

Spring 2007

INAUGURAL ISSUE

# MIT International Review

## Development During Crisis

COVER STORY BY TOPHER McDOUGAL • PAGE 20

### ALSO IN THIS ISSUE

Iraq and the War on Terror 4

Sixty Years of Nuclear Peace 8

America's Response to 9/11 12

European Union Fisheries Policy 32

Defining Development in India 42

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**COVER PHOTO:** Tents cover the mountainside in the Kurdish refugee camp of Yekmel in 1991.  
U.S. NAVY PHOTO BY PH2(AC) MARK KETTENHOFEN, RELEASED TO PUBLIC

## FROM THE EDITORS

As a bold contingent of eight MIT students, we aspire to make a difference in the world by spreading the spirit of problem solving to the analysis of international affairs. With great pleasure, we present the first issue of the *MIT International Review*, and hope to inaugurate a legacy of creative and informed debate about the predicaments of our world.

In many an eye, the younger generations of today have inherited a more troubled world than that of their elders. The challenges of conflict, extremism, economic development, and the environment register deeply within the international psyche.

Although these are pressing times, to be sure, we have much hope. Our experience at MIT has led us to believe that we are capable of changing the status quo, by employing a rigorous approach to identifying international problems and prescribing practical solutions in a novel and accessible way.

Motivated by the need for a more active discourse, we envision a publication that all concerned individuals, even the most experienced policymakers, will desire to read, for within its pages may lie the beginnings of a breakthrough solution. It is our hope that by contributing to a greater sense of international awareness, we can provoke a sense of urgency, motivate our readers to action, and bring concrete progress to our global community.

Here we are now, witness to the birth of an enterprise that is passionate about the exchange of ideas and hopeful for harnessing the unity of multiple disciplines to raise the level of discourse on politics, economics, and social affairs. We are grateful for your support, and hope that *MITIR*'s vision may serve as a catalyst for progress and change.

## CONTENTS

STEPHEN VAN EVERA

**Iraq: Canary in a Coal Mine** 4

THOMAS C. SCHELLING

**The Nuclear Taboo** 8

NOA EPSTEIN

**Explaining the War on Terrorism from an Ontological-Security Perspective** 12

TOPHER MCDUGAL

**Development during Crisis: Promoting Asset-Building in Protracted Refugee Situations** 20

MILAN ILNYCKYJ

**The Legality and Sustainability of European Union Fisheries Policy in West Africa** 32

POOJA WAGH

**An Exchange of Ideas in Pabal: Defining Development** 42



# IRAQ

## Canary in a Coal Mine

BY STEPHEN VAN EVERA

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- The Bush administration has made similar errors in the war in Iraq and the campaign against al-Qa'ida, reflecting its excessive faith in military force and its failure to engage in long-term strategic thinking.
- The war in Iraq has diverted resources from the United States' campaign against international terrorism.

**T**he Bush administration is making parallel mistakes in the war in Iraq and the war on al-Qa'ida. Thus, the war in Iraq is a distraction from the fight against al-Qa'ida, and also a gallery where errors in the larger fight against al-Qa'ida are visible in sharp relief. Administration failures in Iraq are like a dead canary in a coal mine, a warning of wider failures against our most dangerous enemy, the al-Qa'ida network.

The administration has made seven analogous mistakes in both wars:

**NO WAR OF IDEAS:** After invading Iraq, the administration did little to shape Iraqi public opinion. As a result, Iraqis are suspicious of U.S. aims—they widely believe that the U.S. invaded to steal Iraq's oil and aims to colonize the country—leading many to support the Iraqi insurgency.

Nor has the administration waged a real war of ideas in the broader Muslim world. As a result, Muslims widely believe fanciful al-Qa'ida claims that the U.S. seeks to destroy Islam, and that the past century has witnessed unremitting one-way violence by the West on a pacific Muslim world (In fact, modern times have witnessed great two-way violence between Muslims and non-Muslims. The balance of bloodletting is roughly even. But few Muslims know this.). Majorities in Egypt, Turkey, Pakistan and Indonesia do not even believe that

A soldier maintains security during a meeting at an Iraqi grade school in Arasa, Iraq on October 28, 2006.

U.S. ARMY PHOTO BY SGT. 1ST CLASS MICHAEL GUILLORY. RELEASED TO PUBLIC.



U.S.M.C. PHOTO BY SGT. JASON L. JENSEN. RELEASED TO PUBLIC.

groups of Arabs conducted the 9/11 attack. The U.S. cannot defeat al-Qa'ida while such attitudes persist.

**NO DEAL MAKING WITH PLAYERS WHOSE COOPERATION WE NEED:** In Iraq, the administration failed to move quickly to cut a deal with the Iraqi Sunnis. This left the Sunnis assuming they had no place in a U.S.-crafted Iraq, fueling their decision to rebel. And the administration failed to reach understandings with Syria and Iran to gain their cooperation with Iraq's reconstruction. Yet postwar reconstruction usually fails if neighboring states do not want it to succeed.

The Bush team also failed to practice the art of the deal in the broader war on al-Qa'ida. It offered little inducement to Iran and North Korea to end their nuclear programs, recklessly talking about regime change instead. Nuclear weapons built as a result could wind up in the hands of terrorists. And the administration pushed its relations with Syria to rupture despite important Syrian help against al-Qa'ida after 9/11. Syrian intelligence coopera-



Iraqi army soldiers destroy a possible vehicle-borne improvised explosive device (IED) during a four-day operation in New Baqubah, Iraq, March 3, 2007.

U.S. AIR FORCE PHOTO BY STAFF SGT. STACY L. PEARSALL. RELEASED TO PUBLIC.

**LITTLE STATE-BUILDING:** The Bush team bungled the rebuilding of the Iraqi state, the Iraqi security forces, and the Iraqi national infrastructure. As a result, Iraq now qualifies as a failed state.

In the wider Mideast, the Bush team has failed to address state failure in Afghanistan, Somalia, Lebanon, and Pakistan. This gives al-Qa'ida and other terrorist networks great opportunities to infest and flourish in the power vacuums that failed states provide.

Failed states are the best incubators for terrorists—better than the authoritarian dictatorships that draw President Bush's concern. Accordingly, the U.S. must develop and apply the skills needed to prevent or resuscitate failed states.

**NO LOCKING DOWN OF LOOSE WEAPONS:** The Bush team failed to secure Saddam's large conventional weapons dumps from looting. As a result, the insurgents stole vast numbers of RPGs, artillery shells, and other weapons. The IEDs that kill our troops in Iraq are made from these looted weapons.

Further afield, the administration repeats the same error regarding weapons of mass destruction. In Russia and elsewhere, enough nuclear material to make tens of thousands of Hiroshima-sized atomic bombs remains poorly secured. The Bush administration has failed to address the matter urgently, spending only \$1.3 billion per year—perhaps one-third of what we should spend—on efforts to lock down these weapons and materials, and failing to appoint an effective leader to execute the policy.

These five errors reflect a mistaken Bush administration belief that deterring or smashing states is an adequate answer to nearly all problems. Against Saddam, the administration assumed that all else would fall into place once it defeated the Iraqi army. Hence, it failed to prepare for postwar

tion after 9/11 allowed the U.S. to thwart al-Qa'ida attacks on the U.S. Fifth Fleet headquarters in Bahrain and the U.S. embassy in Ottawa. Administration hostility to Syria has ended this cooperation.

**NO DAMPENING OF INFLAMMATORY CONFLICTS:** The Bush team's efforts to cool the Sunni-Shi'a conflict in Iraq have been tardy and inept. As a result, that conflict threatens to destroy Iraq and even ignite a regional conflagration.

In the broader Mideast, the Bush team has made little effort to end conflicts that feed al-Qa'ida recruiting: the Israeli-Palestinian conflict, the Kashmir conflict, the Chechnya conflict, and civil conflicts in Somalia.

Al-Qa'ida feeds on war. It exploits any war involving Muslims by painting Muslims as victims, whether or not they are. It uses regional wars as a training ground for its fighters (as it used Afghanistan in the 1980s and 1990s). Accordingly, the U.S. should work to dampen conflict throughout the region. It should be the great maker and builder of peace. But the Bush administration declines to play this role.



problems. Against al-Qa'ida, the administration has likewise focused on preparing to smash the armies of hostile states while neglecting other tools of statecraft. Its strategy rests on the false premise that only terror groups with state sponsors can really harm the U.S., so defeating terror requires only defeating or deterring these state sponsors.

To defeat al-Qa'ida and its jihadist allies, the U.S. needs the capacity to destroy or deter states that assist them. But victory also requires the capacity to shape opinion in other societies, to prevent war or make peace among groups at war, to strike deals with others that advance U.S. interests, to save failed states, and to organize the securing of dangerous arms.

Such skills are dismissed as sissy stuff in today's macho Washington. The Bush team assigns them only bit parts in its strategy against terror. Yet they are essential for victory over the dangerous terrorist enemies we face.

The sixth and seventh errors lie in **FAILING TO SET PRIORITIES AMONG THREATS**, and **TREATING POTENTIAL PARTNERS AS ENEMIES**. In Iraq the Bush administration failed to focus its harsh measures on the bad actors, instead using a shotgun approach that injured many innocents. Many of these innocents then became U.S. enemies in response to administration policies.

The administration pursued an extreme policy of de-Ba'athification, ousting from government jobs many thousands of ordinary Iraqis who had only pro-forma connections to the Ba'ath party. Some of those ousted joined the anti-U.S. insurgency. Moreover, many of those ousted had important technical skills needed to keep Iraq's infrastructure working. The collapse of that infrastructure—of the power grid, water supplies, and so forth—stems in part from this radical de-Ba'athification policy. The Bush team also disbanded the entire Iraqi army in May 2003. Iraqi officers had earlier indicated that they would cooperate with the U.S. occupation if their employment was continued. But once fired, many joined the insurgency, fueling its growth and

giving it important skills and firepower.

In the wider Mideast, the administration repeats these errors by failing to put top priority on defeating America's most dangerous current enemy, al-Qa'ida, while posturing counterproductively against others. It launched the war on terror in October 2001 by invading Afghanistan and ousting the Taliban regime, which had sheltered al-Qa'ida. This was clearly the right move. But soon it took a left turn into Iraq to oust Saddam Hussein, although Saddam was not cooperating with al-Qa'ida and was otherwise contained.

One administration official, then-Deputy Secretary of Defense, Paul Wolfowitz, even argued shortly after 9/11 that the U.S. should attack Iraq while leaving alone Afghanistan, al-Qa'ida's haven. The administration rejected his remarkable argument, but it did transfer resources from Afghanistan to Iraq before it had destroyed the al-Qa'ida leadership and consolidated the new government in Afghanistan. This allowed important al-Qa'ida elements to escape and fight another day. It also allowed the Taliban to survive and later recover strength. Today they pose a serious threat to the new Afghan government of Hamid Karzai.

