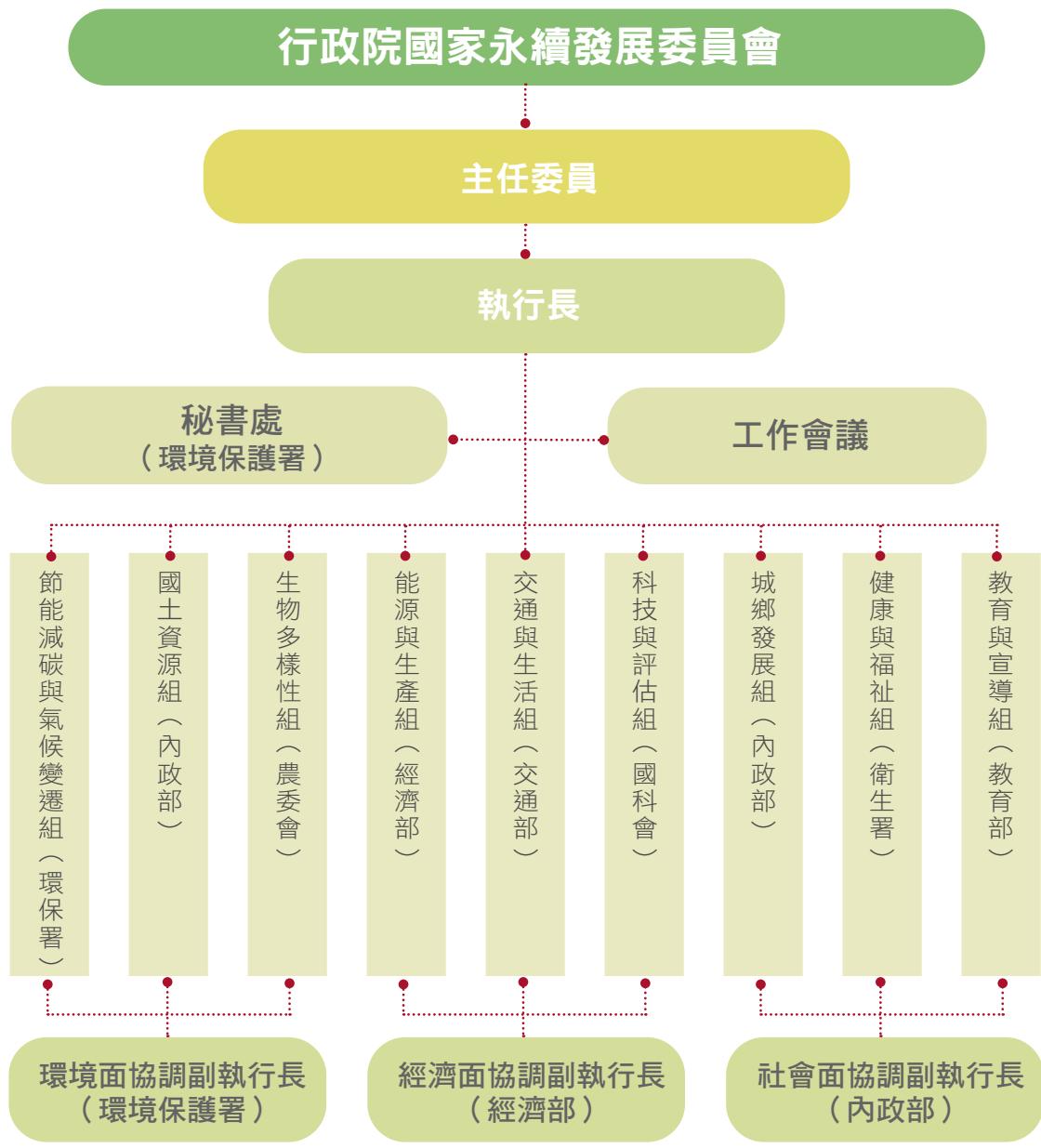
擔任永續委員兩年來，有幸能參與此推動永續的重要工作，將繼續扮演好這個角色，如實傳達在這塊土地上的所聞所見，並反映予相關部會了解。即令環保與經濟議題的矛盾勢將持續上演，我們咸信，政府若能更重視環保，將因此導向一健康發展的經濟，而過於向經濟發展傾斜，未來將在環境上承受更多無法預期的後果，並付出更大代價。

追求人與自然的和諧共存，當是推動永續發展的初衷，亦是存在人類心中，不渝的、最終的美麗境界。

## 第六章 附錄

### 附錄一

### 行政院國家永續發展委員會組織圖



## 附錄

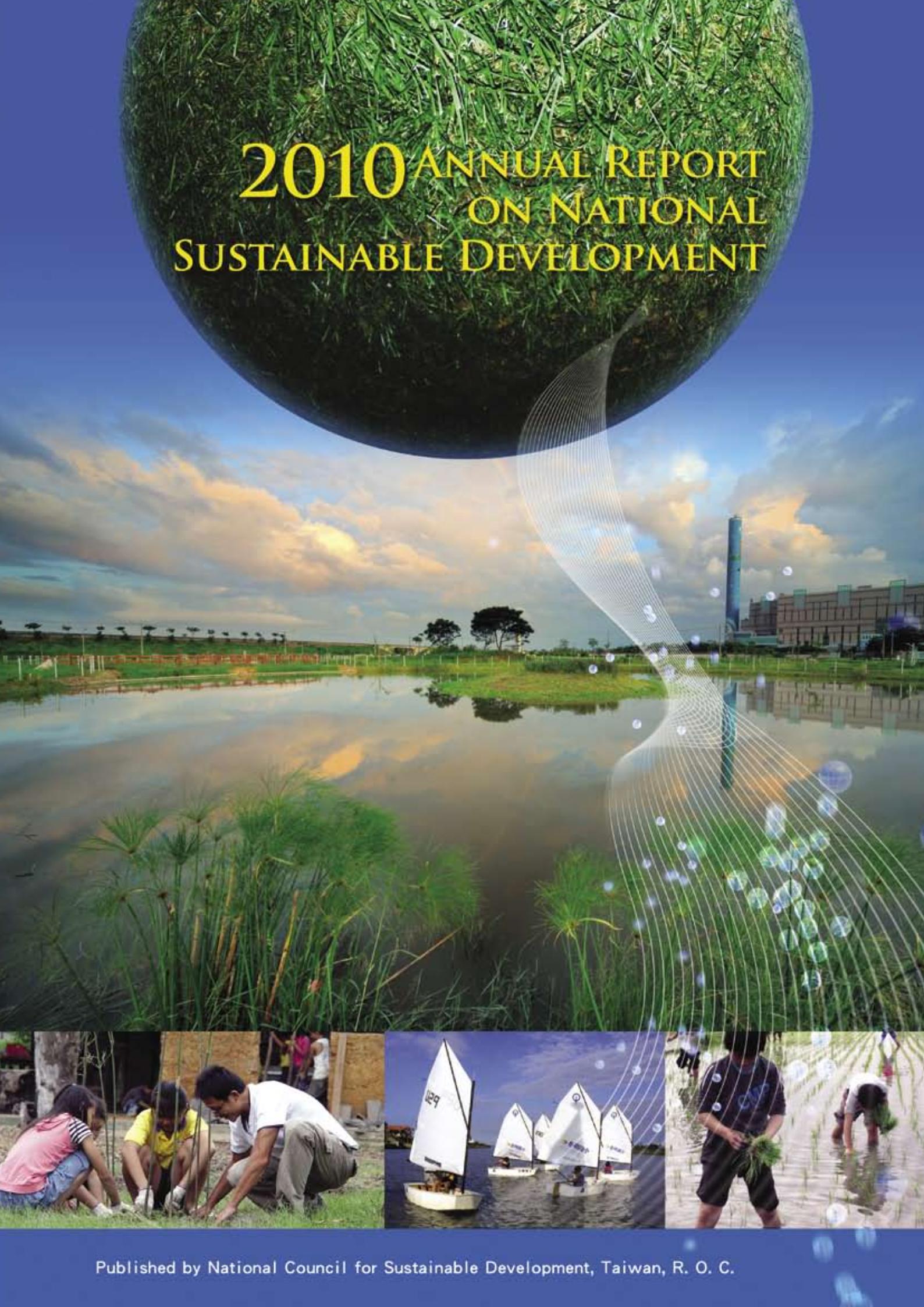
### 附錄二 行政院國家永續發展委員會 第14屆委員名單

#### 政府官員

姓名	職稱	姓名	職稱
吳主任委員 敦義	行政院 院長	毛委員 治國	交通部 部長
劉委員兼執行長 憶如	經濟建設委員會 主任委員	陳委員 武雄	農委會 主任委員
江委員 宜樺	內政部 部長	李委員 羅權	國科會 主任委員
吳委員 清基	教育部 部長	楊委員 志良	衛生署 署長
施委員 顏祥	經濟部 部長	沈委員 世宏	環保署 署長

#### 非政府機關委員

專家學者		社會團體代表	
姓名	職稱	姓名	職稱
李玲玲	台灣大學生命科學院生態學與 演化生物學研究所 教授	余範英	余紀忠文教基金會 董事長
邵廣昭	中央研究院生物多樣性研究中心 研究員	林俊興	祐生研究基金會 董事長
周家蓓	台灣大學土木工程學系 教授	林耀國	中華民國荒野保護協會 榮譽理事長
陳郁蕙	台灣大學農業經濟學系 教授	林益厚	都市更新研究發展基金會 董事
張四立	國立台北大學自然資源與 環境管理研究所 教授	周春娣	環保媽媽環境保護基金會 董事長
陳宏宇	台灣大學地質科學系 教授	宮榮敏	中華民國化學工業 責任照顧協會 理事長
黃宗煌	清華大學經濟系 教授	陳士章	台灣原住民族人文關懷協會 理事長
廖惠珠	淡江大學經濟系教授	劉麗珠	自行車新文化基金會 執行長
蔣本基	國立台灣大學環境工程學研究所 教授	駱尚廉	台灣環境管理協會 理事長
馮正民	交通大學交通運輸研究所 教授	謝長富	台灣生物多樣性保育學會 理事長



# 2010 ANNUAL REPORT ON NATIONAL SUSTAINABLE DEVELOPMENT



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## Preface

**O**n 23 August 1997, the National Council for Sustainable Development (NCSD) was established by the Executive Yuan (EY) to strengthen Taiwan's environmental protection, enhance social justice, promote economic development, maintain national resources, construct healthy and sustainable homeland and pursue national sustainable development. The president promulgated the "Basic Environment Act" in December 2002, through which article 29 of the Act grant legal status to the NCSD. The Council consisted of members from the government, academia and NGOs. At that time, the Premier of the EY jointly-held NCSD's position as chairman, while secretarial works are being executed by the Environmental Protection Administration (EPA). Besides evaluating issues related to sustainable development, the NCSD completed important documents such as "Sustainable Development Policy Guidelines", "Sustainable Development Action Plan", "Sustainable Development Declaration of Taiwan", "Taiwan Agenda 21" and "Sustainable Development Indicator".

This year's annual report compiles the significant achievements made by public, private and civil sectors toward sustainable development in 2010. Topics covered in this edition include Current Status of NCSD in Taiwan (Chapter 1); Summary of Working Group Achievements in 2010 (Chapter 2); A Look at Taiwan's Sustainable Development Indicators in 2009 (Chapter 3); 2010 National Sustainable Development Award Recipients (Chapter 4); and Words from Our Members (Chapter 5). The appendix provides a chronicle of important events related to sustainable development, the organizational framework of the NCSD and the names of council members.

The Annual Report on National Sustainable Development is published each year for the purpose of providing the international community with a better understanding of our nation's efforts and achievements toward sustainable development. Another objective of the report is to raise public awareness of sustainable development and encourage more people to work together in attaining the vision of sustainable development.

# Chapter 1 Current Status and Achievements of Sustainable Development in Taiwan



● Premier Wu presents the National Sustainable Development Award to recipients

## 1.1 Meetings

### Results of 30th NCSD Working Meeting

The National Council for Sustainable Development (NCSD) convened the 30th Working Meeting on 25 October 2010, presided over by CEO Christina Liu. The following resolutions were made:

1. Discussing the "Report on the Second Edition of the Sustainable Development Indicator System," the secretariat reported that the framework of the NCSD's second Sustainable Development Indicator System is based on the UN's third edition of Indicators for Sustainable Development. An additional 52 indicators have been added to the system. As this is the first year to use the second edition, there are still a few indicators for which data is not yet available or further review is necessary. The secretariat convened a meeting at the end of 2010 to review indicators so far, inviting council members and other agencies to attend. Discussion at this meeting will serve as a guide for making modifications to the 2011 system. The system thus

evolves through progressive revisions after each yearend review.

The CEO said that society has an ever greater need for sustainable development as problems are more serious than ever before. All members unanimously agreed as to whether certain indicators or themes of Taiwan's indicator system should be revised or reinforced. In the future "Indicator Review Meetings" and "Working Group Meetings" will discuss the objectives, definitions, categories and responsible agencies for indicators, and each member will be expected to participate and provide suggestions.

2. Regarding the "2012 United Nations Commission for Sustainable Development (UNCSD) Participation Plan," the CEO asked Vice-CEO Wen-Yan Chiau to serve as deputy convener of the promotion group for the Rio+20 Earth Summit 2012. Related agencies and organizations were invited to participate in the planning of this event.

3. With regard to the "NCSD Sustainable Development Action Plan Revisions," the CEO has asked each working group to convene as soon as possible to confirm Working Group Action Plans and submit them



to the NCSD Secretariat for compilation. It was also decided to hold Working Group Meetings twice per quarter.

4. As for the "Report on the Status of Drafting the Sustainable Development Basic Act" the CEO has asked the Environmental Protection Administration to reference NCSD member suggestions for revisions of this Act and continue with the legislative process. As for the responsibilities of government agencies concerning sustainable development, future consideration will be given to adding a theme on finance.

## 1.2 Important Achievements

Below are some of the important achievements of the NCSD in 2010:

### 1. NCSD Sustainable Development Action Plans

After receiving consent from the previous NCSD CEO, in May 2010 the secretariat informed each working group to build on current action plans by referring to the NCSD Sustainable Development Policy Guidelines and drafting Working Group-coordinated Sustainable Development Action Plans. Working groups were asked to report implementation status in the first half of 2010. The revised Sustainable Development Action Plans were thus made to better correspond to existing NCSD Working Group framework.

### 2. 2009 Sustainable Development Performance Evaluation

During the 29th NCSD Working Meeting on 31 December 2009, it was decided that the framework of the UN's third edition of Indicators of Sustainable Development would serve as the foundation for the second edition of Taiwan's Sustainable Development Indicator System, which would become effective in 2010. The

NCSD CEO Christina Liu presides over Working Meeting

preliminary draft of 2009 Sustainable Development Indicator calculation results was submitted to the 30th Working Meeting for review. It was decided that results would be announced on the NCSD Web site after each annual review meeting.

### 3. 2010 National Sustainable Development Awards

The National Sustainable Development Awards have been held since 2004. The 2010 National Sustainable Development Awards were chosen in a three-staged procedure including a paper review, an on-site inspection by council members, and a selection process with a total of 12 award recipients in the categories of education, business, civil organizations, and government action plan implementation. The awarding ceremony was held on 6 December 2010 at the Executive Yuan with Premier Wu Den-yih present to confer awards in person.

