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社區與環境治理 台灣地方永續發展的制度性能建構與政策網絡化(2/2) 研究成果報告(完整版)

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社區與環境治理—台灣地方永續發展的制度性能建構與政策網絡化

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摘要

鑑於各國政府在保育工作上的成效不彰，以社區為單位鼓勵民間自主的環境保護、資源管理以及生態保育工作，近年在聯合國所屬的國際組織大力推動下，已成國際趨勢。我國民主化之後，社會力漸強，加上新公共管理運動的風潮，也開始重視社區在治理上的角色。然而，社區到底能在我國追求永續發展的治理體系中，究竟發揮何種功能，卻一直缺乏有系統的研究。本計畫針對國內都市、鄉村以及原住民部落（棲蘭森林區旁的新光、鎮西堡與司馬庫斯以及蘭嶼達悟族人的部落等）等不同社區，作為研究的對象，有系統地探討社區在共享性資源維護的可能貢獻。本研究假設，當社區能夠發展出一種與外在社會利益結合的共生結構，就容易進一步從資源的取用者身份，轉化成資源的有效管理者。而生態旅遊的推廣，就有助於塑造這種互利的結構。本研究將透過深度訪談等質化研究的方式，輔以地理資訊系統的協助，整理這些社區成功或失敗的經驗，並將其轉化成有系統的知識，俾能改善我國地方永續發展的制度性能，並協助決策者建構有效的政策網絡。

壹、 前言

由下而上的社區在治理功能，不論在學界還是在實務界，所受到的重視可謂與日俱增，且為跨學科領域及全球性的。不管是已開發國家還是開發中國家，都能看到以社區為治理主軸的實驗性措施與制度的發展，在環保、社會福利、治安及教育等政策議題上被積極推動，其成效被仔細檢驗，潛力與挑戰被熱烈討論。在台灣，社區也是近年民主化與新公共管理兩大改革趨勢以及環境保護運動演變的輻奏點。台灣公共行政學的發展，長久以來一直比較受到管理學的影響，也許是因為過去經歷長期威權統治之故，研究重點比較強調行政效率及政策合理性的追求。隨著近二十年來的民主轉型與鞏固，治理工作研究開始強調如何走出「發展國」(developmental state)的框架，讓行政效率與較廣泛的政治制度（如選舉、分權制衡等）及民主規範（代表性、課責性、程序正義、分配正義及公民參與等）結合及妥協。讓社區積極參與政策的制訂與執行不但是民主化過程中已經發生的事實，也是值得鼓勵的趨勢。此外，盛行於英、美、澳、紐等國家的新管理主義或新公共管理運動，也在國內被大力推動與實踐。這個築基於志願合作與網絡建構的新治理模式，不但重視跨部門（政府、營利部門、以及第三部門）間的協力增效，也強調治者與被治者間合產（co-production）機制的發展，以及上下級政府機構間的伙伴關係（partnership）的建構，而使社區在治理任務上的潛能被發掘出來。這兩項政治與行政的發展，在「社區治理」的概念上聚焦，再加上近年的環境運動與管理，也演進到第三世代強調由下而上草根參與的「社基管理」(community-based management)，同樣把社區放在聚光燈之下，成為備受重視的治理單位。

(1) 民主化與社區

民主化的治理強調政策的回應性（responsiveness）、透過公民參與（civic participation）所強化的正當性（legitimacy）、以及透過賦權（empowerment）而得以確保的課責性（accountability）。台灣民主化過程中首先為政府治理工作帶來的衝擊就是此起彼落的社會運動與自力救濟的抗爭。雖然學者一般將1987年解除戒嚴視為台灣民主轉型的分水嶺，但早在1980年代初期，台灣的威權政體就採取了一連串的自由化的措施，對於此起彼落的消費者、環保、農民、榮民、學生等運動，採取比

較寬容的態度，並嘗試在政策上回應這些來自社會的訴求。雖然許多運動與抗爭發生在首都，以中央政府為訴求對象，更有非常多的草根性抗爭團體，以社區為主體，動員起來表達對於特定現象（如污染）及對象（廠商或政府）的不滿，為各級政府的施政帶來非常大的壓力。經過多年民主化過程中的制度建構（如公害糾紛處理法、空污法中的公民訴訟機制），已讓行政單位更重視來自基層的呼籲；也讓來自社區的草根性社會力量更有機會得到政府在政策上的回應。

與前述社會抗爭相關的發展是民主化之後對政策正當性的需求更甚，因此政府往往必須透過公民參與及政策過程中的程序正義來強化政策的正當性。在威權體制之下，政府施政的正當性主要來自法律的授權，對抗或違反法律的行動都受到譴責。但民主化之後，尤其在大眾傳播媒介發展成熟後，既有法律的正當性可能透過媒體悲慘故事的報導以及強烈抗爭民意的呈現，而受到質疑。因此，如何透過合理的參與管道，將抗爭行動內化至政策制訂的過程中，試圖化解衝突，或至少提供反對者充分表達的機會，才比較能避免政策執行時遭遇來自被治者的頑強抵抗。「社區」或村里之為基層組織，在動員各類政策倡議行動（advocacy action）、強化溝通與化解衝突，乃至於塑造共識等方面，實據有非常重要的樞紐地位。

公民參與的另一個面向則是賦權：參與的目的是要影響政策的制訂與執行，如果政策制訂者不把權力適當地釋放給參與者，則參與並沒有意義。許多參與機制並沒有約束力，往往無法引起廣泛參與的興趣。有些機制（如環境影響評估中的公聽會）則有較大的影響力。在制度中嵌入公民較有影響力的參與機制即為民主規範性原則中的「權力附屬原則」（Principle of Subsidiarity, Shuman, 1998）：決策的權力應被等比例地下放給受決策影響最大的人，讓他們在某些程度上能夠有選擇自己偏好、決定自己命運的權利。這原則除了是一種規範性訴求，也往往是影響政策效果的重要因素：當決策權越接近被治者，其越有動機與能力把在地知識融入決策內容中，並找到結合個人利益與集體利益的可能，設計出適當的誘因機制，不但讓政策的可行性更高，決策的內容也更容易滿足更多被治者的需要，讓政策達到更高的總效益。由於社區常常是許多政策的標的與執行單位，把決策權下放給社區民眾在近年也是十分普遍的作法。

（2）新公共管理與社區

新公共管理的風潮也把社區視為非常重要的治理單元。新公共管理在原來的管理主義中加入經濟學的原則，企圖為特定的公共財貨的生產、公共服務之提供，或自然資源耗竭的悲劇，設計出最適當的治理結構。從古典經濟學的觀點，在市場可以處理的情境下，應有市場來處理；當市場發生失靈的情形，則國家獲得介入的正當性。而制度經濟學或新制度主義則主張，雖然層級結構（契約）或國家力量權威性的介入有時能夠降低不確定性，矯正市場失靈的情形，但這些矯正市場失靈的制度卻可能因為資訊不對稱及成員的機會主義等問題，導致國家或權威體制的失靈。因此，如何建構更精緻的治理網絡，納入多元的誘因結構——不僅僅依賴政府的強制力，更依賴志願性的交易關係，來矯正市場與國家的失靈。

緣此，網絡治理的概念因而受到重視。在特定的政策網絡中，參與治理者各有不同的參與動機，公部門的行動基礎可能集體（公共）利益或政治人物的選擇性誘因（selective incentives）；私部門的參與往往是因為有利可圖，追求誘人的物質性誘因（materialistic incentives）；而第三部門則可能為慈善性（philanthropic）或理想性誘因（purposive incentives）參與治理的集體行動。而社區則是上述各類的綜合體：一方面社區成員可能有某種共同利益值得成員以集體行動來追求，另一方面社區成員也可能分享共同的願景及理想而投入治理的行動；當然也無法避免個別成員可能有隱藏的自利動機，希望在治理行動中伺機謀求自身利益的極大化。而社區治理最特別的地方則是其治理者與被治理者的身份常常重合，而其特有的社群性誘因（solidary incentives）往往可以讓這樣的自治工作能夠奏效：社區之為常碰面、互動頻率甚高的初級團體，可能有因為親戚關係、風俗習慣、共同信仰等因素而有更深厚的社會連結，透過互惠、信賴等特有的社會關係，對其成員產生更大的制約，資訊能夠更有效地傳遞，因而在治理工作上有獨特的優勢，故導致近年公共行政學界與實務界對社區的重視。

（3）新環境治理趨勢下的社區

近年環境保護學界與實務界更毫不保留地強調社區在治理的核心地位。盱衡全世界環境保護政策的發展，可略分為三個階段：首先是 1970 至 1990 年代以國家強制力介入為特色的規範性政策階段，此一階段興起了許多意識型態色彩濃厚的新社會運動（如環保運動、消費者運動、女性運動等），而也克服了產業界的反對而制訂

了較嚴格的环境污染法規，嘗試處理市場失靈的所產生的外部效果。到了 1980 年代，各國回顧環境管理的成效與問題，開始反省政府失靈的問題的現象，並進而思考如何把市場的誘因機制引進環保法規之中，讓廠商自願投入污染減量的努力。到了 1990 年代，污染管制已有了初步的成效，棕色議題（Brown Agenda）獲得有效處理，許多先進國家開始把焦點放在綠色議題（Green Agenda）之上，轉而注意生物多樣性的維護、保育、資源永續利用等更複雜的問題。面對這些問題，強而有力的行政手腕似乎缺乏明顯的著力點。反之，要處理這類綜觀的（holistic）、集體的、富有科技專業意涵的治理任務，細緻的、充分結合行動者利益與意圖的網絡治理遂成主流（Burgess, Clark, and Harrison, 2000; Chatterton and Style, 2001）。社區，在此被界定為一個特定空間小型社會單位，具備同質性甚高的社會結構，成員間存在共同的利益以及被共同認可的規範（Agrawal and Gibson, 2001），遂日益受到重視。這可以從美國 1994 所成立的新單位—永續生態體系與社區辦公室（Office of Sustainable Ecosystems and Communities）—以提供社區相關的訓練及行政支援，並積極倡議社區環保行動方案（Community-Based Environmental Protection initiative）可窺一斑（Colvin, 2002）。

以社區為基礎的環保或保育行動有理論上的優勢。其為治理者與被治者的介面，且於其間治理者與被治者身份往往重合，降低使用者與管理者間資訊不對稱以及利益衝突的情形，且其最接近治理的標的物（生態體系），治理標的物的永續利用往往與其成員的利益有密切關連，因此比較容易建立起特有的誘因結構以進行有效的管理。因此，當保育或生態維護成為環保的新焦點，社區在這方面的獨特地位遂成為各方所重視的治理單元。因此 1990 年代後的環境政策新紀元堪稱是以建構「永續社區」（Sustainable Community）為主軸（Mazmanian and Kraft, 1999）的草根性參與治理（Mason, 2000；Weber, 2000）。

這類強調以草根行動來處理生態問題的新思維，可以「二十一世紀地方議程」（Local Agenda 21, Lafferty and Eckerberg, 1998）的國際串連為代表。這個環境治理新典範強調全球環境問題的在地行動，認為有效的環境治理必須透過開放而具有彈性的架構進行決策，以讓多元利益能被納入考量，並主張利益涉入者間的對話與資訊分享，並跨部門的聯合行動來執行環境治理的具體方案（Barrett and Usui, 2002: 51）。為落實這些原則，相關政策必須掌握人類社會（人口特色、社會網絡、文化、

經濟活動、乃至於制度與權力結構等）和自然生態的互動關係。而社區則是瞭解這種人文與自然互動關係的最適情境（Bridger and Luloff, 1999）。這種強調「人在自然中」（humans-in-nature）的觀點迥異於以往「以人為中心的」（anthropocentric）生態觀，認為社會和自然體系有密切的連結，恣意切割將導致政策偏差，以致妨礙自然資源的有效管理及生態的永續維護（Berkes and Folke, 1998）。

順著這種以特定地區為認知基礎（place-based）、強調人類與自然關係的理解架構觀察，則不難理解近年關於生態保育及自然資源維護的研究，不約而同地聚焦於社區及其住民和保育成效的關連。此間一個頗受重視的研究主題是原住民對於其所依賴的特定自然資源（常常是共享性資源）的維護。因為這些原住民在其生態體系中已以可持續性的方式生活數世代，因此必然已經發展出某些在地的智慧及有效的制度以與自然和諧共處。一方面這些智慧與制度不乏值得外地人效法之處，因此值得深入介紹；另一方面在資本主義及全球化的衝擊下，這些原住民社區不再能與世隔絕，其與自然和諧的關係也因為外地人的移入、被整合進更大的社會結構中、經濟型態的轉變、以及新價值觀的植入等因素，而產生劇烈的變動（Freitas, Kahn, and Rivas, 2004）。從這個觀點出發，這些原住民社區的人和制度如何面對這些挑戰，迅速適應席捲而來的外在變化，似為更值得深入探索的重要課題（Kelly and Steed, 2004）。

此外，社區在環境保護受到重視的另一個原因是環境正義議題的興起。近年累積的研究多證實，少數族裔以及貧窮的社區，在數十年來決策單位遵循「最少阻力」的選址原則下，承受過多的污染性設施，擔負過大的環境風險，甚至導致嚴重的健康危害。與此同時，隨著環境權概念的普及，抗議這類環境負荷分配不公的抗爭活動也風起雲湧，形成學界所謂的「後院環境運動」（Backyard Environmentalism, Sabel, Fung and Karkkainen, 2000）。這類以環境正義為主軸的新興社會運動，結合以拒絕環境公害威脅為主要訴求的「鄰避症候群」（Not-in-My-Backyard, NIMBY Syndrome），成為普遍存在於各國，手段最激烈、也最難以化解的環境抗爭。而這些抗爭集結都是以社區為主要動員單位，顯示社區在此間所居之關鍵性地位。而社區掌握豐富的在地知識與資訊，也獨具提出建設性衝突解決方案的能力，在化解對立、提升環境正義等目標的追求，扮演著無可取代的角色。

貳、 研究目的

本研究的目的是在於探究社區在台灣的環境治理體系中的地位，並透過案例分析，瞭解目前運作層面的挑戰，進而為制度性能之建構(institutional capacity building)與政策網絡化(policy networking)，提供實務上的興革建議。就理論而言，民主化與新管理主義的行政改革應會讓社區在公共事務的治理上扮演更活躍的角色。而就實際操作面而言，我國的社區政策在各政府單位的蓄意推動（如環保署有環保社區表揚、文建會的社區總體營造、農委會的富麗農/漁村、原住民委員會健康社區、觀光局的『美麗台灣』社區競賽等）、私人企業的贊助（如福特汽車的保育及環保獎），以及無數志願性團體的努力（如荒野協會、藍色東港溪協會等），已讓台灣許多社區在環保成就上有令人驚豔的表現。然而，如何將這些成功的經驗轉化成能夠通盤適用的制度，則需要有系統地蒐集資料，分析其成功的因素，並透過理論的詮釋，讓這些精彩的故事變成可以傳承的知識。以往雖不乏有心人士把社區發展成功的案例編輯成精美的專輯，成為可貴的紀錄，但在結合理論與案例以有效累積學界對社區與環境治理關係的認識上，則略顯不足。為彌補此一缺憾，本研究挑選若干案例，討論其理論意涵，並嘗試以較嚴密的實證研究方法，討論其成功發展的結構性與契合性因素，永續發展的挑戰與侷限，以及環境治理上的意義，希望能夠達到拋磚引玉的效果，吸引學界先進在這方面投入更多心力，累積更多有系統且富於理論意涵的案例研究。

參、 理論架構與相關文獻

從國際迅速累積的文獻中可以發展出一個簡單的命題：「要讓社區在環境治理中發揮功能，除了必須尊重社區的自主權，更重要的是要發展出一種社區與外在社會的利益共生結構，讓社區能在成功的環境治理中滿足自我發展的需求。」在能獲得重大社區集體利益的前提下，社區領導者比較能夠塑造吸引眾人追隨的願景，克服

集體行動的邏輯下的搭便車效應，進而透過該集體行動在環境治理中扮演重要的角色——例如，與更大的社會形成某種信託關係，接受社會的委託，代其管理自然資源或防範污染的發生。這種共生的利益結構可能是自然形成的，但更可能是人為的，由具有透過企業家精神的領導者創造或發現的。而近年發展此一利益共生結構最成功的策略則是生態旅遊（ecotourism, Campbell, 1999; Belsky, 1999）的提倡。

一般而言，越是基層的治理單位，越容易受到地方經濟發展的壓力，畢竟經濟條件直接影響個人及其家人的生存機會，是人性中最基本的需求。而社區之為最基層的治理單位，當然也受到這個法則的約束，因此要期待社區在環境治理上扮演重要角色，則必須在某種程度上先滿足其經濟發展的要求，讓環境問題與經濟問題能夠一併解決，此乃「永續（地方）發展」訴求吸引人之處。生態旅遊既然強調要讓生態資源成為吸引遊客的重點，因此對於這些資源就絕對有妥善保護的動機，且成功的旅遊事業不但可能挹注外來資源，解決地方貧窮落後的問題，也可能提升居民的榮譽感與自尊（Milne and Ateljevic, 2001）。而在原住民社區，對於保存特有文化傳統、生活模式、乃至於信仰價值等有特殊需求者，則可加上「異族觀光」（Ethnic Tourism, Oakes, 1993）元素，讓保存自然生態、傳承文化特色、以及改善經濟狀況三種目標同時達成。

若把分析層次從社區降到個人，則要討論的主題變成影響個人參與社區營造集體行動的因素為何。這雖然是個老生常談的問題，但對於社造的實踐者而言卻一直是非常核心的問題，仍需要累積更多更具學術理論依據的論述。根據Wilson (1976) 的分類，個人參與集體行動的誘因大致可分為物質性誘因（materialistic incentives）、理想性誘因（purposive incentive）、以及社群性誘因（solidary incentive）三種。物質性誘因乃指成員期待參與行動能夠獲得實質的利益，這可以從預期獲得的收入、補助等來估計。理想性誘因乃指成員期待參與行動能夠獲得意識型態上的滿足，這部分通常是比較冠冕堂皇的論述，或領導者提供的願景。社群性誘因乃指源於社會或人際關係的動機，成員參與時會期待所屬團體成員的肯定與讚賞（或反之，不合作則擔心受到懲罰）。緣此，一組簡單的命題可以被提出來檢證：當上述各項誘因強度增高時，社區營造集體行動的成功機率就會增加。然而，這些誘因對於參與者行動所

產生的推力，可能不是簡單的累積效果。誘因之間，可能有某些競爭或合作的關係。這些複雜的關係，卻一直缺乏更細緻的分析，值得深入探討。

肆、 研究方法

一、本計畫採用之研究方法與原因

本研究將以比較個案研究法進行。此處個案研究將採取接近人類學者常用之人種誌長期觀察法：除了朴子溪畔的社區外，不論是司馬庫斯的泰雅族或蘭嶼的達悟族部落，都有非常獨特的文化傳統，其對於社區、生態、保育、觀光乃至於社會關係等字彙，可能會有不同的認知或詮釋，精簡的深入訪談可能因文化差異而錯誤詮釋受訪者的意見。因此在作法上，除了平常蒐集這些族裔的文化資料外，也將在假期中透過較長時間滯留當地的方式，觀察社區成員互動的模式，學習其語言、參與其日常勞動及祭祀等活動，以期深入到其文化較基層的思維結構中，精準理解並他們眼中的世界與社會關係。當然，為能蒐集到有系統的資料，深入訪談也是必要的方法。而訪談的對象，則希望透過滾雪球的方式累積，訪談的方式也將以較隨性的方式進行，透過長期信任感的培養，引導受訪者提供具體而深入的資訊。訪談資料的整理將重視受訪者說法的交叉比對，以評估資料的可信度，並呈現社區成員間的共識與歧見。

二、預計可能遭遇之困難及解決途徑

因為本研究將針對少數個案進行比較，故無可否認的，它將在因果推論的強度上有重要的限制。因為所觀察的對象（observations）太少，故此類以少數個案分析（few-case studies）為主要設計的研究，應避免定位成因果理論的檢證性研究——畢竟在技術面它很難否定其他可能同時存在的因果關係（社會現象很少因單一因素而形成），也很難證明所提出的解釋因素對該個案有最關鍵性（deterministic）的影響，因此這類研究活動所面對的「因果推論的基本問題」（Fundamental Problem of Causal Inference）將更加難以克服。這是所有質化研究中，少數或單一案例研究所面臨的方法論上的共同問題（King, Keohan, and Verba, 1994）。

然而，同樣無可否認的，乃是此類質化研究能夠以細膩的文字敘述，以整體的觀點刻畫變數間的複雜而細緻的互動，闡明變數間包含因果及以外的各類關係。相對於量化研究強調過程的嚴謹卻失之機械化，質化研究比較有富於彈性並能避免研究流於虛無主義（Nihilism）的批評（Bernstein, 1976）。

為克服本研究先天體質上的困難，研究者一方面必須在論證方式上稍做調整：避免以嚴格的因果關係進行論述，而應強調本研究啟發性的價值，旨在「發現」可能成功的因素，而非「證明」或「否證」特定理論或模型的有效性。另一方面，為增強因果論證的強度，本研究亦致力於增加所觀察的案例及案例間變因的控制，俾能減少在論證時因為變數多於案例所造成的推論不足的相關問題。這樣的研究，若能吸引學界同儕援用並做類似案例的進一步比較分析，其將亦能有非常具體學術貢獻。

另一個技術性的困難，源於本研究擬採深度訪談來獲得實證性資料。這類訪談所面臨最大的問題，是實證資料的可信度。實證分析依賴深度訪談，但許多受訪者會因為私人因素（private agenda）而對事實真相有所保留，甚至刻意加以扭曲。尤其本研究的題材可能涉及特別高度敏感的議題——如核四公投等高度爭議性的問題，故此類疑慮可能特別明顯。訪問者事前縝密的資料搜集與分析，將有助於察覺有疑問的訪問內容。對於有疑問的受訪內容亦可透過不同受訪者間的交叉詢問來加以釐清，以獲得較接近真相的說法。因此類面訪技巧對經驗不足的助理而言，可能非一蹴可幾，故在初期計畫主持人應儘量親自進行訪問，以給予助理更多見習、實習的機會。

伍、 結果與討論

本研究的目的是探討一個簡單卻十分重要的命題：「要讓社區在環境治理中發揮功能，除了必須尊重社區的自主權，更重要的是要發展出一種社區與外在社會的**利益共生結構**，讓社區能在成功的環境治理中滿足自我發展的需求。」在發展這類「利益共生結構」的過程中，不但有外生（exogenous）制度的採用與引進，也有內生的正式與非正式制度的演化與發展。社區要能發揮保育的功能，往往必須在內、外生制度及正式、非正式制度間，達到某種均衡，以維持該制度群（institutional

Constellation) 的穩定運作。

因此，本研究的第一階段，是針對兩個原住民群體——泰雅族的司馬庫斯（新竹縣尖石鄉）與達悟族的蘭嶼（台東縣蘭嶼鄉），進行宏觀的比較研究，希望探討非正式的社會組織（宗教）在經歷重要轉變（從傳統宗教改宗為天主教或基督教）之後，是否會影響該群體的保育表現。更確切地說，原住民社會的制度群在某些部分遭受衝擊而開始改變，是否將引發一連串相關的變化，最後導致保育成果的變化，是本研究第一階段希望探討的主題。結果顯示，原住民社會的傳統可能在前一個均衡達成後，即在維護生態平衡，保護在地自然資源等方面，扮演重要角色。例如，達悟人在過去三百年之中，以各種禁忌限制族人捕捉迴游性魚類（飛魚）的數量，有效地達到飛魚永續利用的成果。這種現狀在基督教傳入、蘭嶼傳統社會對外開放，以及現代科技引進之後，產生急遽的變化，如禁忌傳統的破壞搭配機動船的引進後，近年飛魚的魚獲量業已銳減，顯示生態平衡已遭破壞，顯示當初的制度均衡不復存在，導致治理功能的喪失。

但泰雅族司馬庫斯的發展，則展現新制度均衡點的達成。泰雅族人因為新經濟模式及山地保護政策導致發展相對落後的不幸後果，近年則亟思以生態旅遊（ecotourism）及異族觀光（ethno-tourism）等發展模式，積極改善原住民的經濟低度發展現況。然而，資本主義市場經濟的引入，卻導致導致社區內人際關係的緊張以及生態環境的浩劫。在教會的帶領下，司馬庫斯的居民利用集體意識的傳統，發展出「共同經營」的獨特運作模式，成功地化解部落內的競爭，避免觀光活動造成生態破壞，似乎形成了一種新的制度均衡。

上述研究發現顯示社區可以成為環境治理的主角，不但是政策執行單位，也是地方永續發展政策的創意來源。而是否能夠透過集體行動所促成的制度的變革與新制度均衡點的達成，則是制度性能（institutional capacity）良窳的重要關鍵。

本研究的第二階段則是針對城市型與鄉村型的社區保育行動進行分析。鄉村型的保育行動，恰如原住民社區的保育努力，必須與經濟發展的因素掛勾。由於保育的標的物往往就是重要的經濟收入來源，攸關生計，因此除非保育的方案能夠一併

解決生計問題，否則侈言保育多為不切實際的想法。在嘉南地區的地下水資源保育的案例中，呈現這類共享資源悲劇的特性：當保育的標的與在地的主要生產方式息息相關，同時取用者的社區疆界非常不明確時，保育的工作非常不容易透過草根的力量來執行。而必須藉由層級較高的政府單位，作跨部會整合的努力，透過多元治理方案的推動，始能提供有效的誘因，讓資源使用者配合減少資源的取用量。然而，這類政府介入的政策，並不限於管制性的手段。對照之下，美國南加州的地下水保存方案，則是透過法院，進行對於地下水區（乃至於使用者社群）範圍的釐清，以及水權的重新界定，以即與之相關的市場機制，來提供使用者的誘因，管制水資源迅速浩劫的趨勢。

另外一個案例是關於山坡地保育的研究。一個遍植檳榔山地社區在地震之後面臨土石流威脅，在抗拒遷村的背景下，形成草根性的社區自然保育運動，村民砍除淺根性的檳榔樹，改植具水土保持功能的林木，並企圖透過生態旅遊的經營，作為主要營生的方式，改善當地經濟狀況。雖然這個社區享有相當高的知名度，也享有來自政府與社會各界龐大的捐助，但最後並沒有形成一個能夠永續經營的運作型態。保育的集體行動，原本是以理想性誘因而來募集眾人的支持，許多人出錢出力，為生態村的理想犧牲奉獻。當外界大量資源開始挹注，整個保育的努力就滲入了資源分配的元素。既是分配，就有競爭關係，原來同舟共濟追求共同目標的正和賽局（positive-sum game），就轉變成競相分食外來資源大餅的零和賽局（zero-sum game）。此時，一方面領導者的威信與公正性容易受到挑戰，一旦參與者覺得分配不公或是期待落空，就容易懈怠甚至退出集體行動；二方面原先公益取向的行動誘因，在外來資源的挹注補償之下，將受到嚴重侵蝕。習慣於獲得物質報償的行動者在失去物質報償之後，將不再能夠重新以公益性的誘因而加以動員，是謂誘因的排擠效果。此時，保育的集體行動就面臨瓦解。此一案例提供了非常重要的政策意涵，亦即，外界的資源挹注可能有揠苗助長的反效果。對於社區草根保育努力的政策性支持，應該著重於培植其永續經營發展的制度與能力，在投入財務方面的協助之前，必須先確定社區中資源公平分配的機制已然確立，否則外在資源一旦撤離，也將宣告社

區集體行動的終止。

第四個案例是都會型的草根保育行動。這類保育努力與鄉村型的保育對照之下，特色在於理想性格相對濃厚。都會社區的成員，多半有其他穩定的職業，不必依賴保育標的作為主要生計來源。此間固然也有物質相關的誘因，如都會中寸土寸金的空間利用可能也是決策的主要考量。但只要能夠與生計脫勾，就能夠有更寬廣的想像空間與創意的揮灑。緣此，都會的社區保育，往往是一種教育與協商的過程：保育的概念被引進後，若能獲得專業的協助，並透過某些基層人際網絡推廣保育的觀念，就很可能有令人驚豔的成就。此時，社區保育的集體行動比較依賴社群性誘因和理想性誘因的主導。理想性誘因可能從環保團體引進；社群性誘因，則靠地方菁英的經營。環保團體與草根菁英的結合當然非一蹴可幾，也有很多磨合上的困難，但從台北的富陽公園以及台南的巴克禮公園等案例來分析，兩者的關係雖然不算一拍即合，利益互補，但要找到合作的空間，也不算是緣木求魚。