As noted above, the administration also pursued hostile policies toward Iran and Syria, talking of ousting both regimes, in another left turn away from combating al-Qa'ida. Iran and Syria have odious rulers, but they are not in league with al-Qa'ida. Conflict with all three states—Iraq, Iran and Syria—is a diversion from al-Qa'ida, the main threat.

Will the administration fail as badly against al-Qa'ida as it has in Iraq? Let us hope not, as the game with al-Qa'ida is for much higher stakes. A former al-Qa'ida press spokesman, Suleiman Abu Ghaith, has claimed that al-Qa'ida has the right to kill four million Americans, including two million children. Al-Qa'ida operatives have tried to acquire ingredients for nuclear weapons, to allow them to bring this horror to pass. This is poker for keeps. Failure in Iraq is a disaster. Failure against al-Qa'ida could bring far larger calamity. **IR**

# The Nuclear Taboo

BY THOMAS C. SCHELLING

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- The prospect of nuclear weapon development in Iran and among radical terrorist organizations poses a grave threat to an over 60-year-old taboo.
- The tradition may survive, however, as rogue nations and groups begin to find deterrent power in their new weapons.

**The most spectacular event of the past half century is one that did not occur. We have enjoyed 60 years without nuclear weapons exploded in anger.**

What a stunning achievement—or, if not achievement, what stunning good fortune. In 1960, the British novelist C. P. Snow said on the front page of *The New York Times* that unless the nuclear powers drastically reduced their armaments, thermonuclear warfare within the decade was a “mathematical certainty.” Nobody appeared to think of Snow’s statement as extravagant.

We now have that “mathematical certainty” compounded more than four times, and no nuclear war. Can we make it through another half-a-dozen decades?

The first time that nuclear weapons might have been used after World War II was in 1950. U.S. and South Korean forces had retreated to a perimeter at the southern town of Pusan, and it was not clear that they could either hold out or evacuate. The question of nuclear defense arose, and the British Prime Minister, Clement Attlee, flew to Washington with the announced purpose of persuading President Truman not to let nuclear weapons be used. The successful landing at Inchon removed the danger, and we cannot know what might have happened if Inchon had failed. Nuclear weapons again went unused upon the disastrous assault by Chinese troops in the north of Korea.

**Air Force file photo of the first launch of a Trident missile on January 18, 1977 at Cape Canaveral, Florida.**

DOD FILE PHOTO PROVIDED BY THE NAVAL HISTORICAL CENTER, WASHINGTON, D.C. RELEASED TO PUBLIC.

Succeeding Truman, President Eisenhower saw NATO facing a hugely superior military adversary, and elevated nuclear weapons from last resort to first resort. Shortly after inauguration, Secretary of State John Foster Dulles said, in the National Security Council, “Somehow or other we must manage to remove the taboo from the use of these weapons.” A few weeks later, the President approved the following statement: “In the event of hostilities, the United States will consider nuclear weapons to be as available for use as other munitions.” Six months later, the U.S. position was that nuclear weapons “must now be treated as in fact having become conventional.”

The Johnson administration shows a striking contrast. In September 1964, Johnson said publicly, “Make no mistake, there is no such thing as a conventional nuclear weapon. For 19 peril-filled years no nation has loosed the atom against another. To do so now is a political decision of the highest order.”

I interpret this as Johnson’s belief that 19 years without nuclear war was an investment to be treasured.

Nixon did not use nuclear weapons in Vietnam.

Golda Meir, Israeli prime minister in 1973, did not authorize nuclear weapons against Egyptian armies that had successfully crossed the Suez Canal and were perfect targets for nuclear attack, there being no civilians in the vicinity.

Margaret Thatcher did not consider nuclear weapons against naval vessels in defending the Falkland Islands against Argentina.

And most astonishingly, the Soviet Union fought a long, bloody, and disastrous war in Afghanistan without recourse to nuclear weapons.

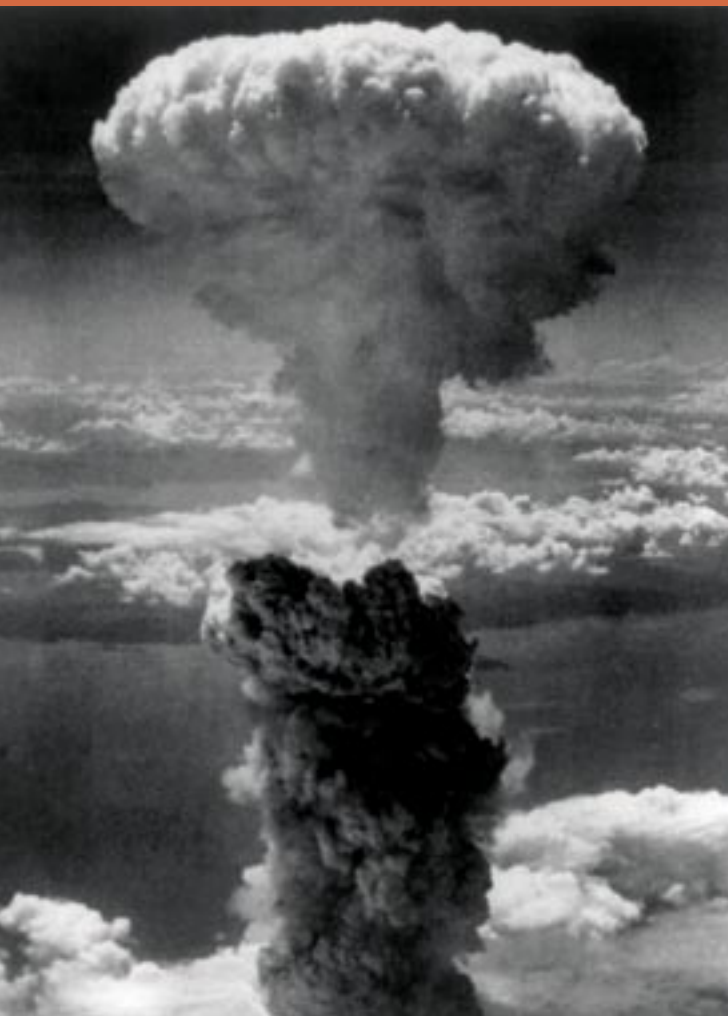


Photo of the atomic bombing of Nagasaki on August 9, 1945, taken from one of the B-29 Superfortresses used in the attack.

PHOTO CREDIT: LIBRARY OF CONGRESS, PRINTS & PHOTOGRAPHS DIVISION

periment with the weapons, and there is no history to tell us, or to tell them, what happens next.

The next threats from nuclear weapons may emerge from Iran, North Korea, or possibly some terrorist bodies. Is there any hope that they will have absorbed the nearly universal inhibition against the use of nuclear weapons, or will at least be inhibited by the recognition that the taboo enjoys widespread acclaim?

Part of the answer will depend on whether the United States recognizes that inhibition, and especially on whether the United States recognizes it as an asset to be cherished, enhanced, and protected, or, like John Foster Dulles in Eisenhower's cabinet, believes that "somehow or other we must manage to remove the taboo from the use of these weapons."

There is much discussion these days of whether or not "deterrence" has had its day and no longer has much of a role in America's security. There is no Soviet Union to deter; the Russians are more worried about Chechnya than about the United States; the Chinese seem no more interested in military risks over Taiwan than Khrushchev really was over Berlin; and terrorists can't be deterred anyway—we don't know what they value that we might threaten, or who or where they are.

I expect that we may come to a new respect for "deterrence." If Iran should, despite every diplomatic effort to prevent it, acquire a few nuclear weapons, we may discover again what it is like to be the deterred one, not the one doing the deterring (I consider us—NATO—as having been deterred from intervening in Hungary in 1956 and Czechoslovakia in 1968.). I also consider it crucial that Iran learn to think, if it hasn't already learned to think, in terms of deterrence.

What else can Iran accomplish, except possibly the destruction of its own system, with a few nucle-

Even the Russians were awed, apparently, by Johnson's 19 "peril-filled years," which by then had stretched to four decades.

Those 19 years have stretched to 60. The taboo that Ike appeared to denigrate, or pretended to denigrate, but that awed President Johnson a decade later, has become a powerful tradition of nearly universal recognition.

An immediate question is whether we can expect Indian and Pakistani leaders to be adequately in awe of the weapons they now both possess. There are two helpful possibilities. One is that they share the inhibition—appreciate the taboo—that I have been discussing. The other is that they will recognize, as the United States and the Soviet Union did, that the prospect of nuclear retaliation makes any initiation of nuclear war nearly unthinkable. The risk is that one or the other may confront the kind of military emergency that invites some limited ex-

ar warheads? Nuclear warheads should be too precious to give away or to sell, too precious to “waste” killing people when they could, held in reserve, make the United States, or Russia, or any other nation, hesitant to consider military action. What nuclear weapons have been used for, effectively, for 60 years has neither been on the battlefield nor on populations; they have been used for influence.

A potential serious difference between Iran’s nuclear thinking and that of India and Pakistan is that for many decades, Indians and Pakistanis have been participating in an international nuclear dialogue—at the Aspen Institute, at the Institute for Strategic Studies in London, at think tanks and conferences around the world. I never saw an Iranian, let alone a North Korean. Indians and Pakistanis, of course, read and comprehend English fluently and have had access to publications in English from institutes and publishing houses in Sweden, Italy, Germany and, of course, England and America. I believe a way must be found to make some Iranian participation in nuclear discourse legitimate.


What about terrorists? Any organization that gets enough fissile material to make a bomb will require at least six, probably more, highly qualified scientists and numerous machinists and technologists, working in seclusion away from families and occupations for at least weeks, maybe months, with nothing much to talk about except what the “bomb” might be used for, by whom. They are likely to feel justified, by their contribution, to have some claim in deciding the use of the nuclear device (The British Parliament in 1950 considered itself, as a partner in the development of the atomic bomb, qualified to advise Truman on possible use of the bomb in Korea.).

They will discover, over weeks of arguing, that the most effective use of the bomb, from a terrorist perspective, will be for influence. Possessing a nuclear device, if they can demonstrate possession—and I believe they can, if they have it, without detonating it—will give them something of the status of a nation. Threatening to use it against

military targets, and keeping it intact if the threat is successful, may appeal to them more than expending it in a destructive act. Even terrorists may consider destroying large numbers of people and structures less satisfying than keeping a major nation at bay.

The United States was slow to learn, but eventually learned (in 1961), that nuclear warheads demand exceptionally secure custody—against accident, mischief, theft, sabotage, or a “Strange-love-like” unauthorized attack. There is always the dilemma: Reward violators of the Nonproliferation Treaty by offering the technology to keep the warheads secure? At least we can try to educate the new members of the nuclear club about what we didn’t appreciate for our first 15 years.