Premier Wu stated that the nation's sustainable development should be founded on the principles of environmental protection, economic and technological development, and social justice and harmony, and that these three facets need to be equally addressed. The government needs to be open-minded and unbiased, and look at things in a balanced way to achieve sustainable development. Exploitation of resources for short-lived economic or technological advances will damage the foundation of sustainable development.

See Chapter 4 for more about National Sustainable Development Award recipients.



# Chapter 2 Summary of Working Group Achievements in 2010

## 2.1 Energy Conservation, Carbon Reduction and Climate Change Working Group

### 1. Building the Foundation for the Greenhouse Gas Reduction Act

The EPA has been promoting the legislation of the Greenhouse Gas Reduction Act, the focus of which is fourfold: to respond to international conventions, to plan carbon reduction mechanisms, to assist industry increase competitiveness and to encourage citizen actions in energy reduction.

The "Taiwan Greenhouse Gas Appropriate Reduction Actions" were formulated to better realize the implementation schedule for greenhouse gas reductions by outlining several important strategies: building the foundation for controls, implementing reductions among sectors, utilizing market mechanisms, strengthening education and fostering international cooperation.

### 2. Promoting Participation in UN Environmental Conventions

1. The EPA and the Ministry of Foreign Affairs jointly held the "2010 Meeting between Taiwan and Africa Environmental Protection Leaders," inviting environmental ministers and officials of many African

nations to establish multilateral and bilateral environmental cooperation mechanisms.

2. The EPA presented the "Letter of Support for the UNFCCC Copenhagen Accord," to the Executive Yuan to show support of this important accord and Taiwan's willingness to participate in all UNFCCC activities.
3. The EPA attended the 16th Meeting of the Parties to the UNFCCC, showing Taiwan's active participation in international exchange and bilateral talks with other nations.

### 3. Fostering International Cooperation on Climate Change

1. The EPA held eight international forums or symposiums on climate change.
2. The EPA promoted participation in the Taiwan-EU cross-boundary greenhouse gas monitoring plans, including the enlisting of an Evergreen container ship to serve as the world's first commercial container to participate in the monitoring of greenhouse gas concentrations in the Pacific Ocean, and the continuance of existing plans



▲ Promoting energy conservation and carbon reduction



◆ The Energy Conservation and Carbon Reduction Action Mark is awarded to encourage more people to take action

to monitor carbon dioxide in the Pacific Ocean area.

#### 4. Capacity Building for Greenhouse Gas Reductions

1. In accordance with the "EPA Management Greenhouse Gas Inspection Organization Working Principles" credentials were issued to one greenhouse gas accreditation organization, reviews of 5 inspection organizations were approved, and 13 accreditation processes were approved.
2. Sample carbon footprint calculations were completed for bottled water, cream-filled wafers, CDs, and LCD televisions, and the Carbon Footprint Calculation Guide for Products and Services was issued.
3. Taipower and Taiwan Magnesium Association signed a memorandum of cooperation to reduce SF<sub>6</sub> emissions, witnessed by EPA Minister Stephen Shu-hung Shen on 1 September 2010.
4. The "EPA Greenhouse Gas Inventory Registration Management Principles" was promulgated on 10 September 2010, establishing standard operating procedures for greenhouse gas inventory registration. Statistics up to 31 October 2010 revealed that 286 companies had voluntarily reported inventory data on the national greenhouse gas registration platform, indicating that the annual goal of 300 companies will likely be reached.

5. The "EPA Greenhouse Gas Advance Case and Offset Case Promotion Principles" was announced on 10 September 2010.
6. The "Citizen's Guide to Low Carbon Food Choices" (draft), and the "Environmental Low Carbon Activity Guide," were developed and an environmental low carbon activity Web site was established.

#### 5. Energy Conservation and Carbon Reduction

1. Over five major promotional activities were held in conjunction with holidays. On Earth Day, 22 April 2010, Premier Wu officially launched a low carbon community building programme, and established the Energy Service Strategic Alliance and the Electric Vehicle Strategic Alliance.
2. Internet promotion:
  - a. The Ecolife Web site was upgraded, providing methods to self-manage and measure water and electricity consumption. A bicycle and vegetarian experience sharing post was established. The Cool E-News was issued, and 12 promotional briefings were held in various counties and cities.
  - b. The Web site has attracted over 1.09 million visitors to sign the pledge and nearly 270,000 activities have been registered.
3. The 2010 Energy Conservation and Carbon Reduction Action Mark application event was held and selected entries will be issued the Energy Conservation and Carbon Reduction Action Mark. This event was held in conjunction with related lectures.
4. The traditional farmers' calendar was integrated with climate forecasts in the design of a Climate Change Adaptation Calendar, which provides carbon-reduction know-how, and daily tips on energy conservation, carbon reduction, and climate change adaptation.

## 2.2 National Land Resources Working Group

#### 1. Staying Abreast of Disaster Situations, Building Capacity in Disaster Prevention and Response

In 2010 the Architecture and Building Research Institute, Ministry of the Interior, held the "Study on Disaster Assessment Technology for Hillside Settlements Incurring Extreme Rain Events due to Climate Change." This study has completed a review of potential climate change disaster response scenarios and issues related to buildings

in hillside settlements. The review serves as a reference for setting hillside building management policies and revising related regulations.

#### 2. Responding to Global Climate Change, Evaluating Land Use Management

In accordance with the Regional Planning Act, the Ministry of the Interior has completed the "Changes to Regional Planning in Northern, Central, Southern and

# 2

## Summary of Working Group Achievements in 2010

Eastern Taiwan (first comprehensive review) – A Review of Land Use Management in Response to Typhoon Morakot." Coastal areas have been included in the scope of regional planning and management and development activities will be strictly controlled in hillside, forest and environmentally sensitive areas. Apart from national defense activities, major national construction projects, and conservation projects, no development activities will be allowed in these areas.

### 3. Disaster Prevention and Response Act Revised

Revisions to the Disaster Prevention and Response were promulgated on 4 August 2010, not only laying down proactive disaster response duties for the military, setting clear regulations for central and local government disaster response organizations, clarifying and detailing prevention and response operations, and bringing into full play the overall planning and dispatch of domestic search and rescue units' resources and functions.

### 4. Promoting Disaster Prevention and Response

The "Disaster Prevention and Response Five-Year Mid-range Plan" was followed to assist nine counties and cities strengthen disaster prevention and response capacity in offices under their jurisdiction.

### 5. Reforestation of High Quality Forests

- Rehabilitated 755 hectares of degrade land
- Cultivated forest plantations on 8,254 hectares of land where mid- to late-stage forests had been felled
- Reforested 99 hectares of coastal land and 42 hectares of offshore islands.



French artist Myriam's work "Migrating Birds" depicts the importance of wetlands to migratory birds

### 6. Promoting "Leave No Trace" and Integrating the National Trail Web Site

The Forestry Bureau, Council of Agriculture, has been promoting Leave No Trace teacher training and has set up the Taiwan Mountain Forest Tour Web Site, which integrates all National Trail Web sites.

### 7. Restoration of Degraded Habitat, Farmland and Wetlands of Important Ecological Value

1. Restoration of degraded habitat: Continued assistance to operate and manage pilot plans for eco-park wetlands in Kouhu Township, Yunlin County and Hsuejia Township, Tainan County.
2. Restoration of important farmland and wetland ecosystems: Assisted the Ecological Engineering Development Foundation to implement the "Bayan Village Paddy Ecology Restoration and Property Revival Plan."



Leave No Trace teacher training



## 8. Integrating Local Aspects and Getting on International Track to Promote Wetland Ecology Restoration

The Construction and Planning Agency, Ministry of the Interior, actively promotes the restoration of wetland ecology and has achieved the following in 2010:

- Completed the 1999 National Important Wetland Ecology Survey and Restoration Plan
- Promoted the National Important Wetland Conservation Plan (2011~2016)
- Jointly held the First Taiwan Wetland Ecosystem Symposium
- Held the 2010 International Wetland Exchange Workshop
- Drafted the Wetland Conservation Act (draft) and carried out preliminary legislative work

## 9. River and Reservoir Dredging Strengthened

1. The Executive Yuan approved of the Ministry of Economic Affairs' "River and Reservoir Dredging Project" to improve water bodies in the wake of

Typhoon Morakot. Within one year, the project attained its goal to increase stream and reservoir capacity by 65 million cubic meters. By 17 October 2010, over 102 million cubic meters had been made available. Of this, the military assisted in clearing over 3 million cubic meters in the Kaoping River, the Linbian River and the Tsengwen Reservoir.

2. River dredging of over 610 million cubic meters, including 57 kilometers of the Zhuoshui River and 55 kilometers of the Kaoping River, opening up 218 square meters and 428 square meters cross sectional area of these two rivers respectively. These projects have already stood the test of torrential rains and Typhoon Fanapi in May and September 2010.

## 10. Four Water Quality Purification Sites Completed

The EPA has completed the construction of four water quality purification facilities in the Fugangshan Nonggong Wetland in Kaohsiung County, the Donghsing Bridge Constructed Wetland in Miaoli County, and No. 13 and No. 14 Renliban Wetlands in Taipei County.

## 2.3 Biodiversity Working Group

### 1. Improving Protected Area Management Strategies and Land Conservation

The Forestry Bureau has planned or exercised jurisdiction over a total of 77 nature reserves, wildlife

protection areas, environments with important habitat for wildlife, and nature protection areas, comprising 11.3% of Taiwan's land area. The bureau continues to evaluate the management of these protected areas.

The Forestry Bureau and National Taiwan University held the 2010 National Land Conservation Symposium on 27~28 July 2010, and issued the book "Taiwan Land Atlas" to let citizens understand Taiwan's precious land resources and partake in land conservation.

### 2. Biodiversity Surveys and Species Database Established

The Forestry Bureau conducted surveys of flora and fauna of the "Lalashan Natural Protected Area and Neighboring Area" and the



Wushihbi Coastal Nature Reserve

# 2

## Summary of Working Group Achievements in 2010

"East Rift Valley Taidong Sutie Natural Protected Area" and entered this information in a wildlife database.

The Bureau reviewed the conservation goals, management strategies, and monitoring of indicator species as well as methods in both the "Reiyan River Important Wildlife Habitat" and the "Jinshui Camp Important Wildlife Habitat" plans.

This year saw the publication of an illustrated version of the Taiwan Flora Red Data Book, which also entailed conducting field surveys and revising names of rare plants.



● Taiwan Flax, a rare endemic plant species

### 3. Strengthening Biodiversity Data Integration and International Exchange

The Taiwan Biodiversity Information Facility (TaiBIF) established by the Academia Sinica Biodiversity Center with assistance from the National Science Council and the Council of Agriculture, has promoted the cross-ministerial collection and integration of biodiversity data, adopting the Global Biodiversity Information Facility's (GBIF) data sharing technology to make data on species in Taiwan available and to accord with international practices. The LifeDesks feature of the Encyclopedia of Life (EOL) is utilized to put biological data from the National Science Council's hard-copy periodicals into electronic form.

### 4. Establishing Official Taxonomy of Species in Taiwan

Taiwan species lists include 8 kingdoms, 58 phylums,



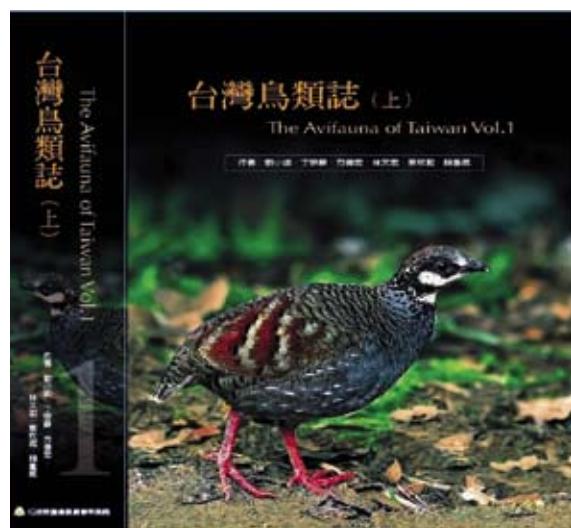
● Lake Yuanyang Nature Reserve

131 classes, 645 orders, 3,029 families, 17,210 genera, and 52,599 species. Several taxonomists were convened in 2010 to revise data in the Taiwan Biodiversity Information Network (TaiBNET) thus greatly increasing data reliability.

The 2010 Taiwan Species Taxonomy Revision and Editing Meeting was held in September to discuss format issues for species outside of Taiwan and on offshore islands, including treatment of species with more than one name, documentation quality, principles on handling non-native species, and future editions of publications.

### 5. The First Official Taiwan Bird Reference Book

The Forestry Bureau and Academia Sinica teamed up on a 6-year project to compile the Taiwan Bird Reference Book, which was officially issued in May 2010. The book represents 60 years of research and observation data on Taiwan's 533 bird species.



● Cover of the Taiwan Bird Reference Book



## **6. Germ Plasm Preservation and Climate Change Preparedness**

The National Plant Genetic Resources Center has 35,430 sets of data in long-term storage, with a priority on keeping back-up storage of tropical and subtropical crop germ plasm, endemic species and improved varieties. The center has signed on with Norway's Svalbard Global Seed Vault (SGSV) to send 12,639 seed packs of 15 species of Taiwan's rare rice, grain, and vegetables for backup storage.

## **7. Fifth International Fishers Forum Held by Fisheries Agency and US Western Pacific Regional Fishery Management Council**

The Fifth International Fishers Forum (IFF5) was held in Taipei from 3~5 August 2010 and attended by over 300 representatives of 138 organizations from 28 countries. The forum culminated in the signing of the bilateral Taipei Declaration, outlining 12 actions on maritime planning and bycatch mitigation. The declaration was sent to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Food and Agriculture Organization, five Regional Fishery Management Organizations (RFMOs) and the governments of Taiwan and the US.

## **8. Reducing Threats of Invasive Exotic Species**

The Forestry Bureau coordinates the management of invasive exotic species, and has established a system for prioritizing the assessment of invasive species management, conducted a national survey on the status of invasive exotics, and established an assessment and monitoring system for exotic invasive plants. The bureau has also established an Advisory Committee on Controlling Invasive Species in order to fix loopholes in control schemes.

The Forestry Bureau is working to remove and purchase the invasive exotic brown anole (*Anolis sagrei*), and has collected over 50,000 of these lizards in Chiayi County by June 2010.

## **9. Invasive Exotic Species Risk Assessment and Monitoring**

The National Plant Genetic Resources Center has gathered data on Taiwan's existing tree plantations, reforested areas, nursery seedlings and imported and exported tree species, numbers, and lumber. The center

has completed a preliminary risk assessment of potential invasive insects affecting lumber products in Taiwan, including a grading of risks.

As for the increasing number of invasive exotic pests affecting timber, biological and distribution data has been integrated to assist projections of distribution and pattern of spread under global warming. The bureau plans to establish pest control and quarantine assessment mechanisms, and strengthen monitoring and control of potential pests.

## **10. Strengthening GMO Safety Management Systems**

In order to strengthen GMO safety management systems, the Council of Agriculture drew up the "Genetic Transfer of Aquatic Plants and Animals for Reproduction and Breeding Management Regulations (draft)," as well as the "Working Guidelines on the Use of Genetically Modified Organisms in Biological Agent Experimentation Facilities."

The Food and Drug Administration, Department of Health, held the "Symposium on the Study and Management of Emerging Genetically Modified Plants" on 29 September 2010.

