Park Planning for Life

Chapter 1

Confronting Plan Implementation Barriers

Manual for Public Use Coordinators

Confronting Plan Implementation Barriers

Main Points

1. There is a crisis in park planning around the world, where plans of all kinds end unimplemented. Although studies about unimplemented plans are few, anecdotes and personal experiences are many. With each failed plan, parks and donors waste large sums of money, time, and stakeholder expectations. Worse of all, our heritage suffers as unimplemented planning surely reduces management effectiveness.

2. We can divide barriers into institutional and poor practice. Both types have deep roots in assumptions that planners hold about both planning and the world itself.

3. It seems that the majority of protected area practitioners have chained themselves to a world conceived as predictable, linear, understandable, and stable (PLUS). From these fundamental assumptions a planning model has risen called Rational Comprehensive Planning, whose very execution generates barriers to implementation.

4. 4To avoid many of these barriers, planners must change paradigm. This new paradigm assumes that the world is actually dynamic, impossible to completely understand, complex, and evolving (DICE).

5. In order to plan in this messy and uncertain world, therefore, parks do not need rigid top-down plans; rather, they need organizations and communities of stakeholders capable of continuously learning, adapting, and doing. Only those organizations that know how to learn and experiment can manage protected areas in the face of ever changing conditions.

6. Although the majority of the field operates within the boundaries of Rational Comprehensive Planning, there exists the Public Use Planning Program, supported by the World Heritage Centre of UNESCO, which assists protected areas in planning based in the new paradigm of organizational learning and adaptive management. The Program seeks to foment a change in paradigm in the field so that a new generation of technical advisors may rise from the ashes to help protected areas cross over to a new world of planning and managing themselves.

Objectives

1. Recognize that the park planning world is in crisis and its resolution does not hinge on better science or more money.

2. Understand that a new paradigm is required, a new paradigm toward which the rest of society is already moving.

3. Be introduced to one program designed to help protected areas make that transition: UNESCO/World Heritage Center's Public Use Planning Program.

1 Confronting Plan Implementation Barriers

Poas Volcano National Park in Costa Rica was one park studied by Robles ET AL. (2007).

There Exists a Crisis in Protected Area Planning: Plans Are Not Implemented

For those of us involved in protected area management, it should be simple to see, if not crisis, at least mystery that surrounds the abundance of unimplemented plans in the world. It would seem plans of all kinds lie dying on library and office shelves. For example, the famed Yellowstone National Park in the United States had made seven winter recreation plans in a row and another may be on the way.

Despite multiple examples of unimplemented plans, the few studies done in protected areas also indicate extensive implementation problems. Lane (2003) studied barriers for management plan implementation in Honduras. She documented problems with implementation in protected areas and described a series of barriers reported in interviews. Lachapelle, *et al.* (2003) studied four different protected area planning situations in Montana, USA in order to understand barriers. Bermúdez (2006) then examined management effectiveness in Costa Rican protected areas. The study found that few protected areas had implemented plans, and the annual operating plans also offered little to implement management plans. In 2007 Robles, *et al.* studied implementation barriers for management plans in Costa Rica, noting many barriers and minimal implementation.

In general, the field would not be on alert if consequences manifested only in reports. The real costs, however, we measure in millions of annual planning dollars; untold hours committed by protected area staff and stakeholders; loss of confidence in planning, administrators, and the institution of protected areas by actors that do not see favorable results from plans; and worst of all, while the planning machine consumes so many resources, sites continues to lose the very natural and cultural diversity they exist to protect.

Barriers: Poor Planning Practices and Organizational Inefficiency

Robles, *et al.,* Lachapelle, *et al.*, and Lane all converge on barriers classified in two categories: poor planning practices and organizational inefficiency of institutions charged with planning. The following table summarizes barriers from the three studies.

1This study identified 135 barriers grouped into 14 general themes.
2 SINAC is Costa Rica's National Conservation Area System.

	Robles, ET AL.[1]	Lachapelle, ET AL.	Lane
Barriers	• SINAC[2] institutional factors • Developed management plan • Protected areas management • Involvement of interested actors	• Lack of agreement on objectives • Rigidity in design of process • Procedural obligations and requirements • Lack of trust	• Low levels of staff and administrator capacity • Political conflicts • Inappropriate use of external consultants • Low stakeholder participation in planning and implementation

We can most easily identify planning practices barriers (whether one uses or not "best" practices), and for that many documents advise on how to avoid such barriers (for example, Clarke 2000 and Thomas and Middleton 2003). Protected areas demonstrate their intention to apply good planning practices when they hire external consultants. (Lane found that 13 of 16 protected areas used consultants to write their plans). There are also best practices programs such as that of Colorado State University (www.conservation.warnercnr.colostate.edu/colaboracion.html) and the Latin American School of Protected Areas (www.elap.uci.ac.cr).