I know of no argument in favor of the Comprehensive Test Ban Treaty, which the U.S. Senate rejected in 1999, more powerful than the potential of that treaty to enhance the nearly universal revulsion against nuclear weapons. The symbolic effect of some 170 nations ratifying the Treaty, which is nominally only about testing, should add to the convention that nuclear weapons are not to be used, and that any nation that does use nuclear weapons will be judged the violator of a hard-earned tradition of non-use. When the Treaty is again before the Senate, as I hope it will be, this major benefit should not go unrecognized.

The most critical question about nuclear weapons for the United States Government under George W. Bush or under anyone else is whether the widespread taboo against nuclear weapons, and its inhibition on their use, is in our favor or against us. If it is in our interest, as I believe is obvious, advertising our continued dependence on nuclear weapons and our need for new nuclear capabilities and probably new nuclear tests—let alone ever using them against an enemy—has to be weighed against the corrosive effect on a nearly universal attitude that has been cultivated through universal abstinence for over 60 years. 

An aerial photograph of a city, likely Jerusalem, showing a dense urban grid. A large, billowing plume of blue smoke or dust rises from a central area, partially obscuring the buildings below. The smoke plume is the central focus of the image, contrasting with the detailed urban landscape.

# Explaining the War on Terrorism from an Ontological-Security Perspective

BY NOA EPSTEIN

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- The events of September 11, 2001 compelled the United States to question its role as a benevolent hegemon in the Westphalian international order.
- With U.S. military campaigns in Afghanistan and Iraq as evidence, most international relations scholars attribute America's response to 9/11 as an effort to restore its physical security.
- By examining the Bush administration's actions from an ontological perspective, it appears that the United States' war on terrorism is more precisely governed by a need to protect its sense of identity.

**O**n September 11, 2001, the U.S. suffered the worst terrorist attack in modern history. In a speech to a joint session of the Congress nineteen days later, President Bush declared: "On September 11th, enemies of freedom committed an act of war against our country." The U.S. response was both physical and rhetorical. It declared war on terrorism, identifying al-Qa'ida in particular, as the new "evil Other," and under the auspices of this war, it attacked Afghanistan in Operation Enduring Freedom (OEF), and is still occupying Iraq. In the aftermath of 9/11, the war on terrorism seemed inevitable. But the U.S. response could have been different. The U.S. could have, for example, framed its response not as a war but as an international police campaign to hunt down the criminals and bring them to justice. What, then, lies behind the U.S. choice to declare war on terrorism?

Satellite image of Manhattan, New York on September 12, 2001. The picture shows a smoke plume spreading over large portions of the city after the World Trade Center attack.

PHOTO CREDIT: NASA

International relations experts maintain a variety of views on what caused the U.S. to react to 9/11 in the way it did. Liberalist explanations argue 9/11 to have been, in part, an attack on values: American, Western, modern. Accordingly, the U.S. response, they argue, was framed as a struggle of good against evil, in which the U.S. has sought to spread the values of freedom and democracy worldwide.

Conversely, international relations scholars in the Realist camp explain the U.S. response as an inevitable, rational, defensive and deterrent measure, perhaps even as revenge, in response to the attack on the U.S.'s *physical* security. The Taliban regime in Afghanistan, which harbored terrorism and was hence guilty by association, was, according to them, attacked "in order to install a new government that would eliminate the terrorists." Realists also argue that the U.S.'s real objective was to gain control over the oil and natural gas resources of central Asia.

But these explanations do not suffice. They do not explain the rhetorical aspect of the U.S.'s response (the strong emphasis on the U.S. being the world's guardian of freedom in the face of evil) or the choice to frame the response as *war*, assuming that the U.S. could have been satisfied with strengthening law enforcement and destroying terrorist financial networks. Most importantly, if the physical damage alone (the death toll of over 3,000 and the material loss resulting from 9/11) was what prompted the response, then why wasn't war declared on obesity, smoking, and road accidents? By

comparison, about 112,000 adult deaths are associated with obesity each year in the United States; more than 400,000 Americans die every year from cigarette smoking; and in 2001, automobile crashes killed 15 times more Americans than terrorism did.

There seems to be a deeper, underlying explanation for the U.S.'s response to 9/11. It will be argued here that a state's behavior is fundamentally shaped by its identity and need for certainty. In order to achieve a sense of stability and purpose, states struggle to preserve what has been termed, by Jennifer Mitzen of Ohio State University, their ontological security (OS). The U.S.'s response to 9/11 can be framed and understood in such terms, for the resort to the U.S. routine of declaring war on an "evil antagonist," was significantly aimed at restoring the sense of ontological security that had been disrupted by the terrorists. Substantiating such a hypothesis requires: (a) defining the pillars of U.S. identity, (b) analyzing the way in which the terrorist acts of 9/11 attacked the U.S.'s identity and generated a deep sense of uncertainty, and (c) discussing how a declaration of war on terrorism, an attack on Afghanistan, and the identification of al-Qa'ida as an evil antagonist offered the U.S. an opportunity to restore its OS.

## **ONTOLOGICAL SECURITY: THE SECURITY OF IDENTITY**

Ontology is "the branch of metaphysics concerned with the nature of being."

Sociologist Anthony Giddens, the former director of the London School of Economics, used this term to develop his concept of ontological security, arguing that all human beings seek a secure self (identity), which pertains to having a sense of certainty and stability with regard to the social order, and in this case, the international state system. Only in the past few years have international relations scholars applied the concept to *state* actors on the grounds that like human beings, states are considered rational and *social* actors, such that they,

too, seek ontological security. They seek a stable identity and sense of certainty, and achieve it by turning their interaction with others into routines with desired ends.

In order to grasp what OS means, picture a soldier at war. The soldier's physical security, the security of his body, is constantly under threat by the possibility of being shot or stepping on a landmine. But there is more at stake, for the soldier is not only concerned with his physical survival; he is also driven to preserve his sense of purpose. Being ontologically secure – that is to say, having a stable sense of self – is a fundamental need of the soldier and any other social actor (including states – as corporate social actors). This is because it influences the soldier's ability to act rationally. His ability to act rationally depends on an awareness of his objectives with respect to those of his enemy, an awareness of the challenges he must confront in his particular environment, and an awareness of his role in contributing to the goals of his society. Only in such an instance does the soldier know in fact who he is and what he is fighting for. Without such a sense of awareness and a clear sense of who he is, the soldier is powerless and his efforts utterly meaningless.

To dig a little deeper, one can consider the soldier's identity as comprising two components. The first pertains to his intrinsic, self-organizing qualities that constitute his individuality; his cultural essence, his so-called D.N.A. of values and principles. The second aspect encompasses the soldier's *social* identity, which refers to his role vis-à-vis other actors. Because this aspect is constructed *in relation to other actors* (a teacher is a teacher by virtue of having students, just as a soldier is a soldier by virtue of having at least a potential enemy) it requires recognition by others in order to exist.

Note that ontological *insecurity* (an attack on identity) is generated by a deep sense of uncertainty. This can impede rational action (and since states are considered rational actors – deep uncertainty impedes a state's ability to interact), and because the



social aspect of one's identity is endogenous to the interaction, deep uncertainty affects identity. To return to the previous example, imagine what would happen if the soldier's military was confronted with a situation in which exogenous phenomena forced it to question the principles on which it had forever justified war. Suddenly, the rules of the game have changed. What then, would the soldier's objectives be? How could he operate effectively under such a deep sense of uncertainty?

Consider then, what happened to the U.S.'s identity (conceptualized as a freedom-guarding benevolent hegemon, an economic and military superpower) when a non-state actor (al-Qa'ida) came and attacked the U.S. from within its sovereign boundaries, using box cutters and nail clippers.

Confronted with the condition of terrorism, what seems to have become an even more intractable force than its past foe of communism, the U.S. has had to find a way to restore its ontological security.

In order to reestablish security in the ontological sense, a social actor tends to develop and rely on routines. Routines enable the actor to *act*, and, because part of an actor's identity derives from the actor's interaction with others, routines help to sustain stable interaction, and hence a stable identity. It follows that in a deep state of uncertainty or extreme anxiety, actors will resort to routines in order to retrieve their sense of self, re-establish a sense of certainty, and restore their OS.

## CONCEPTUALIZING U.S. IDENTITY

Going back to the steps through which we can substantiate the OS perspective, it would be necessary to define the U.S.'s identity. What was, after all, attacked on 9/11? Consider below the most dominant long-standing aspects of the U.S.'s identity:

[a] The Supra identity as state-qua-state is the state's identity as constituted by the Westphalian state-system (In 1648, the Treaty of Westphalia established the nation-state system). It is a particu-

larly important aspect of the U.S.'s identity since the U.S. has the self-imposed role of ensuring the state-system's endurance.

[b] The intrinsic aspect of U.S. identity is colored by a sense of *exceptionalism*. This refers to the U.S.'s self-assumption that values and practices are qualitatively superior, that its policy positions are moral and proper, not just expedient, and that it is invulnerable. The values and principles (the American creed) on which exceptionalism is based are highlighted in the American Declaration of Independence. As the first modern democracy, the U.S. was founded on principles of *liberty*, democracy, equality of opportunity, individualism, morality and right to property, and the *American way of life* relates primarily to personal freedom within a liberal democracy.

[c] The social aspect of U.S. identity defines the U.S.'s role as a benevolent hegemon. Embedded in this identity are both U.S. economic and military superiority, and the idea that the U.S. uses its superpower status in ways that also benefit other states. By the late 19th century, the U.S. was already the largest economy in the world. Today it is an industrial power, the most prosperous country in human history, with the highest GDP (purchasing power parity) in the world. In military terms, too, the U.S. clearly surpasses the rest of the world. The U.S. military is the only one capable of leading and fighting a major regional war at a distance from its homeland. The 2005 U.S. military budget was larger than the military budgets of the next 20 biggest spenders combined, and six times larger than China's, which places second. It is through this military superiority that the U.S. helps maintain a world in its own image. Whereas the U.S. is usually considered to have been isolationist during the 19th century, it assumed the role of benevolent hegemon in the aftermath of WWII. Apart from being the leading superpower with a decisive economic and military edge, the U.S. also perceives itself as acting for the benefit of others, as a provider of collective goods and as the leader of the free world. Michael Hirsh

of *Newsweek International* argues that “it is simply not in America’s national D.N.A. to impose a new Pax Romana. The United States is a nation whose very reason for existence is to maximize freedom.” As Jutta Weldes of the University of Bristol explains, the fact that the U.S. sees itself as acting altruistically is confirmed by the pervasive American rhetoric of “burdens of responsibility” and “commitments,” to describe the U.S.’s hegemonic role, because commitments are honored even though they may entail costs.

### 9/11: AN ATTACK ON THE U.S.’S ONTOLOGICAL SECURITY

Having laid out the core aspects of the U.S.’s identity, it is important to consider the ways in which the nature of the 9/11 attacks (*what* happened, *how* and *why*), and al-Qa’ida’s characteristics, generated a sense of deep uncertainty for the U.S. and attacked the U.S.’s identity.