## **11. Research of Coastal Ecological Habitat Assessment Technology**

The Water Resources Agency is conducting a comprehensive survey of habitats and categorizing survey items and habitats to serve as a future reference. Taiwan's coastal areas were categorized under six major coastal habitats—beaches, reefs, wetlands, lagoon, shoals, dunes and estuaries.

## **12. Protecting Indigenous Traditional Knowledge on Biodiversity**

Working to preserve the ecological wisdom of Taiwan's indigenous people and strengthen research and management of biodiversity knowledge, the Council of Indigenous Peoples has collected 300 sets of data from field surveys on three tribes—the Tsou, the Bunun and the Rukai. This data has already been compiled into documents, audio and video media.

## **13. 2010 International Year of Biodiversity**

In concert with the UN's International Year of Biodiversity in 2010, the Forestry Bureau held the "Plus One! Plus You! Biodiversity Needs You!" event at the Taipei Botanical Garden from May 22 to June 30.

# 2

## Summary of Working Group Achievements in 2010

### 2.4 Energy and Production Working Group

#### 1. Promoting Greenhouse Gas Reductions

The Industrial Development Bureau (IDB), Ministry of Economic Affairs, conducted greenhouse gas inventories of 380 energy intensive manufacturers in Taiwan and is currently providing guidance to these companies. The IDB assists with the promotion of voluntary reductions and has worked with 224 energy intensive industries in the fields of steel, petrochemicals, cement, paper, synthetic fibers, and cotton printing and dying to reduce CO<sub>2</sub>e by 900,000 tonnes in 2009, adding up to a total reduction of 6,240,000 tonnes from 2004 to 2009.

#### 2. Energy Conservation and Carbon Reduction in Shopping Centers

The government provided guidance to five shopping centers to advise businesses on how to improve energy

conservation. Guidance was also provided to three food and beverage chain stores and four logistics businesses this year, for cumulative potential energy savings of 642,050 kWh per year and CO<sub>2</sub> reductions of 400 tonnes per year.

#### 3. Establishing Sustainable Energy Standards and a Testing and Accreditation Platform

The Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs formulated the "Sustainable Energy Standards and Testing and Accreditation Platform Establishment Plan" to revise national standards on energy sustainability and production, establish testing technology and provide accreditation and greenhouse gas verification services. The plan promotes and develops new domestic standards and a foundation for conducting examinations, as well as pushes for low carbon industry through R&D of green energy technologies and industries.

#### 4. Assisting Small and Medium Enterprises with Carbon Footprint Inventorying

Domestic small and medium enterprises are gradually realizing the importance of purchasing from international green supply chains. For example, Hair O'right International Corporation and its suppliers have received



President Ma presents banner to Energy Conservation and Carbon Reduction Consultant Team



"product carbon footprint" guidance from the Ministry of Economic Affairs. The company displays carbon footprint data on its green tea shampoo, which has received PAS2050 accreditation from SGS in June 2010, becoming one of the first products in Taiwan with carbon footprint labeling.

## 5. Energy Conservation and Carbon Reduction Consultant Team

With 2010 as the Year of Energy Conservation and Carbon Reduction, on May 18 President Ma showed up for the "Energy Conservation and Carbon Reduction Consultant Team Banner Reception Activity" to show the government's determination to promote this campaign.

By the end of September, this technical service team has completed inventories of 159 companies for a cumulative inventory of over 20 million tonnes of CO<sub>2</sub>e. It has provided 1,299 technical consultations in energy conservation that have led to a potential reduction of 548,000 tonnes of CO<sub>2</sub>e. As for actual reductions, 335 of the companies under their guidance have made a cumulative reduction of 1,239,000 tonnes of CO<sub>2</sub>e.

## 6. Renewable Energy Development

By the end of September 2010, renewable energy power generation capacity reached approximately 3,263,000 kilowatts, generating an estimated 10.9 billion kWh per year.

### 1. Wind Power

Taiwan has 252 wind turbines with a total capacity of approximately 490,300 kilowatts, estimated to power 306,400 four-person households for a year. Additional wind power projects underway or in the planning will add the equivalent of about 170 wind turbines and increase power generation by 348,700 kilowatts.

### 2. Solar Power

#### 1. Photovoltaics (PV)

By the end of September 2010, Taiwan had a total PV power generation capacity of 18.93 MWp, equivalent to 22.72 million kWh per year.

Domestic manufacture of PV systems by over 100 companies in 2010 exceeded NT\$190 billion in output value. In 2009, Taiwan was the world's fourth largest manufacturer of solar cells, with a total capacity of 1,400 MWp. Production reached 2,600 MWp in 2010 and Taiwan is expected to rank third largest producer of solar cells this year.

### 2. Solar Water Heating Systems

By the end of September 2010, already over 1.99 million square meters of solar water heating systems had been installed in Taiwan, serving approximately 498,000



▲ Maijiao Wind Power Station

households, putting Taiwan in third place worldwide in terms of installation density.

### 3. Biomass

1. "Energy Crops for Green Buses": The bus fleets of Kaohsiung City and Chiayi County (a total of 507 buses) were set up to run entirely on biodiesel, making them the second and third municipalities in Asia to have bus fleets running entirely on diesel fuel.
2. The "Green County Promotion Plan" integrates government resources to build a comprehensive B1 biodiesel (1% biodiesel) regional supply system. Taoyuan County and Chiayi County gas stations supply B1 biodiesel for the use of general consumers.
3. Full-scale Implementation of B1 Biodiesel: petroleum refineries and importers market vehicle diesel for domestic consumption adding 1% B1 biodiesel, becoming Asia's first nation not relying on subsidy measures to successfully promote full-scale use of biodiesel.
4. Full-scale Implementation of B2 Biodiesel: From 15 June 2010, the percentage of biodiesel added to regular vehicle fuel was increased to 2%, raising the annual biodiesel consumption rate to around 100,000 m<sup>3</sup>.

## 7. Environmental Science and Technology Parks

Unused space in existing industrial parks has been allocated for the creation of four Environmental Science and Technology Parks in Kaohsiung, Hualien, Taoyuan, and Tainan. So far 96 factories have entered the parks with a production value of NT\$15.5 billion, providing employment for around 2,250 people and producing around 3 million tonnes of products made from recycled materials.

## 2.5 Transportation and Livelihood Working Group

### 1. Public Roadway and Transportation Development Plans

1. Subsidies were provided to counties and cities for the replacement or purchase of 508 new or newer buses. Subsidies were also given to Taichung City and Tainan City for appraising bus services, and to the Directorate General of Highways for appraising roadways and transportation services.
2. A highway vehicle traffic information management system was established and is slated to provide the public with real-time traffic information on around 200 highway routes and 1,200 local passenger routes of 54 transportation companies by the end of 2012.
3. The "Ministry of Transportation and Communications Public Road and Public Transportation Multi-card Electronic Ticketing Subsidy Working Guidelines" were drafted to integrate interregional electronic ticketing systems for public roads and public transportation.

### 2. Promoting Railway Transport Construction and Upgrading Service

1. The Taipei Municipal Rapid Transit system was expanded with the Luzhou Line opening up in November 2010, and construction of the Hsinzhuang Line. The total length will be 73.8 km to be served by a total of 64 stations.
2. The Huadong Railway is undergoing electrification and service upgrades by creating one unique station in each township and retrofitting classical railway stations into green buildings.
3. Mechanisms have been established for reviewing plans to make elevated or underground railways and ensure integration with urban renewal plans.
4. The planning of a rapid transit system to serve the Taiwan Taoyuan International Airport is underway.
5. The construction of High Speed Rail stations at Miaoli and Yunlin has been expedited.

### 3. Eastern Bikeway Network

In order to develop bicycle recreation and tourism as Eastern Taiwan's primary developing industry, the "Eastern Bikeway Network Demonstration Plan" was launched in May 2009, is to result in 917.7 km of bicycle paths by the end of 2010. The "Bikeway Planning Reference Book (second version)," the "Biking Safety Guide," and the "Ministry of Transportation and Communication East Bikeway Entrance Network" have been completed. A series of "2010 Taiwan Bicycle Day" activities were held in October to promote the bike tour trend in Taiwan.

### 4. Building a Smart Transportation System

1. Transportation service eNet plan
  - The "National Road Condition Information Center" Web site has been augmented to collect and disseminate traffic accident information to public and private sectors, provide an inquiry service, and provide road condition information in value-added XML format.
- The "Land, Sea, Air Transport Information Center" Web site has been augmented with organized schedules, routes and ticket prices of rail, road, sea, and air travel companies.
2. A comprehensive roadway and traffic management system will be up and running by the end of 2010, with a smart road system covering a total of 1,360 km, greatly improving highway safety and traffic flow.

### 5. Ecotourism

1. The Matsu National Scenic Area Administration, Tourism Bureau, held the "2010 Matsu Seagull Watching Season" from June to September 2010.
2. The Southwest Coast National Scenic Area Administration and the East Coast National Scenic Area Administration (both under the Tourism Bureau) assisted with holding various recreational and ecological bike tour activities.

### 6. Upgrading Roadway Facility Maintenance and Mountain Road Disaster Prevention

1. Planning of national roadway maintenance database: Development and expansion of road basic data management system functions.
2. Mountain road disaster prevention capacity building: Mountain road research and development of automatic monitoring and early warning systems to prevent mudslides and road cave-ins.



● Roadway basic data management system

## 7. Promoting green consumption

1. Strengthening the Green Mark system and establishing a carbon labeling system
- The EPA has delineated 112 categories of Green Mark eco-label specification standards. All Green Mark

categories and Class 2 Environmental Protection Products were opened up for on-line application in January 2010. By September 2010, 221 companies had received accreditation for a total of 865 Green Mark or Environmental Protection products.

- On 15 December 2009, the EPA announced the Taiwan Carbon Label, making Taiwan the 11th country to promote carbon labeling. By October 2010, already 8 companies had received Product Carbon Footprint Label Certification for a total of 12 products.
- 2. Strengthened green procurement among public and private sectors and civilians: Government green procurement has been promoted full-scale since 2007, and Internet application results have provided better understanding of the status of green procurement at each level of government. In 2009, 600 private companies and organizations reported green procurement records, showing a total spending of NT\$2.05 billion.

## 2.6 Technology and Evaluation Working Group



● Park covered with vegetation

### 1. Promoting the “Taiwan Climate Change Information Platform” Interagency Plan

The National Science Council (NSC) launched a 3-year plan in 2009 called the Taiwan Climate Change Information Platform (TCCIP). Implemented by the National Science and Technology Center for Disaster

Reduction, the platform draws on cooperation with related organizations and climatology scholars, integrating academic resources and efforts to forecast climate change effects in Taiwan and simulate disaster scenarios.

This year has seen the completion of Intergovernmental Panel on Climate Change (IPCC) Statistical

# 2

## Summary of Working Group Achievements in 2010

Downscaling Model (SDSM) 24 mode projections. Results are provided to the Water Resources Agency and scholars as a reference for forecasting climate change impacts, for government studies and for developing disaster prevention standards.

TCCIP plans analyze IPCC's Fourth Assessment Report (AR4) results, conduct Taiwan Area SDSMs for 24 global climate models (GCM), and use Japan's Kakushin Program, which provides 20 km high-resolution GCM results for projecting potential climate change in the Taiwan Area in the future.

### 2. Drafting of National Science Council Ecological Distribution Data Management System Standards

Compilation of Taiwan's biodiversity data is fundamental to carrying out the Executive Yuan's biodiversity plans. This year the Taiwan Forestry Research Institute has implemented a plan to establish an ecological distribution database and raw data storage system, with the following aims: 1) set policy and standards on methods, evaluation, and use of revised ecological distribution data after National Science Council (NSC) subsidy contracts are over, and follow international practices and join cooperative research plans on data storage; 2) select operating standards, software framework, data format standards and alternative sites for backup storage.

Four briefings on the NSC's ecological distribution data management system were held in 2010, describing drafted standards and demonstrating methods of data establishment.

### 3. Sustainable Environmental Green Parks

The NSC has formulated an economic, environmental, and social framework for promoting the Southern Taiwan Science Park as a model green high-tech industrial park.

#### A. Sustainable economy

1. Developing green industry: 22 solar power and LED manufacturers
2. Green building accreditation: 29 buildings have received green building candidate certification
3. Green transportation: The park has established

bikeways, a bike hiring system, and a free bus shuttle service

4. Clean production: Promotion of water conservation in 2010 is estimated to save 350,000 tonnes of water per year. Cumulative promotion of water conservation over the years includes technical assistances to 48 companies, which have led to an annual savings of 36.23 million tonnes of water.

#### B. Sustainable environment

1. Appropriate land use: Vegetation covers 477.63 hectares (45.5%) of the park, and 50% of the park area has water permeable surfaces.
2. Green landscaping: Over 5,500 trees were planted in 2010
3. Environmental quality monitoring: NT\$27 million was invested in environmental quality monitoring in 2010.
4. Drainage remediation: The park has built six flood detention ponds capable of holding 1.93 million tonnes of water.
5. Ecological protection: In September 2010, the park set aside 30 hectares for ecological protection and recorded the presence of seven protected bird species including the black-winged kite.

#### C. Sustainable society

1. Cultural preservation: Executed the "Hsinliao Site Excavation Research Plan"
2. Public nuisance control: The park established the Southern Taiwan Science Park Integrated Disaster Risk Response System, earning honors in the Executive Yuan's Second Government Service Quality Awards
3. Public participation: Held a children's camp and numerous other educational activities
4. Community care: Earned the Architecture and Building Research Institute's designation as a model "Ecology, Energy Conservation, Waste Reduction, and Health Eco-Community" (EEWH-EC).



● Children's camp



## 2.7 Urban and Rural Development Working Group

### 1. Green Building Promotion

The Architecture and Building Research Institute (ABRI), Ministry of the Interior, has carried out long-term studies on green buildings and in 2010 executed the Eco-city Green Building Promotion Plan, issuing Green Building certification or candidate certification to 231 buildings by the end of September, for an estimated cumulative savings of 58,000 kWh and 2.64 million tonnes of water, and a reduction of 39,000 tonnes of carbon. ABRI held the Building Energy Efficiency Upgrade Plan in 2010, expecting to lead to 29 energy improvement projects and curb the urban heat island effect. Another 18 construction projects will be completed in the Green Building Update Clinic and Reform Plan.

Sixty-four "Green Building Environment Education

Demonstration Site Tours" were held from April to September 2010, and attended by 1,769 participants. On 5 June 2010 the Energy Conservation and Carbon Reduction Promotion Committee held the "Energy Conservation and Carbon Reduction New Living Exhibition on Food, Clothing, Shelter, Transportation, and Recreation."

### 2. Revisions to Renewable Building Material Standards

As for promoting green and renewable building materials, by the end of September 2010, ABRI has opened Green Building Material Marks for 85 products categories and certified 779 products.

## 2.8 Health and Welfare Working Group



● The COA provides guidance on the establishment of 39 rice production and marketing centers

### 1. Promoting Organic Agriculture

The Council of Agriculture (COA) certified 13 organic livestock product accreditation organizations by the end of September 2010. Guidance was provided to 1,566 grain farmers resulting in the certification of 3,576 hectares of land. By the end of October, 39 rice production and marketing centers provided guidance to

growers of special fruits, vegetables, grains, and organic produce grown on 4,930.7 hectares. One company was certified as an organic livestock product accreditation organization, which has certified two organic livestock products so far.