Independent of planning practices used, the institutional context in which planning occurs erects numerous barriers. For Costa Rica, Robles, *et al.* identified many obstacles such as:

- High staff rotation among protected areas
- Low salaries for those working in the field which ensures that the most qualified technical staff remain in the central office, not in protected areas.
- Inadequate training so that technically effective plannings can be carried out

Defining Implementation

Although our field has seen little academic study, the planning field has generated many studies on plan implementation. One area concerns the concept of implementation itself. Traditionally "implementation" is understood as the fulfilment of planned activities. In protected areas, this is still the dominant notion. Nevertheless, academics have discarded this concept given that for many reasons it is difficult to fulfill tasks and is considered an unjust measure. Alexander and Faluti (1989) proposed an index, later adapted by Robles, ET AL. to include the following variables: a) Completed tasks, b) plan quality, c) planned achievements, d) unplanned achievements, e) plan use, f) and contribution to the field of planning. For a deeper look at the academic literature see Robles, ET AL. (2007).

The biological and cultural diversity loses most when sites waste critical time and money making plans that end on shelves.

- Lack of incentives to plan
- Low staff morale owing to how political the process has become
- Conflicts over decision making among different levels in the system

Lachapelle, *et al.* found in the United States that different states impose so many requirements for the development of a plan that many times planning collapses beneath their weight. Similarly, interviewees informed Lane that Honduras's change of government every four years and the consequent firing of administrators and other agency staff that supervise protected areas produces a grave interruption in the implementation of any plan.

To deal with this barrier class implies three challenges. First, there is no single theoretical framework to integrate the myriad institutional and bureaucratic barriers. Second, the solution to these problems typically corresponds to higher political levels than those of the people reading this document. Third, problems are not specific to plan implementation or even the protected area field, therefore other sectors also labor to resolve these inefficiencies and the protected area community needs to access those experiences.

These two classes of barriers only refer to the direct mechanisms by which planning breaks down. In fact, behind these two, lies a deeper root cause of many barriers. Without understanding this deeper phenomenon, efforts to eliminate barriers will only aggravate the waste of time and money.

Robles, et al. is the most comprehensive study to date of implementation barriers in protected area planning. The Nature Conservancy published it as part of its Costa Rican technical series. It can be downloaded in Spanish from www.tncinfocostarica.net/content/publicaciones/serie_tecnica.html.

Crisis of the Old Paradigm Generates Many Barriers

To study poor planning practices and organizational problems does little to clarify that around the world sites continue to generate plans that cannot be implemented, and they continue to do so without ever questioning the basis on which such planning depends.

If this situation were to occur in just one country or a group of related countries with a similar institutional context, barriers based on organizational inefficiency would be sufficient explanation. Or if all protected areas used exactly the same planning practices, we would also have an overriding understanding of why plans fail. But contexts and practices vary enormously not just from country to country, but site to site.

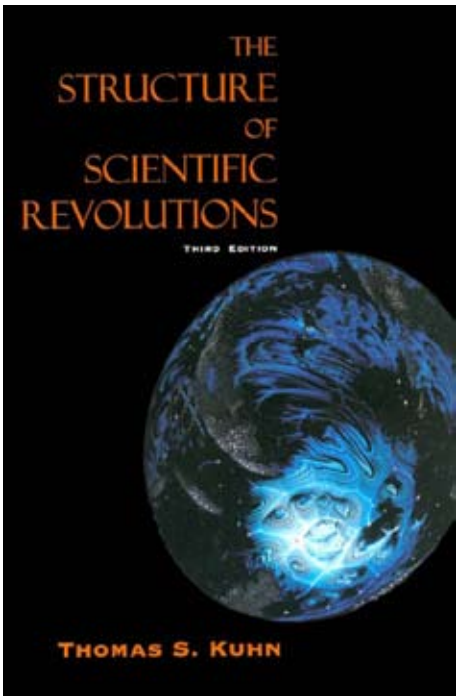
Studies in other fields indicate that when people repeat the same error over and over, even when robust evidence indicates that this error exists (whether damage caused by alcoholism or abundant unimplemented plans), many times it is because people deny the problem's existence thanks to a dominant paradigm that imposes their blindness. And this would be a crisis of paradigm.

A paradigm is a system of beliefs or assumptions that describes the rules of how a particular field operates. Since organizations encompass numerous fields and technologies (management, culture, sales, marketing, problem definition, production, etc.), Joel Barker[1] says organizations are forests of paradigms.

Given that we grow up seeing the world through powerful paradigm lens, we develop interests dependent on these paradigms, and the human mind resists ideas that contradict what our paradigms tell us. These assumptions usually lurk beyond consciousness, secretly biasing our judgment and opinions. Since Plato, many philosophers and scientifists have studied the power our assumptions hold over perception. Peter Senge, leader in the field of organizational learning, refers to the psychological literature (2006) when he writes,

> Modern research illustrates that the great majority of our mental models are systematically flawed. They ignore critical relations, misjudge time lags, and many times only focus on the most visible or obvious variables, not necessarily on those that effect the greatest change in the system (p. 203).

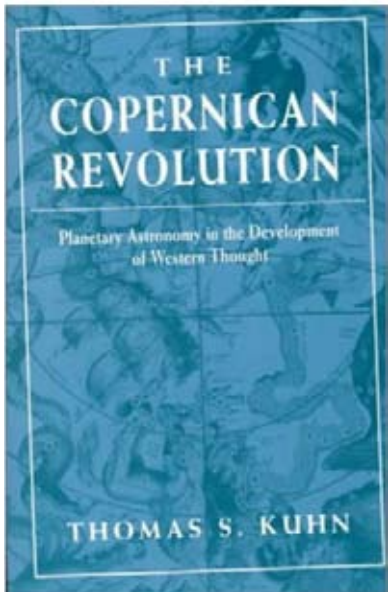
Of the history of science, Thomas Kuhn wrote a classic book about paradigm change and comments on the process of becoming aware of a paradigmatic problem:



The Structure of Scientific Revolutions by Thomas Kuhn (1962) has become a classic both in science history and beyond because it lucidly explains the process of scientific paradigm change.