The classical game of sovereignty exists to order *inter-state* relations and to prevent and regulate conflicts between them. Al-Qa’ida dealt a serious blow to the U.S.’s identity as *state-qua-state* since it *declared war* on the U.S. despite being a non-state actor in the Westphalian system; moreover, it rejects the modern state system and seeks to remake the world by resurrecting the Muslim Caliphate. Al-Qa’ida also uses unlawful and unlimited violence and threatens state security *from within* the state’s sovereign borders.

The *intrinsic* aspect of the U.S.’s identity, too, was attacked on 9/11. Firstly, the U.S.’s sense of exceptionalism was attacked as al-Qa’ida shattered “U.S. grandiose fantasies of invulnerability” through an unprecedented massive attack on the U.S. homeland. Secondly, on September 12, 2001, Bush declared terrorism “a threat to our way of life.” The 9/11 hijackers restricted the freedom of Americans. The hijackers grounded the civilian air fleet, shut down Wall Street, and caused many Americans to cancel their flights due to a strong sense of insecurity at home and abroad. Security

has become an ever-present worry for Americans, a fact that, in some sense, reflects al-Qa’ida’s success in restricting their freedom. Some hold that if liberty has been the casualty of 9/11, then it will be more a result of friendly fire, namely U.S. anti-liberal policies in the name of homeland security, than of the assaults of al-Qa’ida. In either scenario, however, the end result is an attack on the U.S. (liberal) way of life. Thirdly, al-Qa’ida struck at the U.S. by exploiting those characteristics that are central to its identity; taking advantage of U.S. liberty, economic and communicational interconnectedness, cultural diversity, and respect for privacy. For these characteristics were precisely what ended up boomeranging against the U.S. itself.

The *social* aspect of the U.S.’s identity was powerfully attacked on 9/11 as well. As Osama bin Laden declared: On September 11th, the “real targets were America’s icons of military and economic power.” The Twin Towers and the Pentagon represented the U.S., as understood by Americans: an exceptional, potent economic and military superpower. Therefore, by crashing into and toppling these towers as well as the nation’s military hub, al-Qa’ida attacked U.S. identity as an economic and military superpower. Al-Qa’ida’s ability to cause the economic damage that it did illustrates the vulnerability of the U.S., despite its being an economic superpower. The stock markets remained closed until September 17th, and stocks lost \$1.2 trillion in value for the week. The air travel industry suffered substantial losses, and the attacks were estimated to have cost the U.S. economy 1.8 million jobs. According to the property consultancy, Jones Lang Lasalle, “The attacks destroyed over 12% of the entire down-town office market” “and nearly crippled [New York’s] economy.” Moreover, the *means* employed by al-Qa’ida on 9/11 attacked U.S. identity as a military superpower. The mightiest military in history had failed to protect the heart of U.S. power from a band of 19 men brandishing box cutters.

Not only did 9/11 remind the U.S. that it is not

omnipotent; it also suggested that U.S. power could, perhaps, be considered to have become a part of the cause of terrorist enmity and even a source of U.S. vulnerability. Bin Laden's 1998 fatwa (declaration of jihad) illustrates al-Qa'ida's perception of the U.S. as an occupier, criminal, and oppressor, driven by economic and religious neo-imperialist goals. This pejorative depiction stands in sharp contrast to the positive light in which the U.S. sees itself: an exceptional, benevolent superpower. Despite the international support and sympathy the U.S. received immediately after 9/11, there was a widespread international sense that the U.S. either deserved or in some way provoked an attack such as 9/11. From an ontological security standpoint, this mismatch of subjective identity and socially recognized role became unstable; thus was an attack on the social aspect of the U.S.'s identity, which can only be preserved if other states continue to share with the U.S. an understanding of its role in the world.

In successfully generating terror, 9/11 brought about a deep sense of uncertainty. The phenomenon was best described by former U.S. Secretary of Defense, Donald Rumsfeld: "[The post-9/11 U.S. challenge is] to defend our nation against the unknown, the uncertain, the unseen and the unexpected." Although terrorism itself is not new, the world had never seen a terrorist attack that killed so many people, and prior to 9/11, U.S. strategic thinking lacked a coherent framework through which to understand contemporary terrorism.

Moreover, the U.S. found its longstanding system of deterrence unable to generate a sense of stability so well achieved in the past, for successful deterrence presumes rational actors. The harsh reality is that it is extremely difficult to deter suicide terrorists, since they are willing to give up their own lives. Deterrence by threat of retaliation is not viable since al-Qa'ida lacks a return address and its members are not daunted by the threat of death. Deterrence by denial, too, is problematic since al-Qa'ida operates from within the sovereign



**A helicopter flies overhead as smoke pours from the southwest corner of the Pentagon Building located in Washington, DC, minutes after a hijacked airliner crashed into the southwest corner of the building during the 9/11 terrorist attacks.**

**U.S. NAVY PHOTO BY JO1 MARK D. FARAM.  
RELEASED TO PUBLIC.**

boundaries of the state under attack. It used jet-planes (hijacked and used as ballistic missiles), cell-phones, and rental cars, which were integral parts of the targeted society and not developed exogenously. How can a state "balance" against a power base that is very much part of its own post-industrial fabric of society?

Like a cancerous tumor, al-Qa'ida's *transnational network* character has made it very difficult to contain or eradicate, and this generates a deep sense of uncertainty. As a prototype of New Terrorism (which has developed since the end of the Cold

War) al-Qa'ida is decentralized and amorphous, comprising autonomous or semi-autonomous internationally dispersed cells. Removing bin Laden might *disrupt* the network but is unlikely to *destroy* the fanatical beliefs that drove the 9/11 terrorists to attack the U.S. Al-Qa'ida has a complex, robust, and resilient money-generating and money-moving network. Its financial infrastructure spans the globe, with various types of accounts and financiers in approximately 100 countries, and it operates in secrecy, both within the network and vis-à-vis state authorities. How can such an enemy be contained or eradicated, even if one possesses all the military might in the world?

### **WAR ON TERRORISM: AN ATTEMPT TO RESTORE ONTOLOGICAL SECURITY**

The 9/11 attacks and the nature of al-Qa'ida undermined the U.S.'s ontological security. The U.S. response was, in part, a resort to routines that would restore its sense of identity and generate a sense of certainty. In light of previous American foreign policy strategies, framing the response to 9/11 as a war might be considered to some extent a resort to an American *routine* of declaring “a war on \_\_\_\_\_,” as with Wilson’s “War to end all wars” (WWI), which can be understood as a war on wars, and to a greater extent Johnson’s War on Poverty and Nixon’s War on Drugs. Bush’s War on Terrorism, likewise, is a war with no visible end, on an idea too vague and broad to pursue effectively, which by definition ensures that it can last almost indefinitely. Bush himself stated that this war is “of uncertain duration” (letter accompanying the National Security Strategy [NSS]). Since the officially stated purpose of the war, eradicating terrorism and evil, is a literal impossibility due to terrorism’s nature, the war on terrorism might qualify as an unwinnable war, which ensures its indefinite duration, thus, paradoxically, creating a kind of certainty. The U.S. knows who it is and whom it is against: “Either you are with us, or you are with the terrorists.”

Unable to strike against an al-Qa'ida *state*, the U.S. attacked the main state that harbored al-Qa'ida: Afghanistan. It continued by linking Iraq to the broader terrorist threat, thereby paving the way for another attack on a *state* in an attempt to restore and solidify the shaken rules of the Westphalian order (over which the U.S., as the sole superpower, has a self-imposed role of guardian), thereby strengthening U.S. identity as *state-qua-state*. In the eyes of the U.S. administration, the advent of Islamic terrorism posed the gravest threat to the established international order. Prior to the attacks, U.S. strategic thinking remained cast in a strongly realist mindset that emphasized interactions between *states*, and focused in particular on strategic defense against possible missile attacks by rogue *states*, such as North Korea (hence the National Missile Defense Program). But even rogue states can be deterred more successfully than suicide terrorists, because their state identity influences their payoff structure; for example, they have a defined territory and population at stake, as opposed to suicide terrorists who have nothing that they value that can be held at risk.

The U.S.'s identity as an economic superpower was affirmed by its response, for to take on the role of guardian and advancer of freedom, a state must have the material wealth to back up its ambitions. Only an economic superpower could spend enormous amounts of money on the overwhelming force that was used in Operation Enduring Freedom. Furthermore, U.S. wealth depends very much on open markets and free trade. It can be argued that using the war on terrorism to safeguard a new era of global economic growth, through the expansion of open markets and free trade, constitutes a further attempt to reassert the U.S.'s identity as an economic superpower.

*Declaring war* on terrorism also affirmed the U.S.'s identity as a military superpower. The title: “War” gave legitimacy for using extraordinary military means. Under the drama of a war, there was greater leeway for expanding the U.S. military

budget, using incommensurable force, mobilizing domestic and international support, and hence reaffirming U.S. identity as a military superpower.

Furthermore, framing the response as war also permitted the affirmation of the U.S. role of a benevolent hegemon. It allowed President Bush to invoke WWII images, as when he drew parallels between 9/11 and Pearl Harbor, and between the Marshall Plan and the reconstruction of the Afghan economy. This type of rhetoric, which has emanated from Washington since the war on terrorism commenced, has emphasized the U.S. image of a benevolent hegemon. The NSS defines the presence of American forces overseas as a “profound symbol of commitment” to U.S. allies and friends. When Operation Enduring Freedom commenced, President Bush declared that the U.S. “did not ask for this mission, but will fulfill it” due to the U.S. commitment to defend “not only our precious freedoms but also the freedom of people everywhere.” Such statements clearly construct and enhance the image of a responsible, altruistic, and benevolent U.S., in an attempt to reaffirm the social aspect of the U.S.’s identity challenged by al-Qa’ida.