除此之外，本研究還支柱許多研究生進行各類社區保育行動的研究。除了農村型的社區，也有漁村型的保育，如台北縣北海岸的卯澳社區；此外也研究社區保育運動的結盟，如林邊溪沿岸的幾個不同族裔（福佬、客家、原住民）社區之間的協同發展。另有社區和環保團體對抗，反對保育運動的有趣題材，如高雄洲仔濕地的保育抗爭等。而社區保育不能不論及在地的政治結構，故也有研究生以地方派系為主軸，探討農村社區發展的政治面因素。這些都寬廣的主題，企圖描繪社區保育的豐富面貌以及福雜的影響因素，有朝一日將被整理成比較完整的論述。

陸、 參考文獻

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柒、 計畫成果自評

本計畫的執行成果，就短期成就指標而言，不甚理想，但以長期的影響為評估準則時，也可謂成果豐碩。本計畫以兩年的經費共計執行了三個年度，預計出版三到四篇 SSCI 或 TSSCI 論文。其中，最早完成的英文論文，以「Religious Conversion and Indigenous Common-Pool Resource Governance: The Cases of Tao and Atayal in Taiwan」為題，討論原住民社區的保育工作，如何受到外在社會體系變遷的影響，並檢視哪些因素讓這些原住民部落能夠順利適應社會轉型，成功地保護其周遭的自然資源。因為期刊審查拖延之故，至今仍在審查過程中，手稿以及審查意見如附件一。第二篇論文，以地下水的取用者自我管理為主題，檢視我國嘉南地區的地下水超抽危機，並以南加州雷蒙集水區的成功自治為例，檢視在地資源自我管理的成功因素為何。本篇論文於 2006 年底發表於政治學報，全文如附件二。第三篇論文討論災後重建情境下的社區保育努力，以中部某個農村型的社區為例，探討由基層發起的保育努力遇到政府介入後的策略回應以及產生的悲劇性效果。本篇論文剛完成，正在某 TSSCI 期刊審查之中。第四篇論文則探討都市社區的保育努力，以台北的富陽公園及台南的巴克禮公園為例，檢視基層社區在保護都會微生態的努力上，和專業環保團體的共生與競爭關係。該論文正在撰寫之中，預計年底以前能夠完成，投稿至期刊。

雖然在期刊出版的成果發表上，本研究遭遇到一些延遲，需要更多一點時間讓論文刊出，但在整體上，本計畫卻透過指導研究生撰寫學位論文，累積了非常豐富的實證資料，針對社區資源保育行動的各個面向，進行廣泛且深入的探討，足以作為未來幾年學術出版的素材，詳如表一。這些研究半成品，將在近期內被加工整理成冊，會是一本兼具理論論述與實證研究的完整學術著作，成為本研究計畫期刊出版之外的輔助出版成果。

表一 計畫相關的碩士論文

- 李聯康，2008，都市中的保育行動—以富陽公園與巴克禮公園的社區參與為例（進行中）
- 林易萱，2008，私有地上的生態保育—以雙連埤的集體行動為例（進行中）
- 黃詩涵，2007，社區總體營造的集體行動永續性：橙花鄉明星社區的目標發展與政府介入的政策角色
- 管珮鈺，2006，濕地保育與社基主義之困境：台灣濕地保護聯盟之洲仔濕地的保育
- 蘇霈蓉，2005，山地社區在自然資源管理的角色—以新竹縣尖石鄉司馬庫斯、鎮西堡及新光部落為例
- 張詠羚，2005，非營利組織與社區發展—以台灣藍色東港溪保育協會倡導「林邊溪右岸盟」為例
- 劉如倫，2005，台灣地方派系與社區營造—以嘉義縣東石鄉船仔頭和永屯社區為例
- 劉俊麟，2005，社區自治與漁村永續發展：以卯澳社區為例

**Institutional Adaptation and Community-Based Conservation of Natural Resources:
The Cases of Tao and Atayal in Taiwan**

Many aboriginal peoples have been identified to be successful in preserving scarce local natural resources such as coastal fisheries, forests, and water systems by means of self-governing arrangements that effectively limit the rate of resource extraction and use (Kellert et al. 2000; Ostrom 2005). Some studies, however, contend that sustainable use in some indigenous communities might not necessarily be the result of sound conservation practices but merely a result of low demand relative to supply or poorly developed resource distribution networks (Hunn, 1982; Alvard, 1995). Although both scenarios are possible, a critical question is how indigenous communities may deal with increasing pressures on their local resource systems, no matter whether the pressures have emerged as a result of population and technological changes or economic and political changes, from within or outside the community (cf. Ross 1978).

As part of the overall trends of modernization and globalization, for example, many historically isolated indigenous communities have come into contact with the outside world and begun to undergo social, economic, and cultural transformations; their traditional arrangements for natural resource governance are being challenged, often

leading to an imbalance between supply and demand. As a result, local resources in these indigenous communities could be ruined within a relatively short period of time, manifesting what some refer to as the “real tragedy of the commons” (Anoliefo, Isikhemhen, and Ochije 2003; Monbiot 1993).

One often-suggested solution is the involvement of indigenous communities as partners in modern conservation efforts (Rangan and Lane 2001; Ross and Pickering 2002). This approach advocates the application of local knowledge and, in some cases, the revival of indigenous cultural practices that have historically proven successful (Colding and Folke 2001). Despite such an argument, the literature has devoted little attention to explaining the circumstances in which indigenous institutions can help, and if so how they can be adjusted, transformed, or rebuilt amidst rapid social changes such that they remain effective in natural resource governance.

In this paper, we explore how such institutional adaptation processes are possible by focusing on how traditional values and beliefs may contribute to nature conservation in indigenous communities. As indigenous values and beliefs are replaced by those from the outside, to what extent would traditional practices in nature conservation be affected? Can outside influences be combined with indigenous practices to support effective governing institutions for nature conservation? What are the potential challenges in these institutional adaptation processes? We examine these questions by examining the

evolution of two aboriginal communities in Taiwan.

In one case, the Tao people on Orchid Island had traditionally maintained communal rituals that governed how boats were built, fish were caught, and seafood was cooked and served. These rituals contributed to the maintenance of a sustainable stock in its coastal fishery. Yet in recent years, with increased outside influence and other social transformations, traditional values and norms have begun to lose their influence among the local population. As a result, the traditional rules governing the use of the coastal fishery have become ineffective. This, together with increasing consumer demands and extraction activities from the outside world, has led to fast depletion of the fish stock.

In the other case, an aboriginal Atayal tribal community in the mountainous area was initially faced with a similar challenge as indigenous practices began to lose their effectiveness as a tool for governing their nearby forests. This tribal community underwent key social transformations as the local economy became increasingly tied to the outside economy and Christianity began to displace traditional values and beliefs. Leaders in the Christian church in this community were able to blend Christian values with some indigenous beliefs and practices to develop a new cooperative arrangement for preserving a nearby forest.

Aboriginal Communities and Natural Resource Conservation

The anthropological literature on cultural materialism emphasizes how physical,

biological, and other material conditions affect social institutions and behaviors (Price, 1982). A central argument is that aboriginal peoples tend to develop social institutions, such as hunting and diet restriction norms, to help them survive in harsh physical and biological environments (Ross 1978). While this functionalist perspective helps explain the existence of specific social institutions related to resource use, it is not particularly helpful in explaining how social institutions evolve, especially when the changes are not associated with changes in the physical world. In this regard, the political-economic literature provides a more useful perspective as it understands institutional evolution as not just a result of changes in physical and biological systems but also strategic choices of and interactions among individual resource users, in the context of interlocking layers of institutional influences, various collective learning processes, and distributional conflicts among resource users (cf. Thelen 1999; Berkes and Turner, 2006). Institutions and processes for natural resource governance are intricately tied to such issues as economic development, property rights, cultural preservation, social justice, and democratic participation.

From a political-economic perspective, residents in rural communities are motivated to preserve their local resources only if they are able to overcome many obstacles, for example, by (1) resolving collective-action problems and distributional conflicts inherent in resource governance, (2) developing effective monitoring

arrangements to guard against free-riding behaviors, (3) developing solutions to their resource governance problems that are compatible with traditional social values and local socio-economic realities, and (4) gaining recognition from external authorities to have the rights to govern their local resources (Berkes 1999; Kellert et al. 2000; Ostrom 1990; 1995; Tang and Tang 2001). As these are difficult obstacles to overcome, not all indigenous communities are equally successful in preserving their local natural resources. Some indigenous tribes, for example, lack the social structures and cognitive models for sustainable use of natural resources (Smith 2001), and some have contributed to local resource depletion by acting as agents of the state apparatus (Dombrowski 2002).

Among the indigenous communities that are successful in conservation, most have developed elaborate institutional rules for defining resource boundaries, user rights, resource allocation rules, monitoring arrangements, conflict-resolution mechanisms, and more (Ostrom 2005). These institutional rules are supported not just by knowledge of the local environment, but also by deep-rooted social values and belief systems passed down through generations (Klooster 2000). In some aboriginal belief systems, natural resources are considered as gifts from gods, and deserve care and respect from humans. In some cases, routine social rituals may have evolved for other purposes, but have contributed to maintaining an effective resource conservation regime (Fowler 2003).

These institutional rules, values, and beliefs are often challenged when the

indigenous community becomes exposed to the outside world. These challenges may come in different forms. For example, when outsiders begin to arrive and make claims on the resource, traditional allocation rules may begin to lose their effectiveness in limiting the use of the resource (Tang and Tang 2001). Or, as the local economy becomes more integrated with the larger economy, local residents' reliance on the local resource may diminish, creating different incentives for resource use. Another key challenge concerns the erosion of indigenous belief systems that are supportive of nature conservation. Once these belief systems become ineffective in constraining social behaviors, traditional conservation regimes can be undermined easily.

A key question in nature conservation becomes how indigenous communities may meet these challenges by adjusting their institutional rules, values, and belief systems in support of effective resource governance. This question has become increasingly important as many international agencies and governments worldwide are seeking to devolve governing authority to the local level and to engage indigenous communities in developing or regenerating self-governing institutions for local natural resource governance (Ribot and Larson 2005; Natcher and Davis 2007). It is, however, uncertain if these indigenous communities can effectively shoulder such responsibilities, especially in a world in which most rural communities, no matter how remote, are inevitably connected to the outside world through various political, social, and economic linkages.

As argued by Agrawal and Gibson (1999), many usual assumptions about communities—well-defined territories, small size, stable and homogenous residents, shared identities and understandings—are no longer the reality in most local resource governance situations. Indeed, most indigenous communities, no matter how remote, are inevitably connected to the outside world through various political, social, and economic linkages. To be successful in conserving their local natural resources, residents in these communities have to adapt their community-based institutions to these new realities.

In the following two sections, we present the two cases—the Tao communities on Orchid Island and the Atayal community in Smangus—the former exemplifying on-going challenges to the resource governing system and the latter, innovative adaptation in such a transition. In conducting our research on the two cases, we have drawn on a rich anthropological literature accumulated since the beginning of the twentieth century (Yang 2005).¹ This literature provides detailed documentation about many of the social institutions as well as cultural beliefs and practices examined in this paper. In addition, one of the authors and several research assistants conducted field research on the island from 2004 to 2006. About two-dozen informants from the two communities were interviewed, some in person and some on the phone. Informants included tribal elites, ordinary

¹ The Tao and Atayal have been the most thoroughly investigated aboriginal tribes in Taiwan. For the Atayal, it has been the least obedient aboriginal tribe to Japanese colonial rule. The colonial government encouraged studies on this tribe in order to develop means for preventing rebellion. For the Tao, it is for a more scholarly reason. Its geographical isolation and primitive condition made it an ideal investigation site for Japanese anthropologists.

residents, and tourists in Smangus, and township-level officials and residents on Orchid Island.

The Tao People on Orchid Island: No Longer “Blessed” by the Evil Spirits

As a branch of the Malayo-Polynesian, the Tao tribe has lived a self-sufficient life on Orchid Island for about one thousand years (Wong 2001). The island is 45 km² in size and 88 km from Taiwan Island. Before its opening to outsiders in the 1970s, the island was largely isolated from the rest of the world because on the one hand, the island itself could supply everything its inhabitants needed for daily living, except for a few items such as pottery jars, gold, and silver (to make helmets) for ceremonial performance; on the other hand, ironically, the island was too poor to be coveted by outsiders (Wei and Liu 1962).²

A key natural resource for the Tao people was the migrating fish found in their coastal fishery. Most of them were “flying fish” (*Exocoetidae*, or “*Alibangbang*” in the native language), a general name applied to some twenty fish species in Taiwan and some forty species worldwide that can glide on the water surface. In spring, large numbers of flying fish ride on the Kuroshio Current northward. When the fish passed by the island, the Tao people would be waiting in teams, with several boats from the same community.

Flying fish are quite easy to catch. A convenient way was to light a torch at night, and

² The population of Tao had been quite stable at about 1,500 until the island was open to outsiders. This was probably due to the scarcity of natural resources. Recently, the population has grown drastically to about 3,500, although about 1,000 migrated to Taiwan Island (Tien 2002, 49).

many fish would jump into the boat. A fishnet could also be stretched between boats to trap the fish. One way or another, enough fish could be caught for immediate consumption as well as for later consumption through the entire season after they were preserved.

The Tao people were organized into six communities. Within each community, there were several cognate corporate groups, each consisting of siblings and close relatives from the same bilateral system. Production work associated with land property (such as agriculture, construction of irrigation facilities, and fishing activities) was mostly limited to cooperation among members from the same cognate system, while for other types of work, collaboration (such as house construction) could go across the boundaries of cognate lineages (Wong 2001). Nevertheless, there was no unitary authority or permanent chieftainship at the pan-tribe (island-wide), community, or corporate group level that could significantly affect the conduct of public life.

Many folk laws were in the form of social taboos that were supposed to be enforced by evil spirits (“*Anito*” in the local language) that could be everywhere and could cause terrible troubles to humans (Kuan 1989; Lee 1986). As such, everyone was well advised to do anything he or she could to avoid irritating these evil spirits. These taboos were interwoven with a wide array of other social practices, contributing to the maintenance of social order (Wei and Liu 1962). In the case of flying fish conservation, there were

complicated taboos on fishing activities, diet, and fish stock preservation.

To conduct fishing activities in the ocean with strong currents, the Tao needed strong boats; bigger boats with more oars and greater propelling power were safer than smaller boats. Thus there were issues regarding boat construction and crew recruitment.

Constructing a boat required precious wood materials that were in short supply on the island. There were traditional guidelines about what kinds of wood could be used for which parts of the boat (Chen 2004).³ Many ritual requirements must be met before the boat's virgin sail; and the ability to fulfill these requirements was usually determined by the builders' social status and wealth level. To operate the boat, the Tao needed to organize the crew, which involved many taboos about social relations. Although adopted for reasons that may not be directly related to conservation, these taboos put serious constraints on the ability of the Tao to conduct large-scale fishing activities that might endanger the sustainability of the fish stock.

When both the boats and the crews were ready, there were also complicated taboos on the actual fishing activities. There were a series of Flying Fish Ceremonies from February to October. The arrival of flying fish was considered the most important event for the Tao people. Right after the Fish-Attracting Ceremony, extensive taboos were

³ Many of these taboos are associated with indigenous knowledge. For example, the materials for the keel must be hard wood to prevent damage from percussions and scratches, while materials for the upper hull should be lighter and softer woods that can keep the boat in balance (Chen 2004, 164; Syaman-Rapongan 2004).

imposed. Specific rules governed the time for the boats to be put on the water, the specific fishing methods (by torch attraction, rod fishing, or net fishing) to be used, and the ban against catching other types of fish. Most of these rules were based on indigenous knowledge and wisdom about the local ecological system. For example, when the boats were out catching flying fish, no other individual fishing activities were allowed during the period. This rule enabled other fish species to restore their population size within about six months.

The most ecologically significant taboo related to the duration in which flying fish could be served as meals. Each year, the flying fish season ended with the Fish-Preservation Ceremony in June, and after that all flying fish could be dried and salted for future consumption. About three months later, however, the Tao people would conduct the Stop-Dieting-Flying Fish Ceremony and discard all unconsumed flying fish. It was a strongly-held belief that whoever served the flying fish as a meal after that ceremony would face immediate misfortune. Although this taboo might have originated from sanitation and health concerns, it had the effect of turning flying fish into a valueless object after a defined period, and creating an incentive structure favorable to the conservation of flying fish.

The authority of these taboos was challenged after Christianity was introduced to the island. Since the 1950s, some Christian missionaries were allowed access to the island,

and they were subsequently able to earn great respect from the islanders. In addition to bringing such materials as clothes and rice to the island, these missionaries were devoted to improving the welfare of the islanders, and played a key role in mediating disputes between natives and the police officers, soldiers, and bureaucrats dispatched from government agencies in Taiwan Island (Lin 2004). The missionaries have been quite successful in converting local people to Christianity. Presbyterianism is now the dominant religion on the island, covering more than 60 percent of the island population, with Catholicism covering the rest (Chien 2004).

Christianity did not replace the aboriginal belief system immediately. Earlier missionaries tried to educate local people to live a civilized life under the guidance of the Bible. Very soon they realized that traditional tribal practices could not be easily replaced in the short run because they were deeply rooted in many aspects of daily life. In response, they changed their conversion strategy by tolerating many traditional cultural values, and by integrating Christian teachings and rituals into indigenous tribal practices, hoping to change Tao customs and behaviors step by step (Chien 2004, 159-163). As more and more Tao people were converted to Christianity, the contradiction between Christianity and traditional taboos became more apparent: for example, when the Christian God holds supremacy over all supernatural spirits, then a conversion to Christianity will protect them from threats by the evil spirits. If so, why bother to follow the taboos that

actually imposed constraints and costs on their individual daily life!

In addition to the erosion of the taboo system, some other factors have triggered behavioral changes. One example was the introduction of motorboats to the island. As a goodwill gesture, the local government offered the islanders motorboats in an effort to improve their fishing efficiency. Motorboats obviously could run much faster and farther than the traditional hand-rowers. Yet the problem was that motorboats did not require a lengthy construction process, which in the past added credence to the traditional rituals and ceremonies; nor did the motorboat require a crew that had a long-term partnership based on intimate social relations. Although some islanders initially refused to use motorboats to avoid possible sanctions from the evil spirits, as time went by, more and more islanders began to appreciate their attractiveness as they did travel much faster and farther, especially when they faced the competition of the non-Tao surface gillnet fleets nearby.⁴

What finally made the Tao people embrace the new motorboats was that the Christian Church offered a whole new belief system in which one could be free forever from possible harassment by evil spirits. Among those who were most likely to convert to Christianity were the younger generations, who had been less socialized by the traditional belief system, were on the lower rank of the social hierarchy, were more constrained and bothered by traditional taboos, and had to shoulder the burden for making a living for the

⁴ Interview with a township officer in Lan Yu, July 24, 2006.

family.⁵ They can now ride on the motorboat that provides them with speed, agility, and expedience, and they can catch flying fish and trade the dried fish to tourists without any ritual constraints. As more and more motorboats appeared on the fishery, the amount of flying fish available began to diminish rapidly. According to one estimate, the amount of flying fish available to islanders has dropped more than 50 percent from less than a decade ago (Lai 2005). Obviously, Christianity *per se* did not bring about a “tragedy of the commons.” The resource depletion danger was brought on by increased fishing and roe collection by non-Tao fishers in the region as well as changes in the institutional foundations of local appropriation practices. It remains unclear how the Tao people may respond to this challenge.

The Atayal in Smangus: Guarding the Dark Forest by Reviving Communal Spirit

The story of the Atayal in Smangus is quite different from the Tao’s. The Atayal (or “Tayal”, meaning “genuine people” in the native language) tribal people are probably the earliest residents of Taiwan, famous for their bravery and agility (Tien 2001, 12).

The tribe had the second largest population among indigenous tribes in Taiwan, and its people were most broadly spread out in Taiwan’s mountainous areas (Allis-Nokan and Yu 2002). Since the Atayal people relied on open space for both millet fields and hunting

⁵ Since the island is quite small and lacks economic opportunities, most youngsters are longing for opportunities to develop their careers in the Taiwan main island. Taking part in church activities increases one’s chances to be selected for training in seminaries in Taiwan. Interview with a theological college student, Lan Yu, July 24, 2006.

grounds, which might be surrounded by hostile subgroups of Atayal and non-Atayal tribal groups, they had to manage effectively both internal collective-action problems as well as external threats.

Atayal tribal members were organized in cohesive groups so that they could share the chores of patrolling during peacetime and deploying coordinated strategies during hunting and wartime. They relied on a shared belief system as well as familial relations as the foundation for solidarity, called “*Gaga*” in the native language. In a *Gaga*, a communal spirit was held by a group of cognate folks who shared the same sacrificial rituals and ancestral lessons, operated as a functional social unit, and most importantly, were dedicated to sharing the same fate on personal safety as well as available resources. A concrete format of a *Gaga* was a tribal community (*Qalang* in native language), of about a hundred people, headed by an elected elder from the core families (Wong 1986, 573).

An integral part of a *Gaga* is the ancestral belief system. The Atayal belief system was a mixture of Animism and Ancestralism. The Atayal people believed that everything was governed by a specific kind of demon that should be respected. Yet also influential on their fate are the spirits of their dead ancestors. While their concepts about the supernatural world are somewhat similar to those of the Tao’s, the Atayal placed more emphasis on the good spirits, or what they called “*Utux*” in the native language, than on the evil spirits. For the Atayal people, troubles caused by the evil spirits could be solved

by witchcraft, while blessings by ancestral spirits reached out to the entire community. If they followed faithfully the teaching and advice passed from their ancestors, they would not only be guarded by the *Utux*, but would be able to live with their ancestors in paradise in their afterlife.

Gaga and *Utux* were two mutually supportive pillars of Atayal communal solidarity, which contributed to the Atayal's reputation as an unconquerable aboriginal tribe (Tien 2001, 252). Even under the Japanese colonial regime, many Atayal communities still guarded the forests (their hunting grounds) rigorously and successfully deterred commercial loggers from entering them. Nevertheless, the Atayal people did confront the same modernization challenges experienced by other aboriginal tribes. Christianity, together with the intrusion of other modern economic activities and government actions, changed their lives drastically. In the early twentieth century, Christianity was introduced to the Atayal people by a Japanese missionary (Tien 2001, 95). As more and more tribal members were converted to either Catholicism or Presbyterianism, not surprisingly, ancestral rules were gradually replaced by God's rules. *Utux* could no longer effectively regulate tribal members' behaviors and activities; the communal *Gaga* spirit, a precious feature of the Atayal communities, gradually faded away (Wong 1986, 575).

Similar to the Tao case, other factors went hand in hand with religious conversion to

change the behaviors of the aboriginal people. When entrance restrictions to the mountainous areas were lifted in the 1970s, many aboriginal people found themselves in very disadvantageous positions, because they did not have the necessary knowledge, skills, and resources to participate in complex economic exchanges in the modern economy. They were also subject to increasing numbers of government regulations that sought to prevent mudslides and to conserve water resources by limiting Atayal rights to use the forests. When the government released the alienable rights of the reserved lands back to the aborigines, many of them chose to sell their shares illegally to big financial conglomerates for cash, and these big conglomerates tended to proceed with development projects that further endangered the primitive forests (Allis-Nokan and Yu 2002, 177).⁶

In other cases, the aborigines used their cultural heritage and the thick forests nearby as a commercial asset by developing ethno-tourism or eco-tourism. These initiatives helped lift many aborigines above poverty. Yet in some of these initiatives, motel villas, both legal and illegal ones, mushroomed; water resources became depleted; and heavy tourist visits caused ecological damage.

Against these trends, however, there is an exception, the Smangus tribal community. The community is located in the deep mountain of Hsin-Chu County (in northern central Taiwan), near a primitive forest of Taiwan red cedar. Smangus as a tribal village was

⁶ Interview with Yuraw in Smangus, July 31, 2004.

first mentioned in Japanese documents about a hundred years ago. At that time, it had a population of around 110 people. The village did not have electricity supply until 1979, and there was no paved-road connecting it to the external world until 1995. Yet Christianity did reach the village by Presbyterian missionaries as early as 1948. All villagers were subsequently converted to Christianity within the next 20 years, and they also had to struggle to fit into the modern economy. Many villagers moved to urban areas for better job opportunities, while others stayed and tried to make a living by cultivating mushrooms for sale.

The rise of tourism provided a chance for the remaining villagers to escape from poverty. The villagers successfully packaged the nearby primitive forest as an attractive eco-tourism spot in the early 1990s. With paved roads available later, many nature lovers crowded the village and brought in essential incomes for the villagers. Tourists usually took a long trip to arrive at the village located at the outskirts of the forest. They would stay overnight at the village and walk into the forest the next morning. After hiking and back-packing in the forest, the tourists would return to the village for lodging, dining, buying aboriginal art work, and transportation service.

Tensions, however, emerged among villagers shortly after tourists rushed into the village. Because tourism related incomes mostly went to those villagers with lodging facilities, unequal opportunities among about 150 villagers (26 households) triggered

complaints. Intensified competition among lodging service providers was also detrimental to the original harmonious social relationships. More importantly, free market forces might actually destroy the scenic beauty that drew tourists to the area in the first place. Although the red cedar forest was famous for its pristine condition with a mystic aura, such a condition could easily be ruined by the mushrooming lodging facilities, many of which were illegal, ugly, and unsafe. Competition in attracting customers among facility owners also created an incentive for them to offer extra activities in the woods, which might further undermine its pristine condition. To manage these emerging threats, the villagers developed a collective strategy.

The strategy was to revive some of their traditional practices. Based on their lingering memory of the communal spirit, *Gaga*, and the practical rules specified by their ancestors, *Utux*, the villagers developed a cooperative model called “*Tnunan*” (or *Gungtong Jingying* in Mandarin). The system integrates the traditional *Gaga* spirit with modern corporate concepts. In this system, the hardware includes the lodging facilities, the restaurant, and the convenience store, all of which are collectively owned by the participants, who share all the chores of running the business according to direction by the chief. In return, the participating households are paid in accordance with the shares they hold (rather than the actual work they do), in addition to a fixed amount of allowance. Participants also enjoy a variety of social benefits such as health insurance, various

subsidies (for weddings, education, funerals, etc.), and access to emergency loans (Hornig and Lin 2004).

Since the cooperative's establishment in 2001, visitors now conveniently reserve rooms using the same telephone line, register at the same counter, and dine in the same restaurant. The income inequality among villagers has been drastically reduced, and the negative impact of eco-tourism on the pristine environment has been greatly reduced. Its achievement can be compared with its two neighboring villages, Cinsbu and Smagus, which are also engaged in a similar type of ethno-eco-tourism. While the latter two tribal communities suffered serious mudslides during the typhoon seasons (Su 2006), the same typhoons caused almost no damage in Smangus.⁷

Behind the visible achievement, however, the cooperative has faced various challenges. Some villagers, for example, had invested heavily in building lodging facilities, and needed income to repay the debts they carried. The community went through a lengthy negotiation process to develop a financial arrangement that satisfied all major concerns among participants. The Presbyterian Church appeared to have played an essential role in the negotiation process. One participant openly stated that he had made his commitment to the deal because of his faith in God. When the final agreement was reached, the leader said in the prayer that he apologized for all the past contentions and

⁷ Interview with Massay in Smangus, August 1, 2004.

promised to forget all past feuds so that they could all engage in the cooperative business whole-heartedly and with God's blessing (Horng and Lin 2004).