[1]Barker is author of **Paradigms: The Business of Discovering the Future** (1993, HarperBusiness).

> In science... novelty emerges only with difficulty, manifested by resistance, against a background provided by expectations. Initially only the anticipated and usual are experienced even under circumstances where anomaly is later observed. Further acquaintance, however, does result in awareness of something wrong or does relate the effect to something that has gone wrong before. That awareness of anomaly opens a period in which conceptual categories are adjusted until the initially anomalous has become the anticipated. At this point the discovery has been completed (p. 64).



The Copernican Revolution is considered the most famous example of paradigm change and was also the specialization of Kuhn, who wrote a book entirely on the topic.

Kuhn describes the process through which a field of study passes upon discovering that its paradigm cannot explain an anomaly (in our case, the anomaly of non-implementation). Resolution of the anomaly creates an opportunity for the introduction of the new paradigm, that later completely displaces the old. At first, guardians of the old paradigm muster much resistence to the new paradigm, even denial not only that the new paradigm may be better but that a new paradigm is even possible at all. Consider these examples:

- Ptolemy conceived of a system to predict the trajectory of celestial bodies. His system survived 1,500 years even though his calculations did not very well fit empirical observations. Many people ignored this anomaly during a millennium and a half until Copernicus dared to introduce a new paradigm that then shook the world's vision. Ptolemy and his followers thought that the planets and stars revolved around the Earth. Copernicus on the other hand said that the Earth was one of several planets that revolved around the Sun. This launched a cosmic salvo against the spiritual and scientific relationship of the universe and humanity.
- Until Charles Darwin, people believed that all living beings originated from divine creation, and did not evolve. Darwin offered an aggressive counterproposal to this paradigm, which said that a purposeless evolution based on natural selection created life on this planet. Today the two paradigms continue to compete, although even the Catholic Church in recent years has granted validity to Darwin's proposal.
- In the protected area world, the English established a paradigm in Africa about park management. They proposed that humans should not live in the same spaces as protected wildlife; therefore, they built fences around parks and patrolled perimeters to keep local humans separate from local wildlife. This

Forestress Conservation paradigm has withdrawn before the expansion of the participatory approach emphasizing interaction of local residents and their surroundings. Despite the popularity of this new paradigm in Latin America, in the United States the idea of separation of humans and other beings remains in vogue.

- For decades Swiss manufacturers ruled the world of watch making. None could rival their innovation and precision in the paradigm of gears that made the hands of clocks go around. In 1967 the research institute representing Swiss watch makers invented a new paradigm: quartz digital. When researchers presented this new idea, manufacturers roundly rejected it. So researchers exhibited the technology to the Japanese. Barker writes, "by 1980 their [the Swiss] market share had collapsed from 65 percent to less than 10 percent. Their huge profit domination had dropped to less than 20 percent. By all significant measures, they had been ignominiously dethroned as the world market leader."

Thus we can see that our concepts of the world remain always restricted within paradigmatic walls, some of which serve us as allies guiding our attention and resource allocation and others lurk like shadowy jailers, locking us inside an invisible prison.

Rational Comprehensive Planning Limits Planning in Protected Areas

From the faith-based religious hierarchy of the Middle Ages, erupted the Enlightenment that soon exalted the power of rationality and science as the premier motors of modern society. From these new beliefs, professionals adopted the idea of Technical Rationality, whereby through technical tools and science, we can unlock nature's secrets and solve all of humanity's problems.

But in order to have such a world, first professionals and universities had to assume the world to behave in a certain way such that science could actually solve all of our problems. So they created the PLUS World.

The most renowned names that have contributed to this world include Rene DesCartes who gave us the idea that we can understand even the most complex problems if we break them into small parts and by studying these parts we can understand the

whole. This is Reductionism. Also Isaac Newton gave us the three laws of motion with the idea that if we knew the angle, velocity, material, weight, etc. of a ball, we could calculate exactly where and when the bouncing object would be. In other words, with sufficient information, we can predict the future. This is classic mechanics, fundamental for modern engineering. Francis Bacon heired us the scientific method where the disciplined use of rationality helps us understand much more deeply any problem. This is Rationalism. Euclides created geometry based on stable entities with simple relations, such as his first postulate that a line is defined by two points. With this understanding we have linearity that says for each cause there is an effect and that the two are proportional.

All these ideas fused into the "PLUS World," which is to say that most professional sectors — including protected area planners — live in a **p**redictable, **l**inear, **u**nderstandable, and **s**table world. These characteristics forged in the mills of Technical Rationality in turn paved the way for a mode of planning called "Rational Comprehensive Planning" (RCP), widely discussed in the planning literature.