### AL-QA’IDA: THE U.S.’S “EVIL OTHER”

The defining aspect of the U.S. government’s rhetorical response to 9/11 was the construction of al-Qa’ida as its new major antagonist, a new “evil Other.” This can be seen as a resort to the routine of producing U.S. identity by differentiation. The U.S.’s identity was initially forged as a counter identity to an “Other” called Europe, and during the Cold War, the U.S. constructed its identity as a counter identity to communism. Today, it appears that terrorism (and, in particular, al-Qa’ida) has become the new “evil-on-duty.” The U.S. has a definite aim to restore its identity as *the* advancer of freedom and liberty, indicated by the fact that the root “free” or “liberty” is used 79 times in the NSS. The U.S.’s rhetorical response to 9/11 has served this aim: It affirmed the U.S.’s identity as being everything that the evil al-Qa’ida is not. The Bush

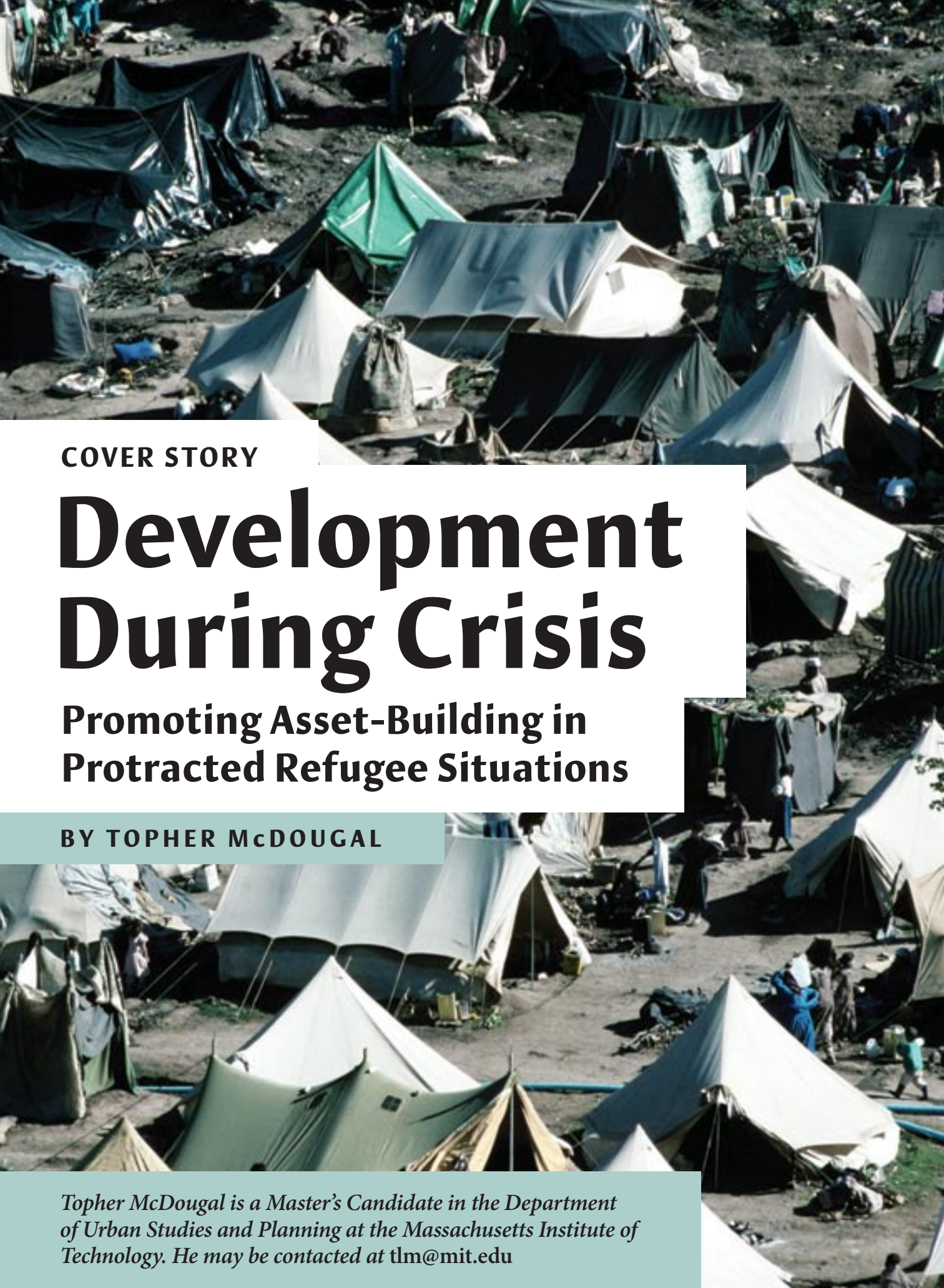
administration has repeatedly referred to al-Qa’ida as “absolute evil,” “enemies of freedom” who “brutalize and repress their own people [and] threaten [the American] way of life.” By differentiating itself from al-Qa’ida, the U.S. affirmed its identity as an exceptional, benevolent guardian of freedom.

### COMING FULL CIRCLE

The U.S.’s policy towards al-Qa’ida in response to 9/11 is difficult to understand if the U.S.’s only objective was to retaliate against al-Qa’ida and make the U.S. more *physically* secure in the face of further terrorist threats. The explanation from the perspective of ontological security is proposed not to replace but to complement the array of existing explanations. The collapse of the Twin Towers on 9/11 astonished millions throughout the world. But with it, less visual, but no less daunting, came a severe challenge to the U.S.’s identity and sense of certainty. In order to restore its ontological security, the U.S. chose to respond in a way that reinforced its identity and alleviated uncertainty.

Because states constantly seek ontological security, they tend to become *attached* to the routines that safeguard a stable identity and provide a sense of certainty. While an attachment to dangerous routines might enhance a state’s ontological security, it may hinder its physical security. Indeed, the U.S.’s response to 9/11 may be regarded as an attachment to dangerous routines (namely, declaring “War on \_\_\_\_\_”), which possibly generates a self-fulfilling prophecy that in turn poses a threat to the U.S.’s *physical* security. It seems that the U.S. is beginning to understand that applying the Westphalian perspective to fight its “war on terror” might not be prudent after all, evident by the fact that it is reforming its military into one that is adept at fighting small guerilla forces. It remains to be seen how the U.S. will manage to ensure both its ontological and physical security, without having one satisfied at the expense of the other. **IR**

*Noa Epstein’s piece was awarded Second Place in the MITIR Writing Contest.*



COVER STORY

# Development During Crisis

Promoting Asset-Building in  
Protracted Refugee Situations

BY TOPHER McDOUGAL

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- The predicament of the refugee speaks to the complex intersection between humanitarianism and development.
- Most refugees spend years in protracted limbos, neither able to return home nor able to build a livelihood in their country of asylum.
- To promote asset-building among exiled communities requires that development practitioners see refugees as viable economic actors in their own right.
- A new form of property tenure, based on community land trusts, may help refugees to accrue returns on their investments and create future housing for urbanizing local populations.

**O**ne day in September 2006, Astride arrived alone in Saclepea refugee camp from her home near Toulepleu, Côte d'Ivoire. She was fleeing a civil war that had sundered the government-controlled South from the rebel-controlled North and turned the buffer areas in between into a war zone. She had lost her husband and son when her village was attacked, and knew no one in the camp. She registered her name and those of her husband and son with the camp's United Nations staff, and spent her nights outside as she waited her turn for more blue tarpaulin emergency shelters to be erected. This was the first time Astride lost everything—but likely not the last.

Located a couple of kilometers from Saclepea in the far-flung northern county of Nimba, Liberia, near the borders of Côte d'Ivoire and Guinea, Saclepea camp finds itself at the crossroads of several exoduses—stemming from the various humanitarian crises that have plagued the Mano River Basin states (Côte d'Ivoire, Guinea, Liberia, and Sierra Leone) over the past two decades. Given that Ivorians have been fleeing over the border

from the 18 Mountains region of Côte d'Ivoire sporadically over the course of the past five years, any given Ivorian refugee in Liberia may turn out to be long-settled or newly-arrived. Saclepea camp exhibits a corresponding cross-section of refugee investment strategies, ranging from small investments with extremely short time horizons to long-term investments in houses, animal sheds, cultivated fields, and so forth. The former strategy is commonly seen among those refugees who have only recently fled their homes or who have been migrating in search of a safe place to land. The latter strategy is observed most among those who have been encamped for a prolonged period, and who consider it likely that they will remain there for at least a few more years.

Astride was concerned about her next move: Should she spend what little money she had to search for her family in Monrovia, or should she stay put and await their potential arrival? And if she stayed, how much money should she invest in a new home, a business, or crops? These questions would bear heavily on her paltry finances. She emphasized the fact that when she returns home, whether in six months or ten years, she will lose her home and fixed assets all over again. She will be allowed to bring only 30 kilograms of personal effects back home to Toulepleu.

Astride's dilemma speaks to the complex intersection between humanitarianism and development. One central question stems from this inter-

Tents cover the mountainside in the Kurdish refugee camp of Yekmel in 1991.

U.S. NAVY PHOTO BY PH2(AC) MARK KETTENHOFEN. RELEASED TO PUBLIC.

section: How can the period of exile for a refugee be transformed from treading water into an asset-building period yielding tangible benefits? Each year, the United Nations High Commissioner for Refugees (UNHCR) accords *prima facie* refugee status to hundreds of thousands of people who, like Astride, are fleeing across international borders. Most of these refugees spend years in protracted limbos, neither able to return home nor able to make a new home for themselves in their country of asylum. They often arrive in the host country stripped of assets after a desperate flight to safety. Furthermore, upon eventual repatriation, refugees may again find themselves in a position of starting over. In the best circumstances, returning refugees may have a supportive UNHCR advocating for the restitution of their original land and property from squatters or hostile usurpers. Scott Leckie, a researcher at the Centre on Housing Rights and Evictions, notes that in less ideal circumstances they will find themselves with little or no UNHCR support, or even without any property at all. In either case, the refugee's exile investments—time, labor, and capital—have evaporated. This makes the returning population more vulnerable to small economic shocks. Furthermore, in those cases in which conflict precipitated the exodus, it could perpetuate a cycle where poverty feeds into violence, and violence into further poverty.

Two recent developments in the field of emergency management bode well for the international community's ability to break this cycle. First, academic experts and policymakers increasingly recognize displaced people as economic actors in their own right. Second, camp planners increasingly highlight the importance of locating camps near urban areas to facilitate market transactions. Building on these developments, the next logical advance will be a mechanism for enabling the transfer of asset values generated in a protracted refugee situation back into "normal" life upon returning home. In certain situations, a hypothetical form of property tenure inspired by a particular

mechanism pioneered in the developed world, the community land trust (CLT), could grant refugees some form of saleable, transferable right to the equity investments that they make in their homes. This model would entail the added benefit of increasing the housing stock in rapidly urbanizing cities. Where appropriate, it would motivate a rethinking of current refugee planning strategies.

## THE MAGNITUDE OF THE REFUGEE POPULATION PROBLEM

Astride's situation is heartbreakingly common in the developing world, and the need for innovations allowing refugees to build their assets is increasingly obvious. Dr. Jennifer Leaning, an expert of humanitarian emergencies at the Harvard Humanitarian Initiative, observes that the last decade of the 20th century witnessed not only a decline in inter-state conflicts, but also, dismayingly, a countervailing "proliferation of complicated intra-state disputes, conflicts, and emergencies." In 2004, UNHCR reported 232,000 new refugee arrivals around the world. Despite the immense scale of the global refugee flux, well-founded concerns about the accuracy of refugee statistics, and some misinformed claims of a growing number of refugees, the global refugee population seems to be decreasing slightly right now. 2004 saw the total number of refugees around the world drop for the fourth consecutive year from a high in 2001 of around 12.2 million to 9.2 million. While the reduction in total refugee populations could simply mean that there are fewer refugees, it could also imply that refugees are either being repatriated or resettled in a third country. Both of these latter options entail stripping refugees of their accumulated assets, since refugees do not technically own their homes and thus cannot sell them prior to departure.