Another problem that might threaten the cooperative is the problem of potential shirking. In the Atayal tradition, ancestral admonition, *Utux*, was an effective check on temptations to shirk one's work obligation. To secure ancestral blessing, one must follow ancestral teaching that included working hard for the community and abiding by *Gaga*, the community spirit.⁸ In modern Smangus, ancestral religion has been replaced by Christianity. Nevertheless, the Church regarded these ancestral tenets as moral principles that guided the secular practices of the tribal folks and therefore chose not to oppose them. Consequently, it appears that the Church has been a positive force promoting cooperative behaviors among members in the cooperative.

Discussion and Conclusion

The cases of the Tao and Atayal illustrate the complicated process of institutional adaptations not only as a response to harsh material environments, as cultural materialism has argued (Price 1982; Ross 1978), but also as a response to the penetrating influence from the external world. Deep-rooted informal institutions such as taboos and customs—for example, bans on coastal fishing activities during the flying fishing period and eating flying fish after the end of the season in Tao's case—may have originated from a wide variety of concerns such as health and sanitation troubles associated with eating

⁸ Interviews with Yuraw and Masay in Smangus, August 1, 2004.

less well-preserved fish. Nevertheless, these taboos and customs may have unintended conservation effects, as shown in the case of Tao.

The issues here, however, are how these informal rules would evolve and what the implications for community-based natural conservation are. Aborigines in both cases were subsequently exposed to outside influences that diminished their adherence to traditional institutions and beliefs, eventually contributing to the breakdown of the local resource governance systems. Such changes may be triggered by other exogenous sources, such as the introduction of Christianity to the Tao people. In this case, as the Tao people began to lose their fear of punishment by the evil spirits, taboos associated with traditional conservation practices began to lose their restraining power on resource extraction activities.

Different sources of change may have synergetic effects. In the case of the Tao, the effects of newly introduced technology went hand in hand with the prevalence of Christianity. The introduction of motorboats, ironically as a goodwill gesture by the government, not only unleashed the resource extraction power of the local people, but also helped undermine the social cohesion associated with the building and operation of the traditional rowing boats. Initially, tribal taboos had prevented the Tao people from fully embracing the powerful fishing tool. Yet as more and more people were converted to Christianity and began to lose their fear of punishment by the evil spirits, motorboats

became more widely used to compete with external fishery activities and tribal taboos against over-fishing began to lose their restraining power. For the Atayal people, changes in the economy and government policies have led them either to sell their reserved lands to big financial conglomerates or to practice ethno-eco-tourism at considerable ecological costs. Both cases show that, if not properly designed, government policies meant to empower indigenous communities may actually create undesirable consequences.

Although the natural resource governance regimes in both the Tao and Atayal communities were under stress as a result of external influences, there have been differences in subsequent developments. The Atayal people in Smangus were able to transform their social and economic institutions and subsequently resumed their role as guardians of the nearby forests, while the Tao people on Orchid Island are still searching for ways to save the fast depleting coastal fishery.

Many contingent factors have contributed to the divergent developments in the two communities. For example, compared with the coastal fishery off Orchid Island, the local forest in Smangus has better defined physical boundaries, and it is much easier for the Atayal to control access to the forest by guarding the main entry points. The Tao people on Orchid Island face a more daunting challenge because the flying fish are migratory species; as such fishers from other parts of the region have access to them as

well. As argued by Ostrom (2005), a key condition for successful governance of a local common-pool resource is the presence of well-defined boundaries of the resource system and user group. Compared with the Tao people, the Atayal people have a better chance of maintaining sustainable use of their forest because they themselves receive most of the direct benefits from its preservation. The Tao people face a greater challenge because any unilateral reduction in fishing on their part may not necessarily help preserve the fish stock. Yet, despite this challenge, coastal fisheries are not doomed for depletion. While some aborigines are known to have depleted their local resources for short-term consumption (Aswani 1998), others have developed ingenious institutions to preserve their coastal fisheries (Schlager 1990).

Another possible explanation for the divergent performance is the difference in adaptability between the two tribes. From an evolutionary perspective, the Atayal in the mountainous areas were surrounded by other hostile peoples and had been adaptive to external challenges. In the past few hundred years, they had to learn to deal with other mountainous tribes, the Han people from the mainland, and the Japanese. They defended their territory aggressively and fought numerous bloody battles for their very survival. Their social institutions had also developed to fit their need for living together as a collective. This sense of collectivity, *Gaga* in the native language, proved important in later institutional developments as tribal members tended to have a strong sense of trust,

and to accept authoritative enforcement of collective rules.

In contrast, the Tao people's natural environment segregated them from external threats for long periods of time. Except for such natural disasters as typhoons or droughts, they only had to deal with their fellow villagers, many of whom are related to each other through kinship. Although the Tao people had developed some collective-action arrangements based on principles of reciprocity, they basically had a decentralized, individualistic society that would have a hard time to organize community-wide collective action. As external cultural challenges arrived, they confronted them more as individuals rather than as a group.

Another factor relates to the nature of their traditional values and beliefs. The Atayal's traditional belief consisted of more proactive elements. In it, ancestors' teaching, *Utux*, specified some moral principles for descendants to follow. Those who followed the teaching faithfully would be rewarded with good fortune and with chances to live with their ancestors in afterlife. Such a positive attitude of ancestral belief fits well with Christianity, to which most Atayal were converted. Although the missionaries might have preferred the aborigines to be thoroughly converted to Christianity, they appeared to be more tolerant of traditional beliefs that helped reinforce Christian moral values. Atayal priests, indeed, have drawn on Christian beliefs as a tool to reactivate the traditional *Gaga*. In contrast, the Tao people's taboo system involved negative sanctions

by evil spirits (*Anito*). Even though the system had played a positive role in nature conservation, it was discouraged by Church leaders as superstition.

Our cases illustrate the holistic nature of institutional adaptation. Social institutions that are effective in governing natural resources usually have evolved as part of the larger physical, social, and political environments. Values and beliefs, no matter how they originated, are integral parts of social institutions, and play a crucial role in supporting them. Changes in values and beliefs may create an institutional imbalance that upsets a delicate nature conservation regime. The two cases illustrate how such imbalances can develop as aboriginal communities are subject to increasing external influences.

In addition to resolving collective-action problems among themselves, community residents often have to negotiate and partner with outside stakeholders—private companies, government agencies, other resource user groups, occasional tourists, NGOs, and more—to develop long-term arrangements to conserve their local natural resources. As illustrated in the Smangus case, the Atayal community was able to preserve the local forest not by excluding all outsiders, but by turning it into an environmentally sound tourist attraction. Similarly, it is unlikely that the Tao can reverse the trend for the long-term depletion of the fish stock without being part of a larger region-wide solution.

By comparing two aboriginal communities with similar external challenges but quite different adaptive patterns, our study illustrates how aboriginal communities may

partner with the outside world in resource conservation. In particular, it shows the resilience of aboriginal institutions in the transformation process and how traditional and modern cultural elements can be combined in creative ways to develop new local resource governance regimes, as in the case of the Atayal community. While a two-case study offers insufficient materials to develop a theory that explains all possible scenarios, it illustrates patterns of interactions between human society and the environment, and the dynamics of institutional adaptation in the face of external pressures. The adaptive experiences described in this study illustrate the challenges as well as the potential of involving the aborigines as partners in natural resource conservation.

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Review Opinions

27-Jun-2008

Dear Dr Tang:

Your manuscript entitled "Institutional Adaptation and Community-Based Conservation of Natural Resources: The Cases of Tao and Atayal in Taiwan" which you resubmitted to *Society & Natural Resources*, has been reviewed. The reviewer comments are included at the bottom of this letter. The three reviewers who read the initial submission all requested major revisions. Unfortunately, only one of these reviewers was able to comment on the revised submission, and we had to enlist new reviewers. These reviewers noted several concerns about the revised paper and request that it undergo another major revision. Many of the issues I raised during the first round have not been adequately addressed, as you will see in my attached comments.

I invite you to respond to the reviewers' comments and revise your manuscript. Please be aware that this invitation is not a guarantee that the manuscript will ultimately be accepted. Please include a point-by-point discussion of how you have (or why you have not) responded to all of the reviewers' comments and suggestions as described below.

When revising your manuscript, please keep in mind our recommended length limit for the type of article you are submitting. These limits include text, references, tables, and figures (figures are valued at 300 words each). Please refer to the attached guidelines for more information.

To submit the revision, log into <http://mc.manuscriptcentral.com/usnr> and enter your Author Centre, where you will find your manuscript title listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number has been appended to denote a revision.

Please enter your responses to the comments made by the reviewers in the space provided. You can use this space to document any changes you made to the original manuscript. Please be as specific as possible in your response to the reviewers.

IMPORTANT: Your original files are available to you when you upload your revised manuscript. Please delete any redundant files before completing the submission.

Because we are trying to facilitate timely publication of manuscripts submitted to Society & Natural Resources, your revised manuscript should be uploaded within eight weeks, if possible. Please contact us if you need more time. If it is not possible for you to submit your revision in a reasonable amount of time, we may have to consider your paper as a new submission.

Once again, thank you for submitting your manuscript to Society & Natural Resources and I look forward to receiving your revision.

Sincerely,

Troy Hall

Editor in Chief, Society & Natural Resources snr@cahnrs.wsu.edu

Reviewer(s)' Comments to Author:

Reviewer: 1

Comments to the Author

The strong point of this paper is its descriptive comparison of Tao and Atayal communities within the context of the changing sociocultural environment of Taiwan. Its weak point is the author's attack on the "straw man" of cultural materialism. There is much more to cultural materialism than the author's view of it, which is seemingly based on secondary sources.

If he/she wants to take on cultural materialism, it is only fitting to use the original and complete source -- Marvin Harris' Cultural Materialism.

Frankly, I don't think this paper is the place to attack this research strategy. I would recommend that he or she should delete the slap at materialism, and begin the paper with the second paragraph on page two:

...In this paper we explore...and focus on the descriptive comparison of the two communities.

If the author favors an ideological focus (values and beliefs), that's ok, but don't try

to get the readers to accept this point of view with a weak and incorrect attack on cultural materialism. A nice tight conclusion can be used to emphasize the author's point of view. However, it's kind of ironic that in spite of the emphasis on values and beliefs in the theoretical part of the paper, there is much emphasis on ecological variables in the discussion -- access, mobile resources, well-defined boundaries, etc.

On balance, if presented as a mainly descriptive case study of two Taiwanese communities adapting to change, this could be a welcome contribution.

Reviewer: 2

Comments to the Author

Please see the following comments:

Comments to author(s)

Definitely it is a very interesting paper. Its present formation is difficult to understand as each section is very long. Please you consider following revisions to make it more interesting to the readers.

1. Structure of the paper:

You can revise it as follows:

Introduction, Background (Aboriginal communities and natural resource conservation), Study area and the ethnic communities, Study methods, Empirical findings, Discussion and Conclusion.

2. Page 6: Please consider following queries:

What were the purposes of field research? What kinds of information did the author(s) collect during field research and interview? How did the author(s) select the informants? How did the author(s) analyze the field data?

3. Page 7:

Long (pages 7-17), descriptive presentation of findings under two main headings is really difficult to understand for the readers. If the author(s) analyze the findings based on three research problems identified in page-2 by combining two studied communities, then it will be easier to grasp the answers to the research problems.

4. Page 9, line 51:

?Discard all unconsumed flying fish?- can you quantify it? It indicates that the Tao people catch large amount of flying fish than their consumption capacity. If so how the Stop-Dieting-Flying-Fish Ceremony can be an incentive favourable to the conservation of flying fish as you mentioned in line (5-6) of page 10?

4. Page 10, line 10:

Christianity was introduced to the island- how and why Christianity was introduced

and who supported to intrude into the island?

5. Page 12, lines 8-16:

Christianity did not bring about a ?tragedy of commons?. Did they do anything to conserve the fish resources in the region?

6. Page 17, lines (3-13):

?Its achievement can be compared with its two neighboring villages, Cinsbu and Smagus, which are also engaged in a similar type of ethno-eco-tourism. While the latter two tribal communities suffered serious mudslides during the typhoon seasons (Su 2006), the same typhoons caused almost no damage in Smangus.?

Who are the latter two tribes? Why there was no damage in Smagus?

7. Discussion and Conclusion

It is also long. Please separate it into Discussion and Conclusion sections, and make some sub-section under Discussion section.

Reviewer: 3

Comments to the Author

It looks better and has more holistic thinking on the theories and discussions for the second version of this article. Somehow, I find that there are several points need to be clarified, particularly for the case of the Tao:

1. Since the different scales of both cases, the author(s) might present their background by different approaches. As a case of the whole ethnic tribe of 6 different communities, it seems not enough to only mention that the researchers have reviewed a lot of relevant literature. The authors shall say something about the legitimacy to describe the cases of Tao by less than 2 dozens informants (township-level officer and residents). If it can address that some of the key informants are familiar with culture issues, especially the big boat and flying fish, and traditional social organizations, then it will look more solid for the source of information. And it is a good idea to mention the positions of the references it cites for the background of the Tao and the Atayal. Regarding to the case of the Smangus, the situation is different. I would suggest that it is better to address the characteristics of this unique community in the Atayal tribe.
2. The flying fish actually is listed on the Annual Report of Fishery by the Taiwan Government. This means that the declining stock of the flying fishes for the Tao to catch at the sea around the Orchid Island may mainly (or at least partially) caused by commercial fishery of non-Tao people. Furthermore, the Government actually

has the power and right to regulate the fishery activities according to the Fishery Act. Then, I am afraid that it is more complicated for the case of the flying fish.

3. One thing the author(s) also mention (note 5) that many young Tao persons left the Orchid Island to go to the main island (Taiwan) for better education, jobs, health care, social welfare, and so on. This may also raise a question that there may be less and less local fisherpersons and needs for the flying fishes. So while there are more motor boats than before, it may decrease for the total number of the fishing boats including the traditional and the motor ones.

4. From my personal viewpoint, the value and belief are only two key components of the traditional culture of big boat and flying fish for the Tao in the Orchid Island. So does the evil spirits to the Tao culture. While many Tao people don't believe the existence of the Evil Spirits, it doesn't mean that Tao people won't be appreciated with their culture (and/or traditions). The point is that though there is not the constraint of Evil Spirits any more, and the motor boats are more popular, I am still not sure if the Tao fisherpersons will catch the flying fishes as many as possible, or there is a ceiling of catch in their mind no matter what technology they adopt. It is necessary to have more detailed information and descriptions to response to this point.

5. As the Tao already has strong links with outside world, it might be some change for their foods, including flying fish. So it might be necessary to have some descriptions on the change of the position and the volume of consumption for the flying fish in the Tao communities of the Orchid Island.

Generally speaking, I recommend that the author(s) shall describe the situations and clarify the role of Evil Spirits. Maybe we shall be more appreciated with the culture of the Tao for it builds up some local resilience to avoid the mass extraction (or serious depletion, or even extinction) of flying fish by commercial fishery.

附錄二

本篇出處：	政治學報 40 民 95.06 頁 1-39
篇名：	取用者自治與水資源管理：比較我國嘉南地區與美國加州雷蒙集水區之地下水治理
作者：	湯京平(Tang, Ching-ping)；黃建勳(Huang, Chien-hsun)
----- 本摘要內容錄自原文-----	
中文摘要：	<p>在水資源開發日益困難之際，如何有效管理有限的水資源是全球必須共同面對的重要議題。水資源的分佈往往跨越地方疆界，因此依照以往的思維，若要進行有效的管理似乎必須依賴省或中央層級的直接干預。然而，這些層級的政府往往遠離基層的資源使用者，而難以制訂出具備有效誘因結構的管理機制。近年水資源管理的研究多將水視為一種共享資源（common-pool resources），鑑於這類資源的特性，有效的管理須結合國家與市場機制，以強化使用者網絡為主體的自我管理體系。相較於我國的中央集權管理體系，美國南加州雷蒙地下水集水區的水資源管理就呈現非常多樣而成功的風貌，足以開拓國人的政策視野。雖然臺灣的灌溉水利系統一向被國際學術界譽為非常成功的經驗，但是在地下水的管理方面卻乏善可陳，近年的超抽更造成了地層下陷的嚴重後果。造成此一治理成效上差異的因素很多，固然可能因為地下水的性質不同於地面灌溉水所致，但更可能是中央集權的治理體系與自治體系所創造出來的誘因結構迥異，所需的管理成本也相差甚鉅。本研究把討論延伸到國外的案例，檢視其地下水使用者自治的成功經驗，並透過比較，分析自治制度構成元素與影響其運作的主要因素為何。</p>
英文摘要：	<p>As the supply of fresh water becomes a global crisis, effective management of available water is considered as an essential and challenging task. Accumulated researches indicate that self-governance by the resource users could be the most efficient way to manage such common-pool resources as surface and groundwater. This study compares two groundwater management systems, in Taiwan and the United States of America, to analyze why such self-governance has evolved and how such self-governance system has actually worked to conserve groundwater.</p>

取用者自治與水資源管理：
比較我國嘉南地區與美國加州雷蒙集水區之地下水治理

Appropriator Self-Governance and Water Resource Conservation:
Comparing Groundwater Management in Raymond Basin of USA and Chia-nan Plain of
Taiwan

湯京平*、黃建勳**

* 國立中正大學政治學系教授，電子信箱：polcpt@ccu.edu.tw。地址：嘉義縣民雄鄉大學路 168 號國立中正大學政治學系。聯絡電話：(O)：05-2720411-32606。

** 國立中正大學政治學研究所碩士，電子信箱：polchh@alumni.ccu.edu.tw。

取用者自治與水資源管理： 比較我國嘉南地區與美國加州雷蒙集水區之地下水治理

摘要

在水資源開發日益困難之際，如何有效管理有限的水資源是全球必須共同面對的重要議題。水資源的分佈往往跨越地方疆界，因此依照以往的思維，若要進行有效的管理似乎必須依賴省或中央層級的直接干預。然而，這些層級的政府往往遠離基層的資源使用者，而難以制訂出具備有效誘因結構的管理機制。近年水資源管理的研究多將水視為一種共享資源（common-pool resources），鑑於這類資源的特性，有效的管理須結合國家與市場機制，以強化使用者網絡為主體的自我管理體系。相較於我國的中央集權管理體系，美國南加州雷蒙地下集水區的水資源管理就呈現非常多樣而成功的風貌，足以開拓國人的政策視野。雖然台灣的灌溉水利系統一向被國際學術界譽為非常成功的經驗，但是在地下水的管理方面卻乏善可陳，近年的超抽更造成了地層下陷的嚴重後果。造成此一治理成效上差異的因素很多，固然可能因為地下水的性質不同於地面灌溉水所致，但更可能是中央集權的治理體系與自治體系所創造出來的誘因結構迥異，所需的管理成本也相差甚鉅。本研究把討論延伸到國外的案例，檢視其地下水使用者自治的成功經驗，並透過比較，分析自治制度構成元素與影響其運作的主要因素為何。

關鍵詞：地下水、地下集水區、共享資源、市場機制、使用者自治制度

Local Self-Governance and Water Resource Conservation: Comparing Groundwater Management in Raymond Basin of USA and Chia-Nan Plain of Taiwan

Ching-Ping Tang^{*} & Chien-Hsun Huang^{**}

Abstract

As the supply of fresh water becomes a global crisis, effective management of available water is considered as an essential and challenging task. Accumulated researches indicate that self-governance by the resource users could be the most efficient way to manage such common-pool resources as surface and groundwater. This study compares two groundwater management systems, in Taiwan and the United States of America, to analyze why such self-governance has evolved and how such self-governance system has actually worked to conserve groundwater.

Keywords: groundwater, groundwater basin, common-pool resources, market mechanism, self-governance of appropriators

* Professor, Department of Political Science, National Chung Cheng University.

** Master, Department of Political Science, National Chung Cheng University.

壹、前言

水資源的管理已是全球共同面臨的嚴峻挑戰。許多研究不約而同地以「危機」(crisis)來表達問題的嚴重性。⁹ 一般而言，當一個國家平均每人每年只分配 1,000 立方公尺的水時，即可謂其面臨水資源匱乏的危機 (Shiva, 2002: 1)。在一九九八年，這樣的國家約有 28 個；但到了二〇二五年，則預期會倍增至 56 個 (de Villiers, 2000: 17-18)。此一惡化的趨勢，不但源於人口快速增加，也源於人們各項經濟活動導致水源涵養能力的破壞，例如有些地方種植大面積尤加利樹 (以作為紙漿原料) 而影響土壤的貯水能力；採礦或原始林地的開發也可能導致集水區的破壞；¹⁰ 而高耗水量的綠色革命植物 (Green Revolution Plants, 亦即經品種改良的高單位產量作物) 的推廣，往往取代了地方原生的抗旱作物，加上科技進步使得抽取地下水能力大增，而進一步導致水源的加速耗竭 (Shiva, 2002: 3-12)。諸如此類因素的累積，讓全球水源供應的危機日益明顯。

雨量充沛的台灣，其實並未豁免於上述危機的威脅。就供給面而言，雖然台灣位於多雨的亞熱帶，平均年降雨量高達 2,515 公釐，約為世界平均值 (973 公釐) 的 2.6 倍，但在地狹人稠的情況下，平均每人可分配到的雨水量只有 4,113 立方公尺，僅達世界的平均值 (33,975 立方公尺) 的七分之一。此外，由於台灣本島地形狹長而山脈為南北走向，山地多而平原少，因此大部份溪流有湍急狹短的特性，降雨後往往迅速轉變為河川逕流，豐富的雨水停留在陸地的時間不長，平均僅約不到的兩成 (平均約 178 億立方公尺) 被地面水利設施攔蓄利用，或滲入貯存於地層裡 (經濟部前水資會，1995: 39)，另高達八成的雨水會隨即流入台灣海峽或太平洋。再加上降雨的空間與時間分佈不均，¹¹ 以及驟雨比例過高等不利自然調節水資源儲量的特性，¹² 都使台灣需要功能非常強大的水利設施以蓄豐濟枯。但諸如水庫等設施之興建，卻往往必須付出海岸線後退、河川生態破壞、水庫位址之物種與文化滅絕等重大代價 (黃兆慧，2002: 42-43)，而迭遭抗爭，使得台灣水資源管理的問題更形複雜。

⁹ 如 Rosegrant, Cai, and Cline (2002) 以 *impending crisis* 來描述全球水資源的前景；稍早 Clarke (1993) 也以國際危機 (*International Crisis*) 來描述水的問題。

¹⁰ 例如，我國開挖北宜高速公路的雪山隧道挖斷了「萬年水脈」，流失了上億噸的「古地下水」，進而影響翡翠水庫的水源挹注量 (陳雅玲，2004)。

¹¹ 在空間分佈方面，由北向南遞減，山區大於沿海；在時間方面，豐水期 (5 月至 10 月) 與枯水期 (11 月至次年 4 月) 分隔明顯，且越往南差異比例越懸殊 (黃兆慧，2002: 28)。

¹² 例如，在颱風侵襲時，往往在極短的時間內降下極大的雨量，這些雨水可能超越自然或水利設施的儲存能力，因此對於水資源的穩定供應少有幫助。

雜而嚴峻。

就需求面而言，台灣的水資源利用雖仍以農業用水為大宗，至兩千年為止農業用水穩定平均佔整體水資源利用裡的七成左右（經濟部水利署，2004），¹³ 但因為人口迅速增加、生活水平提高，乃至於產業轉型，民生與工業用水的需求都快速增加。在農業用水無法大幅減少的情況下，整體水資源的需求也因此大增。雖然一直超抽地下水以敷所需，¹⁴ 但每逢過長的旱季，水資源的供應便出現缺口，而被迫採取區域性限水與輪流供水的緊急措施。依此供給與需求失衡的發展趨勢而言，水資源管理的重要性不言而喻。

近二十年來，台灣西南沿海地區因為地下水的超限利用，導致當地居民必須承擔水資源的迅速耗減的嚴重社會成本，在地面之下包括海水入侵地下淡水層造成地下水鹽化，在地面之上則有地下水位下降所導致的地層下陷，除都造成建築物的損害及潛在危機，並在雨季造成海水倒灌、積水不退及土壤鹽化等環境惡化的問題。然而，水資源耗竭的發生並非不能預先防範。根據目前國際學界已經累積豐碩的研究成果顯示，由資源使用者間自行協調制訂的自治規範來管理當地資源（如漁場、牧地、灌溉系統與地下水等），比起片面的政府介入管制或私有化，更能有效抑制過度攫取行為，更能促成保育的合作，以回復資源永續供應的機能。累積的案例顯示，這樣的資源管理自治制度有時成功，有時則否，顯示自治制度背後有值得深入探討的因素。本研究藉由兩個案例：台灣嘉南地區與美國南加州雷蒙集水區，試圖討論水資源自治制度形成並順利運作的因素，並檢討我國目前運作的制度性困境。

貳、水資源的使用者自我管理機制

一、水資源的特性

爲了要有效管理水資源，首先必須先釐清這項自然資源的特性，方能藉此發展出有效的管理制度與策略。水資源一般被視為一種「共享財貨」（common-pool resources），因此可能造成市場失靈的情形。所謂共享財貨，乃指具有高「耗損性」

¹³ 而南部縣市的農業用水比例更高，如在嘉義縣，地表水源主要供應灌溉農田稻作，同時有九成的地下水也是屬於農業用途，分別由農田灌溉與養殖漁業發展使用。

¹⁴ 根據經濟部前水利局的推估，從一九九一年至一九九六止，嘉義縣平均每年至少抽取 3.5 億立方公尺左右的地下水，而約有九成五是供應農業使用（包括灌溉、養殖與禽畜），其中沿海地區的養殖漁業則佔全縣地下水使用量的五成五以上（中興工程顧問公司，1998）。

(subtractability) 與低「排他性」(exclusion) 等重要特質 (Ostrom, Gardner, & Walker, 1994: 7-8) 之物質。¹⁵ 所謂耗損性，乃指當特定資源取用者使用該資源時，將減損他人使用的效用，如國防、治安、氣象預測等服務即為耗損性極低的財貨，因為當某成員享受該項服務時，並不會因此減損他人享用受該項服務品質、數量乃至於效用。反之，舉目所見的大部分實體財貨都具有耗損性，如上游佔用了灌溉水源，下游往往就無水可用。然而，依照效用減損的因素分析，這個概念還可細分為「敵對性」(rivalry) 與「壅塞性」(congestion) 兩種性質：敵對性指資源的實體被佔用後排除他人使用該財貨的可能，如被某甲取用的地下水便不可能同時被某乙取用；壅塞性則指財貨的實體數量或許不會減少，但隨著使用者增多，可能會造成既有使用者效用降低，如海水浴場的水不會因為遊客增多而減少，但遊客增加到某種程度即會減損遊客戲水的效用。¹⁶ 大多具有耗損性與擁擠性的財貨都需要藉由所有權制度的安排以及市場的價格機制進行交換，才會達到資源利用的社會最高效益，或趨近柏列圖最適境界 (Pareto Optimality)。

然而，一方面水資源乃一般民眾維生甚至許多社會成員營生之必須物質，不宜單純依賴市場的價格機制來決定供需分配；另一方面水資源的另一項非常重要的特質—低排他性—則讓市場機制殊難建立。所謂排他性乃指排除未曾付費者使用該資源的可行性。除了自來水能夠透過管線運送到用戶，並在用戶端以碼表計算個別用戶的取用量，因此可以比較完整地排除未曾付費的社會成員使用，多數地面水（如河川湖泊）要能夠被遠端的需求者取用，則往往需要投入相當龐大的資金建構並維護供水渠道，而由於開放性的水道比封閉的管線較便宜而被常被採用，故水道附近不曾付費或投入維護勞力的居民，卻可能輕易地取用流經之水資源。要防止這類搭便車的情形，則需像自來水一般以密閉的管線輸水，但如此一來建構與維護輸水設施的費用恐將大增，若忠實地在水價上反應成本，可能導致水價過高而使市場無法正常運作。此時，政府的介入貼補水利設施的興建與維護，似有其必要性。

地下水也同樣有管制用水的困難，但問題的性質略有不同。相較於地面水的貯蓄，地下水因為不會蒸發，不必花費大筆費用興建人工的貯藏與輸送設施（當然也就不必長期維護修理），且不必耗費土地利用的機會成本以及破壞生態的代價，因此