RCP places great value on science and technical criteria as well as experts and their esoteric knowledge. This model says that with sufficient data and the application of Rationality, Linearity, Reductionism, etc. planners can calculate the optimum alternative for managing a protected area and mitigate challenges that threaten it. It assumes that the world's conditions remain relatively stable in order to predict what will work in years to come. It assumes that a consensus exists about the singular objective of planning, that planners enjoy all necessary data to make a decision, and other resources required to study all possible configurations of management actions in order to select the best one.

But these very assumptions that derive from the PLUS World and anchor RCP generate barriers to implementation. As Forester (1989) asserts, these conditions necessary for RCP almost never exist in the real world.

The figure on 1-14 integrates the barrier classes and notes how RCP assumptions generate them. It shows inputs to this planning that operates much like a scientific study with a bounded time span, special financing, control over variables, the goal of using technical criteria to generate the best response about how a site should manage its future, peer review, and finally publication. The model also identifies many common barriers:

- In order to calculate the best technical alternatives for management, one must apply science and analyze data; therefore, local experience and opinions from a wide range of political, biased, subjective, and per-

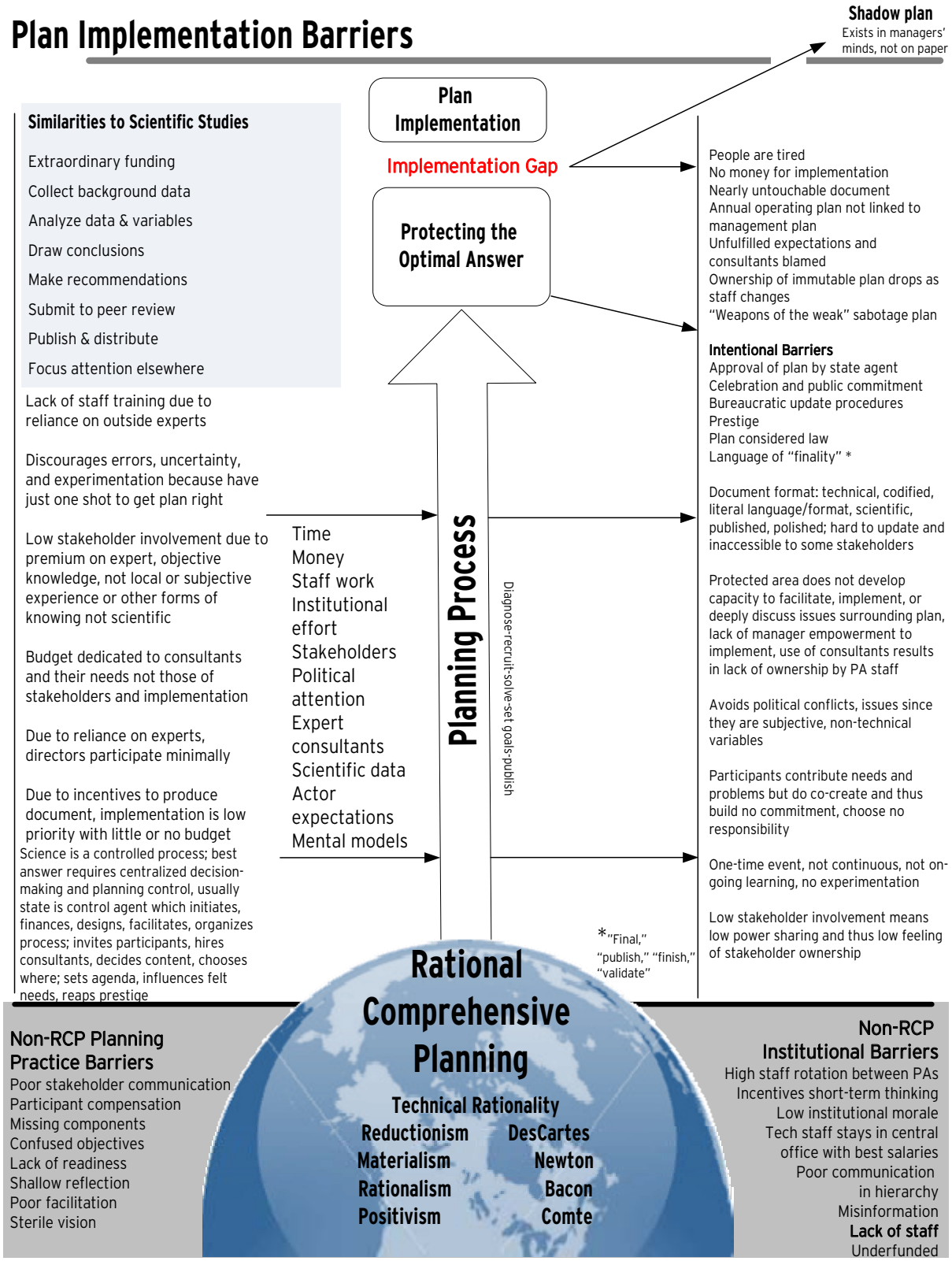
sonal actors should be reduced as much as possible so as not to confound technical determinations.