Any innovation in transferable property rights for refugees will face numerous legal and economic barriers peculiar to refugees. UNHCR tracks many other categories of migrants, so it is necessary to clarify the terminology. The term refugee is de-



defined by the 1951 Geneva Convention (in part) as any person who

owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country...

While parts of the discussion may pertain tangentially to internally displaced persons (i.e., those who have fled their homes but, unlike refugees, have not crossed an international border) or to asylum-seekers (i.e., those who have crossed an international border seeking refugee status but who have not yet received it), their legal status significantly differs from that of refugees. Therefore, despite the growing importance of these populations (the number of persons of concern to UNHCR, including internally displaced persons and asylum-seekers, increased during 2004 by 10%), the recommendations presented here do not directly apply to them.

### LIVELIHOODS, ASSET-BUILDING AND DEVELOPMENT

A focus on transferability of refugee assets would significantly complement current policies in refugee settings. Academics and policymakers increasingly regard protracted refugee situations through the lens of economic livelihoods. They claim that refugees are economic actors in their own right, not merely people with lives on hold. Karen Jacobsen, an authority on refugee economics at Tufts University's Fletcher School, notes that UNHCR demonstrates a lack of creativity in formulating refugee solutions. She argues that the agency should go beyond just lodging refugees. Instead, she argues, UNHCR should reconsider the option of resettlement in countries of first asylum, depending on their respective levels of stability and security. The most vulnerable refugees most often inhabit the (usually isolated) camps, whereas the more economically opportunistic tend to prefer



Belongings of a Kurdish refugee family left behind in deserted barracks which they used as a shelter while fleeing the forces of Saddam Hussein in northern Iraq in 1991. DOD PHOTO BY JOC MARJIE SHAW. RELEASED TO PUBLIC.

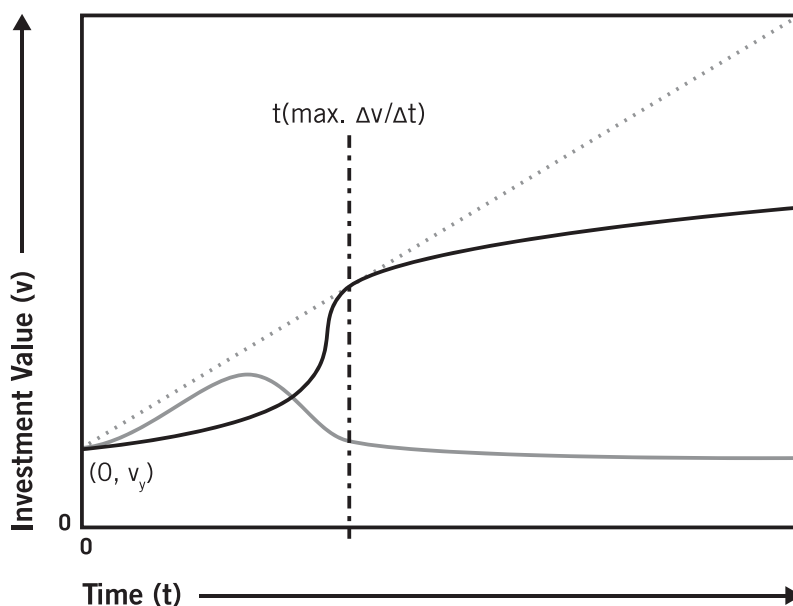
self-settlement around market towns. This is an indication that refugees constantly weigh the potential benefits and risks associated with their location. In step with academia, many agencies and international nongovernmental organizations have adopted policy directives that promote livelihoods and income generation in refugee camps. The focus on livelihoods (for example, growing crops or producing saleable goods) concerns itself with the promotion of economic self-reliance until exile comes to an end. As such, while it is an enormous step forward, it does not go far enough. Fostering the asset-building process would prove a more far-sighted policy.

While it is often argued that development cannot begin without the prior establishment of security, causality may run in both directions. A flexible mechanism for building refugee assets in times of flux might, in fact, bolster regional stability. Consider that developing countries produce the vast majority of refugees. The UNHCR-designated regions of CASWANAME (Central Asia, South-West Asia, North Africa and Middle East) and Africa jointly accounted for 87% of total refugee generation in 2004.

One possible explanation for this phenomenon lies in the link between conflict and natural resource dependence. Paul Collier and Anke Hoefler, Professors of Economics at Oxford University, posit that opportunities for resource usurpation primarily catalyze internal conflict and civil war. In a parallel with the “resource curse” theory, they postulate that less-developed countries provide fuel to the fire of conflict. This is because their economies largely depend on easily extracted natural resources, in contrast to the complex value-adding mechanisms (for example, manufacturing, research and development, marketing, and so forth) of developed economies. Consequently, the violent are able to co-opt these natural resources. Furthermore, by their nature, developing countries have low governmental capacity to help their citizens recover from shocks, whether stemming from conflict or natural disaster. Finally, refugee camps themselves are notorious targets for the recruitment of militia soldiers, as they contain large vulnerable populations with few economic opportunities. The recruitment of additional soldiers prolongs conflict and creates more refugees, thus completing a positive feedback loop. For all of these reasons, development of a decentralized refugee property market may help to forestall future conflict.

Against the post-conflict backdrop of so many protracted refugee situations, asset-stripping constitutes one of the gravest threats to refugee economic development. Some migration literature has focused on losses from transaction costs for remittances from economic migrants, and some has centered on asset-stripping among, for example, Sudanese refugees at the hands of militias. But little work has been done on the systemic asset-stripping that characterizes even institutionally facilitated repatriations, whereby refugees are parted from the plots they have cultivated and houses they have either built or improved. Indeed, land policy in post-conflict situations has generally attracted little interest.

The asset-stripping process may lead to serious declines in human security and greater vulnerability to shocks. This vulnerability is precisely what Astride fretted over when considering whether to invest in a home for an uncertain term. In economic terms, it may also translate into an elevated discount rate, discouraging longer-term investments such as some forms of agriculture. Given



**FIGURE 1.** Two hypothetical investment options maturing over time in present value. The black line represents an investment with a relatively long time horizon, while the gray line represents a project with a more rapid payback schedule. The point where the dotted line meets the black line [ $t(\max. \Delta v/\Delta t)$ ] represents the maximum average return on investment over time.

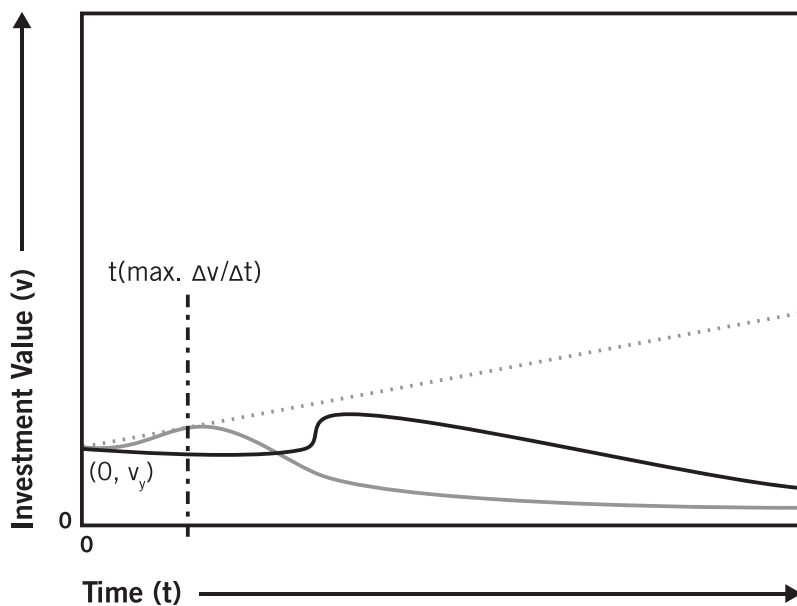
the options, further conflict, potentially yielding immediate high returns, may begin to appear an attractive alternative to the plodding development process. For instance, much of the success of West African militia recruitment in refugee camps (performed by, for instance, the National Patriotic Front of Liberia (NPFL), the United Liberation Movement of Liberia for Democracy (ULIMO), Liberians United for Reconciliation and Democracy (LURD), the Sierra Leonean Revolutionary United Front (RUF), the Sierra Leonean Army (SLA), the Sierra Leonean Civil Defense Force militias (CDF), the Ivorian Patriotic Movement of the Far West (MPIGO) and the Ivorian Movement for Justice and Peace (MJP)) can be traced not to ideological fervor but to promises of payment in the form of wages and loot.

A less dramatic manifestation of this phenomenon is seen in refugees' choices of crops. For instance, rice may be harvested up to four times per year, and so may be preferred to, say, cultivation of an orange grove, which will yield higher returns but take a few years to develop. Figure 1 depicts two hy-

pothetical investment scenarios: One matures more slowly than the other but ultimately yields greater returns in terms of average revenue generated per unit of time (say, years). The maximum average returns are symbolized by the line beginning at the initial investment amount ( $t = 0$ ) and running along the steepest tangential revenue curve. One might consider the preferred investment in this case to represent an orange grove that takes a while to mature but continues to gain in value, and the suboptimal choice to represent a rice paddy, which matures quickly but diminishes in value as the crop wilts. However, heightened risk of further displacement at an unspecified future time, combined with the inability to sell the investment for its net present value, increases the effective discount rate, as illustrated in Figure 2. Under these circumstances, the quick payoff may now be preferable to the long-term investment, and the development process is forgone in favor of "just getting by."

## URBANIZATION AND PROPERTY

Establishing refugee settlements near urban areas might benefit refugees by giving them access to local markets and increasing the value of their property (if they possessed it). It could benefit the local city by supplying housing for future demand. According to the United Nations Populations Fund, migration to urban areas dwarfs migration to other countries in numerical terms. To varying extents, the developing world has been experiencing a well-documented process of urbanization over the past 50 years. According to Martin Brokerhoff, who researches urban growth trends in the developing world at the Population Council, an international nonprofit organization, more than half of the growth of African cities was due to rural-urban migration during the 1950s and 1960s,



**FIGURE 2.** Two hypothetical investment options maturing over time, as in Figure 1, only discounted to present value by an increase  $r$  ( $r = 20\%$  for example). In this scenario, the short-term investment is considered to have the maximum average return on investment over time.

and averaged 25% during the 1980s and 1990s.