¹⁵ 除了「共享財貨」之外，兼具低耗損性與低排他性者被稱為公共財貨 (public goods)；兼具高耗損性與高排他性者被稱為私有財貨 (private goods)；而具低耗損性與高排他性者則被稱為俱樂部財貨 (club goods) 或付費財貨 (toll goods)。

¹⁶ 關於敵對性與擁擠性的討論，請見 Weimer and Vining (1989)。

是非常理想的儲存方式。然而，許多地方鑽井取用地下水的成本甚為低廉，讓地方居民有甚強的動機自行鑽井取水。除非政府投入龐大的行政資源嚴格管制水井的開鑿，並為每口水井設置水表測量抽取量，否則甚難建立地下水的水權制度，界定水源取用的優先順序、限制、以及付費方式。這些管制上的困難度常使地下水成爲一種對所有取用者開放使用（open-access）的資源，使其無法利用市場的價格機制來節制個別使用者的取用行爲，最後可能導致長期超抽乃至於資源耗竭的不幸結果。

通常市場失靈的情形可能透過政府介入來解決。除非政府能夠投入龐大的資金興建相關設施來改善自然資源的非排他性（如自來水系統），否則必須藉由立法界定財產權以及官僚體系的運作，來管制個別資源使用者的取用行爲。但這些管制措施往往是勞力密集的工作而涉及極大的行政成本，常因成本無法負荷而怠於執行，放任資源需求者肆意採擷，呈現一種「有管制的開放使用」之窘境，亦即政府失靈的情形浮現。¹⁷

市場與政府同時失靈並不表示該項財貨就因此沒有適當的管理制度。近年許多研究發現，從在地的資源使用者角度出發，令其自行制訂規則來規範合理取用資源的行爲，共同合作保育資源，則可以成功地克服市場或政府介入管制的弱點（Ostrom and Walker, 1997），而達到有效抑制水資源被個別過度攫取與永續利用，避免資源存量與品質日漸枯竭惡化的危機（Tang, 1992；Blomquist, 1992）。此種以使用者網絡爲主體的自我管理機制，可能提供使用者有效的誘因，而積極管理該項資源，尤其當該項資源具有再生性時，更可能將資源分配的賽局情境由單次賽局（one-shot game）轉變爲重複賽局（repeated game），從零和情境（zero-sum scenario）轉變爲正和情境（positive sum scenario），因而有利於管理制度的形成。

二、透過在地使用者自我管理水資源的利基

近年來已經累積相當多的個案，指出由在地的資源取用者（local appropriators）所組織而成的自我治理機制，比起政府干預或市場交換機制更能夠有效管理共享資源（湯京平、呂嘉泓，2002；Ostrom, 1990；Feeny, Berkes, McCay, & Acheson, 1998；

¹⁷ 關於政府在管理共享資源爲何會失靈的問題，詳見 Baden（1998）。以台灣爲例，山區珍貴的千年檜木資源時常遭到「山老鼠」任意砍伐與變賣，甚至林地附近曾赫然發現被私自開闢成爲偷運木材的便道，林務局卻沒有積極的遏阻行動。另外，一九九一年針對台灣地區地層下陷嚴重縣市（彰化、雲林、嘉義、台南、高雄與屏東縣）進行水井普查，統計出約十九萬餘口抽水井，其中未申請水權的非法水井有十七萬餘口，佔全部水井的八成九（徐享崑、劉豐壽、鄭昌奇，1995: 24-27），同樣是政府管制不力的情形。

Agrwal & Gibson, 2001)，而有諸如「社基資源管理」(community-based resource management) 或資源的「在地管理」(place-based management) 等概念的提倡，強調以由下而上的參與式管理。綜合而言，這類草根性管理模式有許多市場或政府未曾具備的優點。

第一，資訊取得的優勢：任何從管理制度的設計到執行，都需要關於資源本身以及資源使用者的詳細資訊，¹⁸ 但這些基層資訊並不必然會被上層的管理者所擁有，且基層的資源取用者爲了自身利益通常並無意願與他人分享這些資訊，導致管理者與被管理者之間常有嚴重的資訊不對稱問題。然而，當治理者與被治理者的身份有相當程度的重合，上述問題就可以被有效控制。由於在地的資源使用者長期累積使用經驗而擁有珍貴的在地知識 (local knowledge)，容易把當地環境生態的特性與人文風俗整合進管理制度，俾更符合在地使用者的需求，也容易針對資源狀況的改變作迅速有效的回應。換句話說，管理者不論在制訂資源供給的一般性規則或對於資源作權威性的分配時，若對於資源本身以及需求者的特性能夠充分掌握，就能更充分考量分配的效率與公平性，作爲管理的依據。

第二，永續利用誘因的提供：從行動者的角度分析，自然資源的管理工作需面對不同的利益涉入人 (stakeholders)，包括實際取用者、外溢效果的承受者 (如他人超抽地下水導致當地地層下陷的受害居民)、潛在取用者 (日後可能取用該資源的移入者或未來世代)，以及利益涉入較淺的外地人。此間，在地的資源使用者往往最依賴該自然資源，故利益涉入最深，往往最有保護該資源的動機，畢竟一旦資源耗盡，在地人將受害最深。此外，除非在地資源使用者打算移居外地，否則將預期與其他在地資源取用者成長期的互動關係，形成一種「重複賽局」(repeated game) 的情境：在此情境中，參與者會預期到他人可能的報復行動，因此在地人往往比外地人更有動機採取志願的協調行動 (coordinated actions)，成就資源長久利用的管理模式。

第三，網絡的建立與交易成本的降低：在地使用者間綿密的人際網絡有助於資源永續利用的集體努力。若將上述志願的協調行動視爲資源永續利用的集體行動，則可預期許多社會成員將採取搭便車的策略，一方面企圖規避集體行動爲個人所造成的成本或損失，另一方面卻希望能分享集體行動帶來的成果。此時，集體行動要

¹⁸ 資源本身的資訊，包括分佈狀況、採擷之難易、流動性、儲藏難易、再生率、數量的季節變化等物理性質。使用者的資訊包括使個別用者間的關係或社會結構、經濟活動情形、共同的文化遺緒、對於管理標的資源的認知等。

能成功，關鍵在於控制搭便車效應的擴散，維繫行動者的紀律。自 Olson 以來的理性抉擇理論，認為個人參與集體行動的理性計算時，多以物質誘因（materialistic incentives）為主要考量；而近年研究社會運動的文獻，則轉而強調目的性（purposive）與社群性（solidary）誘因在個人投入集體行動上的積極與消極角色。前者包括利他主義以及意識型態的因素，後者則以社會規範與人情關係為主。在地使用者之間往往能夠藉由面對面地、直接而頻繁溝通，形成某些意識型態上的共識；而長久維繫的網絡關係，也容易累積共同的記憶與規範，有助於建立互信的基礎；穩定的人際關係與社會網絡，亦能降低監控成員行動與執行賞罰機制的成本（Ostrom, Garder, & Walker, 1994: 327）。凡此，都讓網絡（networks）成為市場（market）與國家（state）搭配的重要治理選擇。而由資源取用者自行管理資源，維繫資源供需上的均衡，即為網絡治理的實踐。

三、自治制度形成的可能

目前累積的文獻比較常致力於描繪既有的自治制度，¹⁹ 並透過這些制度間的比較分析，來瞭解影響制度穩定運作與發揮成效的共同因素或特徵。例如 Ostrom（1990: 90-102）即從不同類型的共享性資源自治管理案例中，歸納出許多重要「設計原則」，除了明確界定的地理範圍與自治權被授與之外，還需包括有效的集體選擇、監督、分級制裁與衝突解決等重要機制。雖然這些因素可以被視為自治制度能夠長久成功運作的基本要件，但到目前為止，尚未被充分瞭解的是一個更基本的問題：為何這些制度會被採用？此外，特定制度或許可以被刻意引進或設計，但要順利運作，則必須與既存的制度群（institutional constellation, Crawford and Ostrom, 1995）—包括正式與非正式的制度—協調與搭配，並在制度規範對象的策略性互動下，透過某些集體或社會抉擇機制不斷進行調整。這調整的過程中，資源使用者將不斷面對一種兩難的困境：如果要成就資源永續利用的集體利益，往往必須放棄對於個人利益最大利益的追求。

¹⁹ 在國際間研究共享資源問題的學術社群裡，透過理性選擇與制度分析的學者已經累積相當豐富的個案收集與理論解釋，討論使用者自治的制度設計如何超越政府直接管制與產權私有化的政策二分迷思，有效地降低潛在搭便車行為與道德風險誘因而來促進共同合作的可能。不過，這樣研究途徑如同在其他不同研究領域與對象，例如選舉制度與投票行為、國會立法或憲政選擇等，都將主要焦點放在制度設計如何影響理性個人的自利選擇，也就是著重在制度的效果，將制度視為既定的（given）、外延的（exogenous），而少去觸及制度的形成、變遷或終結等內生性（endogenous）問題。相關論述請參閱 Weingast 2002。

就理性抉擇的觀點而言，使用者能夠一起節制自然資源之擷取以利該資源永續利用，並不是一個會可理所當然的社會現象。理論上，所有資源使用者都面對著競相爭奪資源的囚徒困境：在缺乏相互協調的情境下，任何個別資源取用者爲了避免資源耗竭而自我節制，都會徒然給予他人攫取更多資源的機會，因此在不確定他人是否會以相同態度採取同樣節制的行動之前，單方面行動不但無助於集體利益的達成，而且可能導致個人利益的斷傷。從這個角度出發，任何一群人能遵循自我管理機制，有效地採取集體行動來使資源得以永續利用，即爲值得探討的現象。爲能解釋這些與理論預測不同的結果與制度產生的現象，近年的研究開始檢視有哪些外在的系絡因素能夠促成這類自我管理機制的發展，包括形成、演進，乃至於失靈或退化（Ostrom, 2000；Lam, 2001；Dolšak & Ostrom, 2003）。²⁰

根據學者觀察，制度的改變乃人類在各種限制條件下解決問題的刻意行動（Blomquist, 1992: 322）。面對外在環境的改變（如自然資源的枯竭）或社會內部的變化（如科技創新、經濟活動改變人口結構調整等），人類的制度也必須調整因應。然而，調整的幅度往往受到相當多因素的限制。從微觀的角度而言，進行集體選擇的社會成員或引領制度變革的決策者，往往受到認知能力的限制，以及尋求決策相關資訊所必須付出的成本，因此常以有限理性（bounded rationality）的模式進行決策（Jones, 2001）。從宏觀的角度分析，制度發展的也受限於既有的制度結構以及原有制度所造成之社會分配效果，而無法作大幅度的變革。²¹ 但行動者在尋求解決問題之方案時，若能充分瞭解主要利害關係人的情境與動機（換句話說即具有充分的在地知識），就往往能夠建構出許多相當具有創意的設計，此時若外在制度體系能夠授與行動者更大的自主權，這些創意性的制度就有發展與成長的空間。本研究希望透過兩個案例的對比，增加學界在這方面的瞭解，呈現共享資源使用者的誘因結構，然後解釋爲何有些地方可以成功地形成有效而穩定的資源管理自治制度，有些地方則否。

參、案例

²⁰ Lam（2001）從資源特性、制度及社會特徵與外在治理體系三類影響因素，以桃園、嘉南與屏東地區水利會與水利小組爲例，討論在台灣的政經環境改變影響之下，當地排灌自治的制度變遷調適成功或失敗的結果。Dolšak & Ostrom（2003: 9-27）勾勒出影響管理資源的制度與資源使用情形之因素類別，如資源特性、使用者特徵、政治與正式權威環境、技術等。

²¹ 相關的概念包括路徑相依（path-dependent）的制度發展（North, 1990）與組織學習等（Nelson and Winter, 1982）。

一、嘉南地區的地下水治理

1. 社經自然背景

嘉南西部沿海地區，因為天候的雨量較少且乾季甚長，土壤多沙而鹽份高，而其地處溪流下游與灌溉水利設施的末端，地面水源不是受到污染便是嚴重不足，加上冬季東北季風凜冽，屬台灣西岸俗稱「風頭水尾」的典型不適農耕之環境。長久以來，當地居民多靠養蚵、捕魚等「靠海吃海」的方式謀生。當土地不利耕作，當然也有居民很自然地把鄰近海邊的田地開發成魚塭，進行純海水或半鹹水養殖，如東石鄉的文蛤、布袋鎮的蚵、義竹鄉的虱目魚或吳郭魚等。不過，由於市場消費需求有限，養殖技術尚未完全成熟，²² 這些產業的規模都很小，仍無法有效改善居民的生活。惡劣的自然環境導致經濟發展落後，並引發貧窮、失業、人口老化與外移，以及併發的相關社會問題亟待解決。

為能提振沿海地區的經濟發展與居民所得，政府自一九七〇年代起開始有系統地進行產業輔導與相關政策措施，鼓勵農民將西南部濱海地區的低產土地，轉型利用於養殖漁業（農委會漁業署，2002）。此後，不但私有的低窪地區與鹽份過高之土地，被開挖成魚塭，台糖等單位所持有的公有土地，也有計畫地整片開發，交由當地居民承租。同時，政府也積極開拓海外市場，配合海外市場的需求，引進高價值魚苗如鰻魚、草蝦類，並成功地研發出繁殖及品種改良技術。隨著養殖業的大發利市，這股養殖風氣也迅速吹向內陸。²³

然而，成功的產業政策卻導致意外的環境災難：地下水位迅速下降與隨之而來海水入侵與地層下陷。由於養殖產業發展對於水的品質與穩定性有相當高的要求，而當地降雨量少、旱季較長、河川水源不足等自然限制其實十分明顯。政府有計畫地擴展養殖漁業，卻沒有配合提供淡水水源的計畫，養殖業者只好以自力救濟的方

²² 遲至一九六〇年代後期台灣的養殖技術才有明顯的進步，能夠成功地利用淡水進行鱸魚、草魚、虱目魚、吳郭魚、草蝦等水產作物的人工繁殖（胡興華，1996：46），並有效控制魚群的病、寒害，逐步建立起台灣水產品養殖業發展的基礎。

²³ 嘉義縣義竹鄉本身並不靠海，離海邊最近也有五公里，但是因為布袋、東石的沿海地區風行養殖比種植水稻有更高收入的水產品，加上義竹鄉的部分地區土壤也是鹽分過重，一般農作收成不好，而且因為該區原來是農地重劃區，可以利用嘉南大圳新店分線灌溉溝渠所供應的地表灌溉水作為養殖水體，所以當地鄉民紛紛將原來的內陸農田土地開挖做成一片片魚池。本來縣政府曾發函通知應將土地變更回原來的農地使用，但是由於已被開發成魚塭的數量太多、被要求變回一般農地之後又私自改回成魚塭，以及養殖業者的復耕意願低等，最後魚塭區變成既定的事實。訪談記錄：嘉義縣養殖漁業發展協會幹部（C1）與義竹鄉養殖業者（C2）。

式尋找所需水源。²⁴ 鑑於地面河川水源多被上、中游的一般農耕作區、工業區與自來水公司所截用，或遭工農牧業及家庭廢水所污染，則沿海地區的個別養殖業者只好仰賴地下水。初期當地的地下水不但水質良好且出水量相當穩定，因此就地抽取所需，十分方便（胡興華，1996：54；李堅明，1998；劉振宇，2004）。

²⁴ 一般一公頃面積養殖水產品所需的淡水用量，鰻魚為 33.2-55.3 萬噸、蝦類為 11.4-17.2 萬噸、虱目魚為 3.8-4.9 萬噸，而水稻僅需 2.5 萬噸（陳瑤湖，1998）。

圖 1 嘉南平原地下集水區分佈圖



資料來源：修改自經濟部前水資源局，1999。

台灣養殖漁業抽取大量的地下水也與其養殖的方式有關。台灣地狹人稠的特徵也反映在養殖漁業之上：大部份的養殖業者所擁有的漁塭面積都相當有限，一般多為一至兩公頃，為为了提高獲利，業者多採取集約精耕方式，增加投養密度來提升產量，也因此增加其對淡水的需求量：密度高的養殖容易產生飼料及糞便的沈澱，造成水質改變而引起病害，因此，養殖業者習於透過經常性大量換水，將含氧量減少的舊水連同污物排出，再抽取地下水補注，藉此避免養殖池水環境的惡化（胡興華，1999：14-15）。此外，遇到寒流來襲時，由於地下水的相對溫度較高，大量的補注也能夠有效防止魚蝦凍斃，避免重大損失。²⁵ 凡此，都增加了當地養殖漁業業者對於地下水的依賴，造成當地居民毫無限制地抽取實際上存量有限的地下水。

隨著整體養殖漁業的規模繼續擴大，超限利用地下水的情形也越嚴重，人為抽用量持續大幅超過天然回補量，導致沿海地區的地下水水位迅速下降。例如，在東石鄉與布袋鎮地區，一九九五年共抽取約一億一千餘立方公尺的地下水，而安全水用量（safe yield）僅約四仟三百多萬立方公尺。當水位下降，原有馬達抽不到水，但

²⁵ 訪談紀錄：嘉義縣某鄉公所建設課人員（B2，其曾參與地層下陷防治工作）。

居民又無法承擔無水可用的後果，因此競相增加水井深度與馬達的馬力，造成抽水效率更高、水源流失更快的惡性循環。據估計，東石與布袋兩地的 150 公尺以上深水井總共就有 602 口，佔嘉義全縣的四成五左右（嘉義技術學院農業土木工程技術系，1998：88），顯示嘉義沿海的淺層地下水源已趨於枯竭。水源枯竭的後果可能相當嚴重：除了無水可用及海水入侵含水層而導致地下水鹽化，也可能由於地下水被抽出後原具空隙的含水層，因結構不足以支撐土地與大氣壓力而造成坍塌。如此不但導致含水層的毀壞，造成其優異的儲水能力永久喪失，且會引起地層下陷，導致建築物、道路橋樑等人為設施的損壞，以及颱風、雨季時排水不易而衍生的水患。

綜合而言，自一九七〇年代開始，西南沿海養殖產業進入成熟發展階段，產業規模擴增不僅導致內陸魚塭面積逐年攀升，也連帶地刺激淡水使用需求，同時其他水資源使用者如灌溉農民、台糖公司等並未減少地下水的使用量，結果台灣的地下水便逐年加速消耗。根據經濟部前水資會（1994）的推估，台灣每年地下水抽取的安全出水總量約為 40 萬公噸，但是實際地下水抽取狀況從一九七五年的 32 萬公噸大幅增加至一九九一年的 71 萬公噸，足足成長百分之一百七十八，其中有百分之三十二的抽取量提供於養殖漁業使用；在地方上，嘉義縣的地下水使用量有五成左右以上也是用於沿海地區的養殖漁業（中興工程顧問公司，1998）。由於西南沿海地區的地下水長期被密集抽取使用，從一九七〇至一九八〇年代期間的地層下陷速度最快，嘉南地區平均每年下陷 10 至 20 公分左右，導致許多地區如嘉義東石等已出現嚴重地層下陷及海水入侵內陸淡水層等徵兆。至二〇〇一年為止，經濟部統計出全台累積地層下陷總面積已達 2,667 平方公里，相當於十倍大的台北市，四分之一的全台平原總面積（鄭朝陽，2004）。

2. 政府的努力與管制失靈

當西南沿海地區如雨後春筍般出現地下淡水鹽化、民宅地基下沈及自來水管、瓦斯管彎曲斷裂等現象，政府單位開始發覺地下水源之流失所造成的危機。為遏止這樣的趨勢，當時中央政府陸續制定「台灣地區地下水管制辦法」與修定「水利法」，劃定地下水管制區範圍，以產生管制禁止非法抽取地下水行為的法源依據。另外，省政府也於一九八四年與一九八六年分別動員成立「地下水管制督導小組」與「防治超抽地下水專案研究小組」的專案組織，企圖協調地層下陷嚴重的各地方縣政府，以進行取締違規抽取地下水的行為。然而，政府由上而下的集權式管制措施一直無

法有效控制地下水超抽的問題。首先是不同部會機關之間對於管制地下水的立場相異，導致管制措施無法落實。主管地下水的台灣省前水利局採取非常強硬的態度，主張應該查封全部的養殖用水井；反之，主管近海與沿岸漁業的農委會前漁業處及省漁業局則希望繼續發展養殖漁業，認為水井管制應採取漸進方式，可先行取締竊佔國有地的非法魚塭水井，再設法擴及其他用戶。

除了政府機關之間的意見扞格，中央與地方政府間的垂直分工是更重要的問題。中央為政策制訂者，地方則為執行單位。中央政府在政策制訂過程中常因為缺乏在地情境的理解，導致政策產出會相當缺乏解決問題的創意與周延的考量；地方的政策執行者面對粗糙的政策措施，也缺乏執行政策的意願與能力。一般而言，地方縣市政府執行相關業務人力相當不足，也缺乏完整可靠的地下水水文地質資訊，以致長久以來疏於監督抽水量與管理水權核發。同時，地方政府與一般民眾的關係較中央政府更為親近，選票壓力更大、公務員的社會連結更強、以及對被規範者所面臨的困境也更同情。因此，當中央政府一紙公文要求地方政府嚴格執行水井填封措施時，面對養殖業者為生計而群起抗爭，地方官員的態度傾向以消極的態度來執行中央政策。²⁶

直到一九九〇年代，政府以管制（command and control）為主軸的政策手段，並無法有效阻止西南沿海各地的地下水超抽以及水資源大幅流失。伴隨而來的地層下陷，使得這些地區在颱風過境時，常成為水鄉澤國，水深盈尺久久不退，成為新聞焦點。隨著累積的民怨日增，各級政府也積極撇清責任：負責救災的地方政府埋怨中央政府沒有給予足夠經費執行防洪計畫與基礎設施；而勘災的中央與省政府則直指地方未能善盡管制地下水超抽之職責。在進入二十一世紀之前，政府高層終於改弦更張，增加輔導措施，提供更多誘因讓取水者配合減少抽用地下水。農委會在前行政院長郝柏村與連戰的要求之下，訂立「養殖漁業輔導方案」，協助養殖產業轉型，除了將部份不適合開發魚塭的土地，藉由其變更地目轉作其他（如工業區）用途，輔導養殖業者移往國外發展之外，並將適合為開發魚塭的土地規劃成養殖生產專

²⁶ 根據李堅明（1998：6-8）的研究指出，雲林縣與嘉義縣的沿海各地層下陷鄉鎮皆以一級產業為主，其生產總額占全鄉鎮總生產的比例約五成左右，尤其漁產是該地區的「基礎產業」，養殖漁業產值又是占一級產業生產總值比例的五成以上。因此，縣政府在執行相關管制措施時，都有投鼠忌器的疑慮。以雲林縣政府為例，受到中央政府一再要求執行封井之下，縣政府顧慮到養殖業者的反彈與其生計問題，而先行填封一百口養殖荒地與廢棄水井，另外輔以下陷地區土地重新規劃利用，陸續設置生產專區與海上箱網養殖（魯永明，2001），而嘉義縣政府也原本計劃要在沿海三個鄉鎮先行封填一百口水井，但是面對漁民強烈反對與地方民代的不支持，最後主管單位只能封十多口井（黃煌權，2000）。訪談紀錄：嘉義縣某鄉公所建設課人員（B2，其曾參與地層下陷防治工作）。

區，透過改善其供排水系統設施、搭配地面水源取用、以及推廣純海水養殖、鼓勵循環水養殖方式等，來減少養殖業者對地下水的依賴（農委會漁業署，2002）。

此外，中央政府也於一九九五年經濟部與農委會共同合作，制定為期五年的「地層下陷防治執行方案」，²⁷ 除結合學術單位成立地層下陷防治團以獲得科技支援、建置全台的地下水文資訊及觀測網系統，並整合先前的「養殖漁業輔導方案」等產業轉型政策，成為多管齊下、管制與輔導並行的防治體系。雖然在進入千禧年之後，嘉南地區的地層下陷速率確有減緩的趨勢，政策成效值得肯定，²⁸ 但不可諱言，這些政策的措施都是針對地層下陷這類外顯現象而設計的作為，對於地下水資源保存及永續利用制度（如水權分配）的建置與落實，²⁹ 仍然缺乏有系統與積極地制度建構及執行。³⁰ 除了在政策供應面上，政府措施偏重於蒐集水文資料、提供有限的替代水源、輔導產業轉型、以及增修水利管制法令等，而在需求面上，政府仍維持以往直接管制與非法水井取締措施，而半數以上的農漁業用水者也仍然依賴地下水。³¹

二、南加州的地下水自治—雷蒙地下集水區的案例分析

²⁷ 當時甫接任經濟部水利司司長的徐享崑先生，認為過去中央政府一向不重視水利的態度是不正確的，且在處理地層下陷與超抽地下水的相關問題裡，水利單位應該扮演更積極、重要的角色。因此，徐前司長分別在行政院院會議及監察院裡進行「台灣地區地層下陷之現況、成因與對策」、「台灣水資源問題」的專案簡報，並在前行政院長連戰指示下，邀集農委會與其他相關單位代表共同商討整體計畫，而農委會也相當樂觀其成，希望藉此能統整過去單位間的不同步調，最後促成了第一期的「地層下陷防治執行方案」。訪談記錄：經濟部前水利司官員（A1）。

²⁸ 目前台灣的地下水抽取量已由一九九一年的 71 億立方公尺，減至近年的 55 億立方公尺上下，資料來源：經濟部水利署網站：[http://www.wra.gov.tw/public/ Attachment/4112315172571.xls](http://www.wra.gov.tw/public/Attachment/4112315172571.xls)。養殖漁業抽取地下水使用部份，從一九九一年的 24 億立方公尺明顯減少到二〇〇一年的 11.81 億立方公尺，將近減少了半成，而地層持續下陷面積從方案執行前的 1,616 平方公里，減為兩千年第一期防治方案執行結束後的 920 平方公里（呂學修，2004：9）。根據監測井的觀測資料顯示，近年來雲林縣、嘉義縣的年平均下陷速率是 1.5-5 公分左右，資料來源：經濟部水利署網站，<http://www.lsprc.ncku.edu.tw/now00.htm>。

²⁹ 關於評析我國水利法的基本設計問題，可參閱蕭代基、戴雅明（1996）從市場與財產權的角度，指出水利法由於偏向強調管制而造成台灣水資源缺乏有效率利用的困境。而地方上的主管單位也表示過去編制人力與預算有限、缺乏精確水文資訊等因素，增加其水權管理的困難。訪談紀錄：嘉義縣工務局官員（B1）。

³⁰ 經濟部於 1995 年開始推動「健全水權管理實施方案」，以科學管理、合理分配及增修法令等方面落實水利法相關規定，其中已建置成型的有地下水觀測網及水權資料庫，並研擬水權費徵收辦法、量水設備設置規範及移用水量補償標準等法令。

³¹ 根據與縣政府與當地用水居民的訪談，面對「養殖漁業輔導方案」與「地層下陷防治執行方案」，其都相當樂見於中央政府所提供的技術、輔導轉型政策與所夾帶來的預算補助，但是對於強力執行取締與封井措施，則多不表支持：縣政府表示難為，而擁有水井的居民則普遍反對。因此，及使至 2002 年「地層下陷防治執行方案」施行期程將屆滿之際，中央政府再次強力要求彰化、雲林及嘉義縣等地方政府填封非法水井，仍然如往年般，遇到層層阻力與抗爭。訪談記錄：嘉義縣工務局官員（B1）、嘉義縣某鄉公所建設課人員（B2）、義竹鄉養殖業者（C2）、東石鄉養殖業者（C3）。

1. 社經自然背景與水資源管理之挑戰

從美國東部西行，跨越西經 100 度（自北達科他州至德州），即進入年降雨量低於 20 英吋的乾旱區，農民將無法靠自然降雨來維持耕作。越往西，直到內華達山脈（the Sierra Nevada）與克斯卡開山脈（the Cascade）為止，由於從西邊來自太平洋的濕氣也被阻絕，地景基本上即呈現一片片年降雨量少於 7 英吋沙漠地帶。越過山脈，則為太平洋沿岸降雨量略豐的地區。但即便在這些地區，由於屬於典型的地中海型氣候區，也往往有長達五個月滴雨不降的乾旱夏季。在美西這些「具沙漠性格的半沙漠」地區，人類活動最核心的問題就是水資源的擷取、儲存以及運送（Reisner, 1986）。自十九世紀後期，加州許多接收自墨西哥的大型國有牧場被切割出售、³² 各類礦藏不斷被開挖、以及橫跨北美洲大陸的鐵路陸續構築等因素，都引發了加州地區的房地產投機買賣，並造成一波一波向西移民的風潮。