- Such as with any experiment one must control for variables so as not to obfuscate results, which is why planners rarely cede much power to stakeholders.
- Not only then do planners not benefit from their experience and knowledge, but by effectively excluding their participation, they also exclude their co-creating and thus co-managing, and in the end exclude as well their committing to the plan's implementation.
- Once the optimal route has been determined, it must be protected against arbitrary, political, and short-sighted changes; therefore, politicians and planners construct a battery of intentional barriers to protect this response. Such techniques include plan approval, bureaucratic procedures to change the plan, use of a polished and published document, a language of finality ("final draft," "validated," etc.), and others.
- Donors, planners, and consultants collude to produce a polished and published document, difficult to update, without implementation funds, and little idea of what implementation involves beyond the simple and ineffectual use of annual operating plans.

In summary, RCP requires limited community participation, high monetary investment, high dependence on technical knowledge, suppression of political and social issues, results captured in a formal and final document, similar conditions present at the time of the study and the moment of execution, difficulty in updating, and of course a world where conditions change slowly, where the future can be predicted, and where the only limits to implementation are time, money, and personnel.

All these barriers combined with those of poor planning practices and organizational inefficiency almost guarantee that a plan is not implemented.

Plan Implementation Barriers



This model explains how Rational Comprehensive Planning generates a variety of poor practice and bureaucratic barriers.

This Situation Requires a Paradigm Change from PLUS to DICE

A paradigm must confront a competitor before it can change. Fortunately for protected area planning, the PLUS World has a serious adversary. But to cross over from one world to another is no easy journey for those who grew up in the old world.

During the last century, many fields of thought have been emerging from this new world paradigm. Some names associated are well known: Theory of Relativity (Albert Einstein), Quantum Mechanics (Niels Bohr), Chaos Theory (Henri Poincaré), Complexity Theory (Stuart Kauffman), Ecosystem Management (Herbert Bormann and Gene Likens), Systems Dynamics (Jay Forrester), Theory of the Evolution of Species (Charles Darwin), Spiral Dynamics (Don Beck), Evolutionary Spirituality (Pierre Teilhard de Chardin), Integral Spirituality (Ken Wilber), Organizational Learning (Chris Argyris, Donald A. Schön, Peter Senge), and others.

Also in the planning field, many academics assure that no planning can depend on the PLUS World because world conditions are messy and uncertain (Wildavsky 1973, Friedmann 1993, Alexander and Faludi 1989, Hoch 2002). But many people who work in and finance protected areas apparently have not visited this new world.

This other world, which we can simply call the "DICE World," is **d**ynamic, **i**mpossible to completely understand, **c**omplex, and **e**volving. In this world, conditions always transform, there is much politics, many objectives, different behaviors, complexity, confusion, insufficient resources, little understanding of poorly defined problems; where relationships are not cause and effect, rather there two, three, and four effects emanate from each cause which is also effect, and these effects manifest distantly in time and space.

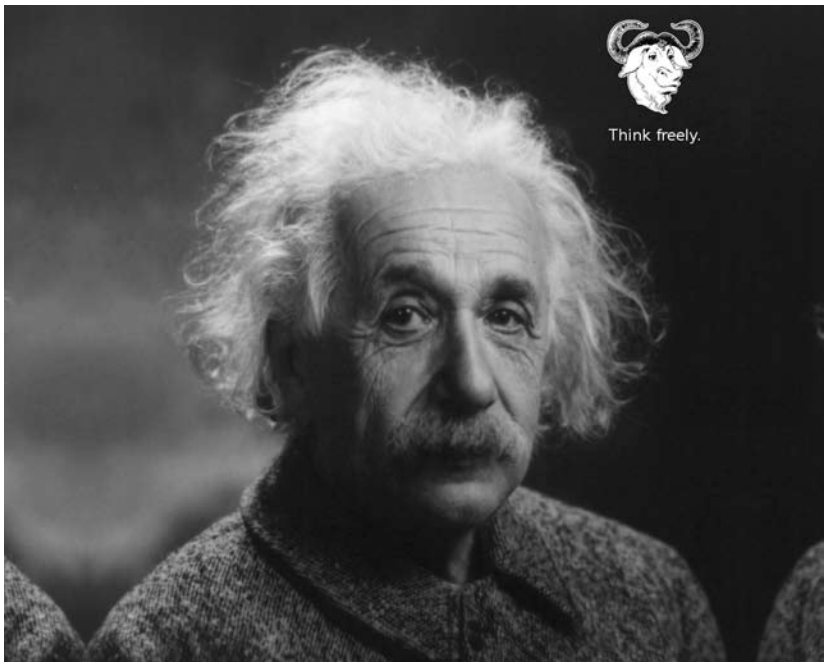
Professionals no longer confront a simple world, controlable and understandable (although of course they never really did). If we do not inhabit a PLUS planet, then a plan based on PLUS conditions can never work, and most plans resting in peace on shelves prove that. The paradigm of the flat world could not explain why the oceans never drained and eventually motivated Columbus to look for a new paradigm to cross a round world in search of India. In the same way, protected area planning has to transcend the mythological PLUS World and move on to the DICE World, which some day will be replaced by a still newer paradigm.

Kuhn tells us that with paradigm change, come people who

will never be convinced. As seen earlier, change begins with an anomaly and typically someone young and from outside the field dominated by the paradigm proposes the new paradigm. Individuals who have invested their lives to learning and following the paradigm's rules and winning its prizes (for example in this case, many consultants have worked and profited from the development of master plans), most likely feel threatened and hence resist.