The COA is promoting Certified Agricultural Standards (CAS) and Good Agriculture Practices (GAP), and by the

# 2

## Summary of Working Group Achievements in 2010

end of September had held 1,682 produce marketing workshops and issued GAP certification to growers of a total of 21,091 hectares. Eleven categories of livestock products have been listed under the Taiwan Good Agriculture Practices (TGAP) system and livestock raisers have been guided under the TGAP system to improve practices and marketing and production systems.



Farmers receive TGAP training and try to introduce a third party certification system

### 2. Appraising and Minimizing National Health Risks

On 28 July 2010 the Council of Indigenous Peoples announced the 2008 indigenous population and health statistics, providing an analysis of indigenous populations, causes of death, cancer rates, health insurance outpatient services and hospitalization data. This is a part of establishing long-term health information on indigenous peoples as a reference for following up and formulating health policies for indigenous peoples.

The Department of Health (DOH) convened a press conference on the "Hospital Rescue Plan to Screen Cancer and Save Lives" on 14 August 2010, explaining plans to subsidize 232 hospitals to upgrade the quality of cancer medication and provide cancer screening. Hospitals were then rated and commended for outstanding performance in screening cancer.

By the end of September, the DOH completed screening of four types of cancer for 3.27 million people: cervical cancer (58.3%), breast cancer (17.9%), intestinal cancer (17.7%) and oral cancer (24.6%). The DOH continued monitoring of hospitals and public health centers, to ensure follow-ups of those testing positive in the cancer screening.

### 3. Inspecting and Minimizing Environmental Pollutant Risks

In light of increasing international concern over endocrine disruptors, the EPA tested for nonyl phenol (NP), nonylphenol ethoxylates (NPEO), tributyltin (TBT) and di-n-octylphthalate (DNOP) in selected cleaning agents, paints and children's toys on the market, as well as other products regularly used by the general public. Test results showed that all products accord with toxic chemical substances control regulations.

The EPA recorded national dioxin emissions at 53 g I-TEQ in 2009, 10% lower than in 2008, and 84% lower than the 1992 baseline level of 327 g I-TEQ, showing the effectiveness of domestic dioxin controls in recent years.

In July 2010, the EPA completed a general survey of soil and groundwater at 1,837 gas stations throughout Taiwan, and will complete surveys of the remaining 800 plus gas stations by 2013.

The EPA announced revisions to the "Banned Ingredients in Environmental Agents and Inspection Methods," which banned the use of seven pesticides under the Stockholm Convention on Persistent Organic Pollutants (POPs).

### 2.9 Education and Promotion Working Group

In the face of global warming and international sustainability trends, National Education Radio planned an FM broadcast of an environmental education program, which was integrated with 16 other existing programs for a total of over 200 broadcast sessions in 2010.

An energy conservation and carbon reduction

learning program was held during summer vacation to encourage students to measure their energy conservation and carbon reduction efforts. Private companies were also invited to join this carbon reduction program, which provided 15 simple ways to take environmental action. The program encouraged people to adopt carbon reduction steps as daily habits within a



▲ President Ma (center) presiding over a press conference on the energy conservation and carbon reduction learning program

period of two months, a strategy expected to result in the reduction of 5 million tonnes of carbon dioxide emissions.

The Government Information Office (GIO) broadcasted two of its own programs (regarding sustainable development, land conservation, energy conservation and carbon reduction) and three programs produced by the Ministry of Economic Affairs (regarding water reuse, energy conservation, and air conditioning efficiency) on four wireless TV stations, Taiwan Indigenous Television, and Hakka Television Station. GIO also worked with the Discovery Channel to jointly produce and broadcast a 3-part documentary called "Taiwan Green Living," with themes being "Starting with small spaces," "Save Taiwan's Ecology," and "Create Green Buildings."

The "2010 Symposium on National Environmental Education Policy Implementation Guidelines" was

convened to help localities comply with the Environmental Education Act and promote related policies. Keynote presentations and related resources were integrated to plan local environmental education implementation plans and policies.

The Ministry of Education coordinated with the Ministry of Economic Affairs, the National Science Council, the Environmental Protection Administration and the Ministry of the Interior to hold the "Energy Conservation and Carbon Reduction in Daily Life: Food, Clothing, Shelter, Transportation and Entertainment" event on World Environment Day, attracting 2,700 participants.

A high school energy conservation and carbon reduction creative lesson plan contest was held, resulting in the selection of six outstanding lessons, which were put on a CD and shared with all schools to advance environmental education.

On 29 September 2010, the 2010 Green Technology Student Thesis Competition was launched and 68 students from 23 schools registered to compete. On 18 October 2010, the Second Green Technology Creativity Competition was held, attracting participation from 713 students in 209 schools. These two competitions encourage depth and breadth in creative thinking as well as build capacity in design, implementation and verification of results to get students to prepare for future competition and appreciate the importance of teamwork.



▲ "Energy Conservation and Carbon Reduction in Daily Life: Food, Clothing, Shelter, Transportation and Entertainment" event

# Chapter 3 A Look at Taiwan's Sustainability Indicators in 2009

In order to objectively review the effectiveness of efforts to promote sustainable development in Taiwan, in 2002 the National Council for Sustainable Development (NCSD) referred to the United Nations' sustainable development PSR framework announced in 1996. Taiwan's first sustainable development indicator system was thus drafted and established in May 2003. Each year the indicator system results are announced on the NCSD's Web site for all to see (<http://sta.epa.gov.tw/NSDN/CH/DEVELOPMENT/INDEX.HTM>, see illustration 3-1).

After a three-year pilot run of the 1996 sustainable development indicator system, the UN found that the pressure-state-response (PSR) framework did not accurately reflect the demands of different national strategies and conditions. After discussing this with stakeholder nation representatives, the second version of the sustainable development indicator system in 2001 was expanded to include three tiers: themes, subthemes and indicators (South Korea's sustainable development indicator system announced in 2006 is based on the framework of the UN's second version). In October 2007,

the UN announced its third version, which retained the theme-subtheme-indicator framework, and increased the number of indicators from 58 to 96. Other international development indicator systems such as the Environmental Sustainability Index (ESI) and the Environmental Performance Index (EPI) have adopted similar frameworks based on the three-tier approach.

During 25<sup>th</sup> Working Meeting on 25 December 2008 the NCSD decided to stay on track with international trends by incorporating the indicators of Taiwan's existing system into the UN's third version framework, while also referring to other international sustainable development indicators. The result was the second version of Taiwan's sustainable development indicator system, which will be launched starting with the year 2010.

The NCSD has convened four Sustainable Development Indicator Advisory Meetings since February 2009 to draft the second version of Taiwan's sustainable development indicator system. Attending these meetings included representatives of stakeholder agencies and civilian members of the NCSD to verify the sustainability

3-1  
People can search the indicator system data from 1998 to 2009 on NCSD's website.



Web Page : <http://sta.epa.gov.tw/NSDN/CH/DEVELOPMENT/INDEX.HTM>



NCSD Working Group members learn how to use the Sustainable Development Indicator Information System

and attainability of the new indicators. Four Sustainable Development Indicator Regional Forums were also held to draw on collective wisdom and absorb all useful ideas. Finally at the 29<sup>th</sup> Working Meeting on 31 December 2009, the second version of Taiwan's sustainable development indicator system was finalized and approved.

The second version of Taiwan's sustainable development indicator system contains 12 themes, 41 subthemes, and 94 indicators (52 indicators more than in the previous system). The content of the indicators includes 37 indicators from the original system, 34 indicators drawn from the UN's third version sustainable development indicator system, 3 indicators from the ESI and EPI systems, and 20 new indicators. The new indicators were formulated by comparing with policy guidelines and referring to suggestions from civilian

members of the NCSD. As 2010 is the first year to collect data for the new indicators, statistics will not be available until 2011. At the end of each year the NCSD conducts a review of indicator results, which is drawn on to continually revise indicator topics, content, or calculation methods.

The second version sustainable development indicator system was used to survey the promotion of sustainable development in 2009. In late August 2010, the NCSD held two briefings on the National Sustainable Development Indicator Information System, inviting government agency representatives responsible for relevant indicator topics to key in over 200 indicator statistics. The NCSD Secretariat used this data to calculate and analyze sustainable development indicator results in 2009.

**Sustainable School Award****Jianan Elementary School,  
Sanshia Township,  
Taipei County**

In an attempt to head toward a green lifestyle of energy conservation and carbon reduction with local communities, Jianan Elementary School has established "Jianan Conservation Government", a series of specific courses that focused on learning from natural environment and daily life to achieve water, electricity, and waste reduction.

Furthermore, Jianan Elementary School has also set up a "Low Carbon Promotion Center", expanding the campus experience as the foundation of sustainable campus and community development to households, communities, and neighborhoods, and enhancing sustainable national and social development as well.

**Sustainable Development and Green Homestead**

With local history and ecological and environmental resources incorporated into school classes, students' learning venues have been able expanded from

campus classrooms to local communities, leading to the establishment of sustainably developing community of Shiaoankeng.

**Environmental Policies**

School policies regarding environmental engineering, resource protection, and eco-courses are

1. Designing environmental infrastructure by integrating construction projects and ecosystems into course materials;
2. Building Jianan Eco-campus;
3. Promoting various environmental education projects and events;
4. Establishing the "326 Sustainable Campus Federation" in 6 schools in Sanshia-Shuangsi area to promote water resource conservation
5. Campaigning for Shiaoankeng firefly eco-community as a part of the Ministry of Education's community education demonstration school system;
6. Promoting the establishment of "Hung Stream Protection Federation" in Sanshia;
7. Setting up "Taipei County Firefly Family School and Kid's Firefly Conservation Association", and "Taiwan Butterfly Family Federation"; and
8. Designing eco-courses and sharing relevant information and knowledge.



► Solar panel



► Outdoor classrooms



## Architecture and Environmental Management

Jianan Elementary School underwent campus space planning and design by focusing on its environment and unique features as well as combining principles of green buildings and system integration. From 2005 to 2010 various projects have been carried out to gradually improve environmental quality and achieve a sustainable campus, including

**1. Energy sustainability (2010):** Solar energy (solar water heater tubes and wind-solar dual power generation), water resource recycling and reuse (water tanks), and roof leak proofing and insulation against afternoon western sun exposure.

**2. Health sustainability (2009):** Tree crown tour, rock climbing and high wire arena.

**3. Water recourse sustainability (2008):** Artificial wetlands for wastewater purification, water pollution prevention and control, water quality testing, microorganism observation, and aquatic plant restoration.

**4. Education environment sustainability (2007):** Walking trails.

**5. Construction sustainability (2005~2006):** Butterfly garden, permeable pavements, rainwater recycling and reuse, community-friendly fences, and eco-ponds adjacent to Shiaolu Stream.

Jianan Conservation Government has always been passionate in energy conservation and carbon reduction and already had outstanding achievements, including reducing 42% electricity use and thus winning the first place in Taipower's Northern Taiwan Energy Conservation Competition. Average daily garbage weight per person



Rock climbing and high wire arena

was lowered from 10g to 9g, and the best class performance was to 4.9g of average daily garbage weight per person. More than 130kg of waste batteries were recycled per semester, and average daily food wastes per person also decreased from 67g in 2008 to 16g currently.

## Shaping a Suitable Environment for Kids

School education must have an insight into social atmospheres and sense environmental changes and threats in order to create innovative and effective courses in line with thorough, systematic environmental construction. It is through this that students will have a complete transformation and be equipped with visions and confidence necessary to build future sustainable homestead.

From taking small steps in the beginning, Jianan Elementary School gradually made its vision of sustainable environment into reality and is able to provide exchange experiences of nearly 8,000 people every year. Visitors from over 20 counties and municipal cities in Taiwan as well as more than 20 countries, such as China, Hong Kong, Singapore, Sweden, England, Belgium, Malawi, and Swaziland, have come to the campus for experience exchange. With its own sustainable and green "Taiwan experiences", this small mountain school has used its educational influences and created a butterfly effects, hoping to raise strong awareness toward environmental protection and green lifestyle.

## A New Green Collar Generation

Jianan Elementary School always believes in children as the main player and core value in education and insists on learning from natural environment and daily life as well. As a result, "Jianan Conservation Government", the first student-bodied children learning organization, and cross-school children environmental organization "Taipei County Firefly Family School and Kid's Firefly Conservation Association" were established through a solid foundation of ecological and energy education. And Jianan Elementary School will continue to promote sustainable school education and integrated learning process as well as utilize knowledge and skills from sustainable lifestyle, becoming the new green collar generation to create a brighter future for the earth.

# 4

## 2010 National Sustainable Development Award Recipients

### Sustainable School Award

#### Yueming Elementary School, Suaotownship, Yilan County

With "Happy Yueming As the Paradise by the Sea" as its mission, Yueming Elementary School has combined local natural environments and unique community resources to construct a sustainable campus and sustainable development education that focuses on ecosystem, cycling, energy conservation, health, safety, and humanitarian concerns. And through partial renovations and course design, it has gradually become a sustainable school with full participation from faculty and students. The mission is pictured as followed

Since school is like another home of children, it should provide an environment that is suitable for learning and brings them positive influence. An ideal campus is a big,

sustainable classroom full of dialogues between space and nature so that students can fully interact with nature instead of facing cold, hard concrete buildings. This goal can be accomplished in 3 aspects.

**1. Lifestyle:** Creating a high quality living environment with hands-on experiences and bringing forth a low-carbon and healthy life by working together with others.

**2. Ecosystem:** Befriending nature by getting to know and learning from it.

**3. Spirituality:** Caring for the environment and the minority and building a friendly and humanitarian campus.

By combining local natural environment and unique community resources, Yueming Elementary School has been able to present visionary planning on sustainable campus environment and thus received subsidies from the Ministry Of Education for the Partial Renovation Projects for Sustainable Campus in 2003, 2004, 2008, and 2010, as well as for the Campus Vacant Space Revitalization Project for Energy Education from 2007 to 2009. Until now the school has finished setting up various sustainable facilities, including solar panels, solar water heaters, a rainwater and grey water recycling and reuse system, an education and experience site for sustainable life, a child-friendly campus, green toilets, monitoring system on energy, resource, and the environment, green light classrooms, and a water-permeable square for marine education.



☛ Sustainable living class



Wetland exploration class



Seeding class in rice field

### **“Tribe of Time” for Sustainable Living Education and Experience**

Yueming Elementary School established a small permacultural garden, named “Tribe of Time”, by integrating small vegetable gardens, farmlands, and rice paddies in the neighboring communities. It focuses on diet in our daily life in order to provide an education site for students as well as the public to experience sustainable living with

1. Multi-functional green kitchen and dining hall; and
2. Compost toilets, compost of fallen leaves, tool shed, racks, veggie gardens, reuse of waste building materials, sustainable architecture in aboriginal cultures, solar power, rainwater recycling and reuse, and other facilities that incorporate sustainable development concepts like material cycle, water cycle, and energy conservation.

### **Fishing Village Tradition and Sustainable Community**

Yueming Elementary School District covers Gangbien, Gangko, and Yueming Communities. Established in 1994, Gangbien Community Development Association set sustainable enterprise and balanced social, ecological, and cultural development as its main directions in 2001 and began to promote Wuwei Harbor Eco-community Development Plan with assistance from county and central governments. During the past few years, the Association has encouraged local residents to think about and in turn to participate in community development and natural resource conservation in reserves and, as a result, successfully set up a sustainable development platform by promoting community

preservation and regional environmental education. As the result, Gangbien was chosen as one of Taiwan's ten most classic farming and fishing villages in 2007. Furthermore, having out-of-campus classrooms within the community is another great resource and feature of Yueming Elementary School.