美西這些地方的發展雖然必須面臨極端氣候的挑戰，³³ 同時早期的水利設施也不足以供應大規模的開發或經濟活動之用水，但許多地區因為地下水的取用十分便利，故直到二十世紀初，仍能支撐因大量湧入的移民及蓬勃發展的農業活動之用水。以南加州為例，一八六〇年代南加州的四個郡（Los Angeles, Orange, Riverside, 與 San Bernardino）的人口數約為 16,900 人；到了世紀之交，已達 235,800 人；至一九三〇美國大蕭條的年代，又適逢東部嚴重旱災，導致大批低階層的勞工移民到西部尋找謀生機會，人口迅速更增加到 2,542,000 人。早到的移民多羣集在聖蓋博河（San Gabriel River）等四大流域的河岸附近，³⁴ 就近擷取地面水以供應農業灌溉與民生所需。隨著河谷地區日漸擁擠且大規模的灌溉水利設施也未完備，遂形成南加州發展上的瓶頸。然而，一八七〇年代之後，先進的鑿井技術與機具被引進該地，讓人類活動能夠在能夠抽取地下水的各地下集水區（groundwater basin）³⁵ 之上，迅速蔓延開來。水井（管）像倒立的樹叢，深入地底，日夜抽水以敷衍地方居民無度的需索。³⁶

³² 墨西哥佔領加州期間（一八二二年至一八四八年），曾沿聖蓋博河與聖塔安娜河流域構築灌溉系統，而形成許多大型牧場，得以飼養牛群。美墨戰爭後被美國政府接收，並陸續切割出售給移民。詳見 Scott（1977）。

³³ 如夏季酷旱常引發矮樹叢的野火，冬季集中降雨卻可能引發水災及土石流。

³⁴ San Gabriel River, Los Angeles River, Santa Ana River, 以及 Mojave River 等。

³⁵ 包括 Raymond Basin, West Basin, Central Basin, Main San Gabriel Basin, The San Fernando Valley Basin, Mojave River Basin, Orange County Basin, Chino Basin 等。

³⁶ 地下水的取得不但讓農業活動範圍大幅擴張，也改變了農業活動的內容，將原本粗放的牛群畜牧，

然而，在此類酷旱地區，水源供應往往被視為攸關生死的大事，因此水資源管理一直是當地至為重要的議題。綜觀南加州水資源管理經歷一百多年的發展歷史，的確也呈現了非常複雜的制度風貌，反映著人們對此事的重視。然而，這些制度的發展，並不是透過中央集權的方式，由上而下地設定一套最理想的管理制度。反之，南加州複雜的水資源管理體系，乃是透過基層的水資源使用者，以有意識、持續而漸進的方式，企圖逐步解決其所面臨問題的集體努力，是一種自我轉化的（self-transforming）過程（Ostrom, 1990）。這個過程以及其制度風貌，雖然看起來雜亂無章，卻包含民主參與、創新、適應、學習、以及企業精神等珍貴的元素。就治理成果而言，這套複雜的制度，在解決水資源糾紛的效果、降低管理成本、強化分配公平性，乃至於改善管理制度的適應性等方面，確實有相當出色的表現（Blomquist, 1992）。

2. 水權之界定與水資源的維護

若深入瞭解南加州地下水治理體系的發展歷程，實不難發現，水資源的管理固然攸關地方發展甚鉅，但在地下水供應無虞之際，地方上的水資源取用者其實並沒有未雨綢繆地發展出永續利用的有效治理機制，反而形成許多管理規則，讓居民有競相抽取地下水的動機，導致地下水位迅速下降，實為典型的「共享資源悲劇」（the tragedy of the commons, Hardin, 1968）之情節。因此，如何透過制度的轉變扭轉這個不幸的趨勢，乃本案例的重點所在。由於多數當地居民乃從東岸移民過去，因此初期的管理制度，也援用東岸管理豐沛水資源的制度，對於糾紛防止與處理的重視，遠高於水資源的保存及永續利用考量。此間最重要的習慣法（common law）傳統，莫過於地面水的「河岸權」（riparian rights）及地下水的「覆蓋水權」（overlying rights）制度。

「河岸權」意指凡擁有鄰接水體的土地者，即擁有該水資源的使用獲益權（usufructuary right）。同理，「覆蓋水權」則指凡若擁有土地者，也將擁有該土地所覆蓋的地下水之使用獲益權。在這樣簡單的水權界定下，由於水權的歸屬乃附屬於土地，有明確而容易判定的優點。但這樣的水權設定方式，比較適合運用在用水不虞匱乏的地區，不論是灌溉、工業或民生用水，都因為水量豐沛，需求者可以透過市場機制以相當廉價的方式滿足其需求。反之，在水資源不易取得或常有匱乏之虞

轉變為特別適合當地氣候型態的柑橘種植（「橘郡」名稱之由來），詳見 Cleland（1951）。

的地方，水資源相對珍貴，水權的歸屬若作如此嚴格的規定，則容易扼殺地方發展，甚至妨害許多居民的生存權。

此外，「河岸權」也容易導致地下水的超抽問題。當這項原則於一八六六年被加州最高法院的判例確定之後，離河川較遠、不鄰接水體土地的可用水資源就大幅減少，同時土地分割得越小，每戶農業生產規模越小，地主越沒有能力興建與維護水利設施，以運送地表水穿越分屬不同所有人的土地，協力維護水利設施的集體行動也因土地所有人增多而規模變得越大，成本當然也越高。相對而言，由於地下水的取用能避免上述取用地面水所遭遇的諸多問題和成本，因此大幅增加居民取用地下水的動機（Blomquist, 1992: 49），進而產生超限利用的問題。

所幸上述水權的界定，並不排除非擁有土地者擁有水權的可能。為了適應美西特殊的乾旱環境，加州的水權制度有另一項平行的原則，即非河岸權或覆蓋水權的土地擁有者對於水資源也可能擁有「使用權」（*appropriative rights*）。對於加州大多數非庇鄰河川或湖泊等水體或無法抽取地下水的土地而言，除非能夠合理保障其供水，否則皆將淪為不毛之地。為促進這類土地的開發，早期礦場開挖時，加州的墾荒者就建立此一取用權的傳統，允許水資源被截流至其他不具河岸權或覆蓋權的土地上。這個原則後來在一八七二年被納入加州的民法，並於一八七九年頒佈的加州州憲法所確立。該憲法認定州內的水資源屬於州民全體的財產，個人對於水資源可以擁有「使用上的收益權」，但無「所有權」；而州內的水資源，在衡量整體的利益之下，則必須極致地予以利用。³⁷ 在此原則下，不具河岸權或覆蓋水權的需求者可以取用實際所需的水量；並依照先到先取用（*first-in-time, first-in-right*）的原則，由取用年資決定優先取用順序—當水量不足時，優先排除資淺者取水的權利；³⁸ 而資深的取用者一旦終止取用行動，則視同放棄該項權利。此取用權原則確立後，也成為後來公、私立水供應公司營運的法理基礎：許多提供民生與灌溉用水的政府單位或企業經營者，必須把水運送到用戶的土地上，而這些用戶卻往往都不具有河岸權或覆蓋水權，因此依照原有的權利設定，實有違法之虞，而取用權的確立則解決這項困境。

³⁷ 加州一八七九年州憲法第十四條。類似的宣示亦見於現今的州憲法第十條：「...water resources of the state be put to beneficial use to the fullest extent of which they are capable.」。

³⁸ 「先到先取用」原則一直是美國西部開發歷史上一項非常重要的法則。在土地開發上相對的原則為「公地承領」（*homesteading*）政策：先到的移民能夠優先取得政府所放領的公有地。詳見 Caswell and Zilberman（1990: 99）。

上述取用權原則雖然補充了河岸權與覆蓋水權的不足，但本身也製造了一些問題，其中最重要者莫過於其與前述兩種權利有所衝突。原則上河岸權與覆蓋水權的位階高於取用權，因此當水量不足時，若充分執行河岸權與覆蓋水權，將排擠不具河岸權與覆蓋水權土地的取用權利，而使得廣大面積的土地無法開發，並可能因此導致整體利益的斷傷。為此，加州最高法院透過判決進一步確立了所謂「合理使用」（reasonable-use）原則：對於擁有河岸權與覆蓋水權的地主之保障，僅限於其能夠合理抽取並用於有益目標（beneficial purpose）之使用量，而非毫無限制地擴張而排擠到其他人的取用權。此一限制性原則於一九二八年進一步透過修憲程序而正式成為加州憲法之條文。然而此一條文雖利益良善，卻產生不利於水資源維護的意外後果：由於所謂「合理使用」並不容易界定，實務操作上往往依照水權擁有者之既有取用量估算，因此讓這些受合理使用原則規範的水權擁有者，有充分的動機取用更多水資源，以擴張並進而保護其往後取用足夠水資源之權益。

上述水權制度雖然複雜無比，但仍有一個重要的問題尚未處理：擁有河岸權與覆蓋水權者之間的權利關係（優先順序）為何。若水資源相當豐沛，這些水權擁有者能夠各取所需，各行其是，彼此間的關係就不重要。反之，當水量不足，水權擁有人之間就轉為對立（adverse）關係：某甲的取用量可能排擠到某乙的可用量。因此，加州的最高法院便在世紀之交，確立了水資源的「共同比例權」（correlative rights）：³⁹ 水量不足以供應所有河岸權與覆蓋水權擁有者之所需時，水資源應在其間，依照過去的取用量，作等比例之合理分配（Hampton, 1990）。

除此之外，加州的水權體系還受到一項習慣法的原則約束，俾能針對水源不足的狀況，稍微保護不具河岸權與覆蓋水權者的用水權益，是謂「慣例權」（prescriptive rights）：若水資源被法院判定不敷全部取用者所需—換言之，因沒有剩餘（no surplus）而進入對立的水權關係（亦即彼此用水權利互相排擠）時，不具河岸權或覆蓋水權的取用者，其取用權會依照年資被限縮甚至剝奪，但凡是能在這種對立關係下，公開而眾所皆知地（open and notorious）維持一段期間取水的用水人，便能取得這項用水的慣例權，而不被原始水權所有人任意排除其取水權利。這項習慣法原則雖然一直存在適用於地面水的取用，但由於加州一直到一九二〇年代以前都沒有地下水嚴重匱乏的問題，因此也未見重要的判例，直到以下所介紹的雷蒙地下集

³⁹ 其他學者也將 correlative rights 翻譯成「相關權利」，請參閱陳明健（1995）；蕭景楷（1997）。

水區判例形成後，這項慣例權的執行細節才被更清楚地界定。⁴⁰

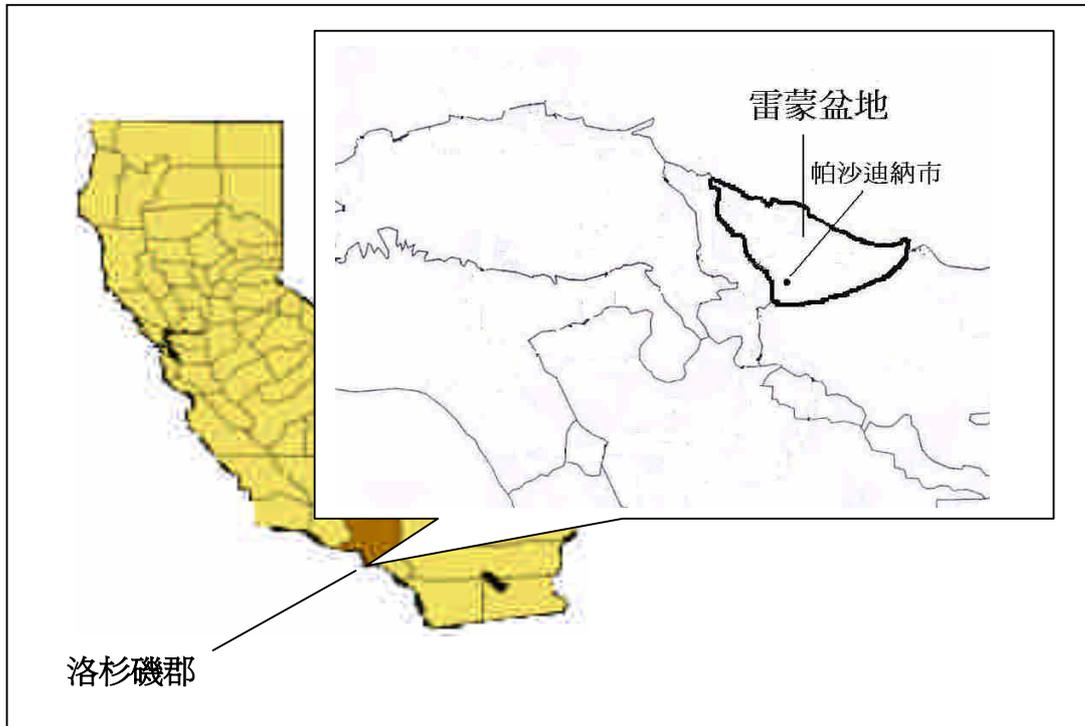
3. 自治的形成—以雷蒙地下集水區為例

南加州居民從一八八〇年開始大量抽取地下水，導致許多城鎮可以遠離地面水的水源地，在異常乾旱的地方發展起來。一直到一九二〇年代左右，由於缺乏其他水源供應，人口與相關經濟活動迅速增加，地方居民對地下水的依賴日深，再加上前述制度提供居民努力抽水的誘因，因此南加州幾個地下集水區的地下水長期處於超限利用的狀態，儲存數百年的地下水，在數十年之間即迅速耗竭，水位快速下降，讓許多水井抽不到水，而對在地居民的生存形成嚴重威脅。此一狀況在經歷一九二二年的大乾旱後顯得更為嚴峻。⁴¹ 為因應此一危機，各地下集水區的相關當局一方面推動許多水利工程（如在州政府水資源部的協助下，成立「南加州都會水區」與興建科羅拉多河水道，引北加州與科羅拉多河的地面水以為用，但遲至一九四一年才完工啓用），另一方面，許多地下水的取用者也苦思讓大家一起減少抽取地下水的辦法。

⁴⁰ 除了上述水權的複雜關係外，加州還針對洛杉磯市適用一項特別的「部落水權」（pueblo water rights）：洛杉磯市在美國接管（一八四八年）之前原為洛杉磯部落（pueblo of Los Angeles），該部落早在一八四四年即有紀錄取用洛杉磯河的水。該市宣稱繼承部落原有的取水權利以供應市民所需，而於一八八一受到加州最高法院的支持。

⁴¹ 例如，根據統計，光是一九二二年至一九三七年之間，雷蒙地下集水區的地下水位就下降超過一百英尺，讓抽取成本大增。

圖 2 雷蒙地下集水區



資料來源：修改自美國 NASA「綜合性環境回應、補償及責任法」計畫網站—
<http://jplwater.nasa.gov/NMOWeb/AdminRecord/docs/NAS70870.PDF>。

這是一個很典型的囚徒困境：任何未經協調而單獨減少抽取地下水的行動，不但可能於事無補，還可能平白損失自身的利益，因此大家都不願積極採取減抽的行動。以雷蒙地下集水區 (Raymond Basin) 為例，在一九三〇年代，帕沙迪納 (Pasadena) 市政府是雷蒙地下集水區中的用水大戶，鑑於地下水位迅速下降，曾召集雷蒙地下集水區中的主要地下水取用者，協調共同減少取用水量，但並未成功。但如果其意欲單獨行動，把整體抽取量降到安全取用量 (safe yield) 之內，則其必須將自身的抽水量降到原先抽取量的一半 (Blomquist, 1992: 76)。但這樣做的後果，卻可能造成水位上升後抽水更容易而鼓勵其他取用者抽取更多地下水，因而抵銷其努力；而對於該市而言，不足的水量則必須向南加州都會水區 (Metropolitan Water District of Southern California, MWD) 購買，而南加州都會水區的水，則是以大筆經費構築科羅拉多水道 (Colorado River aqueduct)，遠從科羅拉多河翻山越嶺地引來，因此將所費不貲。這樣的決定對於政治人物而言，無異是一種政治自殺的行動，因為它將增加市民的水費負擔，導致選票流失。除了經費問題，更有前述「合理使用」原則的

考量：一旦降低某一時期的抽水量，其後合理使用量也可能隨之降低，對該市日後水量分配的權益產生長遠的不利影響。

緣此，身為資深的用水者，帕沙迪納市決定放棄單獨行動，而於一九三七年向加州高等法院提出訴訟干預取水行為的訴訟，要求包括阿罕布拉市（City of Alhambra）在內的三十一個被告共同解決地下水超抽的問題，首創以地下集水區為裁決範圍的先例。以司法行動解決問題的最大好處，在於界定使用者社區（community of users）的可能。理論上地下集水區內所有地下水取用者都應該是被規範的對象。但這些因抽取同一地下水體而面臨水資源耗竭危機的命運共同體，卻很可能分佈在不同的行政區域之中，故不受同一政府管轄，因此可能產生行政權力無法落實到每個取水者身上的問題。反之，法院卻可能跨越行政區域，精準地篩選出被告（本案例中為抽水超過一定數量的取水者），並透過司法判決形成的原則或作法，在不同的行政區中形成共同適用的規範與制度。換句話說，本來疆界模糊的取水社群就能夠清楚地被界定出來，是謂「制度設定的社群」（institutionally defined community, Blomquist, 1922）。

此外，訴諸法庭的另一個好處，是在解決方案的提出上保持很大的彈性空間。若是以行政上的公權力直接介入，則政府通常是以政策的方式推動強制性的管理方案，政府不但要抗拒個別利益團體的尋租（rent seeking）壓力，並且要規劃出各方可以接受的政策措施，此外必須花費非常高的行政成本來執行這些方案，發覺並制裁心存抗拒者的投機行為。反之，透過法院的介入，公權力可能只是備而不用威脅工具，法官只提出原則性的規定，然後讓各造自行協商出可行的方案。因為有協商的過程，因此被規範者比較能夠針對自身利益提出折衷方案，因此對規範的抗拒性較低。法院同時也保留介入的權利，讓被規範者自行設計出彼此監督的機制。由於被規範者擁有在地知識，也非常清楚彼此的動機與誘因，因此能進行有效的監督，並進而能夠進一步降低治理的行政成本。

為了審理此案，法院首先在各造同意之下，委託州政府的水利司（Division of Water Resources）針對地下水資源的現實狀況進行調查，並由訴訟各造共同分擔所需費用。這項調查歷時四年多，在一九四三年的報告中精確地指出，雷蒙地下集水區的安全取用量平均一年為 21,900 英畝尺（acre-feet），而實際抽取量卻達到 29,400 英畝尺，每年超抽約 7,500 英畝尺。根據這調查結果，該報告同時建議地下集水區中的總取水量應限制在安全取用量之內，不足之量改以其他地面水（包括從外地引入之

水)來替代,以避免水資源耗竭問題持續惡化。因此,問題的關鍵就在於如何分配這 21,900 英畝尺的總取用量。

當這些地下集水區的水位與地理相關資訊被提出後,承審的科利爾 (Collier) 法官鼓勵兩造以協商方式找各方能夠接受的取用規則。事實上,大部分的取水者都願意透過協商達成協議,因為除了打官司的成本非常高且曠日廢時之外,最主要的因素是官司結果的不確定性甚高。如前所述,加州水權的界定方式非常複雜,且在法官在事實的認定上有相當大的空間。例如,地下水的現況是否有剩餘 (surplus) 的判定,將影響水權人之間的對立關係是否存在,進而決定「共同比例權」與「慣例權」的原則是否適用,而根據過去的判例,超抽狀態並不同於地下水沒有剩餘的狀態。因此兩造都沒有把握法官會作任何判決:這些判決一方面從水權的全有 (尤其是資深的取水)到全無 (尤其是資淺的取水者)的可能都存在,變異性非常大,另一方面失去水權的後果則非常嚴重,不是訴訟各當事人願意承受的,故訴訟的風險非常大。因此,訴訟當事人委託律師於法庭外組成一個委員會,進行協商後向法院提出非常具體協議。主要內容包括承認水權人間的對立關係存在而適用慣例權原則、當事人願就安全取水量進行分配、保障各當事人等比例的取水量、以及在當事人之間得以進行取水權之交易等。這些協議在加州的水權發展史上是一個嶄新的發展:它同時採納「共同比例權」(原適用於具有河岸權與覆蓋水權等原始水權者之間)與「慣例權」(原適用於不具原始水權者之間)的原則來對安全取水量進行分配。

然而,由於被告之中有一個當事人(加利福尼亞—密西根土地及水公司)反對協議,承審法官科利爾遂根據上述協議進行裁決,形成知名的「相互慣例」(mutual prescription)之判例,⁴²除了明確指出超抽狀態的地下集水區即為「沒有剩餘」(no surplus)之情境外,也確立了上開情境下原始水權人的「合理使用原則」可以被侵犯、連續公開抽用地下水五年者能取得上述慣例權,以及取水者之間等比例減抽地下水以符合安全取水量的取用要求等,對加州水權的發展留下深遠的影響 (Krieger & Banks, 1962)。而該地下水使用社區也透過法院判決形成一套有效的治理機制,包括了達成決議的方式、具體的決議、執行決議的監督機制與制裁方式、變更協議的程序,乃至於維持治理體系的財務負擔方式等。

質言之,面對地下水超限利用乃至於迅速耗竭的危機,地下集水區中的取水者透過準共識的方式,達成解決問題的協議,而這些協議重新界定了取水者的權利與

⁴² 另外 mutual prescription 也翻譯為「共同規範」制度,請參閱蕭景楷(1997)。

義務，並經過最高法院確認後，成為加州水權制度的重要原則，並對日後的立法影響深遠。同時，為了執行這些協議，法院指派州水資源部為水管理員（water master），負責監督抽水行為以及蒐集各類地下水的資訊，讓體系中的成員能夠透過公開出版的報表，瞭解其他成員的取用狀況。當有成員違反協議時，法庭的禁制令也將對違規行為形成有效的制裁。當外在環境改變（如地下水位變化）、新的想法被提出，或成員對於治理體系的表現不滿意時，這個治理體系也透過取水者指派的代表進行協商，並在法院持續的管轄權（continuing jurisdiction）之影響下，⁴³ 把代表們達成的新決議付諸實行。此外，在水權被明確界定與市場交易化之後，此間每年合理可使用的水資源就更接近私有財貨的性質，水權能從資源獲取效用滿較低者交易轉讓給較高者，因而能彈性滿足不同水資源需求者的偏好，讓最需要的人充分利用水資源，而形成更有效率的資源分配與使用。當然，此一治理體系必須擔負行政成本，因此這個體系也有其分擔財務負擔的機制：用水量多者分擔更多的管理費用，用水少者則分擔較少費用（Blomquist, 1992）。

整體而言，這個自治體制的治理成果相當令人滿意。其遏止地下水資源迅速耗竭的目標無遺地在數年間就呈現傲人的成果：即便面臨數年的嚴重乾旱，地下水位還是明顯地逐年回升，為此一九五五年法院還調高了該地下集水區的總取水許可量。由於整個治理的基礎源於各方同意的協定，則各取水者間的配合度甚高。因此，不僅被規範者的配合度高，使得監督規範執行狀況的需求較少，治理體系的業務量也少，許多人力都已兼職為主，而讓此一治理體系的行政成本得以維持相當低的水平。而且，由於此一體系允許成員隨外界情勢改變而變更規範，所以在制度的適應力（adaptability）方面也有相當出色的表現。

⁴³ 意即，同一案例並不因為法院裁定後就告終結，而是由法院持續關注該案的長期發展，可隨時介入作新的裁定。

肆、討論—自治機制形成的條件

比較兩個案例的脈絡，美國南加州與台灣嘉南地區的居民皆在地面水資源不足的天然限制之下，仰賴地下水來發展地方經濟。開始抽取地下水之初，由於水量豐沛，兩地都將地下水視為自由財，容許當地居民任意抽取。但隨著經濟活動增加，抽取量越來越多，兩地都面臨長期超限使用地下水所導致的水源枯竭危機。然而，兩地化解危機的作法差異甚大。雷蒙地下集水區的地下水使用者自行發展出一套自我管理機制，很快地遏止了競相抽取地下水的趨勢，並讓地下水位在短期內回升。反之，嘉南地區則在中央集權的處理模式下，倚賴政府直接管制地下水的抽取，但發生長期管制失靈情形，導致水資源枯竭的問題持續惡化，直到近年多管齊下的治理方案提出後，問題始稍獲舒緩。事實上，嘉南地區其實不乏水資源自治的管理經驗。過去數十年間，包括嘉南農田水利會的台灣農田水利系統，曾被譽為亞洲僅次於日本的有效自治管理體系，影響台灣農業與整體經濟發展甚鉅（Bray, 1986；Lam, 1996）。然而，這樣的自治經驗並未被援用到沿海地區的地下水資源管理，而呈現出毫無治理作為的狀態。什麼原因導致南加州的自治制度得以形成，而嘉南地區則否？

若把上述共享資源自治體系的形成與運作視為一種集體行動，學者在分析這類集體行動能夠成功時，常將影響因素概分為物理性質（attributes of physical world）、社區的特性（attributes of community）、以及適用的規則（rules-in-use）等重要範疇（Ostom, Gardner, & Walker, 1994），試分述如下：

一、資源的物理性質：

兩個案例的管理的標的資源都是地下水，而且是具有再生能力（renewable）的地下水，而非補注非常緩慢的化石水。對於這類具備永續利用潛力的資源，取用者比較願意放棄眼前的利益，以集體行動來牟取長期的共同利益。用博弈理論的詞彙表達，就是再生性會將原本行動者所處的囚徒困境會從一次賽局（one-shot game）轉變為重複賽局（repeated game），讓行動者願意考量其他行動者在日後報復的可能，因此較有動機採取合作的態度及協調的行動，而放棄追求眼前最大利益的策略。然而，兩個案例差異較大的部分則是替代資源的存在與否。就雷蒙地下集水區的情形而言，水區內的主要取水者都因為有科羅拉多河道的開鑿，得以引進地面水來取代減抽的地下水，雖然成本較高，但綜合而言，對於當地的經濟活動影響比較有限，因此減抽地下水對雷蒙地下集水區的用戶而言，影響不致太過劇烈。反之，在嘉南

地區的地下水抽水者，並無替代水源可用，因此感受到政策變遷的衝擊甚大，進而導致其配合集體行動的意願非常低落。

二、社區的特性：

集體行動發生在社區之內，因此社區本身的特性將影響集體行動的成果。社區行動的首要特性為社區疆界是否清楚，而此一要素將導致行動成員是否能夠被明確的認定。對於地下水的抽取者社區而言，哪些抽取者屬於同一地下集水區，因此其取水行動會影響到哪些取水者似乎是相當不易認定的問題，不但需要詳盡的水文調查資訊，也需要知道同一集水區中哪些人有抽水（及抽多少水）的事實評估。缺乏這些資訊就會連集體行動的成員及行動者談判的對象都難以認定，更遑論構成彼此協調的行動來維護共同利益。除了社區疆界可能非常模糊之外，受到資源耗竭影響的命運共同體可能是跨越既有行政區域的一群人，彼此間可能受到行政疆界的隔離而產生互動上的困難，以及許多權威性的決定不易跨界施行。例如嘉南平原地下水集水區跨越嘉南高五縣市，不易透過既有的行政區進行有效的管理。同理，雷蒙地下集水區含括帕沙迪納、阿罕布拉、聖瑪利諾等市，涉及的行政區域相當複雜。然而，該案例中非常特別的地方，乃是透過法院的裁定，不但將權威性決定的效力擴及各市的被告，也在其裁定下，認定這些被告成員為相關利害關係團體，而把地下水管理的社區清楚地界定出來，促使日後的自行協商與互動成為可能。