Paradigm revolutions also do not suddenly appear and substitute one paradigm for another. Competition among paradigms can last years even centuries (Creationism vs. Evolution or Geocentrism vs. Heliocentrism). After so many years, eventually the new paradigm arrives at a new equilibrium point, a threshold, where the transition accelerates toward a new world and the guardians of the old paradigm become historical vestiges.

Currently there exists at least one protected area planning program that actively designs a planning approach based on the DICE World.



Einstein is one of the most well known promoters of the DICE World. His Theory of Relativity renders the concepts of stability, Reductionism, and Linearity almost without meaning. He recommends that we think freely, necessary advice when one contemplates a paradigm in conflict with his own.

There Exists a Program to Plan in the DICE World

PUP History Began with Two Conditions

In 1999 Honduras's Pico Bonito National Park asked its partner, RARE Center for Tropical Conservation — an American non-profit conservation organization — for help in identifying a consultant or methodology that could assist in their formulation of a public use plan. RARE carried out an informal survey of Latin America in search of someone it could recommend. What RARE discovered, however, was a landscape riddled with abandoned plans without any methodology that appeared successful. Given that RARE partnered with local organizations in Latin America especially in ecotourism development, it offered to design a new methodology if two conditions were met: 1) Pico Bonito had to write its own plan and 2) RARE had to document implementation barriers in order to avoid producing another plan that ended in the filing cabinet.

Thus, from the very outset the Public Use Planning Program (PUP) worked from the mandate to identify barriers and try to avoid them even though this goal might take it beyond the safe limits of Rational Comprehensive Planning. The initial assumption for RARE was that park planning would not yield fruit if sites themselves did not acquire the capacity to create and implement their own plans. This implied avoiding the use of consultants that would otherwise rob them of opportunities to do and learn on their own.

RARE's experience with Pico Bonito transformed into the second stage of the Program's development when it became integrated in the World Heritage Alliance, a joint effort between RARE, UNESCO's World Heritage Centre, the United Nations Environment Program, and the United Nations Foundation, under the project title, "Linking Sustainable Tourism and Biodiversity Conservation in World Heritage Sites."

An infusion of money and the opportunity to work with four World Heritage Sites in Mesoamerica (Rio Platano in Honduras, Tikal in Guatemala, Sian Ka'an and Vizcaino in Mexico) and two in Indonesia (Komodo and Ujung Kulon National Parks) allowed PUP to grow. During the Alliance's four years the Program developed a wide range of materials designed to circumvent barriers especially those associated with poor planning practices and Rational Comprehensive Planning.

In 2003, when the Alliance ended, the PUP Program also came to an unceremonious end. The World Heritage Centre's con-

Cover to the first edition of Pico Bonito's public use plan.

Public use coordinator for Tikal National Park facilitates Module 2, Interpretive Framework, of the public use planning process.

cern, nevertheless, continued unabated: a great quantity of sites suffer great pressure from high visitation rates and touristic developments that threaten the values for which the World Heritage Centre named sites to the World Heritage List. Equally worrisome, many sites do not have plans or their plans end unimplemented; thus, the current form in which protected areas plan falters.

In 2007 The World Heritage Centre along with The Nature Conservancy revived PUP with a new revision of its manual in English and Spanish, new allies, and an improved theory explaining Rational Comprehensive Planning as well as moving beyond it.

The new theory has diversified the PUP Program's aspirations across different levels. At the most superficial, the program helps partner sites to generate plans that use effective planning practices, especially those related to public use. Deeper, the Program labors that sites acquire capacities to implement their plans. At the deepest level, the Program does not even deal with public use, rather a change in planning paradigm that ultimately transforms partners into learning organizations and learning communities of stakeholders. Public use, from this perspective, provides a medium by which transformation takes place in organizations that manage protected areas. Planning, then, is a facilitated conversation to strengthen learning communities to create the protected area future they truly desire.

Learning Communities Implement Plans

If we view the set of stakeholders around a protected area, including the lead agency in charge of the area, other government agencies, local government, private sector, non-profits, resident communities, academics, and others, we often conclude that these communities are frequently dysfunctional. Suspicion and mistrust characterize relations. Great differentials in power, access to information, and even forms of communication separate stakeholders. The word "stakeholder" truly applies because each has a specific individual stake rather than a common vision or purpose, which characterizes a healthy community. Peter Senge, guru of organizational learning, says that when an organization lacks a greater purpose than its employees' individual interests, employees only have their own interests to pursue.

PUP defines **planning** as a facilitated conversation to strengthen or restore the community of stakeholders in order that they create the protected area future that they truly desire. Planning is not about creating a document in the same way that managing a protected area is not about the cars the staff drives or the computers that it uses.

Given that in a DICE World, greater degrees of participation, co-creation, and ownership by all parties increase the odds of implementing management actions, then a dysfunctional community impedes plan creation and implementation.