### **Sustainable Development Education**

By incorporating natural and social resources, such neighboring Wuwei Harbor Water Bird Reserve and Gangbien Eco-community, Yueming Elementary School has been able to blend important ideas on environmental and sustainable development in different subjects and carry out “Sustainable Marine Environmental Education” with four major themes, which are sustainable campus, community learning, wetland ecosystem exploration, and marine education. Course contents are interesting and include sailing, snorkeling, farming, sustainable architecture, low-carbon green life, energy technology, ecosystem exploration, and community services.



Marine education – Optimist (OP) dinghy class

# 4

2010 National Sustainable Development Award Recipients

## Sustainable School Award

### Lantan Elementary School, Chiayi City

#### Connecting Local Environmental Resources and Lantan Eco Trail

Located inside Lantan Scenic Area in the east side toward south of Chiayi Municipal City, Lantan Elementary School has striven to transform the campus to a habitable natural environment for diverse species, now already a part of Lantan Eco Trail, with Lanting Tower as the closest classroom to the eco-garden. It is well known for the academic focuses on astronomy, science, environment, ecology, and information technology as well as its scientific and humanitarian approach to education.

In 2005 the Environmental Creativity Teaching Project began by developing environmental education and activities, "Green and Sustainable Lantan", for 5th graders. Science, arts, and languages are combined together to nurture logistic reasoning and artistic vision in

order to enable students to adapt to future and become well-rounded citizens.

#### Incorporating Environmental Issues Into Sustainable Courses

Due to dramatic changes of global climate and worsening warming phenomenon, in 2006 the faculty decided to highlight the role of environmental responsibility in course planning and encourage students, school staff, and parents in surrounding communities to participate in environmental protection, together designing and establishing a learning venue that combined environment, science, ecosystem, aesthetics, languages, and life. A "Sapling Classroom" was specifically set up for environmental education and to provide humanitarian concerns and creativity so that the idea of sustainability could take root and grow deep in Lantan Elementary School. 5 package sets along with another 15 theme courses and 75 unit courses were designed in line with core goals of environmental education, such as literature garden, artistic crafts, environmental exploration, adventurous life, and scientific research, and placed in each semester. Moreover, students were trained to become young campus eco-guides as members in sustainable environmental and ecological education.

Lantan Elementary School has also continued implementing the "Campus Revitalization and Developing Unique Schools" Project of the Ministry of



 Nature campus



▲ Lantan Boy and His Friends (metal sculpture)



▲ The little interpreters introduced the surroundings for lower classmates

Education by mobilizing its teachers to form an energy conservation and carbon reduction team, carrying out relevant courses and activities on campus as well as visiting other schools in Chiayi Municipal City to promote and exchange experiences of energy conservation and carbon reduction. Students are not only able to learn necessary abilities from school, but visual classrooms, presentations, and quizzes also help deepen their awareness and understanding and build correct attitudes, which fulfills the municipal government's vision in education development and mission sustainable environment education to keep on track with international environmental movements.

### **Building A Friendly Environment and Cultural Campus**

To achieve environmental sustainability, Lantan Elementary School tore down concrete walls in 2008 and replaced them with friendly fences so that campus was combined with the entire community and became part of the neighboring ecosystem. Other sustainable campus projects included multi-layered plantation, photovoltaic

system, solar energy, wind-powered streetlamps, switching to LED light bulbs, complete permeable pavements, and reuse of second-hand building material. After putting the concepts of sustainable campus buildings into practice, the school has become a rest stop on the way to Lantan Scenic Area and also been able to provide students with a park-like learning environment. In 2009 the action went further by replacing the entire campus light with T5 fluorescent light bulbs and installing water-saving faucets and toilets, implementing environmental protection from basic infrastructure.

Also, whether it is permeable pavements, multi-layered plantation, original plant species restoration, rainwater and greywater recycling and reuse, utilization of renewable energy, or eco-ponds and wetlands, sustainable campus design and execution led by each former principal have all transformed every corner on campus into a suitable classroom for sustainable education.

### **Visions and Blueprint for Sustainable Development**

- Pursuing cultural and humanitarian concerns to achieve a loving and caring childhood for every Lantan student;
- Building a campus of sustainability and hope that provides health, morality, positiveness, and excellence; and
- Continuing the establishment of Space Science Education Hall, under Chiayi Municipal City Education Development Guidance that stresses on culture, technology, innovation, and international visions, for Lantan Elementary School to become the national center of astronomical, scientific, environmental, ecological, and sustainable education.



▲ Artistic crafts

# 4

## 2010 National Sustainable Development Award Recipients

### Sustainable Enterprise Award

#### Sumika Technology Co. Ltd.

**S**umika Technology is a joint venture established by Taiwan Inabata Sangyo Co. Ltd. and Japan-based Sumitomo Chemical. With the transfer of Japanese technology and capital, the new company's first plant was set up in Kaohsiung City's Nantze Export Processing Zone in 2001 to supply polarizing film and other related components for small and medium-sized TFT-LCD panel manufacturers. In response to the rapid development of Taiwan's panel industry and to rising customer demand, the company set up a second plant in the Southern Taiwan Science Park (STSP) near Tainan City in 2003.

In 2005, Sumika Technology established its Hsinchu branch office and expanded into the LCD color filter market by setting up a plant producing the filters in the Hsinchu Science Park. In 2008, the parent company moved its headquarters from Kaohsiung to Tainan, and at the same time shifted its Kaohsiung production line to the new location, which was of major significance to the STSP in terms of developing the panel sector there. In 2009, the company began its third-stage plant construction project in the park, thereby materializing its promise to invest in the region.

Sumika Technology promotes sustainable development and balanced economic development based on the notion of the company's social

responsibilities, or "responsible care." While putting safety first, the company continues to pursue technological innovation and provide key components for the panel sector, establishing enterprise value and giving back to the community. Currently, the third-stage building project has already entered the equipment installation stage, with mass production expected to commence in 2011, thereby creating even more employment opportunities. The factory's design also includes many energy conservation features.

In the area of environmental protection, Sumika Technology follows the ISO 14064 standards published in 2006 to monitor its greenhouse gas emissions. In the area of quality guarantee, the company is pursuing rationalizing of its internal standard operating procedures, and plans to join the IECQ hazardous process management QC 080000 certification scheme. In the sphere of workplace safety, it has enhanced its emergency response capability through disaster grade management, and has carried through with safety proposals to improve potential danger spots in the workplace. In the area of social participation, besides continuing to support the Tainan Home of Philanthropy and the St. Theresa Opportunity Center in Tainan, the company has also provided assistance to victims of Typhoon Morakot that devastated the region in August 2009.

#### Tangible results of Sumika Technology's promotion of sustainable development:

**1: Environmental and resource conservation:** raised production process chemical liquid recycling equipment treatment capability, resulting in roughly NT\$10 million in savings per year; received commendation from the STSP Administration for the company's recycling and reuse of water used in the



▲ Drama for Father's Day sponsored by Sumika Technology



▲ Sumika Technology's production line

production process; through the ISO 14001, OHSAS 180001, TOSHMS and "Responsible Care management" environmental, health and safety management systems, reduced the FR (Disabling Frequency Rate□FR) from 4.53 in 2005 to just 0.25 in 2009. Implemented the ISO 14064 and 14067 management systems for energy and resource use issues; energy use in 2009 dropped to 54.8 percent of the level for 2005, and water use declined to 53.1 percent of the 2005 level.

**2: Operations and management results:** set up a compliance committee to ensure the company's activities conform to related laws and regulations; developed disaster grade management and business continuity management measures; participated in activities held by universities and colleges, as well as by social organizations, and invited them to participate in cultural activities organized by the company, including a national Japanese speech contest for students.

**3: Technological development:** developed a more advanced polarizer that can increase light output by 6 percent, and cut background light source energy consumption; moved forward with automatization of production lines and conserved human resources to raise production capacity and quality; QC 080000 and

ISO 9001 quality management systems' satisfaction rate reached 97.3 percent in 2009.

**4: Other contributions:** increased use of local talent, and provided training opportunities overseas; won the award for "Best Cooperative Contribution by a Foreign Counterpart" at the 10th Technology Award for Flat Panel Display Product.

Sumika Technology hopes to become a supplier of diverse IT industry-related products, focusing on bringing benefits to its shareholders, customers and employees, as well as Taiwan society, by means of the principles contained within the English acronym "SWOT."

● **For Shareholders**

In long-term relations with stockholders, creating company growth and rewarding shareholders with deserved profits

● **For Customers (World Digital Life)**

Customer satisfaction, dedication to new technology, and developing production of high quality manufactured goods

● **For Employees (Our Happiness)**

Attaching importance to employees' welfare and happiness, and treating and rewarding them fairly

● **For Taiwan (Taiwan's Prosperity)**

Contributing to society, actively making use of the local workforce, and cultivating research and development talent

Long ago, famed Japanese engineer Yoichi Hatta completed construction of the Chianan Canal, with the irrigation project turning the Chianan Plain into one of the island's most important agricultural regions. Nowadays in the region, the STSP serves as an important center for the optoelectronics industry, and Sumika Technology hopes to become a representative of Japanese enterprise in Taiwan by bringing many contributions to the island.

## Sustainable Enterprise Award

### Super Textile Corporation

With the emergence of global warming as a pressing issue in recent years, there has been a corresponding growth in environmental consciousness. Beginning in 1993, Super Textile Corporation, which develops and produces functional knitted and plain weave fabrics, started working on developing what would become a new line of eco-fabrics made from recycled PET (polyethylene terephthalate) bottles.

In the production process, Super Textile Corp. first integrates and adheres to the ISO 9001, ISO 14001, OHSAS



▲ The main gate of Super Textile is surrounded with greenery

# 4

## 2010 National Sustainable Development Award Recipients

18001 and ISO/TS16949 standards. The company has also implemented a center-satellite system to reduce industrial waste, integrating up-, mid-, and downstream manufacturers to establish a green supply chain. Furthermore, it has publicly guaranteed that it will not use materials that are harmful to the environment, that it will follow the European Union's Restriction of Hazardous Substances (RoHS) and Energy Using Products (EuP) directives, and that it will establish an inspection system for raw materials and processed goods, as well as similar systems to guarantee the production process and data on the amount of environmentally friendly materials contained in its products.

In addition, the company uses eco-design to raise the energy efficiency of its products, encourages the development of green products, implements product life cycle assessments, environmental design and environmental accounting, works to improve clean energy technology, as well as integrates supply chains, with the overall economic efficiency savings amounting to NT\$160 million.

### **Investment in eco-friendly products earns multiple domestic, foreign certifications**

In 1997, Super Textile Corp. produced recycled textile



Harvesting in vegetable garden



Ecological pond

products made from PET bottles, winning a Taiwan Excellent Product Award, receiving a Green Mark, as well as TUV recycled materials certification, and at the same developed eco-friendly ready-to-wear clothing made with 100% PP material, as well as obtained Oeko-Tex Standard 100 certification.

In the interests of environmental protection, a rainwater collection system was installed in the factory, with the collected water being used for restroom facilities, fire prevention, cooling, cleaning, irrigation and other purposes, in order to conserve water resources. The system also helps to alleviate water shortages caused by typhoons. Solar landscape lamps, 2,900 square meters of planted trees, eco ponds, and a medicinal botanical garden, are all part of efforts to reduce waste, reuse resources, and implement the concept of "production, living, ecology" on the factory grounds.

Super Textile Corp.'s environmental policy emphasizes waste reduction, recycling and reuse, and is dedicated to achieving sound environmental planning and management. Through green procurement and green marketing measures, the company actively develops eco-friendly cellulose fibers for certification, manufactures green products made with environmental fabrics, as well as develops and produces all sorts of reusable building materials and textile products.

Through years of adherence to environmentally friendly practices, and by passing inspection and verification by a major U.S. underwear manufacturer, as well as the makers of America's top brand baby carriages and the world's No. 1 selling soft drink – Coca Cola, Super Textile Corp. has become a qualified supplier. And in 2010, the company received further affirmation by being awarded TUV certification for materials recycling – the first such certification granted in the world, as well as obtaining the MIT (Made in Taiwan) Mark for several of its textiles products under a quality



certification system introduced by the Ministry of Economic Affairs.

Super Textile Corp. continued developing its line of eco-friendly products, such as blankets, reusable cloth bags, green clothing, caps and so on, as well as establishing an "eco-product display area" in its factory to allow visitors from home and abroad to better understand the company's production process for goods made from recycled PET bottles as well as its energy conservation methods and uses, in order to promote environmental protection and fulfill its social responsibilities.

#### **Developing advanced technology and passing on a green world to the next generation**

Super Textile Corp. is dedicated to establishing green partnerships and introducing them into the production and design of green products, and is ceaselessly pursuing innovation, mapping out concrete global and forward-looking environmental goals, and continuing to reduce the environment impact of its products, activities and services. The company's environmental policy is to actively implement waste reduction, recycling and reuse measures, follow environmental protection laws and regulations, establish an environmental protection education corner to comprehensively raise environmental consciousness through education campaigns, improve regular auditing and management reviews, develop an environmental protection manual for the public, work in line with government policy by joining social environmental activities and international environmental efforts, reduce the impact of environmental pollution, and through respect for nature achieve the goal of blending harmoniously with the environment.

The year 2010 is one of transformation for Super Textile Corp., during which the company has established a new green brand Supertex RPET, producing universal and international recycled green products based on eco-friendly concepts such as "green production" and "green sharing."

By discussing and practicing environmental protection and through green living, our company will, just as the promise contained within the Chinese characters for the Supertex RPET brand suggest – with "shi" standing for "endlessly from one generation to the next," and "bau" standing for "protecting the land and taking care of our world" – continue to devote its energies to passing on a green world to future generations.



● Solar energy lamp

#### **Sustainable NGO Award**

#### **Dingtsaiyuan Development Association, Chiayi County**

As the society moves toward modernization and urbanization, traditional farming villages have become a sight of the past. Dingtsaiyuan Community, a small farming settlement of Konghe Village, located in Shingong Township, Jiayi County, had once also nearly disappeared and was left only with the elderly and young children due to large number of residents moving

out to urban areas.

However, the 921 Earthquake in 1999 has set start community reconstruction, leading to the establishment of Dingtsaiyuan Development Association. Residents were called to participate to rebuild the community and recover lost memories and traditions in hopes to transform the rural area into a modern farming community.

The first step of rebuilding began in the local 762mm-gauge rail track, which has been there for the past century and was once an important part of Taisugar's transportation line with Dingtsaiyuan as the first train stop from Beigong to Jiayi City. The track had been covered

# 4

## 2010 National Sustainable Development Award Recipients

by grasses and wilderness after the rail transportation diminished following the end of sugar industry. Yet it was precious to the locals for it brought them great history and fond childhood memories.