另一個社區特性的重要面向是行動者的數量。根據 Olson（1965）的集體行動邏輯，成員越多，造成集體行動的協商與管理成本越大，搭便車的行為越容易發生，集體行動越不容易維持；反之，集體行動的結構越單純，則越容易實踐。除了數量之外，行動者之間有沒有主要的利益涉入人也攸關集體行動的產生。若有一個成員利益涉入特別深，其將比較願意擔負部分成本，發揮企業精神（*entrepreneurial spirit*），扮演協調人或發起人的角色，以避免集體災難產生後，其將付出更大的成本。在雷蒙地下集水區的案例中，所有的行動者大約是三十一個地下集水區中的用水大戶，對象相當清楚。同時，帕沙迪納市的取水量約等於其他三十個行動者的總量，因此帕沙迪納市將成為地下水資源耗竭此一集體災難的主要受害人，因此其有充分的動機尋求解套之道，也因此訴諸法律行動，最後促成自我管理機制的建構。反之，在嘉南地區有數以千計的地下水取用者，此間同時缺乏具關鍵地位的用水大戶扮演

領導者的角色，因此相關的自治集體行動甚難成功。⁴⁴

三、適用的規則：

除了上述物理與社會的背景因素，行動情境中規範行動者策略與行為選擇的普遍性也至關重要。而這些規則是不同層次的規範交織疊架而成的制度網（*institutional constellation*），彼此互相影響。最基層的制度是憲法層次（*constitutional*）的制度；在這類制度基礎上，集體選擇（*collective-choice*）層級的制度得以建構，決定該社會的決策如何形成；而最上層的則是操作（*operational*）層級的制度規則，乃透過上述集體選擇制度所形成的具體規範。在憲法層次的制度方面，雷蒙地下集水區適用美國（尤其是加州）憲政傳統下的「在地統治法則」（*home rule*），強調由下而上的治理精神，主張將統治權儘量下放給最基層的政府單位，並允許居民能自由地組成政府。此一政治傳統長期影響美國地方治理體系的發展，許多自治體系在此傳統下得以被充分授權，並讓當地市民習於就特定公共事務以由下而上地組成特殊功能的治理體系，如水區、學區、防洪管理區、空氣污染防制區等，並形成突跨越一般行政區疆界、轄區域相重疊的多中心（*polycentric*）的地方治理型態。反之，我國則不具此類傳統，在地方行政長官（*prefecture*）的體制下，除特例之外，行政疆界都相當固定，民眾也不具自行組織地方政府的權力，因此組成管理地下水的自治體系阻力較大。

在集體選擇的制度層面，美國迥異於我國的重要特色乃是其活躍的司法體系，能夠透過司法案件的判例來形成政策，不但能來約束行政單位及一般大眾，並能夠跨越不同的行政區域，實施持續性的（*continuous*）管轄權。在雷蒙案中，加州各級法院就扮演非常重要的治理角色，除對各造施加壓力，促使其協商出彼此能夠接受的方案，並以法院的權威將該方案付之實施，形成新的水權原則，適用到加州全境。此判例不僅讓用水者之間形成一個共同減少抽取地下水的自我約束（*commitment*）機制，也同時認可用水者間的自行協議與規範具有正當性。而最獨特之處，莫過於透過法院確認被告的方式，將雷蒙地下集水區的地下水取用社區清楚地界定出來，進而得以邀集各造進行協商談判。這種司法活躍程度、法院的權威性與專業性，都

⁴⁴ 其他重要的社區特性還包括社區的社會資本（*social capital*）的存量（Blomquist, 1992）、社區中的權力結構如派系對立與否（盧春霖，2004）等，但因為在兩個案例中並未發現其有特別的影響，故以篇幅的考量省略相關討論。

是值得我國取法與自省的議題。

關於運作層面的制度，則是關於水權設定與改變。加州的水權制度可以追溯至美國西部移民開發時期，由美西新移民承襲過去習慣法的傳統，來規範新開發區域裡水資源的取用行爲。由於不同地理環境與日後經濟社會發展變化，當地居民因爲稀少水資源與日益漸增的用水需求，引發多起用水利益衝突，而紛紛提起水權訴訟，並透過法院的調解與不斷累積判例，確立了「合理使用」、「共同比例」、「慣例」等水權原則及交易機制，形成一個完整的制度調適過程，逐步發展出用水者共同承認並願意與遵守的使用及分配規則。在雷蒙地下集水區個案裡，既有的水權規範與新成立的判例確定用水者的取水資格，並在共同用水社區被確立後，形成新的協商平台，有利於更動協議以配合客觀情勢。反觀台灣的水權制度發展，雖然水利法已有明文規定水權的諸多細節，也援引合理使用、共同比例、優先登記權利與公共利益等分配原則，但從未有效落實。從早期開始，負責核發水權的各地方縣市政府，即無法掌握地下水文資訊，且囿於人力與資源的限制，地方政府也無法對水權核發進行嚴格把關，也無法對抽水量進行精確的測量與控管，故導致常年超發水權狀與臨時用水執照以及地下水嚴重超抽的現象（謝佩君 1999，58）。深究此一管制失靈的原因，無非是管理成本過高，且缺乏制度性誘因，讓管理者認真執法。

綜合言之，藉由比較兩個不同的水資源管理結果，可發現制度性因素扮演至爲重要的角色。在美國雷蒙案例裡，適用規則的影響能將三類不同屬性的因素串聯起來，創造出一個有利的制度環境。在美國強調由下而上治理的憲政基礎之上，市民與抽水者擁有很高自治權，能針對當地水資源問題組成管理委員會，申請加入由州與地方共同合作的「南加州都會區」供水計畫。同時，州法院體系的判決與持續管轄權，不僅跨越行政區藩籬，替水利害關係人設定出有利於自治與協調的社區範圍，也成爲將來用水紛爭調解、用水量調整與水權原則解釋、以及公權力執行的基礎等，有效地協助降低自治的各項交易成本。此外，實際規範用水資格、順序與用量的水權制度，也在用水者的實際操作與法院的判決間，進行制度調適，並得以確立與執行。反觀在台灣的嘉南地區，中央集權式與直接管制的水資源管理體系，包括法律、運作慣例與官僚組織等，已壓縮了的當地實行自治的可能，且現階段獨大的行政權，礙於甚高的行政成本，使其無法監督水資源的利用，更遑論貫徹水權的行使。

伍、結論

相較於台灣嘉南地區的地下水治理比較依賴中央集權的方式進行，美國南加州的治理則呈現多樣的風貌，在雷蒙地下集水區的案例中，當地的取水者處於一個有利於自治的制度性環境，更揉合了市場、國家以及社區自治等元素，成就了一個制度成分豐富的治理體系（institutionally rich governance system）。南加州案例的成功，給予台灣許多啓示。首先，複雜而協調的制度提供多重的誘因，對於地下水取用的行爲將更有規範的能力，尤其是由下而上自然發展出來的制度，有更大的志願成分，能夠有效降低制度執行的行政成本。其次，因爲制度的運作將受到物理環境的限制，因此若希望改變制度效果，也可以從改變物理環境限制著手，例如，透過水利設施提供部分替代性水源，降低水資源取用者遵循制度要付出的成本，將可促進原生性管理制度的形成與發展。第三，在複雜的水權制度配合下，美國南加州雷蒙地下集水區的地下水治理體系已從共有財產體制（common property regime），轉變成爲私有財產體制（private property regime）。在共有體制之下，其水權設定也許能夠限制新的取用者進入，卻無法防止既有的取用者追求自身利益極大化的取用行爲，甚至在許多慣例所提供的誘因之下，不斷擴大取水量，導致取水競賽（pumping race）的產生以及地下水資源迅速枯竭的悲劇。然而，透過當地取水人以法院的強制力爲後盾而促成的協商行動，該地區形成一個以整個地下集水區爲有效治理範圍的自治體制，不但能以甚低的行政成本有效遏止取水競賽的趨勢，也在體制中設定了水權交換的機制，允許取水者透過市場機制取得不足的水源或達到更適當的規模經濟。有效的自治體制在台灣的地面水灌溉體系曾被國外學者譽爲經典，但在地下水方面，可能因爲地下水的水文資訊不足，自治社區的邊界不清楚，取水者之間的互動欠缺等因素，而未形成。爲鼓勵用水者採取自發性的管理行動，台灣的中央政府曾嘗試擬定推行公井制度—整合許多私人開鑿的地下水井爲集體登記水權與共同使用的公井，並希望藉著確立水權制度，推動不同產業間水權移轉與交易，都是類似的努力。

然而，上述努力的成效並不顯著，主要原因還是水權能否被確定並執行。除了充分運用市場機制之外，治理體系必須被賦予公權力，一方面監督水權的正當行使，並監控其使用情況對於整體水資源的影響，另一方面對於侵犯他人水權的行爲進行制裁。然而，此一公權力不一定需要透過政府的行政單位來執行。在雷蒙地下集水區的案例中，顯示司法體系也能夠扮演這方面的角色。一般相信司法訴訟冗長而昂貴的程序可能使該體系不適任這方面的治理工作。然而，正因爲當事人認爲這過程

將耗費過大的成本，同時對結果的掌握能力不足，導致各造願意自行協商出彼此能夠接受的協議，讓法院依據該協議進行裁定。這個協定中，設定了治理相關資訊的取得方式（即透過州水資源部監測水位及蒐集各取水人用水量的報表，由取水人支付費用），以及為適應外在環境變化所需新決策的形成方式（由取水人派代表組成委員會進行協商，然後將協議交由法院裁定）。此時，公權力只是備用的工具，整個治理工作是由自治的網絡來執行。而在習慣以行政權主導治理工作的台灣，地方與中央行政部門承擔著很大部分的水資源管理與公權力執行責任。近年來政府透過已建置更新完成的全國地下水觀測網計畫、水權資料庫與發展地下水資源決策系統等，提供了在地治理的基礎。若能援引水利法第二章的法源與增修其他相關水利規章，仿造農田水利會的組織與運作，鼓勵當地使用者自行組織管理機構，或許能發展出獨特而有效的自治模式。綜合而言，美國南加州特別的制度設計，都為我國地下水權運作遲遲無法有效落實的問題，開啓了遼闊的參考視野與無限的想像空間。

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訪談對象編碼：

經濟部前水利司官員（A1）

訪談地點：桃園清雲科技大學，時間：2004年8月10日。

嘉義縣工務局官員（B1）

訪談地點：嘉義縣政府，時間：2004年11月2日。

嘉義縣前工務局、現任某鄉公所建設課官員（B2）

訪談地點：嘉義縣某鄉公所，時間：2004年11月4日。

嘉義縣養殖漁業生產區發展協會幹部（C1）

嘉義縣義竹鄉養殖業者（C2）

訪談地點：義竹鄉新店村，時間：2004年11月12日。

嘉義縣東石鄉養殖業者（C3）

訪談地點：東石鄉塭港村，時間：2004年11月13日。

行政院國家科學委員會補助國內專家學者出席國際學術會議報告

97 年 12 月 29 日

報告人姓名	湯京平	服務機構 及職稱	國立政治大學政治學系 教授
時間 會議地點	2007 年 7 月 3 日至 6 日 荷蘭阿姆斯特丹	本會核定 補助文號	NSC 95-2414-H-004-069 (吳大猷先生紀念獎)
會議 名稱	(中文)第七屆組織、社區與國家多樣性國際研討會 (英文)Diversity in Organizations, Communities & Nations (7th)		
發表論文 題目	(中文) 新興多元政治下的權力持續 (英文) The Persistence of Power in Emerging Pluralistic Politics: The Case of a Chinese Urban Community Election in Shanghai		

附件三

報告內容應包括下列各項：

一、參加會議經過

該會議於阿姆斯特丹近郊的學校 OZW-School of Health 舉行，會場是一棟充滿後現代流線感的建築，似乎和會議的主題「多樣性相互呼應」。歷經十個小時的航行，由機場搭火車，兩站的距離就到了主辦單位安排的旅社，但因為十分昂貴，第二天就搬到市區比較便宜的旅館。

我的場次是在第三天的下午（會議的第二天），有比較充裕的時間熟悉環境並觀摩其他的場次。該會議是由 Common Ground 這個組織所舉辦，已經邁入第七年了，他們另外還發行同名的期刊。會議中一方面擁有跨領域學科的數百篇論文同時發表，另一個比較奇怪的地方在於它不是採取一般常見數篇文章一個 panel 的形式，而是每一篇文章獨立在個別的教室發表。如此一來，所能容納的聽眾也十分有限。然而仍然有十數位聽眾參與這篇論文的報告和討論。儘管中國研究對與會的來賓而言十分陌生，而所討論的政治學議題也和大會的主要關懷有所落差，但仍引發與會者極高的興趣，會後仍有許多各國學者爭相發問。長達四天的會議中也結識了不少歐洲學者，特別是一些學界中環保、社會運動的重要人物互動，並針對新的研究題材進行意見交換。

二、與會心得與成效評估

荷蘭從一個與海爭地的「低地國」崛起為大航海時代的霸權，這個國家一向非常的前衛，也展現高度的實用性格與包容性。因此他們一方面關懷全球化下國家、社區、和組織的多樣化，另一方面在他們主要大學的政治學訓練中，實證主義的研究取向也比其他歐洲國家走的更快更好。這十分值得國人學習，一個邊陲化的小國要能在世界舞台上躍然而上，除了強調自身在文化上的特色並尋求廣泛的共鳴，同時也要避免閉門造車，而要爭取在主流的競爭環境中取得一席之地。

此外，透過議會論文的報告與會後非正式的交流，我相信在這個以歐洲學者為主要的研究社群中，有許多人對於中國的政治社會發展，必然印象相當深刻。而與會者對於論文內容所提的諸多問題，對於概念的釐清，以及調查證據的補強等方面，也都有非常具備建設性的建議。

三、考察參觀活動(無是項活動者省略)

省略

四、建議

研究台灣的論文在國際越來越不容易受到重視。相較之下，凡發表研究中國的論文之期刊，在 2004 年的 SSCI 影響指數都大幅攀升，顯示中國研究的熱潮正快速興起。為能讓研究台灣的論文在國際上有更多的曝光率，國科會似乎一該制訂具體的辦法，鼓勵學者開發國內的有趣案例，並設法在國際會議中發表。而補助的標準，應以申請者是否具備國際期刊發表能力為主要考量。能在國際期刊上發表，才能提出夠水準的論文，才不至於在那種重要的國際場合貽笑大方。

五、攜回資料名稱及內容

攜回所採購之新舊書籍 8 本，並自網頁下載論文 10 餘篇。



會議論文

**The Persistence of Power in Emerging Pluralistic Politics:
The Case of a Chinese Urban Community in Shanghai**

Ching-Ping Tang

Professor

Department of Political Science

National Chengchi University

886-2-29393091 x 50740

polcpt@ccu.edu.tw

Chung-Yuan Chiu

Master

Political Science

National Chung-Cheng University

Shu Keng

Associate Professor

Graduate Institute of East Asian Study

National Chengchi University

The Persistence of Power in Emerging Pluralistic Politics: The Case of a Chinese Urban Community in Shanghai

Introduction

In spite of its disputable human rights record and many other critiques, the Chinese Communist Party (hereafter CCP) is among a handful of communist parties that still remain in power in the world. Even more surprising is that, over the past quarter of a century, this notorious regime has led the country to astounding success in economic development even under international economic sanctions following the Tiananmen Square crackdown in 1989. Such a combination of unexpected phenomena, together with the sharp contrast in the cases of Eastern European countries and former Soviet Union states, has inspired spirited reflection upon the traditional wisdom regarding the political requirements for economic development.¹

Among other issues, a burgeoning literature has focused on the state capacity either in carrying out necessary economic reforms and deploying development strategies on the one hand, or in maintaining sustainable social stability under rapid economic transition and dramatic social changes on the other. Such an examination of the quality of the governing systems as a prerequisite for good economic performance dates back to the scholarly attention paid to the East Asian miracle first by Japan and followed by little dragons such as Taiwan, Korea, Hong Kong, and Singapore since more than two decades ago. The tentative conclusion seems to support the proposition that a strong state embedded in society can most effectively govern the market and orchestrate the reforms necessary for economic development.²

Echoing such a state-centered argument, the ongoing experiments of the

¹ Samuel P. Huntington, *Political Order in Changing Societies* (New Haven, CT: Yale University Press, 1968); Larry Diamond & Marc F. Plattner (eds.), *Economic Reform and Democracy* (Baltimore & London: John Hopkins University Press, 1995); David Kotz, *Revolution From Above: The Demise of the Soviet System* (London & New York: Routledge, 1997). For recent debates, see Yu-Shan Wu, "Chinese Economic Reform in a Comparative Perspective: Asia vs. Europe", *Issues & Studies*, Vol. 38, No. 4/Vol. 39, No.1 (Dec. 2002/Mar. 2003), pp. 93-138; Wing Thye Woo, "A United Front for the Common Objective to Understand China's Economic Growth: A Case of Non-antagonistic Contradiction," *Issues & Studies*, Vol. 39, No. 2 (June, 2003), pp. 1-23; Yu-Shan Wu, "Institutions and Policies Must Bear the Responsibility: Another Case of Non-antagonistic Contradiction," *Issues & Studies*, Vol.39, No. 2 (June 2003), pp. 24-40.

² For example, Chalmers A. Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975* (Stanford, CA: Stanford University Press, 1982); Thomas B. Gold, *State and Society in the Taiwan Miracle* (Armonk, NY: M.E. Sharpe, 1986); Gordon White & Jack Gray (eds), *Developmental States in East Asia* (New York: St. Martin's Press, 1988); Daniel I. Okimoto, *Between MITI and the Market: Japanese Industrial Policy for High Technology* (Stanford, CA: Stanford University Press, 1989); Alice H. Amsden, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press, 1989); Stephan Haggard, *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries* (Ithaca, NY: Cornell University Press, 1990).

post-communist transition since the late 1990s also demonstrate the importance of the political infrastructure for a country to survive the traumatic reform process. Studies indicate that the shark therapy conducted by many post-communist transition leaders has caused great social uncertainty by bringing about the reconstruction of the political and economic governing system. By contrast, the gradualist approach in China seems to be a workable reform path for socialist transition.

Although quite plausible retrospectively, such a proposition apparently simplifies the complicated dynamics of reforms. Several times in their history, the Soviet Union and many other Eastern and Central European countries have struggled against the gridlock of command economies with their piecemeal reforms, but they have eventually failed. It is common sense to every political leader that drastic reform measures would entice strong counter strikes and uncertain chain effects, and therefore such measures are much more risky. It is quite plausible to propose that when the society is under tight party control, the political leaders should have no incentive to undergo any large-scale political reforms that might endanger their dominance. On the contrary, when social control has been substantially weakened, such as the cases in Budapest, Warsaw, and Moscow where mass strikes were rallied by environmentalists and workers on the verge of democratic transition, political leaders will tend to consider the shark-therapy alternatives more seriously.³ In other words, the capacity of the state in social control could play a key role in the choice of the strategies adopted by these countries.

For a long time since the death of Chairman Mao, China conducted reforms step by step without causing uncontrollable social turmoil. The case of China reveals incredible effectiveness in controlling the social unrest that rapid market transition and social change could have caused as in the cases of the other former communist regimes. The scale of the problems tends to be drastically extended given the breadth of territory, the sheer size and diversity of population, and the complexity of landscape and associated physical environment with which this country is endowed. As the reform proceeded, the fiat power of party cadres in the command economy drastically diminished after the market transition, the ideology for mass political mobilization faded away, the administrative

³ Kornai, János, *The Road to a Free Economy: Shifting from a Socialist System: The Example of Hungary* (New York: Norton, 1990); Adam Przeworski, *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America* (Cambridge & New York: Cambridge University Press, 1991); Vedat Milor (eds.), *Changing Political Economies* (Boulder, CO: Lynne Rienner, 1994); Minxin Pei, *From Reform to Revolution: The Demise of Communism in China and the Soviet Union* (Cambridge, MA & London: Harvard University Press, 1994); Kazimierz Z. Poznanski (eds.), *The Evolutionary Transition to Capitalism* (Boulder, CO: Westview, 1995); David Stark, *Post-Socialist Pathways: Transforming Politics and Property in East Central Europe* (Cambridge & New York: Cambridge University Press, 1998); Kenneth J. Arrow, et al., *Special Issue on Economic Transition, Journal of Institutional and Theoretical Economics*, Vol. 156, No. 1 (Mar. 2000), pp. 1-310.

controlling mechanisms slackened, and grassroots elections introduced, political elites indeed had to surrender substantial power to economic and social actors. Macro-societal trends are not so much determined by omnipotent planners, but by the strategic response of interest holders to institutions that are also subject to rapid transition. Against such a backdrop, the CCP's success in social control has become even more puzzling.

To solve this puzzle, this study examines the subtle exercise of grassroots social networks that have been utilized by party cadres in Chinese urban settings. This case study explores how market transition and electoral institutions have essentially reshaped the political contours of an urban community near the city of Shanghai, and how the grassroots party cadres have reacted accordingly in carrying out their missions of social control. This case indicates that these end-pipe party cadres in communities can effectively utilize such informal mechanisms as a political legacy and as personal struggle skills to effectively adapt to the new institutional environment and power structures. These findings attest to a symbiotic coalition between the party-state and the burgeoning society. While the fledging social groups sought to extend their influence in the public sphere through the opportunities provided by newly-introduced democratic devices, the party-state intended to reinforce its reign through more sophisticated manipulation of its relationship with these social groups. The democratic devices, or specifically the grassroots elections, were drills for incorporating the social network into the existing social mobilization system, while the election results were used to measure the achievements associated with such drills. The base-level cadres largely fared well by applying the political skills learned in previous mass political campaigns. This study, furthermore, makes a unique contribution by delineating in detail the challenges of newly-emerging clientelism in urban China and how political elites have remained functional and have stayed in power. A broader implication regarding community governance in a fast-changing society can also be inferred from this study.

State Capacity and Social Stability

Many students of the post-socialist transition are stunned by the sharp contrast in the political and social consequences of similar efforts in market transition conducted by different communist regimes.⁴ The legendary record of “third-wave democratization”

⁴ John W. Lewis & Xue Litai, “Social Change and Political Reform in China: Meeting the Challenges of Success”, *China Quarterly*, No. 176 (Dec. 2003), pp. 903–25; for social stratification and social inequality, see Victor Nee & Rebecca Matthews, “Market Transition and Social Transformation in Reforming State Socialism”, *Annual Review of Sociology*, No. 22 (1996), pp. 401-35 and Andrew G. Walder “Markets and Inequality in Transitional Economies: Toward Testable Theories”, *American Journal of Sociology*, No. 101 (1996), pp. 1060-73; for civil societies, see Andrew T. Green, “Comparative Development of Post-Communist Civil Societies”, *Europe-Asia Studies*, Vol. 54, No. 3 (May 2002), pp. 455-71; for political

together with “shark therapy” in the economic reforms of many Eastern European and former Soviet Union countries quickly lost their luster because of the great economic fiascos and social upheavals that followed. By contrast, incremental economic reforms in China continued to be deployed after the withdrawal of tanks from Tiananmen Square, resulting in a growth rate that has averaged 9% since then.⁵ While political reforms zigzagged toward liberalization and partial democratization in the meantime, large-scale demonstrations were unseen and social stability were largely maintained in the course of the rapid economic transition.⁶

Such tranquility and stability should not be considered to be normal given the two contradictory characteristics of the post-socialist transition: self-constraint in the exercise of power and capacity-building for governance. The principal features of state socialism, according to Michael Harloe, is the central planning with monopoly ownership of the means of production and collective consumption by the state, political domination of the Communist Party, and the development of a distinctive class structure.⁷ The post-socialist transition is usually initiated by a deliberative reform of the first feature that imposes substantial affects on the second and the third. The thrust of such reforms was the introduction of a market structure to replace the central command system that has yielded great inefficiency in past decades.⁸ This means that the party-state was asked to

reforms, see Andrew G. Walder, “The Decline of Communist Power: Elements of a Theory of Institutional Change”, *Theory and Society*, No. 2 (1994), pp. 297-324; For democratization, see Russell Bova, “Political Dynamics of the Post-Communist Transition: A Comparative Perspective”, *World Politics*, No. 44 (1991), pp. 113-38; for the elite’s wellbeing, see Andrew G. Walder, “Elite Opportunity in Transitional Economies”, *American Sociological Review*, No. 68 (2003), pp. 899-916; for urban development, see edited volume by Michael Harloe, Gregory D. Andrusz & Ivan Szelenyi, *Cities After Socialism* (Oxford: Blackwell, 1996).

⁵ The average GDP of China from 1989 to 2005 is 9.16%, slightly lower than the average of 9.51% from 1979 (the year that reforms began) to 2005. Statistics are calculated using materials available at http://investintaiwan.nat.gov.tw/zh-tw/env/stats/gdp_growth.html, checked on April 19, 2007.

⁶ The stability is expressed in a relative term against other post-socialist countries. A growing number of contentious incidents or rightful resistance, however, has in recent years been reported in both rural and urban areas, while good quality empirical studies have also quickly accumulated. For example, see Ching-Kwan Lee, *Labor Protests in China’s Rustbelt and Sunbelt* (Berkeley, CA: University of California Press, Jun. 2007); Kevin J. O’Brien and Lianjiang Li, *Rightful Resistance: Contentious Politics in Rural China* (New York and Cambridge: Cambridge University Press, 2006); Kevin J. O’Brien, “Collective Action in the Chinese Countryside”, *The China Journal*, No. 48 (July 2002), pp. 139-54; Yongshun Cai, “The Resistance of Chinese Laid-off Workers in the Reform Period”, *The China Quarterly*, No. 170 (Jun. 2002), pp. 327-44; William Hurst and Kevin J. O’Brien, “China’s Contentious Pensioners”, *The China Quarterly*, No. 170 (Jun. 2002), pp. 345-60; Laura M. Luehrmann, “Facing Citizen Complaints in China, 1951-1996”, *Asian Survey*, Vol. 43, No. 5 (2003), pp. 845-66; Jonathan Unger, *The Transformation of Rural China* (Armonk, N.Y.: M.E. Sharpe, 2002); Jonathan Unger, “Power, Patronage, and Protest in Rural China”, in Tyrene White (eds), *China Briefing 2000: The Continuing Transformation* (Armonk, N.Y.: M.E. Sharpe, 2000), pp. 71-94; Teresa Wright, *The Perils of Protest: State Repression and Student Activism in China and Taiwan* (Honolulu: University of Hawaii Press, 2001); Fayong Shi and Yongshun Cai, “Disaggregating the State: Networks and Collective Action in Shanghai”, *China Quarterly*, No.186 (Jun. 2006), pp. 314-32.

⁷ Michael Harloe, “Cities in the Transition”, in Gregory Andrusz, Michael Harloe, and Ivan Szelenyi (eds.), *Cities after Socialism: Urban and Regional Change and Conflict in Post-Socialist Societies* (Cambridge, MA: Blackwell, 1996), pp. 1-30.

⁸ Peter Ferdinand, “Russian and Soviet Shadows over China’s Future”? *International Affairs*, Vol. 68, No.

surrender its omnipotent allocation power to a neutral market mechanism and other non-state stakeholders, who were allowed to accumulate wealth via a newly-installed property right system and to participate in more and more decision making in the public sphere.

The aforementioned concession of the party-state in power should confront a challenging demand for a strong public authority to sustain the reforms. The transition to a market needs to create and substantiate a whole new set of capitalist institutions, such as property rights arrangements and transaction rules of traditional as well as newly-invented commodities (e.g., lands, water resources, intellectual properties, internet bandwidth, etc.). Since such reforms have an effect on wealth re-allocation, effective measures are also needed to absorb the shock of institutional adjustments on different social members and to alleviate the social unrest associated with the reforms. Since the reforms proceed in a dynamic manner, there is also a need for determinant navigators to respond to contingent problems both strategically and promptly. In brief, to carry out the above functions a country needs to re-empower the political system, but with a totally different qualification. This probably explains why economic reforms in the post-socialist transition are usually followed by large-scale political reforms. A corollary is that a successful post-socialist transition seems to depend on the overall improvement in capacity as the result of political adaptation.