Thus numerous transformation fields emphasize community strengthening and learning communities in order to manage the uncertainty of DICE reality. Peter Block, an organizational change

consultant and author of *Community: Structure of Belonging* (2008) writes of community transformation:

> The essential challenge is to transform the isolation and self-interest within our communities into connectedness and caring for the whole. The key is to identify how this transformation occurs. We begin by shifting our attention from the problems of community to the possibility of community. We also need to acknowledge that our wisdom about individual transformation is not enough when it comes to community transformation. So, one purpose here is to bring together our knowledge about the nature of collective transformation. A key insight in this pursuit is to accept the importance of social capital[1] to the life of the community. This begins the effort to create a future distinct from the past.

[1]**Social capital** refers to the degree of cohesion, relatedness, and social networks among a group of people.

Because RCP concentrates power and suppresses participation, community restoration necessarily suffers. When other actors in the community become excluded, they cannot co-create and one of the basic assumptions of the community building movement is that accountability and chosen responsibility hinge on participating in co-creation. Thus, a planning process should hold community as a central focus if aims truly to effect useful management.

How PUP Does It

The PUP Program uses a process by which participant sites enter a capacity-building relationship with the Program. They learn to build a learning community and think strategically instead of depend on consultants and methodological recipes to formulate plans. The Program uses eleven sequential modules based on effective practices that each site can modify according to its particular reality.

Interspersed with the modules, community actors (the lead agency public use coordinator and non-agency actors) participate in four multi-day segments. In between segments sites facilitate their actual plans. In other words, in Segment 1 they learn to carry out Modules 1-3 and then return to their sites to implement those modules in real life. Then they return for Segment 2 where they learn about and modify Modules 4 to 6, etc.

At all times, the public use coordinators receive technical assistance from PUP staff. This assistance ideally continues at least two years after the plan has been written. This is because the PUP Program considers implementation and simultaneous community restoration much more important than the plan itself. As a result every step in the three-year process varies significantly from conventional planning, and participants must be wholly in agreement with embarking on a process that goes against the PLUS World

dominant paradigm, focusing on sharing power, responsability, and implementation in its community.

For PUP it has been a long journey since Pico Bonito to completing two public use plans in both Indonesian parks. The Program currently works with the Belize Barrier Reef Reserve System, a World Heritage Site. The Program continues to add components of community building and park management so that someday learning communities of stakeholders continuously plan and do together without ever having to start over with a new plan.

Adaptive Management Conditions (Source: Cornter and Moote 1999)

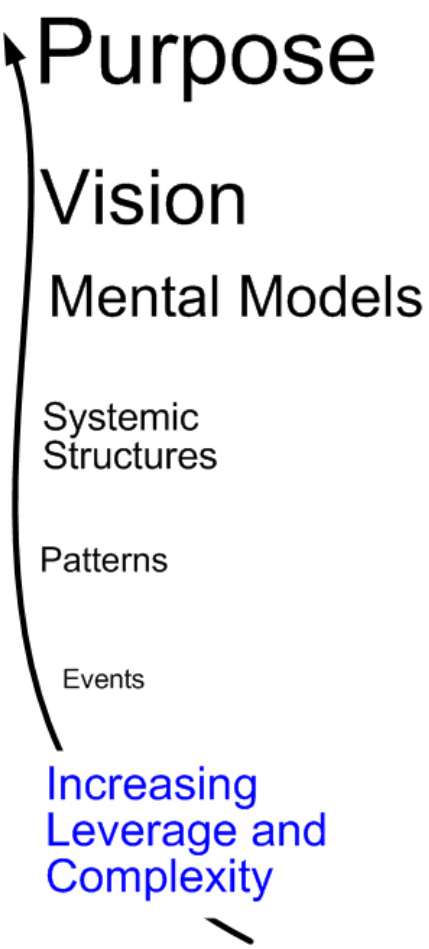
	Conventional Management	Ecosystem Management/ Adaptive Management
Nature	To be dominated	Complex, changing, and interrelated
Ethics	Compartmentalized; relations are marginal	Holistic, relations are important
Science and models	Deterministic, linear, static, continuous equilibrium	Stochastic, non-linear, dynamic with variable rates; temporary equilibrium disrupted by chaotic moments that establish the next temporary equilibrium
	Robust and well defined theory; highly predictable results and discrete data	Embryonic, early theory, theory and practice intertwined, data interrelated and uncertain results
	Maps, linear optimization, monetarized cost-benefit analysis, quantitative	SIG, relational databases, non-linear simulations (depending on time and space), qualitative and quantitative evaluation for social, political, and economic aspects
Management and organization	Centralized, rigid; little focus on incentives and innovation	Decentralized interrelated teams, adaptive, flexible; focus on incentives, innovation, and shared learning
	Hierarchical, top-down	Adaptative, bottom-up, cooperative, open
Planning	Comprehensive, rational	Interrelated, chaotic, looking for order among chaos, imaginative
Decision making	Rigid, control and command, authoritative, driven by experts	Deliberative, inclusive
	Science provides answers	Science provides information, but alone cannot provide answers
		Adapts to the problem context, interrelated with other problems, considers externalities
Participation	Influence, money	Discursive, deliberative
Leadership	Authoritative, designated leaders	Situational, leaders emerge from the community when needed

Successful Planning Requires Deep Change in Organization and Community

Many times planning, as well as other interventions like guide training or infrastructural construction, does not demand a large commitment from the organization; it does not demand a deep change in the way the organization operates. In contrast, in order that PUP function properly (the third objective, at least), there must be fundamental changes in the organization and community, where they head down a road toward becoming a learning community.