In an attempt to recover these memories, the residents, through joint forces and wisdom, restored the originally buried 762mm-gauge tracks and Bentou train station as well as rearranged the landscape along the track lines with green plants, which in turn improved the whole community environment. Rail-based culture and traditions have also been highlighted by combining local folk songs and poetry with track lines. To prevent further loss of farming traditions and resources, recovery work has been launched to preserve old tools and artifacts that demonstrate the wisdoms of older generation. With much inputs and ideas, the Community Museum of Rural Artifacts was established as a great venue for school field trips and also a base to pass on the legacy of farming culture. As a result, the Museum was awarded excellent environmental protection organization in 2009 by the EPA for its efforts in recycling farming artifacts. As the work in community construction went on, the neighboring Bentou Community was inspired as well and thus joined in the line of farming village transformation, even recognized as a Golden Seed Community by the Council of Agriculture in 2009.

The Association has promoted cultural tourism for community development and also developed community tourist industry around Beigong Stream by



↑ The community has a vision that one day the train would return again.

extending rail track tour to Beigong and combining local cultures, ecosystems, and environment. In 2000 the theme tour "Road to Ancient Bengong Community" was awarded excellent by the Council for Cultural Affairs in the category of In-depth Traveling.

### Community Hopes:

Although the train does not pass by anymore, the community has a vision that one day the train would return again and thus used waste materials to build its own replica. Not only the original details and settings were preserved and restored, but the traditional craft also helped shape and enhance community-based culture. Now nearly ten thousands of visitors are attracted every month, boosting local economics as well as driving industry development. The Community has become a place of hope and happiness because more and more young people returned home to work or start their own business and senior citizens and children also feel belonged and proud of their hometown.

### Sustainable Development:

**1. A Dingtsaiyuan short poem:** Traditional farming antiquities are preserved, As master paints 12 styles of prints. Pottery and art crafts, Train and bamboo raft crossing over Bengong, Make a peaceful and lovely community.

**2. Transforming community industries:** Dingtsaiyuan has transformed itself from desolate to flourishing with various local industries. The community attracts more than 100 thousand visitors every year, so as a result the profit should be returned to the community and used to enhance the welfare of the minority groups.

**3. Setting up a platform of employment:** With Dingtsaiyuan Development Association's effort, the community has gained spotlights in televisions and media and resulted



↑ Multi-Employment Promotion Program in this community



▲ The harvest camp in Dingtsaiyuan

in large number of tourists from all over the world, creating career opportunities and new jobs for young people to return home and participate in community development.

**4. Rooting in Jiayi and going international:** By utilizing vacant farm lands in Shingong, Jiayi, Dingtsaiyuan has

combined rural charm and community tourism as the drive to promote local economics and industry and had frequent exchanges with foreign NPOs, hoping to further enhance local cultural strengths and continue sustainable development of Dingtsaiyuan community.

### Sustainable NGO Award

## Children's Hearing Foundation

The Children's Hearing Foundation (CHF) was established by Joanna Nichols, an American native, and her husband Kenny Cheng after learning of their daughter Alana's profound hearing impairment. The couple visited many renowned doctors around the globe seeking treatment for Alana. Eventually, they decided that the most effective approach to helping their child develop her listening and speaking abilities was "Auditory-Verbal Therapy" (AVT).

In order to give hearing-impaired children in Taiwan the same learning opportunities, the foundation was set up in 1996, introducing AVT to the island for the first time. Experts from Canada were invited to train local teachers, allowing AVT to take root in Taiwan. Currently, the foundation has four centers around the island, and in cooperation with Chung Yuan Christian University has set up a hearing and speech research and training center on the school's campus to carry out early intervention

work.

### Health Care: Early Detection and Treatment of Children with Hearing Impairment

In order to effectively lower the average age at which hearing-impaired children receive treatment, the CHF has conducted a public campaign to promote early detection in infants and toddlers. In 2005, the foundation in cooperation with the Department of Health's Bureau of Health Promotion (BHP) set up a free hearing loss information hotline. In addition, it has held seminars, gathering experts together to offer analysis and suggestions on implementing newborn hearing screening services.

In 2010, the BHP began implementing a program to provide subsidies to economically disadvantaged families for newborn hearing screening tests, while cities and counties around the island continued one after the other to launch free newborn hearing screening services. Over the past three years, the foundation's four centers have provided audiological management, AVT instruction, social services, and family guidance on early intervention services to more than 3,000 people. By the

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## 2010 National Sustainable Development Award Recipients

end of 2010, the service coverage rate for hearing-impaired children under the age of six is set to reach 80 percent. According to statistics, more than 70 percent of those receiving related services have already successfully been integrated into regular education programs.

### Services for Underprivileged Groups: Integrated Support for Disadvantaged Families with Hearing-Impaired Children

In addition to early intervention, hearing-impaired children also require suitable assistive listening devices. However, hearing aids and cochlear implants are expensive, posing a heavy financial burden for ordinary families. In order that children are not denied treatment opportunities due to economic factors, the CHF has actively raised money through corporate and private donations to finance early treatment as well as the purchase of hearing devices. Over the past three years, 40 hearing-impaired children from low-income families have benefited from financial assistance for early treatment services. In addition, distance learning services are provided for disadvantaged families in remote areas, with some 500 persons receiving such services per year. Furthermore, a special fund set up to help poorer families to purchase hearing devices has benefited some 220 hearing-impaired children annually, or roughly 10 percent of all the children helped by the center.



 The dance show performed by hearing-impaired children

### Cultural Preservation: Training Hearing Loss Experts, and Cultural Dissemination and Transmission

In 2008, Chung Yuan Christian University's Department of Special Education began offering courses in AVT to systematically train new experts in hearing loss and rehabilitation for children.

In addition the CHF has cooperated with the department and Academia Sinica's Institute of Linguistics in developing the specialty of early intervention in Mandarin Chinese, training experts in Chinese-speaking regions. This has helped establish Taiwan's position in the field of hearing impairment in the Chinese-speaking world, and thereby contributed to the dissemination of its culture.

At the same time, the foundation has promoted a culture of caring for the hearing-impaired, holding numerous regular, business, student volunteer and seed instructor training sessions, with more than 2,500 people participating in such programs over the past three years. In addition, parent volunteer teams have been set up, with parents of hearing-impaired children forming a support services network for the disadvantaged, creating a virtuous cycle in which parents that have received assistance can also help others.

The CHF is an organization made up of AVT teachers, hearing specialists and social workers and that serves as a support for families with hearing-impaired children. The foundation is dedicated to achieving its broader vision of making Taiwan into "a place where no hearing-impaired child cannot speak," by means of the following:

- Helping hearing-impaired children to develop the ability to speak and listen, enjoy diversified development, and become contributing members of

society.

- Forming parent volunteer groups with members serving in the role of counselors to create a support network for the disadvantaged.
- Offering distance education to overcome regional transportation barriers and effectively expand the scope of services.
- Experimenting with integrating hearing-impaired students into inclusive daycare and kindergarten settings, and bringing about acceptance of and joining with a social education system.
- Spreading the seeds of hearing-impaired education, and promoting a culture of caring for the socially disadvantaged.

## Sustainable NGO Award

### Changhua Environmental Protection Union

The Changhua Environmental Protection Union (CEPU), formerly known as the Changhua chapter of the Taiwan Environmental Protection Union that was established in 1988, adopted its current name on May 20, 1997. Changhua County's Lugang Township, an ancient port city with a rich cultural heritage, was the site of the first domestic environmental movement, which sprung up in the late 1980s. The protest movement by residents against DuPont chemical company's plans to build a factory there helped spur the rise of environmental consciousness among Taiwan citizens and helped lead to the establishment of numerous environmental organizations.

A clean living environment can help ensure a sound body, mind and soul. Prior to industrial development, clean air, water and soil could be seen everywhere. However, with the development of human civilization, these have gradually disappeared, and clean environments have become ever more precious. The aim of the CEPU is to combine, unite and assist environmental activists and organizations in promoting environmental movements and education and working to protect Taiwan's ecological environment.

In carrying out environmental protection, the CEPU focuses mainly on stopping new development projects, rather than on rectifying damage caused by development after the fact. The organization opposes high-polluting development projects that are not suitable for Taiwan or Changhua's development, including the planned construction of a thermal power plant in Chunghua Industrial Park, the Central Taiwan Science Park's fourth-stage development project, and Kuokuang Petrochemical Technology Co. Ltd.'s planned construction of an eighth naphtha cracking plant.

Between 1988 and 1999, the CEPU mainly worked to oppose high-polluting large-scale development projects, such as the planned DuPont factory and the planned construction of a landfill site in Shengang Township. In addition, it has held flea markets to promote the concepts of valuing resources and reuse of resources, and has held training camps for university and college student and youth environmental volunteers to boost the ranks of those dedicated to environmental protection.

From 1999 to the present, the CEPU has continued to be concerned with environmental issues, opposing high-



● Protesting the planned construction of a thermal power plant in Chunghua Industrial Park during an anti-global warming parade.



● The declaration signed pledge for protecting Changhua's coastal areas.

polluting, high water consumption, high energy consumption, and high carbon-emitting industrial development projects harmful to the local environment, by collecting and compiling pollution evidence and uniting scholars and organizations under the cause. At the same time, it has promoted eco-tourism and carried out environmental education and ecological protection work.

"Sustainable development" is about meeting the needs of the present generation while not harming the development needs of future generations. Changhua is a major agricultural county and producer of food from the land and sea for the country. Coastal areas include internationally important wetlands and vast intertidal mud flats rich in seafood resources, and require active government protection in order to raise awareness of their importance and special characteristics.

# 4

## 2010 National Sustainable Development Award Recipients

However, in the wake of industrial development, polluted wastewater flowing down to the sea has led to a gradual accumulation of pollutants in sediment in the mud flats that are characterized by high water retentiveness, thereby leading to severe pollution in Changhua's coastal areas. At the same time, air quality in the county has been listed at "grade 3," or the worst rating, clearly indicating that the environment cannot continue to bear ever-increasing amounts of pollution.

In order to reduce the level of coastal pollution and prevent the situation from further deteriorating, the CEPU has through specialized academic training, gathered

and compiled evidence to let stakeholders know the amount of damage to the present and future generations that would be caused by development projects, and to let even more people understand the importance of the situation. The organization will continue to look at environmental issues from the angle of vital interests, to arouse even more people to show concern for the environment and work to protect it.

If the government can actively implement environmental protection and total load control in order to prevent pollution levels in Changhua and Taiwan from continuing to increase, and curb unrestricted and uncontrolled development and pollution, as well as get agencies of the legislative, executive and judicial branches and all the nation's citizens to keep firmly in mind the phrase "everybody has a responsibility to protect the environment," then everyone will be able to live and work in peace and contentment and enjoy sustainable health.

### Execution of Sustainable Development Action Plan Award

#### Bureau of Health Promotion, Department of Health

Since the promulgation of the Cancer Prevention and Control Act by the Legislative Yuan in 2003, the Department of Health's Bureau of Health Promotion (BHP) has as stipulated by law periodically convened the Central Cancer Prevention and Control Committee as well

as Cancer Prevention and Control Policy Consultation Committee meetings to facilitate horizontal and vertical coordination of operations. The bureau also drew up a "National Cancer Prevention and Control Five-Year Program" as a working guideline for the 2005-2009 period. Under the plan, the bureau has actively carried out education campaigns in all areas of cancer prevention, as well as betel quid prevention programs, cancer screening, improvements in diagnosis and treatment quality, patient care and hospice services, establishment of a cancer registry databank, human resources



Making a call for the regular cancer screening with breast cancer patients



Minister Yang of Department of Health's promoted the patient care and hospice services.

cultivation, and cancer research work. The mid-term goals are mainly to increase the cancer-screening rate of major cancer and five-year survival rate, with the long-term goal being to achieve a reduction in the overall cancer standardized mortality rate.

### **Cancer Prevention and Control Achievements**

#### **1. Integration of the cancer prevention and control framework:**

**framework:** By means of the Central Cancer Prevention and Control Committee as well as Cancer Prevention and Control Policy Consultation Committee meetings, horizontal integration of related work by relevant central government ministries and agencies and DOH bureaus has been carried out. In addition, an integration mechanism for the joint promotion of cancer prevention and control work at the central government and local level has been established.

**2. Building a mentality of healthy living:** Using a multimedia approach to disseminate information, the BHP has effectively increased the visibility of its cancer prevention and control campaign and raised public awareness of cancer prevention. Efforts have included actively promoting a campaign against betel quid use and its negative health effects, as well as publishing and distributing related manuals and pamphlets.

**3. Carrying out cancer screening work:** Cost-effective cervical, breast, colon and oral cancer screening services have been promoted, with the screening rates reaching 58 percent, 16 percent (45-69 age group), 10 percent and 28 percent, respectively, as of the end of 2009. In addition, an identification, referral and tracking system has been established to ensure proper follow-

up services and care for those who test positive for cancer.

#### **4. Management of cancer diagnosis and treatment:**

The Regulations for Cancer Care Quality Assurance Guidelines were formulated in 2005 and put into practice in 2008. As of the end of 2009, 40 hospitals had received accreditation, with the names of the medical institutions posted on the BHP's website for public reference. In addition, a "cancer screening, diagnosis and treatment quality measurement index" has been established in order to spur medical institutions to raise their quality of cancer care through information feedback and benchmarking.

#### **5. Cancer patient care and hospice services:**

Through a collaborative model among government, hospital and private groups, services have been provided to the tune of 150,000 patients per year, with the hospice use rate for cancer patients increasing significantly from 13.4 percent in 2005 to 39 percent in 2009, and the satisfaction rate rising to more than 90 percent.

#### **6. Cultivation of human resources for cancer prevention and control:**

Relevant associations have been brought together to carry out the training of specialized personnel in cancer prevention and control. In addition, a professional certification system with set qualification standards for relevant personnel and organizations has been established, in order to comprehensively raise the quality of cancer screening and diagnosis.

#### **7. Integration of cancer information and promotion of cancer research:**

A comprehensive cancer registry and cancer screening information system has been set up. Beginning in 2004, cancer staging and detailed treatment and follow-up information pertaining to common cancers has been recorded, with regular analysis and hospital feedback for review, and periodic posting of cancer-related epidemiological statistics, serving as an empirical basis for cancer policy assessment and formulation.

In response to President Ma Ying-jeou's political vision of reducing the cancer standardized mortality rate, the BHP is already following an Executive Yuan-approved second phase National Cancer Prevention and Control Five-Year Program for the 2010-2013 period. By combining government, medical institution and community resources, the bureau is actively working to create a humanistic medical culture and fostering cancer prevention habits, such as regular cancer screening, among the people, with the goal of lowering the overall cancer mortality rate to less than 10 percent within the next six years.

# 4

## 2010 National Sustainable Development Award Recipients

### Execution of Sustainable Development Action Plan Award

#### Department of Water Quality Protection, Environmental Protection Administration

The Environmental Protection Administration under the Executive Yuan has achieved outstanding results in its river pollution remediation work, with the ratio of seriously polluted sections in 50 of the nation's major rivers being reduced to 5.9%. During the same period, the ratio of unpolluted sections increased to 67 percent of these rivers' total length.

##### Major results of river remediation efforts in four concrete work directions:

Urban river rehabilitation and cleanup, and landscape

revitalization along urban river banks

cutting flow of polluted water, introducing clean water, vitalizing river bank environment, and improving river pollution situation

##### 1. Keelung City's Tianliao River

A total of 58,000 metric tons of household waste water per day is blocked from flowing directly into the river, with the wastewater being redirected to the He-Ping Island Waste Water Treatment Plant for treatment.

##### 2. Taipei County's Jhong-Gang Drainage Channel

Household waste water effluent amounting to 48,000 metric tons is blocked each day from flowing into the river, and is directed to the Bali Wastewater Treatment Plant and the Wugu wastewater treatment facility for treatment and purification. At the same time, river corridor construction has been carried out.