Studies have demonstrated both “push” and “pull” factors associated with this phenomenon, such as conflict and declining rural earnings on the one hand, and economic opportunity and amenities on the other. In Puntland, Somalia, for example, conflict and economic factors have combined to produce a steady stream of internally displaced persons into the urban areas of Bossaso and Garowe. Such rural-urban migration blurs the lines between economic and humanitarian migration. Considering the urbanization trend, Chuck Setchell, a planner of settlements for internally displaced persons with the United States Agency for International Development, now favors more permanent shelters in urban or near-urban locations over temporary emergency shelters in isolated communities, claiming that this strategy anticipates increasing market demand for such locations. While it is true that camps develop their own markets and internal trade economies, the benefits of access to host economy markets can be significant.

Substantial barriers exist to policies that would allow refugees to build assets in exile, especially near urban centers. Indeed, the issue is often written off entirely as a moot point. Most work done on the tenure security of displaced persons has concentrated on the restitution of past property rights to returning populations, whether those displaced are refugees or internally displaced persons. Certainly, the possibilities for refugee integration into local legal and institutional frameworks have receded greatly in the past decades, as governments grow increasingly leery of the supposed adverse economic impacts of refugees on national security, local labor markets, and public service provision. Sierra Leonean and Ivorian refugees in Liberia, for instance, are interdicted from real property ownership, as “[e]very person shall have the right to own property alone as well as in association with others; provided that only Liberian citizens shall have the right to own real property within the Republic.” Furthermore, international institutions including

UNHCR have historically been desperate to ensure that sovereign states show a continued willingness to permit refugee flows over their borders, and have therefore avoided suggesting solutions that would seem to give refugees economic power and a reason to stay. Thus, while the phrase “IDP [internally displaced person] property” may not be oxymoronic per se, “refugee property” certainly remains so.

## VARIATION ON A THEME: COMMUNITY LAND TRUSTS

The property tenure instrument capable of transforming refugees’ exile into an asset-building period would have to meet certain pragmatic criteria to effectively confer the intended benefits. It would have to find a way of bestowing or imitating the bundle of four traits classically attributed to private property: excludability, use privilege, controllability, and transferability (see Table 1). These are the traits that make private property private and encourage efficient investment. Owing to the unusual challenge at hand, however, any instrument adopted to promote fixed asset-building among refugees will also require qualities enabling it to contend with a number of issues peculiar to protracted refugee situations. These qualities would include maintaining low housing costs, allowing for piecemeal investments, bolstering refugees’ faith in the future and (intra- and inter-) community bonds, and ensuring compatibility with host country laws, contextual appropriateness, and the ability to encourage local economic growth (see Table 2).

In the United States, one instrument, the community land trust (CLT), is a promising mechanism for satisfying some of the listed criteria. It has known success in meeting the basic criteria (Table 1: 1-4) while also keeping property prices low (its original goal). In theory at least, it may also accommodate piecemeal investments, bolster faith in the future, and strengthen community bonds (Table 2: 1-4). CLTs are mechanisms that allow homebuyers to purchase a house without having to own the land

**TABLE 1.**  
**THE FOUR CHARACTERISTICS CLASSICALLY ASCRIBED TO PRIVATE PROPERTY**

- 1. Excludability:** This attribute implies that the owner of a certain property may bar others from trespassing on it at his or her discretion. It is also one of the primary attributes of private goods in general in economic theory, which holds that a good is excludable if one can prevent another from benefiting from it. In economists' jargon, the test is one of limiting spillover effects.
  - 2. Use Privilege:** This attribute stresses that one should receive the benefits (and costs) generated by one's own property. In economic theory, this attribute is echoed by the idea of "rivalness," meaning that the enjoyment of a certain good's benefits effectively limits the benefit that others may derive from it. For example, if one person harvests corn from a particular parcel of land, another person may no longer find any corn left to harvest for him/herself. The enjoyment of non-rival goods, by contrast, does not limit others' enjoyment. Non-rival goods are usually either plentiful (for example, the air that we breathe) or non-material (for example, a view of the mountains).
  - 3. Controllability:** This attribute confers upon the owner the right to control, manipulate, improve upon, or otherwise invest in his or her property. It allows the owner to participate effectively in the free market by weighing the imagined costs and benefits of various options and choosing the one that seems best.
  - 4. Transferability:** This attribute implies that the owner of property may sell, lease, or otherwise transfer some or all of the bundle of rights associated with it.
- 

**TABLE 2.**  
**THE SEVEN ADDITIONAL REQUIREMENTS OF A LAND TENURE INSTRUMENT IN PROTRACTED REFUGEE SITUATIONS**

- 1. Low Housing Costs:** Refugees often have very few resources from which to draw, and, as such, any way to keep the cost of housing to a minimum is helpful.
- 2. Piecemeal Investment:** Large, "lumpy" investments may be unrealistic among refugees since they have little in the way of cash or capital reserves, and often do not have access to reasonable or substantial credit. Therefore, any property tenure instrument chosen must allow for refugees to make small, gradual investments whose sum total value is ultimately recognized.
- 3. Faith in the Future:** Refugees most often do not know how long they will have to remain in exile. This uncertainty has appreciable effects on their psychological well-being, as well as on their long-term investments ranging from education to environmental stewardship.
- 4. Strengthen Community Bonds:** Professor Leaning of the Harvard Humanitarian Initiative stresses that physical assets are not by any means the only "resource materials" that help people in refugee situations to cope with their plight. In addition, there are social and psychological resources that serve as preconditions for human development—for example, attachments to home, community, and the future.
- 5. Interface with Local Laws:** As discussed above, domestic laws often bar refugees from land and real estate ownership. Any successful property tenure mechanism should then somehow serve as a proxy for direct property ownership.
- 6. Contextual Appropriateness:** The chosen mechanism would have to prove versatile enough to adapt to a wide variety of physical and socioeconomic contexts.
- 7. Local Economic Growth:** As noted earlier, local governments often see refugees as an economic liability. Therefore, the feasibility of any mechanism's implementation will depend to a large extent on its benefit to the host economy.

underneath. Instead, buyers sign a lease for an extended term. Since the value of land typically rises much more quickly than does that of the house itself, the homeowners will not be taxed out of the neighborhood, and future leaseholders need not pay prices based on land speculation. In Astride's case, the fact that she would not be buying the land makes property investment a much less daunting prospect. Furthermore, any improvements the leaseholder makes are rightfully his or her own. This implies the possibility of piecemeal investments reminiscent of the self-improving, spontaneous settlements described by Charles Abrams, the late Professor of Urban Studies at the Massachusetts Institute of Technology. It also nurtures a positive view of future returns on investment.

CLTs are cooperatively managed by a board composed of the leaseholders, members of the local community, and local government officials—a platform that has the potential to generate cooperation among residents, and between residents and locals. The non-profit CLT body retains the right to purchase any improvements upon the lease before they are offered for sale to other potential buyers (this is the so-called right of first refusal). This right also implies the CLT's abiding interest in the market viability of the enterprise as a whole. Thus, like a condominium association, the CLT retains the right to mandate any maintenance or upkeep deemed necessary. The lease agreement further stipulates a resale formula that balances the CLT's interest in keeping the property affordable with the lessee's interest in profiting from improvements.

The criteria of legal compatibility, contextual appropriateness and economic benefits (Table 2: 5, 6, 7) may require that the CLT be adapted to the peculiar exigencies common to most refugee situations. For convenience, we may call the modified instrument a humanitarian community land trust, or HCLT. While the 1951 Geneva Refugee Convention declares that “[e]xcept where this Convention contains more favorable provisions, a Contracting State shall accord to refugees the same treatment as

is accorded to aliens generally,” as discussed above, this is no guarantee that refugees with the means shall be allowed to own land or fixed property, such as a house. Legal barriers to non-citizen property ownership are not uncommon in the developed world, either, and it is conceivable that HCLTs could be employed in third countries of resettlement.

One possible way of meeting the criterion of legal compatibility then, would be to extend the leasing mechanism to cover not just the land itself, but also the fixed assets located on it. That is, the HCLT would legally own the improvements while mandatorily leasing certain rights in the “property rights bundle” freely and for an extended period. The length of lease could be modified to fit a given policy goal (for example, to stabilize land prices or encourage business investments). Another possibility would be to establish refugee ownership equity in the HCLT. The ownership equity belonging to a leaseholder would be calculated as the market value of the total property, minus the value of the land and the debt represented in the tenant's improvements. Entering into contract with the HCLT could grant certain exclusive rights to a specific parcel, and one's ownership equity value would grow as one invests capital, labor equity, materials, or any other form of added value. Under such an arrangement, Astride would own a saleable stake in the HCLT, the size of which would correspond to the value of the improvements she made to the land and structures on the land.

The physical layout of the HCLT could, in theory, be tailored to local land availability, physical constraints, and social concerns. Parcels owned by the HCLT need not necessarily be contiguous. It is conceivable that there may arise situations in which the security of a given group lies in relative dispersion, in which case the HCLT could own fragmented parcels. That said, disaggregation is considered highly undesirable, as it hinders the monitoring of public health, human security and migration.

Finally, a major selling point of HCLTs is that

there is no theoretical limitation on who can become a leaseholder. A preference might be set initially for refugees, but 1) might be in the form of a quota or a refugee right of first refusal instead of a rigid rule, thereby appealing to local sentiment and sense of inclusion, and 2) could be lifted as refugees begin to leave. As a member of an HCLT in northern Liberia, Astride might then sell her HCLT share and rights to a Liberian citizen when she decides that Toulepleu is safe enough to return. Such local inclusion would go a long way toward winning over public opinion in the host population, and may even be necessary to maintain a certain legal threshold of local ownership in the corporate body. The value of the land remains with the HCLT itself and not with the returning refugees (though they may sell their improvements). Thus the net effect of the HCLT is to leverage resources usually excluded from the housing market to help install infrastructure and housing in an area where neither the local private market nor the public sector are able to keep pace with urbanizing housing demand.