Because of governments' long-time belief in central control of sites, the idea of sharing power with protected area communities will turn many away from the PUP Program. It's not for them.

According to the Theory of Levels of Reasoning (Kim 1993) in order effect a deep change in the system, it is necessary to target deeper elements. RCP and PLUS assumptions underpinning the system ("mental models") give rise to systemic structures (relations between actors) that result in patterns or trends, such as kinds of plans produced or plan implementation barriers. A shift in a system's vision of the purpose of planning, however, can precipitate new mental models (see figure at left), that for example, includes participation.



Levels of Reasoning

These changes in an organization's mental models can not only challenge but threaten an organization unprepared to carry out this process. Even when an organization does change its assumptions and develop necesssary capacities, what results is still not something completely new, rather a concept with which we all know. When park actors adopt organizational learning, really they have adopted the strategy of **adaptive management**.

In this sense, adaptive management competes with Comprehensive Rational Planning. The strategy has won many accolades in the conservation literature (Salafsky *et al.* 2001, Stankey *et al.* 1999) but rarely do protected areas actually use it. The reason behind the lack of application of this popular concept has to do with the conditions necessary in an organization to adopt adaptive management. Some of these conditions can be seen in the table on the previous page.

Because organizations rarely create the conditions necessary for learning, adaptive management, and other tools that require a learning environment such as Limits to Acceptable Change, they have little chance of success.

A Paradigm Must Be Visible so that a New Generation of Technical Advisors Can Emerge

So far adaptive management has been largely restricted to paper, hardly found in the field. Also the majority of technical staff and administrators plan unaware of the Rational Comprehensive Planning that controls them. When RCP finally becomes visible to them, the need for an alternative can arise. Thus PUP's mission: expose RCP and the PLUS World assumptions so that everyone can see them and make their own decisions about how to manage.

Without this exposure, a new generation of technical advisors cannot emerge, technical advisors necessary to facilitate protected areas' escape from their paradigmatic prison. Consider that in the 19th Century when the concept of mental sickness did not yet exist, people thought that witchcraft caused abnormal behavior; in this scenario, victims had little hope of receiving beneficial treatment.

Later when the paradigm changed and mental illness really could be treated medically, a whole new field of professionals emerged, called psychiatry. In the case of planning, people must observe the sickness that protected areas suffer so that others, besides PUP, emerge and offer real help. Seen this way the PUP Program acts like a medical pioneer in treating RCP, the sickness that strickens protected area plans.

Two PUP technical advisors (on the right) work with the public use coordinators in Indonesia.

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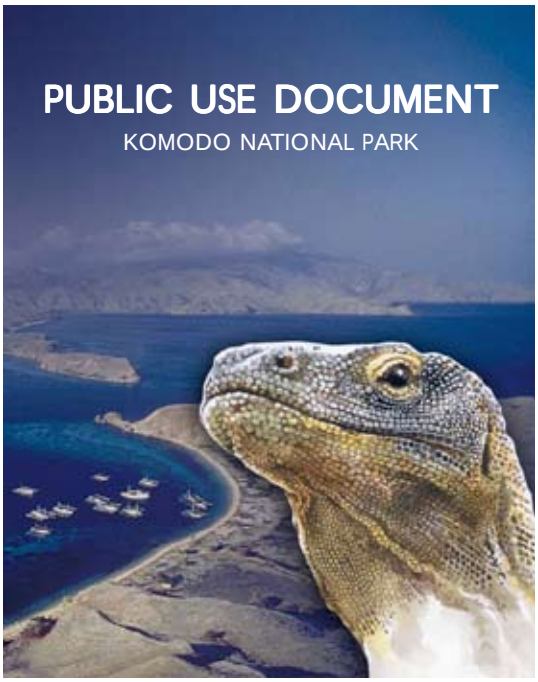

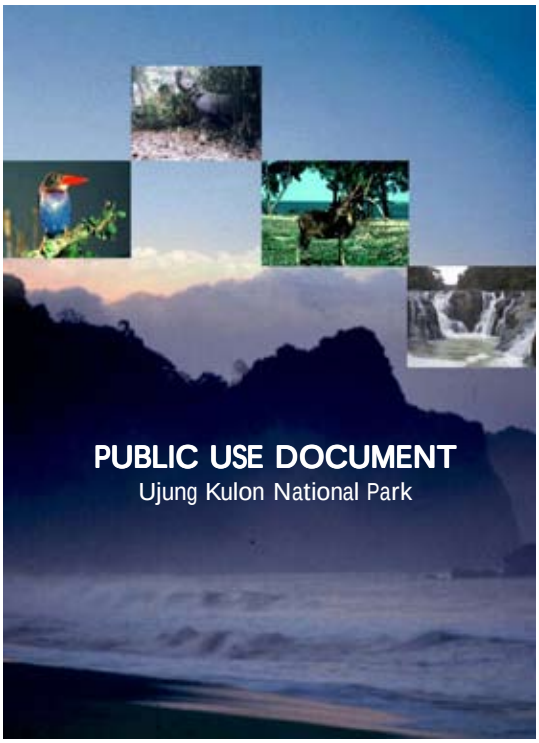

Some plans that PUP has worked with.