##### 3. Kaohsiung County's Fengshan River

A total of 27,000 metric tons of polluted effluent and rainwater per day is blocked from flowing into the river. In addition, after being treated at the Fengshan wastewater treatment plant, 5,000 metric tons of the water is directed daily into a new artificial wetland constructed in Dadong Park for further purification before flowing into the Fengshan River.

##### 4. Pingtung County's Wannien River

Household waste water amounting to 13,900 metric tons is blocked each day from flowing directly into the



▲ Fengshan River's ecological pond in Dadong Park after treatment.



▲ An artificial wetland in Dadong Park.



▲ Old Railroad Bridge Education Wetland Zone in Kaohsiung

river. Meanwhile, various remediation projects, including water quality purification in water channels, have been carried out along the river.

#### 5. Taichung City's Liuchuan River

Side trenches along the river are used to block the flow of 22,800 metric tons of waste water into the waterway and redirect it to the Futien Water Resource Recycling Center for treatment. Open side trenches for sheet flow treatment of sewage in rivers is utilized.

#### Integrating resources of relevant ministries and agencies, and carrying out key river pollution remediation work

The Danshui, Nakan, Laojie, Jhuoshuei, Hsinhuwei, Jishuei, Yanshuei, Erren and Lover Rivers have been listed as priorities for remediation. Concrete measures are as follows:

1. Invite central and local government agencies, experts, and environmental groups to form pollution remediation task forces to supervise coordination of

remediation work.

2. Establish an index to gauge the river environmental record of every city and county, for carrying out strategies and measures.
3. Complete river and tributaries pollution discharge surveys, progress planning and duration planning, and propose effective methods.
4. Strengthen water source pollution monitoring and control to protect the quality of citizens' drinking water. In 2009, checks of 3,111 relocated hog ranches in five major river basins around the island were carried out.
5. Enhance water pollution source monitoring and related controls, promote enterprise classification and grading management, set stricter effluent standards for sewer systems at industrial parks, and install water quality monitoring systems at discharge points.

#### Carrying out construction of treatment projects to concretely improve water quality in rivers

Select suitable engineering methods and carry out remediation measures, as well as treatment of tributary discharge blocked from flowing into rivers, in order to attain water quality purification goals on an ecological basis.

A total of 93 on-the-spot treatment facilities have been built around the country, covering a total of 517 hectares, treating 540,000 metric tons of wastewater per day, and eliminating 8,352 kilograms of BOD effluent daily. The most such facilities have been set up in the Danshui River basin, at 23 in total, among which a gravel contact oxidation facility in the Hsintien River basin registered the best water quality treatment results. Artificial marshlands have been created with ecological conservation, nature recreation and educational functions, with the Huajian wetlands becoming an ecological corridor in the Danshui



▲ EPA Minister Stephen Shu-hung Shen announces the implementation of river pollution remediation

# 4

## 2010 National Sustainable Development Award Recipients

River system.

### **Expanding public participation and promoting river patrol work**

Volunteer river patrol teams have been set up, with citizens being encouraged to claim and support

environmental public facilities, such as natural treatment systems. Education courses and other related activities have been planned, with the aim of forming a consensus on protecting rivers.

To date, 359 such teams have been formed around the nation, reporting and exposing countless cases of pollution and related infractions on rivers, along riverbanks and at reservoirs. The teams' patrol routes cover more than 2,800 kilometers along the nation's waterways. Policies and related law articles have been publicized, river cleanup education campaigns and pledge meetings have been organized, and flag-presentation and award ceremonies have been held.

### **Execution of Sustainable Development Action Plan Award**

#### **Forestry Bureau, Council of Agriculture**

Following the signing by world leaders of the Convention on Biodiversity at the 1992 U.N. Earth Summit in Rio de Janeiro, the Council of Agriculture's Forestry Bureau began promoting policies and measures in line with the convention's principle objectives, namely the conservation of biodiversity, the sustainable use of

biodiversity, and the sharing of benefits arising from the utilization of genetic resources. To this end, a "Biodiversity Action Plan" began being mapped out in 2001 and was later passed by the Executive Yuan. In accordance with the aims of the 2010 International Year of Biodiversity as designated by the United Nations, revisions were made to the Biodiversity Action Plan. The revised version includes six major goals and 38 action plans.

### **Evaluating demarcated nature reserves and protecting biodiversity**

In order to overcome the difficulties in natural



▲ The Opening of "International Year of Biodiversity - Taiwan Action"



Community Forestry Program - the citizens in Da-nei Community of Tainan County exchanged experience with visiting group



The anti-wildhunting helicopters of South Africa donated by Taiwan government

vegetation surveying and mapping work, the Taiwan national vegetation classification unified standards were formulated. These maps are an important tool that include basic information on land resources and conservation, and serve as a reference in the process of prioritization in the establishment of conservation areas, as well as long-term ecological monitoring and environmental assessments.

In order to enhance conservation of biodiversity, evaluations of management effectiveness began being carried out from 2009 at nature reserves, wildlife refuges, important wildlife habitats and nature conservation areas set up and managed in accordance with the Wildlife Conservation Act, Cultural Heritage Preservation Act and Forestry Act, with the introduction of international information, to establish a comprehensive and complete system of conservation areas.

A community forestry program was launched in 2002 to join hands with local residents in proceeding down the path toward natural ecological conservation and sustainable operations and to promote mutually beneficial co-existence between humans and nature. As of the end of 2009, a total of 1,345 model community plans had been implemented under the forestry program, with guidance and assistance provided to 753 communities.

#### **Formulating a rigorous strategy to prevent negative impacts of alien invasive species**

In order to minimize harm to biodiversity and prevent the extinction of indigenous species caused by alien invasive species, the Forestry Bureau is mapping out a comprehensive invasive species management plan, establishing an invasive plant species evaluation and monitoring mechanism, and compiling a catalogue of

invasive vertebrate species and surveys on invasive plant species that have been imported into Taiwan. In 2009, the bureau signed a memorandum of understanding with the Invasive Species Specialist Group to translate into Chinese the contents of the Global Invasive Species Database managed by the International Union for Conservation of Nature, and to establish an "advisory committee on invasive species threat control" in order to find solutions to problems arising from the introduction of invasive species. In addition, it has established a system for evaluating and prioritizing management of invasive species that have already been introduced into the local ecosystem, as well as a cross-ministerial mechanism for managing the division of labor in order to combine local government and private organizations' long-term prevention plans related to invasive species, and to implement invasive species eradication and monitoring plans to reduce economic losses and ecological impacts caused by invasive species.

#### **Implementing domestic public education campaigns and carrying out international conservation**

In order to enhance public participation in biodiversity work and strengthen related education campaigns targeting administrators, the bureau plans to produce "The Diversity of Life – A Brief Discussion on Biodiversity" digital course for online learning, and to hold practical training courses on biodiversity promotion plans annually. Since 2007, the bureau has held a series of special exhibitions, with the 2008 activities blending the achievements of the past 10 years, and the 2010 series of activities focusing on the theme of "International Year of Biodiversity – Taiwan Action." It has also partnered with the U.S.-based World Wildlife Fund to translate and produce Chinese-language "basic edition" teacher and

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## 2010 National Sustainable Development Award Recipients

student manuals of the organization's "Windows on the Wild" environmental education curriculum material, as well as "Marine Life" and other teaching materials. In addition, the bureau has since 2003 held a series of courses to train domestic seed instructors, to help the government promote biodiversity. On the global front, the bureau has since 1996 supported 183 international conservation initiatives, carried out in 38 countries on five continents around the world.

### Execution of Sustainable Development Action Plan Award

#### Water Resources Bureau, Taipei County

In order to promote sustainable development in practice, the Taipei County Government's Water Resources Bureau has been dedicated to Danshui River basin remediation. Through project management of sandstone processing plants and industrial wastewater, rapid increase in sewage connection rates, coordination with Danshui River basin environmental monitoring and ecological research results, planning of on-site treatment processes and water flow control and treatment strategies, effective and staged remediation work has been carried out.

#### Establishing on-site treatment systems and building ecological environments along riverbanks

In order to effectively improve river water quality, the Taipei County Government began in 2002 to build on-site treatment systems on usable riverbanks, drawing out water drained by tributaries and purifying it, thereby reducing the amount of pollutants entering the river system and creating an ecological corridor along the riverbanks.

Through careful assessment of pollution causes, ecological conditions, water quality improvement benefits and river base flow factors, approximately 20 percent of the polluted water in Taipei County is treated by 10 purification plants using the gravel contact oxidation process and eight on-site treatment facilities

### Looking to the Future, Sustainable Co-Existence

The biodiversity goals for 2010 in six main categories are as follows: protecting the components of biodiversity, promoting sustainable utilization, identifying threats to biodiversity, maintaining biodiversity resources and services for the welfare of humans, protecting traditional knowledge, and applying innovation to ensure sufficient resources. In the future, the Forestry Bureau will continue to coordinate with every ministry and agency to promote biodiversity work and international cooperation, for a sustainable environment, society and economy, and to work to create global sustainable development by implementing Convention on Biodiversity strategic plans.

constructed at artificial wetlands, thereby achieving pollution eradication and environmental restoration goals.

### Chiang-Tsui gravel-contact oxidation purification plant - the best model of ecological restoration

Located upstream from the Wanban Bridge on the left bank of the Hsintien River in Banqiao City, Taipei County, is the Chiang-Tsui purification plant. The plant's facilities for water purification using the gravel contact oxidation process were set up and the Chiang-tsui riverside park was completed in February 2010, providing residents with a leisure area as well as a chance to see first-hand the results of water purification efforts. The facilities, built underground to maximize use of limited space, utilize biological treatment in the purification process. In addition, through ammonia nitrogen removal and biochemical oxygen demand (BOD) procedures, a pollution removal rate of more than 90 percent has been attained, thereby producing excellent on-site treatment results for the plant and helping it become an ecological restoration corridor.

### Considering local needs and establishing multipurpose leisure areas

The county government solicited the opinions and views of residents and community representatives in the area, enhancing the multifunctionalism of engineering projects and the special characteristics of riverside scenic spots to be in line with the people's expectations. In addition, meetings were held several times, and the needs of local residents and the county government's overall riverside "fitness living circle" concept were taken



into account, and through the creation of parks with wetland ecological observation areas, outdoor cafes, natural pebble creek ecological areas, park bicycle paths, remote control vehicle competition areas, food and drink areas, and children's and exercise facilities areas, replacing what were originally large tracts of meadowlands with lively, multifunctional leisure areas, the different needs of citizens were satisfied.

### **Using environmentally friendly materials and promoting the concept of sustainable operations**

In consideration of the fact that the Chiang-Tsui purification plant's operations have cut costs in wastewater treatment to roughly NT\$1.5 per metric ton, the countercirculatory sludging mechanism that does not require the replacement of filters or the addition of drug substances has been utilized. The Chiang-Tsui purification plant facilities' software and hardware can not only achieve wastewater treatment results but also establish as a model for the Danshui River comprehensive on-site treatment system.

Since the plant began operations in February 1992, representatives of many domestic and foreign government agencies, social organizations and academic units have visited the plant, and user rates

and citizen participation rates of multifunctional facilities have both been high. Planning is currently underway for the establishment of student tour guide units. In the future, to promote the concepts of environmental protection and ecological sustainable development, the purification plant's principles, results and ecological conservation role will be introduced to the public and every kind of social organization, in order to bring into full play the engineering project's social and information-sharing and other sustainability objectives.

### **Dedication to raising quality and recreating a completely new landscape**

In order to raise overall quality of life and establish international-standard riverside scenic spots, county government teams have been dedicated to rectifying areas along riverbanks in the basin. The completion of the Chiang-tsui park marks an important milestone in the Taipei County Government's environmental and ecological restoration efforts and sustainable operations ahead of the county's upgrade to the status of special municipality, by creating a pleasant sustainable environment where nature and people coexist in harmony and helping to restore the Danshui River's original natural charm and vitality.



● Chiang Tsui Riverside park

# Chapter 5 Words from Our Members



## The Need for a Future of Balanced Development

By council member Eddy Y. K. Lin, Honorary President of the Society of Wilderness

The speed of change in technology, industry, culture and society in the 20th century was unprecedented in human history. As we enter the new century, the impact of environmental changes brought about by rapid development over the preceding hundred years continue to test the ability of every country around the world to respond to environmental threats at the local, regional and global level. Regardless of whether or not humans wish to recognize the existence of these issues that have had varying degrees of impact on the world's environment, the issues cannot be avoided and must be faced by all of us together. At the U.N. Earth Summits in 1992 and 2002, the urgent need for global environmental sustainability clearly received the attention of people all around the globe. This growing trend of the need for global sustainability will undoubtedly have a major influence on every type of human activity. Science and technology must be employed to respond to and find effective solutions to the unavoidable environmental challenges that we face. However, people's actions, values and attitudes toward the environment, which represent the root of the issue, must correspondingly be adjusted and improved.

Taiwan is located on the Pacific ring of fire and regularly experiences seismic activity, and has been struck by a series of natural disasters in recent years stemming from such factors as the island's fragile terrain and global climate change. As such, the government and people have begun to discuss the importance of sustainable development. However, according to my observations, "sustainable development" is a term that although may seem to be understood, really is not fully comprehended at the present stage. Thinking and methods that are not sustainable can still currently be seen in patches across society. From the government's response to the Typhoon Morakot disaster in August 2009 to its handling of the recent Suhua Highway collapse caused by Typhoon Megi, effective response strategies

with a global sustainable development vision have yet to be seen.

The Suhua Highway tragedy that led to more than a dozen deaths has stirred up heated debate over whether to reconstruct the highway or build alternative routes along eastern Taiwan's traffic artery. The people of Hualien do indeed need a safe road to return home, and this is their basic right. However, does reconstructing the Suhua Highway represent providing them with such a safe road home? Because of eastern Taiwan's complex and fragile terrain, I do not believe that anyone could guarantee this. Nevertheless, the emphatic manner of local politicians has stifled room for rational discussion on the issue. In fact, from the standpoint of eastern Taiwan's long-term development, what the people of Hualien require is a more diversified network of thoroughfares, and a forward-looking regional road system and development policy. Reconstruction of the Suhua Highway should not be put forward as the only option or seen as a panacea for spurring the development of Hualien and Taitung counties.

National sustainable development policy must balance the needs of society, the environment, and economic development, and must be accompanied by an effective implementation mechanism. Based on the principle of taking into account the needs of the present generation without harming the development potential of future generations, environmental sustainability should serve as the cornerstone of economic and social development. Taiwan is undoubtedly an island of high mountains and rushing rivers that is not suitable for excessive development, and constantly faces environmental issues that give rise to heated disputes. Every time an environmental disaster shakes the island, it is usually not long before it is ignored and forgotten, and drowned out by the calls of economic leaders promoting their own interests. The intrinsic value of the island's natural environment and wildlife perpetually takes a



back seat to the prospects of immediate profit. The Taiwan people seem unable to find a balance between economic development and nature conservation. With such a high wall separating the people from nature, every form of development invariably swallows up Formosa's natural environment.