The concept of state capacity has been getting vaguer as the terms are widely used to explain social and economic phenomena.⁹ Some of them refer to a general concept of governing ability, which might include such dimensions as institutional, political, and administrative capacity.¹⁰ Others refer to specific aspects, such as the party-state's ability to control and monitor lower-level agents,¹¹ or use taxation ability as a proxy of

2 (Apr. 1992), pp. 279-92.

⁹ Theda Skocpol, "Bringing the State Back In: Strategies of Analysis in Current Research", in Peter. B. Evans, Dietrich Rueschemeyer & Theda Skocpol (eds), *Bringing the State Back In* (Cambridge & New York: Cambridge University Press, 1985), pp.3-43; Stephen D. Krasner, "Approaches to the State: Alternative Conceptions and Historical Dynamics", *Comparative Politics*, No. 16 (Jane 1984), pp. 223-46; Gabriel A., Almond, "The Return to the State", *American Political Science Review*, Vol. 82, No.3 (Sep. 1988), pp. 853-74; [Eric A. Nordlinger](#), [Theodore J. Lowi](#) & [Sergio Fabbrini](#), "The Return to the State: Critiques", *American Political Science Review*, Vol. 82, No.3 (Sep. 1988), pp. 875-901; Joel S. Migdal, "The State in Society: An Approach to Struggles for Domination", in Joel S. Migdal, Atul Kohli & Vivienne Shue (eds), *State Power and Social Forces: Domination and Transformation in the Third World* (Cambridge & New York: Cambridge University Press, 1994); Joel S. Migdal, "Studying the State", in Marx Irving Lichbach & Alan S. Zuckerman (eds), *Comparative Politics: Rationality, Culture, and Structure* (New York: Cambridge University Press, 1997), pp. 208-35; Joel S. Migdal, *State in Society: Studying How States and Societies Transform and Constitute One Another* (New York & Cambridge: Cambridge University Press, 2001).

¹⁰ See Yan Sun, *Corruption and Market in Contemporary China* (Ithaca, NY: Cornell University Press, 2004).

¹¹ Maria Edin, "State Capacity and Local Agent Control in China: CCP Cadre Management from a Township Perspective", *China Quarterly*, Vol. 173 (Mar. 2003), pp. 35-52

measurement.¹² By recognizing the problem of ambiguity, yet others further distinguish different kinds of capacity, such as a passive function in maintaining social and economic order in contrast to an active one in promoting economic development (the developmental state) or social welfare services (the welfare state).¹³ While the latter has given rise to a fully-fledged literature on the developmental state,¹⁴ the former seems to have important theoretical implications for the post-socialist transition but has attracted insufficient scholarly attention.

The Economic Logic of Leninist Social Control

Upon transition, most countries would first encounter the very basic need to maintain the social and economic order due to the reallocation effects of the reform measures and the failure of the original Leninist control apparatus. The arbitrary interventions of central planners in daily economic decisions such as prices, quantities, commodities, organizational forms, the appointments of managers, wages, technology, and investment actually have essential implications for social control. According to Walder,¹⁵ the effective social control of these socialist countries has depended on the aforementioned distributive power that can reward as well as punish cadres within the state apparatus as well as ordinary citizens due to the constant consumer good shortages. Such shortages, created purposely via in-kind distribution and place rationing by central planners, have enhanced the controlling power by reducing the importance of money in obtaining daily necessities and maintaining real living standards.

Apparently there was a whole set of social institutions for such control mechanisms to be worked out. Another hallmark of these totalitarian regimes is the elaborate and overlapping surveillance systems. Many agencies, including secret police and party organs in work units as well as social organizations (women's associations, youth leagues, and labor unions), were in charge of collecting information on social members, that ranged from a subjective evaluation on individuals' party loyalty, political lines, ideological purity and moral characteristics to more objective descriptions of individuals' work performance, and political utterances, etc. It is not hard to imagine that whoever maintained personnel

¹² Shaoguang Wang, "Zhongguo guojia caizheng nengli de xiajiang ji qi houguo [The Consequences of the Decline in China's Fiscal Capability]", in Yang Gan & Cui Zhi-yuan (eds), *Zhongguo gaige de zhengzhi jingji xue* [the political economy of China's post-Mao reforms](Hong Kong: Oxford University Press, 1997).

¹³ Guoguang Wu (eds.), *Guojia, shichang yu shehui* [State, Market and Society] (Hong Kong: Oxford University Press, 1995).

¹⁴ For a thorough review of this literature, see the edited volume by Meredith Woo-Cumings, *The Developmental State* (Ithaca: Cornell University Press, 1999). For a recent transformation of this concept, see the edited volume by Mark Robinson & Gordon White, *The Democratic Developmental State: Politics and Institutional Design* (NY: Oxford University Press, 1998).

¹⁵ Andrew G. Walder, "Corporate Organization and Local Government Property Rights in China", in Vedat Milor (eds.), *Changing Political Economies* (Boulder, Colorado: Lynne Rienner, 1994), pp. 53-66.

dossiers would therefore exercise incredible powers because one's social rank, material comforts, and privilege were all substantially influenced by these sacred files. Every once in a while these communist regimes sharpened the monitoring apparatus and wielded their power by launching political campaigns and mass purges, in which surveillance intensified, arbitrary terror prevailed, and individuals' nerves became irritated.¹⁶

In addition to the intelligence collecting systems, another set of social institutions that carries out social control functions is the segregated social structure. To supervise individuals effectively and to reinforce the reward-punishment mechanisms, the communist regimes partitioned the society into smaller units both vertically and horizontally. Within the party-state hierarchy, officials' living standards and privileges matched nomenklatura standards. Outside, ordinary citizens were also classified into different social castes, with each enjoying different material rewards and advancement opportunities.¹⁷ The desires to move upward strengthened the willingness of individuals to comply with communist rule, while demotion to a lower rung was also a means of deterring overt defiance.

To enhance its control, the communist state also divided the governed population into smaller units geographically and limited their mobility. The most popular forms were work units which also served as surveillance units and bases of social welfare provision. In the rural areas there were collective farms that served this purpose, while in the urban areas most citizens belonged to specific state-owned enterprises in which the party-state extended its controlling mechanism comprehensively. Overall, such efforts to atomize and reorganize individual social members achieved unprecedented success in having party influence penetrate the barriers of traditional social units, namely, family and lineage groups. Party cadres controlled the individual social members by mobilizing mass political campaigns. These campaigns subjected the private domain aspects (such as loyalty, values, feelings, and personal relationships with specific purging targets) to public scrutiny. Once deprived of this privacy, individuals were easy to mobilize and reorganize as and when needed.

¹⁶ For general accounts, see Lowell Dittmer, *China's Continuous Revolution: The Post-liberation Epoch, 1949-1981* (Berkeley & LA: University of California Press, 1987) and Maurice J. Meisner, *Mao's China and After: A History of the People's Republic* (New York: Free Press, 1999, 3rd ed.). For case studies, see Edward Friedman, Paul Pickowicz & Mark Selden, *Chinese Village, Socialist State* (New Haven, CT: Yale University Press, 1991); Anita Chan, Richard Madsen & Jonathan Unger, *Chen Village under Mao and Deng: Expanded and Updated Edition* (Berkeley & LA: University of California Press, 1992, 2nd ed.).

¹⁷ Behind such class-material links there was an elaborate system regarding the connection between social identity and priority in resource dominance, which is referred to as "rank-based property rights" (dengji chanquan) in China. See Xiaopeng Luo, "Gaijie yu zhongguo dalude dengji chanquan [Reforms and Property Rights based on Ranking in Mainland China]", *Modern China Studies*, No. 41 (1994), pp. 31-45.

Reforms and Social Control Challenges

If the state's firm grasp of the individuals in a society could explain the overall social stability even in an era of enduring economic stagnation, then the stability should have been challenged when these communist states embraced a wide variety of economic reforms and thus the traditional means of control based on distributional power would have been forfeited. Furthermore, these reforms also resulted in rapid social change and thus led to social turmoil. They unbridled societal forces that tended to capture economic rents, request rights, or promote further reforms. To manage such complex dynamics and uncertainty, there was a pressing need for authority to remain in the public domain.

In principle, the economic reforms weakened the ability of the party-state to exercise social control in the following ways. First, when such market elements as the prices of commodities, the quantities of consumption and production, organizational forms, the appointment of managers, wages, technology, and investment were liberalized, the scarcity of materials was alleviated, distributional discretion by political leaders were truncated, and the leverage needed to solicit cadre loyalty and citizen compliance was reduced. Secondly, when the economy was opened up, alternative resources and sources of income also became available, and the subordinates' dependence on political superiors to improve welfare decreased. Third, as market competition was introduced, the productivity and skills of front-line workers became valuable assets of the organizations, and thus substantially increased the opportunity costs of rewarding political loyalty due to the limited resources. Political superiors in such cases also depended more on their subordinates for profits and career advancement. In other words, the bargaining power of the subordinates was essentially substantiated.¹⁸

The economic reforms also dismantled the artificial classification and segregation within the society that supported the social control exercised by the dictatorial regime. Economic liberalization created abundant opportunities for vertical social mobilization. While some might have become rich within the new economic structure, others might have moved downward by losing their jobs because market competition in different industries forced the enterprises to cancel their tenure system. Many other enterprises were even driven out of business. In other words, the political social classification was

¹⁸ For example, Andrew G. Walder, *Communist Neo-traditionalism: Work and Authority in Chinese Industry* (Berkeley & LA: University of California Press, 1986); Xiaobo Lu & Elizabeth J. Perry (eds.), *Danwei: The Changing Chinese Workplace in Historical and Comparative Perspective* (Armonk, NY: M. E. Sharpe, 1997); Lulu Li & Hanlin Li (eds.), *Zhongguo de danwei zuzhi: ziyuan, quanli yu jiaohuan* [Danwei as a social organization in China: resources, power and exchanges](Hangzhou: Zhejiang Renmin Chubanshe, 2000).

replaced by a social classification.¹⁹

Social Control by the Grassroots Unit: the Community

From a comparative perspective, most Euro-Asia socialist countries and China have applied similar social control mechanisms, and most of them have encountered similar impacts of economic reforms. Nevertheless, while the Communist Party in China remained in power and maintained acceptable social order throughout its economic reforms, most other countries did not. Apart from the widely-cited thesis of “shark therapy” versus a gradualist solution, there must therefore be some other delicate mechanisms that have contributed to such a telling difference. As mentioned above, many communist countries had attempted to adopt the gradualist approach but failed. The question that we should then ask, however, is why these European communist regimes chose to implement drastic political reforms (i.e., democratization) that seemed, in retrospect, to complicate matters so that the regimes eventually lost control. The case elaborated in detail hereafter proposes an alternative explanation: the controlling web of the CCP continued to function by successfully adapting to new institutional settings and socioeconomic conditions.

This study considers the case of how a party cadre in an urban community could have accomplished the assigned task without the support of the traditional means prevailing in the pre-reform era. “Community” (shequ or xiaoqu) here refers to an artificially created administrative district in an urban area, consisting of space, buildings, facilities, and residents ranging from several thousand to a couple of hundred thousand. It differs from the concept widely applied in the Western world in the sense that it is a top-down administrative device rather than a voluntary, bottom-up civil association. Above the community, there are several layers of administrative nodes, including the “Street Office” (街道辦), Qu (district) (區), and City (市), as shown in Figure 1. Together with its counterpart in rural areas called “village”, the community serves as the lowest-level unit

¹⁹ Victor Nee, “A Theory of Market Transition: From Redistribution to Markets in State Socialism”, *American Sociological Review*, Vol.54, No. 4 (Oct. 1989), pp. 663-81; Victor Nee, “Social Inequality in Reforming State Socialism: Between Redistribution and Markets in China”, *American Sociological Review*, Vol. 56, No. 3 (Jun. 1991), pp. 267-82; Victor Nee, “The Emergence of a Market Society: Changing Mechanisms of Stratification in China”, *American Journal of Sociology*, Vol. 101, No. 4 (Jan. 1996), pp. 908-49; Victor Nee & Yang Cao, “Path Dependent Societal Transformation: Stratification in Hybrid Mixed Economies”, *Theory & Society*, Vol. 28, No. 6 (Dec. 1999), pp. 799-834; Thomas G. Rawski, “Reforming China’s Economy: What Have We Learned?” *The China Journal*, No. 41 (Jan. 1999), pp.139-56; Wing Thye Woo, “The Real Reasons for China’s Growth”, *The China Journal*, No. 41 (Jan. 1999), pp. 116-37; Xueguang Zhou, “Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data”, *American Journal of Sociology*, Vol. 105, No. 4 (Jan. 2000), pp.1135-74; Xueguang Zhou, “Beyond the Debate and Toward Substantive Institutional Analysis”, *American Journal of Sociology*, Vol. 105, No. 4 (Jan. 2000), pp. 1193-5.

for administrative control, or the “nerve tips” of the Communist organ as Read has figuratively expressed.²⁰

(Insert Figure 1 about here)

Such grassroots administrative units were revitalized by the Chinese party-state for the following reasons. First, they served as an interface between the public and private interests, and between the government and the citizenry. From a social control perspective, they were street-level detecting devices probing the grievances, disobedience, conflicts and other potential threats to the overall security of the society. In particular, in the rural areas these grassroots offices also served to focus on such political issues as party loyalty or ideological purity. Yet, after decades of reforms, they were re-integrated into the modern administrative apparatus and mainly served as a liaison between the ruling party and the ruled. In addition to the collection of intelligence, these front-line units now covered up their administrative roles with such functionary appearances as the delivery of social services.

Second, following the deployment of the economic reforms after Chairman Mao Zedong’s death, the original social control bases, i.e., the work units, soon became obsolete in terms of their comprehensiveness. For a long time, work units had been a very effective organ that not only delivered social services (wages, housing, subsidies, medical care, etc.), but also monitored individuals (via, for example, the keeping of secret dossiers), and assured compliance (by formal sanction devices and informal social ties such as group pressures). The abolition of the tenure system and the closure of state-owned enterprises caused massive lay-offs and thus released a huge number of workers from existing controlled units.²¹ Furthermore, private and foreign enterprises sprung up following the opening of the market and thus created a new private sector that had previously never deployed and would find it hard to deploy any effective internal control mechanisms. To cope with such a vacuum, the Chinese state recently engaged in patching up another security net that is based on geographical locations.

Third, the natural consequence of the economic reforms has been the mass migration of population and urbanization. Because of poverty caused by limited agricultural activity, surplus workers flocked to the cities in search of economic opportunities.²² The

²⁰ See Benjamin L. Read, “Revitalizing the State’s ‘Urban Nerve Tips’”, *The China Quarterly* No.163 (2000), pp. 806-20.

²¹ Victor N. Shaw, *Social Control in China: A Study of Chinese Work Units* (Westport, Connecticut: Praeger, 1996).

²² In Chinese these rural migrant workers are literally called “farmer workers” (*nongmingong*). Theoretically, the strict domiciliary registration system (*hujū*) should have constrained such mobilization, yet

quandary they encountered and despair they perceived made this socially-detached population sector a social security time bomb. Paradoxically, there was also a growing unemployed labor force loitering in different corners of the cities, posing a tangible threat to social stability. Different sources of insecurity, furthermore, tended to interact and gave rise to synergic consequences because of the contagious effect in populations of high density, the convenience of transportation, and the advantage of anonymity behind the crowds in urban environmental settings. Urban turmoil therefore tended to swell into large-scale collective protests that gained momentum, and soon posed a considerable threat to the political authorities. The sensitivity and responsiveness of the street-level cadres to these syndromes and problems become essential if the ruling party were to curb the threatening developments in no time.

Fourth, another reason for stressing community-level management was the surge in property rights disputes associated with the new-found prosperity of the real estate market. Commercial liberalization and urbanization created demands for space, and therefore uplifted the prices of real estate. Of special concern in this case was the housing problem that has recently loomed large in most urban areas. On the demand side of the market, and also as a result of the economic reforms, there was a general trend to tighten the welfare policy of enterprises. Market competition and pressure for financial self-sustenance forced many public-owned enterprises to cancel the benefits of public housing. Private housing, sometimes with partial subsidies from the government, became more and more popular. Many newly-enriched businesspersons wanted to move into luxury, high-scale housing or apartment complexes to show off, and for comfort and security purposes. Many others just took advantage of the burgeoning real estate market as a means of investing. On the supply side, construction companies benefited from land-use policy reforms that gave them more freedom to acquire needed land. Just as in many other Western urban political systems, capitalists sought to ally themselves with zoning authorities in the urbanization process to make windfall profits.²³ Nevertheless,

in reality it seemed too costly to implement the system. Germane phenomena and actual impacts of this migrating social sector have attracted intensive scholarly and policy attention in recent decades. For example, see Chunguang Wang, “*Nongcun liudong renkou de ban-chengshihua wenti yanjiu* [A Study on the ‘Quasi-urbanization’ Issue Regarding Population Mobilization in Rural Areas]”, *Shehuixue yanjiu* [Sociological Research], No. 5 (Nov. 2006); Fulong Wu, “Urban Poverty and Marginalization under Market Transition: The Case of Chinese Cities”, *International Journal of Urban and Regional Research*, Vol. 28, No. 2 (2004), pp. 401-23; Peilin Li (eds.), *Nongmingong: zhongguo jincheng nongmin gong de shehui jingji fenxi* [Farmer Worker: A Socio-Economic Analysis of Farming Labor Migrating into Towns in China] (Beijing: Shehui kexue wenxian chubanshe, 2003).

²³ For the growth coalition or urban regime literature, see Harvey Molotch, “The City as a Growth Machine: Toward a Political Economy of Place”, *American Journal of Sociology*, No. 82 (1976), pp. 309-30, Clarence Stone, *Regime Politics: Governing Atlanta 1946-1988* (Lawrence, KS: University Press of Kansas, 1989), and John R. Logan, Rachel Bridges Whaley, & Kyle Crowder, “The Character and Consequences of Growth Regimes: An Assessment of Twenty Years of Research”, *Urban Affairs Review*, No. 32 (1997), pp. 603-30. For recent developments in China, see Jieming Zhu, “Local Growth Coalition: the Context and

since the property rights of this new commodity were poorly defined and regulation was deficient, disputes proliferated and intensified in recent years. Since such disputes usually involved a group of home owners that were geographically intimate and thus found it easy to engage in collective action, cadres at the community level were thus on the front line to prevent such protests from being mobilized.

For the aforementioned reasons, the party-state started to enhance the governing capacity of the community by introducing a series of institutions. An urban community in China now usually consists of three governing entities in addition to the CCP branch. The first is the “residential committee” (jumin weiyuanhui 居民委員會, or juweihui 居委會 in shortened form, hereafter RC), a semi-official organ that is supposed to represent the interests of all residents. It also serves as an extended administrative agency of the local governments. The second is the “home-owners’ committee” (yezhu weiyuanhui 業主委員會 or yewehui 業委會, hereafter HC), a civil association representing the interests of property owners. Since it is entitled to manage the common properties for the community, it is the agency that actually controls most of the financial leverage and bargaining power among the three. The third is the “property maintenance company” (wuye guanli gongsi 物業管理公司, or wuyegongsi 物業公司, hereafter PMC), a private company that signs a contract with the community (represented by HC) to carry out daily maintenance functions. Since the company usually has connections with the developer of the community, e.g., in the form of a subsidiary company, it usually enjoys asymmetric information regarding hardware. Behind these three major actors in community governance is a party cadre, under the leadership of the “Chief Branch Secretary” who is supposed to tilt the balance of power and ensure overall control of the community’s stability and development.

Community Politics: The Case of Jinxiu Community, Shanghai

Community Politics of Realty Disputes

Under the reform efforts of the central government, most communities started to elect their own committee members for the HC and RC in the early 2000s, according to the “Regulation on Realty Management” (物業管理條例) and the “Organic Law of the Urban Residents Committee” (城市居民委員會組織法), respectively. For whatever reasons that such electoral systems were introduced,²⁴ the power structure in the community has

Implications of China’s Gradualist Urban Land Reforms”, *International Journal of Urban and Religion Research*, Vol. 23, No.3 (1999), pp. 534-48.

²⁴ Different reasons are mentioned in different studies. Peng, Bo argued that they are a path-dependent consequence of urban management evolution, “*Guo jia quan li yu cheng shi kong jian: dang dai zhong guo*

delicately changed accordingly. The earlier symbiotic coalition between political and economic elites is now being contested, and the consequential policies favoring organized business interests are now subject to being attested by ballots. Many property owners had disputes with the developers mainly because the developers failed to fulfill their obligations as specified in the contract. Although suing the developers could be an option, property rights regarding such new commodities as real estate were yet to develop and thus the judicial system often could not work well in solving such disputes. One more popular choice of the property owners was to control the HC, which had the right to renew the contract with PMC, the deputy of the developer in the community. When HC positions were opened to election, such control became very possible. To countervail the influence of the HC, it was reasonable for the developer and its deputy in the community to try to control the RC, which had a broader election base (including non-owner residents) and tended to have broader concerns than the property owners.²⁵

Against this backdrop, community-level elections in urban China might have deviated from the stereotype of the elections in communist countries: mere formality to justify the manipulation of party cadres. With the great interests at stake and formal rules encouraging competition, many community-level elections exhibited intensified competition, as a pluralistic society could have observed. Without traditional means of social control in party cadres' hands, these elections could have posed a formidable challenge for the grassroots CCP cadres to have party representatives continue to hold these elected positions. What was more puzzling was that the CCP by and large was still able to have quite satisfactory election results in recent years. Is there a systemic explanation for this?

cheng shi ji ceng she hui zhi li bian ge [State Power and City Space: The Change in Base-level Social Governance in Contemporary Urban China], International Conference on Cross-Strait Comparison on the Development Models and Perspectives, Taipei: College of Social Science, National Chengchi University (NCCU), May 29-30, 2006; Chao Chien-Min believes that these elections can alleviate the financial difficulty of local governments, “*Zhong guo da lu cheng shi gai ge de li lun ji chu* [The Theoretical Foundation for Urban Reform in Mainland China]”, in the edited volume by Zhu Xin-Min, *Zhong guo da lu cheng shi ji ceng min zhu yan jiu* [The Study on Base-level Democracy in Urban China](Taipei: Cross-strait Interflow Prospect Foundation, 2004), pp.11-22; Yong Gui posits from a functionalist perspective that elections are to reconstruct social control mechanisms when the work-unit control system gradually becomes invalid, see *Lin li xing dong: cheng shi ji ceng de xing dong, zu zhi yu zheng zhi hu dong* [Neighbor Actions: Urban Base-level Actions], in print, Chapter Five; Hua Yao considers these systems as consequences of competition and compromise by different governmental agencies, see *Zheng ce zhi xing yu xing dong zhe de ce lue: shanghai ju min wei yuan hui zhi jie xuan ju guo cheng de ge an yan jiu* [Policy Implementation and the Strategy of Actors: A Case Study on Direct Election of Residents Committee in Shanghai] (Shanghai: Unpublished Ph. D Dissertation, Department of Sociology, Shanghai University).

²⁵ Although the RC is often considered to be a subordinate agency of Street Offices, and the developers usually have an extraordinary relationship with Street Offices by contributing billions in tax revenues and side payments, developers also needed to develop a direct relationship with the RC because many disputes between homeowners and developers were mediated by RC directors. See Xiao Pang, “Guanyu jiaqiang jiceng dangzuzhi weihu qunzhong hefa quanyi de zhidu jianshe yanjiu [A Study on Institutional Building for Strengthening the Base-level Party Organization's Protection on the Legal Rights of the Public]”, *Shanghai dangshi yu dangjian* [Party history and party construction in Shanghai](Sep. 2005), p. 25.

Escalating Competition in Community-Level Elections

Jinxu is a typical, newly-urbanized community. It is located in the southern part of the city of Shanghai, within a district flocked by high-tech industries and universities. Furthermore, because of traffic convenience either to the downtown area (only several subway stops to Xujiahui) or to Hongqiao International Airport, this district ranks among the most prosperous real estate markets in the city. The community consists mostly of commercial housing units built by a powerful developer that gained the rezoned base-land from the city government in 2002. After going through three stages of development, this modern residential complex consisted of 27 buildings with 1,800 units for sale. Mainly because of this convenient access to all kinds of living facilities, this community attracted many white-collar investors and residents who caused the unit price to rise from RMB 3750 per square meter to RMB 4800 in about two years.²⁶

Once the community had about 5,000 residents who had settled down, it started to organize its own governing devices according to the famous “three-horse-wagon” (sanjia mache) structure by electing HC and RC members and signing a contract with PMC. As in the cases of most other communities, the HC election caught the spotlight because it had the right to manage the common property in the community (for example, by renting out the office space for disposable income) as well as the right to oversee or replace PMC that might buy the members off via valuable side payments. By contrast, PMC was affiliated to the developer who controlled asymmetric information regarding the physical details of the buildings and usually had the highest priority in gaining the maintenance contract. As for the RC, the general impression about it was that it was comprised of “officious busybodies poking into people’s personal matters” and thus was not something that most citizens concerned themselves about.

Nevertheless, behind this overall apathy, there could be surprising turbulence in RC elections. On the one hand, the extended participation in HC elections for rights-defending purposes and the consequential disobedience of such organizations created a strong incentive for the party to consolidate its control over the community through the semiofficial organization, the RC. There was indeed a working guideline requesting that the party cadres at the community level hold positions in the RC to ensure that the politicians exercise leadership and dominate personnel and financial arrangements.²⁷ On the other hand, local activists or rent seekers also sought to control

²⁶ Interview with Mr. Peng, Nov. 21, 2006.

²⁷ An internal document of the Party states that “the results of this election will reflect the governing ability of the Party. It is an indicator of state’s control over grassroots society. Therefore, this election is a

the RC not only because it was an institutional device tilting the counterbalance between the HC and PMC, but also because the RC controlled the thick administrative networks that could prove quite powerful in collecting ballots in HC elections. For these not-so-high-sounding reasons, competition in RC elections might have become quite intensified in those cases where the majority of the people lived in commercial housing.²⁸

Jinxu, as a new commercial housing community, went through these struggles. Although there were no signs to indicate that there were essential property disputes or related rightful protests in this community, there were some complaints regarding minor discrepancies between the promised facilities and the subsequent reality. The possible largess of the PMC, however, still made the HC positions very attractive to some activists in the community. Two groups of people contended against each other in the early stages. One was headed by a teacher in a local university, Mr. Zheng, who demonstrated impressive connections in higher level (township and above) governments.²⁹ Mr. Zheng was very aggressive in trying to control the coming RC election in August 2006, which was considered a crucial stepping stone to the HC election in the same month.³⁰ While almost everybody knew his intention, nobody was actually aware of the rhetoric behind such efforts. There seemed to be no property rights disputes with the developers so that a collective action under his leadership was needed in this community. One reasonable speculation was that due to private incentives such as his being aware of the coming projects that the developer and city government would propose in the neighborhood, the HC position would place him in a key position to take advantage of these projects.

The rival camp consisted of a group of younger residents among whom David, a computer engineer in a high-tech company, was the symbolic figure. David and his associates had long advocated that, through active management by young people, the community could be further modernized by improving its physical infrastructure. For example, they hoped to set up Internet cables for the residents. For this, they had set up a

political task, rather than a mere administrative chore”, Internal Report, “Shang hai shi min zheng ju ji ceng zheng quan he she qu jian she [Base-level Regime and Community in Shanghai’s Civic Affairs Bureau]”, cited by Yong Gui, *Lin li xing dong* [Neighborhood Actions], in print, Chapter Five. Interview with Liu Yu-Zhao (Professor, Department of Sociology, Shanghai University), Aug. 12, 2006.

²⁸ When the proportion of commercial housing in the community is too small, it is less possible for the activists to vie for RC positions through right-defending appeals either because non-owners overwhelm. Similarly, since one community will have only one RC, when there is more than one HC in that community, the jurisdiction of the RC will be much bigger and thus it will be less realistic for the activists to influence the RC.

²⁹ According to interviewees Ms. Gu and Mr. Cao, Mr. Zheng did not dare bother the superior officials like this without having strong enough connections. Besides, everybody in the community could feel that the superiors favored Mr. Zheng in the whole process. The interviews with Ms. Gu and Mr. Cao took place on Oct. 27, 2006, and Oct. 29, 2006.

³⁰ The pre-election of the RC was held on July 29 and its formal election was held on Aug 5, while the HC election took place on Aug. 30, 2006.

homeowners' forum, maintained a homepage for the community, and had some training workshops for germane skills. Since such proposals involved physical rearrangements of the buildings and considerable costs, intensive negotiation with the developers and PMC were inevitable. The HC, as a representative of community interests and legitimately superior to PMC, was thus considered essential for David to pursue his goals.³¹ Since the two elections for the RC and HC were held in sequence and the electorates essentially overlapped, campaigns for the two elections were deployed and managed together.

In the process, Mr. Zheng demonstrated sophisticated political skills and took an advantageous position in the early stages. He launched several rounds of assaults in different battlefields. Inside the community, he tried to promote his professional reputation by protesting against the director of the Preparatory Office for the HC who failed to inform some homeowners when he convened a general homeowners' meeting.³² He also tried to defame major figures in the opposition camp by using posters indicating their taking bribes (from PMC) and other personal moral disputes, such as divorce.³³ Outside the community, he pressed similar charges against his opponents directly to the superior governments, where he seemed to have good connections. Numerous petitions, in person as well as by letter, did alert the in-charge officials in the town/district offices who, in response, conducted several rounds of investigation but found no sustainable evidence.³⁴

Hibernation of the Party

From the perspective of the Communist Party, it has seemed to be a great challenge for the community-level cadres, namely, one Party Chief Branch Secretary (總支書) and three Branch Secretaries (支部書記) in this case, to maintain a dominant influence in such complicated competing among interests. Although the Chief Secretary, Mr. Cao, was assigned as deputy director of the RC until the director was formally elected, he had no authority or coercive means to manipulate the election outcome bluntly. Mr. Cao himself was also not a resident of the community just because he could not afford the prices there. In addition to his inferior financial status, he was poorly connected with higher-echelon cadres. During the Cultural Revolution, he was dispatched to a remote rural place, where he spent most of his young life. Coming back to Shanghai in the 1990s, he was unemployed for a while, and was eventually recruited by government as a community social worker.³⁵ Such recruitments were largely in response to the changes in the tenure

³¹ Interview with David, Nov. 28, 2006.

³² Jinxiu's "Home-owner Forum" on the Internet, checked on Dec. 5, 2006.

³³ Interview with Ms. Gu, Nov. 18, 2006.

³⁴ Interview with Ms. Ye, Oct. 27, 2006 and Oct. 29, 2006.

³⁵ Interview with Mr. Cao, Nov. 28, 2006.

system of state-owned enterprises, and were used to absorb masses of laid-off workers on the street. In about ten years, Mr. Cao gradually moved upwards to a base-level party cadre position. How prestigious was this party cadre position? In a capitalist society like Shanghai the title did not seem to promote his social status too much. Interviewees did not disguise their pejorative tone in commenting on Mr. Cao's plebian background although they generally agreed that he was a capable and astute party deputy at the very base level of the society.³⁶

Such humble conditions, at least from a Western point of view, should have prevented him from wielding the reins of the party over the community. As shown in this case, Mr. Cao had to deal with a professor, Mr. Zheng, who had extraordinary external networks on the one hand, and one newly-enriched by the technology industry, David, who had stronger internal support, on the other. His superior did not seem to back him up too much, because he came under open investigation several times and was almost replaced two days before the RC election. His administrative network within the community seemed to be ossified when he tried to use it. It is a miracle, in retrospect, that the Party could eventually regain overall control in the two upcoming elections.

With the elections for the RC and HC approaching, the conflicts between the two camps escalated to personal attacks, and a contentious atmosphere prevailed in the community. Most community elites became impatient over the inaction of the Chief Secretary, who was assigned to administer the elections and was supposed to exert the influence of the ruling party in due course.³⁷ Mr. Cao remained inactive for two main reasons. First, the party did not back him up in the process, and in actual fact he was almost replaced by his superior because of Mr. Zheng's complaints about him in his superior's office.³⁸ Secondly, endowed with very limited resources, he was still waiting for the right timing when his strike could maximize its impact.

For every party cadre in the community there are two basic goals that need to be pursued in administering grassroots elections. The explicit one is of course to hold a successful election. Yet, "success" is meant something quite different in the context of the Chinese Communist Party. Two criteria are proposed: a high voter turnout rate and a high degree of consensus on the elected. While these two standards do not make any

³⁶ Mr. Cao earned the nickname "old fox" largely because he was not supported by personal connections but had to rely on his own hardworking and crafty tactics. Interview with Ms. Gu, Nov. 20, 2006, and interview with Ms. Ye, Oct. 5, 2006. Some scholars in China comment that the Chief Branch Secretary actually ranks too low to have solid support from the party, Lin Shang-li (Professor, International Relations and Public Affairs School, Fudan University), in a speech at the NCCU Election Study Center, Oct. 24, 2006.

³⁷ Interview with Ms. Gu, Nov. 18, 2006.

³⁸ Interview with Ms. Gu, Nov. 20, 2006.

sense from the viewpoint of democratic theory, they have a practical function as two effective indicators for measuring how well the local cadres can manipulate the election results. Such ability of manipulation guarantees the CCP's remaining in power in the long run. To have a high voter turnout rate, the local cadre has to demonstrate his ability in mobilizing voters to participate. Long after the era of mass political campaigns and the dominance of ideology, such political activities have apparently been unpopular in capitalist societies. Urbanization and isolated housing units in tower buildings also increase the difficulties associated with building up networks for mobilization. To achieve a high voter turnout rate, the cadre has to work very hard at maintaining personal networks long before the elections. A high degree of consensus in voting results reveals the ability of local cadres either to coordinate different interests through negotiations, or to bluntly smash the opposition forces. Both are valuable to the CCP in seeking to remain in control.

The second goal of the election for the local cadre to pursue, which is somewhat implicit, is to prove that the CCP is still the boss. While every election conducted by non-democratic countries carries out the function of legitimizing the ruling regime, maintaining the formality of free choice on the part of the electors and in the meantime obtaining the results that favor the ruling party further demonstrate its popularity and actual influence. That is partly the reason why the CCP requests that the local cadres pursue the position of RC director in person. In cases where local cadres are not residents, they are requested to have a reliable deputy run with them and win the election. At least the local cadre has to be able to demonstrate his overwhelming influence in determining the election results.

To accomplish the above two goals, Mr. Cao was very cautious in maintaining a good relationship with both sides right at the beginning. Since he was not eligible to run in the election himself because of his non-resident status, he could only choose either to mediate between both sides to reach a compromise, or to ally himself with one side to smash the other thoroughly. Mr. Cao made his mind up in early 2006 when two critical conditions emerged. First, Mr. Zheng became more hostile and harder to deal with when the elections approached. Mr. Zheng's success in gaining the active investigation of the superior government into his charges essentially increased his confidence in dominating the two upcoming elections, and thus he maintained a very high profile not only toward the opposition camp but also toward the communist party cadres. When the party cadres realized that Mr. Zheng was totally out of control, the second option obviously provided a better fit to the goals that the central party leader had set for them.

The second condition that facilitated Mr. Cao's decision was the quick accumulation of suspicion or even resentment regarding Mr. Zheng's ambition in controlling all the election positions for his own private interests. Mr. Zheng looked too greedy and too aggressive so that many community elites that had originally been in his camp gradually withdrew their support to avoid the possibility of a bad reputation and criticism. One demarcating incident occurred in late 2005 when the homeowners' convention was convened. Mr. Zheng promoted a redistribution scheme regarding the numbers of HC representatives from different sectors of the community.³⁹ This audacious motion apparently favored his own sector and annoyed many of the elites in other sectors with which he had allied himself. By observing such a sea change in the power structure, Mr. Cao believed that there was a great chance of defeating Mr. Zheng by siding with David's camp.

Wake Up, Comrades!

In early 2006, Mr. Cao launched his campaigns by revitalizing the administrative networks that had been inactive for a long time. Originally, there was an administrative network in the community: several section/building chiefs (樓組長) were appointed to assist the RC director in offering social services and maintaining face-to-face contracts with the residents. Most of them were retirees who volunteered to do such work to gain a sense of achievement. What was most noticeable in the Chinese context was that many of them were CCP members so that they maintained high self-esteem and some sense of social responsibility. These old comrades were used to a collective life, were trained to be active participants, and were eager to demonstrate themselves. In the urban setting, they might not have been welcomed by residents who greatly cherished their privacy, and therefore they might have become inactive if the leader had decided to maintain a low profile. Nevertheless, once the leader revealed his ambition and paid his due respects to the merits of the old comrades, it was quite easy to motivate them by means of some honorable treatment (e.g., by presenting them with some awards or an open citation) and getting them to commit themselves to assignments whole-heartedly. Mr. Cao resumed such leadership and ignited this system by convening a formal meeting of section/building chiefs, signifying that the party system had been hitting the road.⁴⁰ While some of these chiefs inevitably defected to the other camp mainly because of the huge interests associated with the HC director elections, most of these old comrades warmed up quickly

³⁹ The community consisted of three sectors in accordance with three sequential batches of construction. Buildings in the first batch were mostly smaller buildings and had better gardening designs, while the other two had higher towers and limited public space. Interview with Ms. Ye, Nov. 20, 2006.

⁴⁰ When Mr. Cao convened the meeting in Jan. 2006, David's camp captured the signal right away and felt very excited about it. Interview with Ms. Tu, Nov. 18, 2006 and Ms. Gu, Nov. 28, 2006.

and engaged themselves aggressively.

Networking in an Emerging Pluralistic Society

Only a very naïve leader would have relied solely on these old comrades to pursue political goals in an industrialized, capitalist and urban community. They might have been sophisticated in terms of their personal interactions, yet in a new urban community setting residents avoided interacting with neighbors, not to mention dealing with annoying party cadres known for meddling in others' private lives. The party cadres tried to maximize their influence by incorporating existing social networks, through which they could further penetrate into existing social groups or even organize new associations. Even in the loosely connected community, party cadres could still specify some stronger social ties to serve as the roots for further networking. One such core network in Jinxiu was a union of six families (hereafter U6). These families were originally connected by their alumni status and common interests in gardening and tea-savoring. Soon they developed friendships through frequent interactions at dinner parties during weekends and holidays, through karaoke and bridge contests, children's musical performances, and even blogs on the Internet.

Although this network was developed purely for pleasure purposes, it could be quickly turned into an effective party mobilization network because of its amazing strength and extensiveness. In addition to internal activities, the individual families of this union had also vigorously become involved in a wide variety of amateur associations and social contact occasions, including martial arts exercises in the morning, English tutorial classes for senior citizens, computer (hardware as well as software) skill training classes for juniors, choirs, badminton teams, and so forth.⁴¹ In noticing the potential of U6, Mr. Cao made a strategic move by setting up one person from U6, i.e., Ms. Ku, as a candidate for RC director. Since she reported to the party office and volunteered as the Section/Building Chief right after she moved into this community,⁴² Ms Ku could generally be considered to be an old-style, loyal party member and thus a reliable surrogate of party interests in the community. Before the Chief Branch Secretary uttered his preference, Ms. Ku once stood in Mr. Zheng's camp.⁴³ Later when Mr. Zheng became too bossy, she expressed her concern and became more neutral. By putting her in a key position in the RC election and in the meantime promoting David's interests in the upcoming HC election enabled the party to take over the valuable informal networks of U6 and thus make up for the somewhat ossified formal system.

⁴¹ Interview with Ms. Gu and Ms. Gao, Aug. 25, 2006.

⁴² Interview with Mr. Cao, Aug. 25, 2006.

⁴³ Interview with Ms. Gu, Nov. 12, 2006.

(Insert Figure 2 about here)

This strategy worked perfectly. While most citizens were largely cynical and resistant to party/administrative networking efforts, they tended to accept the hospitality of the U6 members in all aspects of the social contacts. When U6 hosted pan-community activities, such as Christmas/Moon-festival parties or badminton contests, the party gained popularity by soliciting financial support from PMC.⁴⁴ U6 also strengthened the formal networking by accompanying the cadres in door-to-door visits. It was quite common for the party cadres to be rejected by the more phlegmatic residents during such visits. Yet, they would fare quite differently when the acquaintances of the residents knocked on the door with them. Through the help of community activists, the cadres would also be able to offer instant attention and assistance to the needy families or individuals.⁴⁵ These intensive efforts subtly changed the stereotype of the party cadres and enabled them to patch up the loopholes of the networks caused by quick urbanization. Such networking endeavors also proved to be valuable when the time came for the party cadres to administer the two upcoming elections.

Enforcing the Party's Will

Grassroots elections in China are extraordinarily complicated and the administrative work is highly labor-intensive, requiring mass mobilization to accomplish the task. The first step is to set up a five-person election committee to administer the election. In Jinxiu, while the Chief Branch Secretary was by designation the chairman of this committee, the other four were largely chosen by the chairman, with the only requirement being that the list had to be approved by the meeting of the section/building chiefs. Mr. Cao encountered his first setback when two representatives from Zheng's camp successfully crowded out the original candidates.⁴⁶ This incident indicates that the party cadres were still unable to control the situation at this stage.

The second important step involved the formation of two administrative systems for election, including the reappointment of Section/Building Chiefs and the formation of

⁴⁴ Originally there was a tension between PMC and the Deputy Director of the RC, Mr. Cao. Yet, ever since Mr. Zheng (Cao's opponent) explicitly expressed his intention to replace PMC once elected, the PMC was forced to amend the relationship with Cao's camp by offering space and utilities for community activities, and sponsoring the RC's campaigns. Interview with Ms. Gu, Nov. 18, 2006.

⁴⁵ Examples included the announcement of somebody passing the college entrance examination to extend congratulations, or the passing of an elderly community member to express condolences. Interview with Ms. Gao, Aug. 25, 2006.

⁴⁶ Internal documents, Jinxiu RC Election Work Records.

Resident Representatives (居民代表). The original purpose of this organization was to allow the chairman to recruit capable team members for the heavy upcoming tasks. It also presented an opportunity for the party cadre to change the power structure of the community. The setback in the previous stage indicated an unfavorable power structure in terms of pursuing party interests. Mr. Cao replaced many section/building chiefs with supportive activists to ensure better control of the election process and result. While the other representatives, the Resident Representatives, performed only nominal functions such as conveying the concerns of the residents, these honorary positions could have been used to solicit support from celebrities or opinion leaders in this community. By nature they will function to endorse the due course and legitimacy of the election outcome. Personnel in both systems would have had to attend intensive training courses to familiarize themselves with the complex process of election before actually being able to carry out their mission.

Once the working team is ready, the first task is to get citizens to register as legal voters. This is a suspicious activity from the point of view of outside observers because the domiciliary registration system has been the hallmark of the totalitarian regime and the foundation of the social welfare system. Recent urbanization and the relaxation of mobilization constraints in China will of course increase the difficulties associated with maintaining an accurate list of people's names and their addresses, yet as long as the social welfare system still depends on this registration system, it will be much more reliable than a voluntary vote-registration system. One possible reason for adopting this system is to achieve a higher voter turnout rate. This is because the voters' registration ensures the de facto residence of voters and thus allows the administrator to create a much smaller denominator, thus giving rise to a much higher voter turnout rate.⁴⁷ Another more functional reason is that such registration first requires a round of mass mobilization. It forces the party cadres and their team members to visit residents in person and asks them to register as voters. To do so, they have to build up their mobilization network and control enough information regarding the residents in advance. A third and more conspicuous explanation is that this process allows the party cadre to screen out some less friendly voters and thus manipulate the results of the election in a secret manner.

Once the eligible voters are identified, a further task is to generate candidates for different positions. To ensure the competitiveness of the election, the system abides by a "discrepancy rule" (差額選舉) that specifies that there must be only one more candidate than the number actually elected. In other words, there must be just one loser for every

⁴⁷ According to the household registration record, there were 4,945 persons in 1,789 households. However, only 948 persons registered as voters. Interview with Mr. Cao, Aug. 25, 2006.

kind of position. Nevertheless, the central party leaders also request that the distribution of votes should be highly concentrated on the planned candidates. Under such explicitly contradictory requests, communist party cadres have to screen the candidates strategically. In principle, every qualified resident can freely register to be the candidate for a specific position, and after passing the screening of the election committee he or she is then added to a tentative list of candidates. Once the competition becomes overheated, as usually happens in a community with property disputes and property rights defense issues, there will be a process of “democratic negotiation” through which the chairman of the election committee will try to persuade some of them to withdraw from the competition. If the party cadres fail, there will be a formal process of pre-election, in which voters will first vote for eligible candidates before they actually vote for the positions. This is actually the most critical stage in every competitive election because most surplus competitors will be screened out by this institutional device. Once again, this process requires that the party cadres conduct another round of mass mobilization.

In Jinxiu the competition was overheated and of course the candidates from Zheng’s camp would not back off. By controlling the specific information that some groups of voters would support the candidates from Zheng’s camp, Mr. Cao arranged for some with the same background to run for the position so that they could dilute their support and screen them out. Finally, 9 competitors were competing for the 6 candidacies for the RC member position and 4 for the 2 candidacies for the director position in the pre-election.⁴⁸ Because of the accuracy of the information and the success in mobilization, Mr. Cao smoothly screened out most of the competitors from Zheng’s camp and guaranteed a satisfactory result in the final election.

The final election was held a week later. Since the rival camp had been defeated in the pre-election stage, the only thing for Mr. Cao to do was to ensure that the election had a high voter turnout rate and high concentration of vote distribution. These were the only minor issues to be managed by such techniques as “vote-casting at home,” namely, carrying the ballots and ballot box to collect valid votes from door to door throughout the community. Overall, the party gained a windfall victory by getting all the arranged candidates elected, and both the voter turnout rate and concentration rate were amazingly high. For such an unexpected achievement, Chief Branch Secretary Cao won an open citation from the superior party office.⁴⁹ Another no less surprising consequence was that the residents were so devoted to the election process that a joyful atmosphere prevailed in the community when the election results were announced. What was not

⁴⁸ Internal documents of Jinxiu RC Election Work Records.

⁴⁹ Interview with Ms. Ye, Dec. 2, 2006.

surprising is that the party cadres extended the victory to the HC and the Representative of the People's Congress elections, and perfectly controlled the results through similar operations.⁵⁰

Discussion and Conclusion

A scrutiny of the RC election in Jinxiu indicates that it was far from a fair process by Western standards. Institutionally, the party cadre was designated to administer the election. This reflected a major departure of this system from Western democracy because the government, rather than the ruling party, should have been in this administrative position. The election administration had to guarantee to be neutral, whereas any party that was supposed to pursue the ruling status should have refrained from intervening in such business. CCP cadres at the community level were purposely assigned to take on this responsibility and thus gained systematic access to information, institutional devices, and opportunities to manipulate the election results. From this perspective, CCP's victories in these elections were definitely not remarkable achievements.

A closer examination, however, reveals that winning such an overwhelming victory should not have been presumed in spite of the advantages that the party had. Behind the typical result of the party's comprehensive control, the complexity of the process, the richness of strategic interaction, and the enlightening of its meaning were all noteworthy. Many of these elections were indeed very competitive with great interests at stake, and thus deviated from the stereotype of those in communist countries, in which the voters cast their votes without much consciousness. Election results associated with various interests signify an emerging grassroots pluralism, in which stakeholders join together and compete voluntarily to pursue their self-interest as well as personal goals. Moral appeals and political doctrines have retreated to marginal status, while coercive measures such as white terror or political purges no longer dominate the results.

Such a free-will environment associated with new institutional settings is perfectly compatible with the logic of capitalist markets. Requesting that grassroots party cadres pursue political tasks in this environment not only forces them to become familiar with the new operational logic, but also to adapt their given political skills to the new socio-economic conditions. Since the CCP has a remarkable tradition and a long history

⁵⁰ Eight out of nine HC members were controlled by the Party. Internal documents of the Jinxiu RC Election Work Records, indicate that the only winner was from Mr. Zheng's camp who turned her coat soon after being elected. In the election for the Representatives of the People's Congress, one member of U6 was elected.

of grassroots organization and mobilization, a close connection with the masses has been the key to its success in the revolutionary era. Mass mobilization for political campaigns has also been widely applied by its leaders to transfer social discontent and purge their competitors, such as in the case of the Cultural Revolution of Mao Zedong. It seems a good idea if, with some subtle adjustment and transformation, the skills of managing the masses can be applied to maintain social stability in the post-socialist tradition.

If understood in the context of political development, it is clear that the purpose of these seemingly democratic devices is not to replace party control with free competition in the political market for democracy's sake. They are instead merely the training ground for grassroots cadres to control the society in new environmental settings. Many safety valves have been sophisticatedly inserted into the electoral systems so that it is not very likely that a big surprise in the results will be seen. It is possible, however, that the elections will become very competitive and thus they will to a certain degree deviate from the cadres' original script. To cope with these unexpected challenges, the cadres have to update the political skills that are needed to survive the free-will voluntary exchange scenario. While many skills are quite similar to those that are widely applied in every democratic system, some of them are apparently inherited from the totalitarian legacies. The most salient example is the incumbent party's mobilization capacity in civil networks based on private connections. In this regard, the party cadres have to find reliable surrogates from these associations so that the party can remain in control and at least its interests can be taken care of. Nevertheless, to ensure the reliability of these surrogates and the strength of connections with civil associations, the party needs to remain in power and a sense of party loyalty or honor in relation to party membership needs to be recalled or maintained.

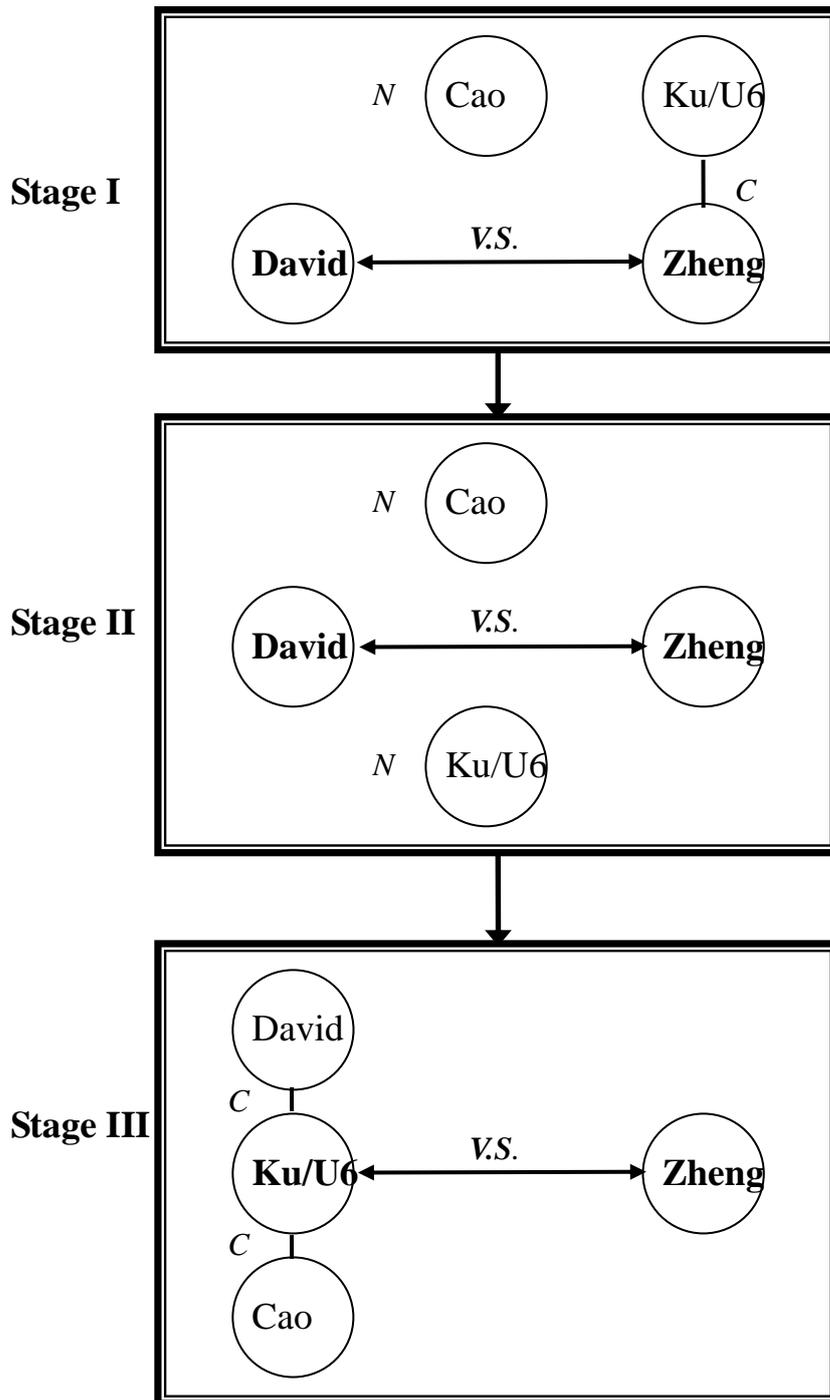
In return, the party superior will evaluate the cadres' performance in terms of their success in manipulating the election results, which can be measured by such indicators as the voter turnout rate and the concentration of the votes. Through several attempts at mobilization to fulfill the complicated requirements of the elections, the residents in the community should have been bothered enough and should become inelastic and even impatient regarding further requests for cooperation. Yet even though in such circumstances the cadre can still collect enough public support for his election efforts, there must be essential side payments for the participants. These side payments, as indicated in the Jinxiu case, are usually not direct material rewards from the party or resource distributors, but some kind of solidary rewards from networking activities. The case indicates the existence of a surprising internalization effect in the process. Through these mobilization efforts, a constant, condense social network was formed in the

community. The residents celebrated the election victory joyfully, and congratulated the Chief Branch Secretary's achievement sincerely. They shared the success as their own. Besides, most of the residents seemed happy about the enriched social life, and they generally felt the relationship with each other had been substantially improved. To express this in an oft-cited terminology, the social capital had been accumulated. These benign side-effects actually emerged to carry out important functions of social control, replacing the hard controlling mechanisms prevailing in the totalitarian era with the soft, delicate ones in the post-socialist transition.

Figure 1. City-Level Governing Structure in China

(Office Name)	(Administrative Strata)	(Formal Titles of Leaders)
Municipal People's Government	Municipality	1. Deputy Secretary of the CPC 2. Mayor
District or County People's Government	District or County	1. Secretary of District Party Committee 2. District (County) Mayor
Street (Town) Office	Street or Town	1. Secretary of Street (Town) Party Committee 2. Director of Street (Town) Office
Residents' (Neighborhood) or Villager Committee	Shequ (Community) or Village	1. Party Branch Secretary 2. Director of Residents' Committee or Villager Committee

Figure 2. The Evaluation of the Power Structure of Jinxiu Community



Note: *C* stands for a coalition relation; *V.S.* means a contentious relationship; and *N* denotes a neutral position.

Figure 3. The Interviewee List

Interviewee	Status	Date
Mr. Cao	Party Chief Branch Secretary	Aug 25, 2006; Oct. 27, 2006; Oct 29, 2006; Nov. 28, 2006
Ms. Tu	Branch Secretary	Nov 18, 2006
Ms. Gu	RC director	Aug 25, 2006; Oct. 27, 2006; Oct 29, 2006; Nov 12, 2006; Nov 18, 2006; Nov 20 ,2006; Nov 28, 2006
David	HC committee member	Nov 28, 2006.
Ms. Ye	U6 member	Oct 5, 2006; Oct 27,2006; Oct 29, 2006; Nov 20, 2006; December 2, 2006
Ms. Gao	Section/building chiefs/U6	August 25, 2006.
Mr. Pen	PMC officer	Nov 21, 2006.
Liu Yu-Zhao	Professor, Department of Sociology, Shanghai University	Aug 12, 2006.
Lin Shang-li	Professor, International Relations and Public Affairs School, Fudan University	A speech in the NCCU Election Study Center, Oct 24, 2006.