What we really need is a future of balanced development. I believe the ultimate goal of economic development should not be just to achieve economic growth, but instead to raise the people's overall quality of life. After decades of ceaselessly pursuing economic development, Taiwan now faces a number of environmental challenges, including water pollution, air pollution, nuclear waste, soil erosion, waste treatment, and the imminent extinction of all sorts of plant and animal species. The Suhua Highway collapse brought tragedy to many families, while the rescue and relief effort incurred high costs and put many emergency

workers in danger. In areas surrounding highly developed industrial parks, residents face the hidden threat of chronic health problems resulting from exposure to environmental pollution. Innocent residents and their young children are forced to breathe polluted air and drink water that has been contaminated. We all have to seriously think about whether the process of development in our times has led to a turning point, or to a crisis.

The facts prove that wealth and the people's happiness index are by no means inevitably interrelated. We cannot gain benefit from sacrificing the environment, and on the contrary, doing so leaves a debt to our children and grandchildren and deprives future generations of their basic right to live in a high quality environment. We all must shoulder the responsibility and work together to create an ideal future of balanced development for which all people hope.



## Indigenous People's Role in Sustainable Development

By council member Chen Shih-Chang, Chairman of Formosan Society for Indigenous Sustainability

As typhoon Morakot slammed southern Taiwan, the so-called indigenous regions have suffered the most, especially in terms of huge loss of lives and properties within aboriginal communities and therein their traditional territories. The total loss from disaster has not yet been fully recovered, which is unprecedented in contemporary Taiwan.

Consequently, the huge loss might be attributed to the lack of a thorough plan on land conservation within the indigenous regions; in addition, the severe weather brought by global warming effect has made it worse and even more devastating than before. Apparently, this nightmare haunted by climate change has been widely upheld by the academic circle as one of the inevitable, significant factors that make huge impact on the process of reconstruction and development in the indigenous regions.

Furthermore, it is true in a sense that the indigenous regions do suffer a great deal from "natural disasters" above-mentioned; whereas, unintended devastating consequences, such as environmental change, land degradation, and so on, are no less alarming. They serve as the best evidence of "man-made catastrophes". There is no doubt that native vegetation has been severely exploited and deliberately over-cultivated, for large-scale plantation for centuries since the mainstream

society invaded the traditional territories that used to sustain the indigenous people in Taiwan.

According to the UN Environment and Human Security Organization, it is estimated that the total number of "climate refugees" will exceed 2 billion in 2050, who are forced to abandon their native lands, migrate elsewhere, and never come back again under the huge impact of climate change. Therefore, the immigrants reluctant to leave their native lands are subject to all kinds of adaptation issues when they finally seek a refuge somewhere: they have to deal with problems, not only struggling for survival and searching for a new habitat, but also combating the cultural identity crisis they encounter in a totally strange, new environment. As a whole, the issue of global climate change has made tremendous impact on all sorts of population and communities, especially those who, such as indigenous peoples, contribute the least to it ironically have to suffer the worst effect. It is lamentable to say that in spite of the deep-rooted bond the indigenous peoples share with their native territories, their traditional ways of life, including culture, knowledge, and wisdom, have not yet been fully recognized, nor appreciated by modern science in Taiwan.

In the international communities, it has been getting wider acceptance that the indigenous people are

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## Words from Our Members

entitled of their natural rights on lands and resources, their custom laws should be validated, and the value of their traditional culture is not going to be underestimated any longer, since the Rio Declaration on Environment and Development declared in 1992; besides, the vital role the indigenous people should play regarding the application of their traditional knowledge on the mission of sustainable development was also upheld and delineated in the Agenda 21. As it is quoted from the PRINCIPLE 22, Rio Declaration on Environment and Development, 1992, "Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development." Ever since the Stockholm Declaration announced by UN in 1972 till the Kyoto Protocol validated by UNFCCC in 2005, the issue of sustainable development and human right protection has been advocated as the highest vision in the international communities; states, governments, and local communities have been united as a collective force to put environmental action measurements into effect, by taking responsibilities for improving the common wealth of the present and future generations.

The 2007~2010 sessions submitted by the Secretariat of

the Permanent Forum on Indigenous Issues, Department of Economic and Social Affairs, UN, has focused on the issue of Climate Change, Bio-cultural Diversity and Livelihoods: the Stewardship Role of Indigenous Peoples and New Challenges. Some of the main themes go as the following statements:

(1) As the caretaker of bio-diversity and cultural diversity, the indigenous people may well be able to make good use of their traditional knowledge to contribute to legislation and implementation of appropriate and sustainable adaptive measurements; in addition, they are able to help pave the path to a low-carbon and sustainable community.

(2) For thousands of years, the indigenous people have been working on adapting to climate change, but unprecedentedly large scale, fast evolving speed, and the various influences brought by the current climate change all post a serious challenge to the adaptability of the indigenous people.

(3) Scientists, policy-makers, and the international communities should work as a whole to negotiate with the indigenous people worldwide, conduct research based on their traditional knowledge and experiences. Efforts particularly need to be made to protect, preserve, and promote traditional ways natural resource management, environmental technology, bio-diversity, and low energy-consuming lifestyles, such as pasturage, rotating agriculture, temporary farming; hunting, collecting, and trapping wild game; distant water and coastal fishing; and highland agriculture.

In conclusion, indigenous communities should not be absent in land conservation and sustainable development in Taiwan above-mentioned but actively take part with the entire society.



### Pursuing harmonious coexistence between humans and nature

by council member Julia Chou, President of Conservation Mothers Foundation

Through the establishment of a national level, cross-departmental platform connecting the government and the people -- namely the National Council for Sustainable Development, comprehensive sustainable development work has been promoted. And in comparison with other countries, the government has already developed a relatively deeper grasp of the importance of sustainable development.

### **NCSD: Integrating the views of all sectors via the communication platform to bring about coordination**

In the more than 10 years since its establishment, the NCSD has served as a platform for lateral communication and coordination among the various government agencies and departments and has allowed for the different voices of citizens' groups from all sectors of



society to be expressed and heard. This has been the most commendable characteristic of the council. Prior to the NSCD's formation, there existed no common platform for discussing domestic environmental issues involving the power and responsibilities of various departments and for coordinating and integrating the varied opinions on a particular issue. The establishment of the NSCD addressed this deficiency, with the council serving the role of providing an interactive platform for multifaceted communication.

Article 1 of the draft "Sustainable Development Basic Act" states, "this act has been specifically established to help bring about a peaceful, comfortable and safe environment, a vigorous and open economy, and a society of fairness and well-being for the present and future generations of citizens to enjoy, and to ensure the long-term development of the country." The wording clearly shows that the aim of pursuing sustainable development is to ensure prosperity for the current and future generations. Furthermore, the decades of time that I have dedicated to environmental work, and the essence and spirit of Conservation Mothers Foundation's establishment, are in line with the principles of sustainable development.

However, observation of development trends in each country around the globe reveals that at present, the pursuit of economic development seems to be drowning out environmental protection calls. People are seeking short-term economic benefits while ignoring the major environmental sacrifice of such pursuits. In Taiwan recently, there have been many controversial development cases, including Kuokuang Petrochemical Technology Co.'s plans to develop the island's eighth naphtha cracker plant on coastal wetlands in central Taiwan and the Central Taiwan Science Park's third stage development plan, that are all worthy of discussion. Always focusing on economic development and placing excessive importance on GDP numbers is by no means a good thing in terms of the country's mid- and long-term development and goes against the concept of "bringing about a society of fairness and well-being for future generations" contained within the spirit of sustainable development.

Fortunately, there are now open platforms such as the NSDC through which citizens' groups can directly put forward suggestions to the government, and where such opinions and suggestions can be collected, and exchanges and discussions can be carried out on issues in which economic and environmental interests clash in order to arrive at the best possible solution that caters to the needs of both sides. Here, it is hoped that the

government will listen to the views of citizens' organizations and incorporate them into its policies and implementation plans, and not just be satisfied with some superficial achievements.

### **Listening to the voice of the people and correspondingly formulating and implementing policies**

In promoting local sustainable development work, it is hoped that the central government, instead of issuing top-down orders, can sufficiently delegate powers to provide cities and counties with more freedom to implement policies that are appropriate according to the circumstances on the ground and in line with the specific needs of the local residents. Doing so would represent real implementation of sustainable development. Let us reach deeper into the grassroots level and listen to the desires of the local people. For a long time in cultivation in southern Taiwan, the government promoted many policies that while beginning with good intentions, had the opposite effect of what was originally intended. In some cases, the results were worse than if the government had not stepped in at all. For example, in one tree planting activity in the past, in order to meet official targets, a lush forested area was uprooted to make room for the planting of saplings that were not ideally suited for the local climate and soil. How could this not be considered as going against the underlying aim of tree planting activities?

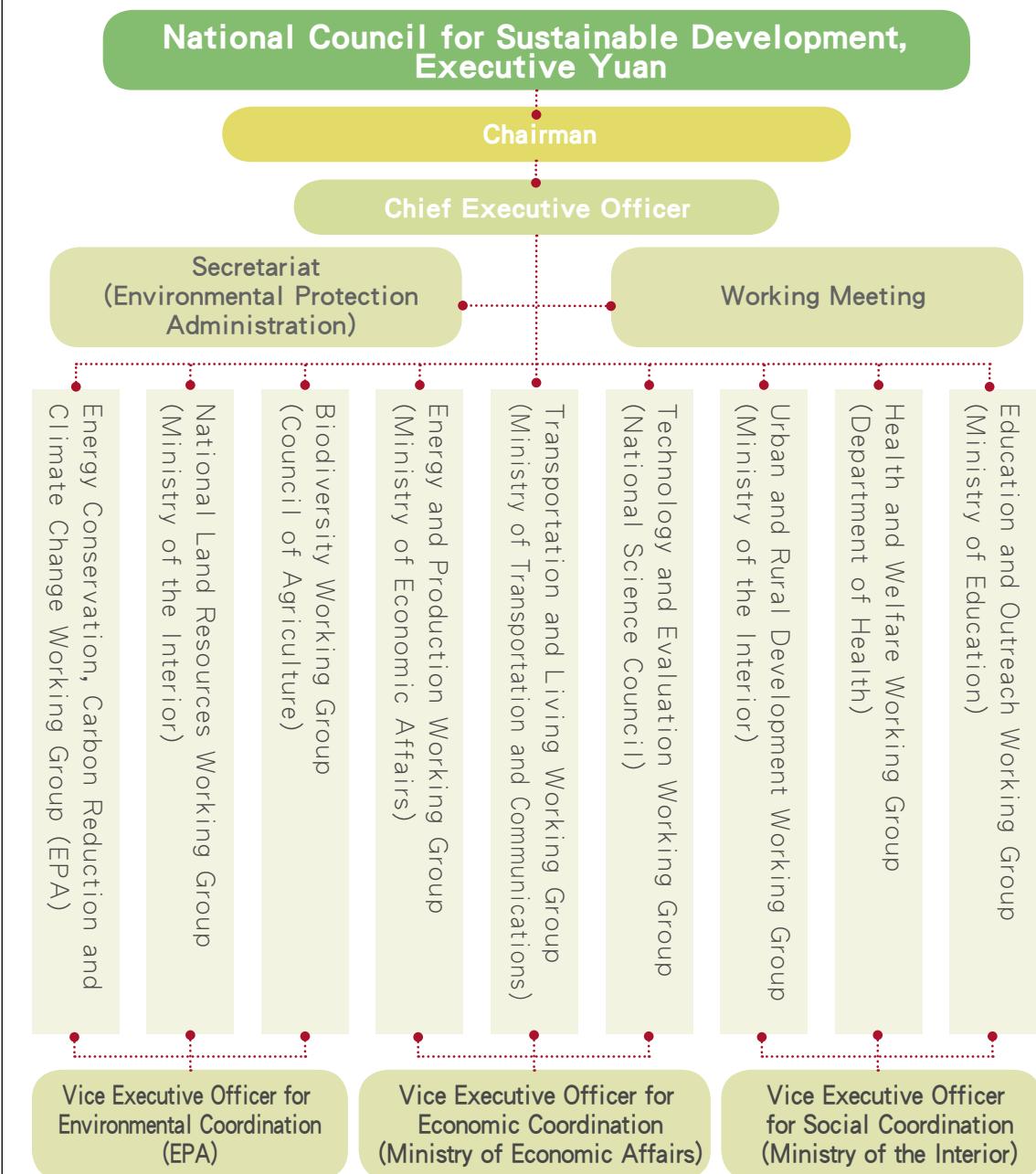
Serving as a committee member over these past two years, I have had the good fortune of being able to participate in the promotion of the important work of sustainable development. I will continue to serve in this positive role by accurately informing the public about related news and developments in this land and passing on the reactions to relevant departments and agencies for their understanding. Although contradictory trends in environmental protection and economic issues continue to appear, we generally believe that if the government can view environmental protection with even greater importance, this will guide healthy economic development. On the other hand, if it slants too heavily toward economic development, the environment will bear even more unanticipated consequences and greater costs in the future.

Pursuing harmonious coexistence between people and nature is the admirable intention of promoting sustainable development, is the unchanging desire of human beings, and is ultimately the most beautiful state of mind.

# Chapter 6 Appendix

## Appendix I

### Organizational Structure of NCSD



## Appendix II

# The Members of NCSD

### Government official members

Name	Position Organization
Wu Den-yih	Premier, Executive Yuan
Christina Y. Liu	Minister of Council for Economic Planning and Development, Executive Yuan
Jiang Yi-huah	Minister, Ministry of the Interior
Wu Ching-ji	Minister, Ministry of Education
Shih Yen-Shiang	Minister, Ministry of Economic Affairs
Mao Chi-Kuo	Minister, Ministry of Transportation and Communications
Chen Wu-hsiung	Minister, Council of Agriculture
Lee Lou-chuang	Minister, National Science Council
Yang Chih-Liang	Minister, Department of Health
Stephen Shu-hung Shen	Minister, Environmental Protection Administration

### Expert and academic members

Name	Position Organization
Lee Ling-Ling	Professor, Graduate Institute of Ecology and Evolutionary Biology, College of Life Science, National Taiwan University
Shao Kwang-Tsao	Researcher, Research Center for Biodiversity, Academia Sinica
Chou Chia-Pei	Professor, Department of Civil Engineering, National Taiwan University

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## appendix

Name	Position Organization
Chen Yu-Hui	Professor, Department of Agricultural and Applied Economics, National Taiwan University
Chang Ssu-Li	Professor, Institute of Planning, National Taipei University
Chen Hongey	Professor, Department of Geosciences, National Taiwan University
Huang Chung-Huang	Professor, Department of Economics, National Tsing Hua University
Liao Huei-chu	Professor, Department of Economics, Tamkang University
Chiang Pen-Chi	Professor, Graduate Institute of Environmental Engineering, National Taiwan University
Feng Cheng-Min	Professor, Institute of Traffic and Transportation, National Chiao Tung University

## NGO representative members

Name	Position Organization
Yu Alice	President, Yu Chi-Chung Cultural and Educational Foundation
Lin Chun-Shin	Chairman, Archilife Research Foundation
Eddy Y. K. Lin	Honorary President, Society of Wilderness
Lin Yi-Hou	Director, Urban Regeneration R&D Foundation
Chou Julia	President, Conservation Mothers Foundation
Kung Romy	Director, Taiwan Responsible Care Association
Chen Shih-chang	Chairman, Formosan Society for Indigenous Sustainability
Liu Vicky	Director, Cycling Life-Style Foundation
Lo Shang-Lien	Director, Taiwan Environmental Management Association
Hsieh Chang-fu	Director, Biodiversity Association of Taiwan