### FURTHER COMPLICATIONS

There are numerous possible complications and unintended adverse effects associated with implementing an HCLT in an actual protracted refugee situation. A few of the most obvious include funding, security, logistics of asset transfer, host government support, and local sentiment:

**FUNDING:** The most pressing question, from a financial point of view, is: Where does the HCLT obtain its capital to buy land? Secondly, how do refugees, who have so few resources, begin to make “investments?” By way of addressing the second question, it may be helpful to recall some of Astride’s new neighbors in Saclepea who have established elaborate new lives for themselves. Depending on their future outlook, refugees already make investments in their houses, livestock sheds, fences, garden plots, and fields. Over the course of a protracted refugee situation, the blue tarpaulin

tents give way to waddle houses, often more and more resembling a village in layout and construction. Perhaps an HCLT could use collective bargaining powers to obtain lower interest rates on micro-finance for members’ business enterprises or construction loans. But the essential benefit has already accrued to the refugee. With a lease or share title in hand, the refugee may recoup some or all of his or her capital, material, and labor equity investments upon departure, thereby increasing the likelihood of investing in the first place. As for the HCLT funding question, many possible answers can be postulated. One is that UNHCR and other organizations spend a considerable amount of money on program-related costs already. These costs include sums for camp materials, labor, and the rental of camp lands from local governments. Just as an apartment renter might consider buying a condominium depending on her expected length of stay in that town, UNHCR would assess the likely length of the crisis (admittedly difficult or impossible to do with any precision, but rough estimates are all that are required) and weigh the cumulative rental fees of a multi-year lease versus the purchase of HCLT lands. Another method of finding initial funding for the HCLT sidesteps the issue. Land readjustment is a method of funding development when upfront capital is lacking. In the classic land readjustment model, the local government exercises its power of eminent domain in an area that is (in many cases) sparsely settled. The local government then rezones the land according to the redevelopment program, usually from “rural” to “urban.” It then returns much smaller parcels back to the original owners as recompense. The size returned is determined by the difference in value per area. If, after redevelopment and installation of infrastructure, the land is expected to be worth ten times the original price on a per hectare basis, then a parcel at least one-tenth the size of the original would be returned. A developer then retains a proportion of the remaining land for the installation of public infrastructure, and pays for its

installation through the sale of the remaining land, now parceled out according to the new land use. Accordingly, an HCLT or partner developer might choose to develop and sell off contiguous parcels near an urban area immediately after infrastructure installation, or over time as they rise in value. The private sector may perceive a low-risk investment as government is providing land, the market, and possibly a guarantee of housing buyback. One possible factor limiting the effectiveness of land readjustment in a developing country is the potential lack of zoning and eminent domain enforceability (even where it is enforceable, it has the potential to stir up animosity toward refugees).

**THE SECURITY CONTEXT:** The establishment of any legal entity such as an HCLT will be contingent upon an environment in which the rule of law is established. It is clearly unreasonable to suppose that an HCLT may be created in a country currently experiencing a civil war or other humanitarian emergency in which the usual regulatory mechanisms have of necessity been suspended. This point pertains especially to complex, interlinked crises that may ignite one another across borders and have broad, regional impacts. Many Sierra Leoneans, for example, fled their country's civil war in the 1990s by crossing the border into Liberia, which was then experiencing a similar level of chaos.

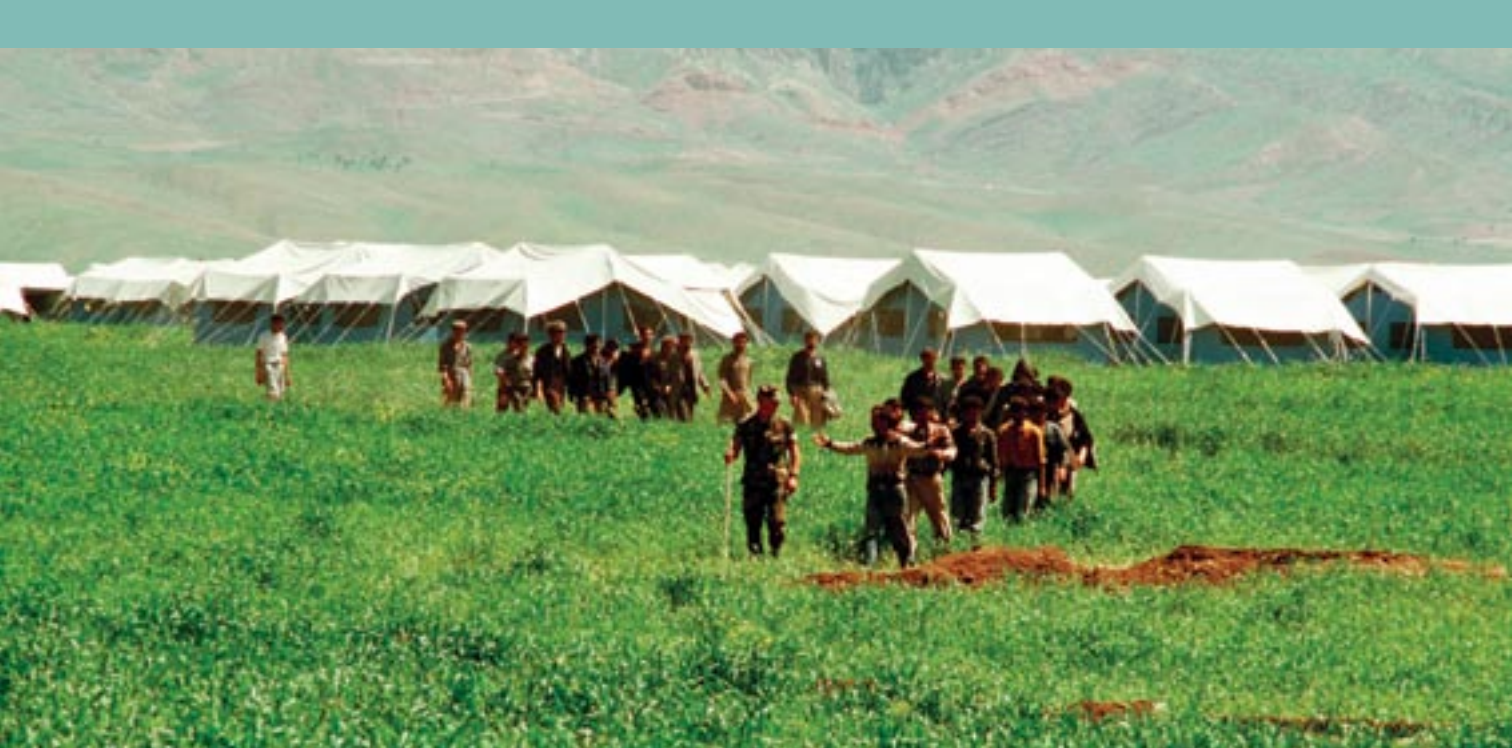
**LOGISTICS OF ASSET TRANSFER:** The physical transfer of capital from the host country back to a refugee's country of origin presents a major hurdle at the time of repatriation. For instance, transporting the value as cash in strong foreign currency (for example, dollars or euros) would pose unnecessary risks to the carrier. As most refugees do not have access to banks, part of the HCLT's functionality may be to arrange group financial packages and credit-building possibilities for its members with national or international financial institutions. In circumstances of mass repatriation, when the local housing market is temporarily overstocked, it might act in effect as a land bank, buying property improvements from departing refugees at a dis-

count rate and selling them to urbanizing populations at the rate of market uptake. As refugee camps tend to be the size of small towns, an HCLT of similar proportions might economically make its members' accounts accessible in the country of origin through a local financial institution or another "sister" HCLT.

**POLITICAL INCENTIVES:** Local governments may be willing to cooperate in an HCLT scheme as a means of cheaply investing in future housing needs, especially if there is the possibility of gaining income via property taxes. As Yu-Hung Hong, a public finance specialist at MIT, notes, leaseholds do not necessarily imply the absence of a property tax, though leaseholders are only paying tax on the rental value of the real property they lease. Indeed, if the HCLT builds up sufficient economic momentum over the period of a Protracted Refugee Situation, and if leaseholds for parcels had originally been offered freely in the immediate wake of refugee flight, it may eventually be reasonable to ask refugees to begin paying taxes to the host government. This could be especially helpful in maintaining good relations with the host community in those common cases where refugees inside the camp have free access to better services than locals do outside. Because of its institutional interest in market viability of constituent parcels, the HCLT will theoretically police its own land use, lessening the need for local government enforcement expenditures.

**LOCAL SUPPORT:** The approval of an asset transfer mechanism such as an HCLT will need to garner political support. One point of possible contention: locals often resent high quality services in refugee camps, a sentiment that may be inflamed if HCLTs prove effective in leveraging infrastructure installation. Locals may also view refugees near urban areas as competitors for scarce jobs. From the government's viewpoint, however, refugees who are allowed to search for jobs from "designated zones of residence" are less likely to self-settle, making it easier and cheaper to monitor them. They are also





A U.S. Marine leads a group of Kurdish men on a tour of a refugee camp near Zakhu, Iraq. U.S. and allied troops established the camp as part of Operation Provide Comfort in 1991.

DOD PHOTO BY PHAN HATTON. RELEASED TO PUBLIC.

more likely to work in the formal sector and pay income taxes. Moreover, Professor Jacobsen suggests that urban refugee entrepreneurship may *create* jobs. Another local concern is the “magnet argument,” which portrays sanctioned urban refugee settlements as drawing in more economic migrants under the guise of asylum-seekers. Conversely, such a magnet could prove an instrument for processing the many existing semi-legal asylum-seekers, ending their anonymity and increasing tax revenues.

## A STRATEGY FOR EMPOWERING REFUGEES

Emergency planners have come a long way in recognizing refugees as economic actors in their own right by pushing for settlement near urban areas and designing programs that support livelihoods and income generation. The next logical step is to link humanitarian emergency responses with sustained human development. While this link is about more than just fixed (or physical) assets, refugees necessarily invest in these assets, often heavily, only to abandon them upon repatriation. The invention of a mechanism allowing for asset

transferability is a crucial component in enabling refugees to transform a time of vulnerability into an economic legacy. It will signal refugees’ more complete accession into the market economy. There is one possible mechanism to accomplish this objective: namely, the Humanitarian Community Land Trust (HCLT). Many issues must be resolved before judging the viability of the HCLT, including legal feasibility in various, idiosyncratic regulatory contexts; assessing appropriate security contexts; funding mechanisms; predictions of the length of the refugee situation; internal institutional structure; methods of evaluating market value and ownership equity; and the all-important political will, among others. Consequently, the HCLT idea will function as more than a specific policy proposal. It will hopefully catalyze a broader discussion on flexible development mechanisms that can function even during times of crisis, with the potential of helping hundreds of thousands every year to move beyond treading water. [IR](#)

*Topher McDougal’s piece was awarded First Place in the MITIR Writing Contest.*



# The Legality and Sustainability of European Union Fisheries Policy in West Africa

BY MILAN ILNYCKYJ

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- Without regulation, technological developments increase the rate of resource depletion in the fishing industry.
- Despite international maritime laws and European Union agreements, industrially advanced European countries have defied sustainability standards in their efforts to secure investments in West African fisheries.
- If left unchecked, current interventions in fish ecosystems will continue to create severe economic and environmental externalities for West Africa.

**T**he fisheries policy of the European Union (EU) in West Africa has arisen, like all political equilibriums, from a combination of principle and pragmatism. Politics is considered to be “the art of the possible,” and it can thus be difficult to go from making lofty promises to generating policies that reflect those ideals, even when a genuine will to do so exists. An examination of the relevant science demonstrates how the “cash for access” agreements negotiated between the EU and West African coastal states—intended to exploit the resources within their Exclusive Economic Zones (EEZs)—are fundamentally unsustainable.

Current policy strongly favors the interests of the European fisheries lobby, rather than the long-term principles of sustainable development and equitable treatment of developing states. Legal, environmental and moral concerns are downplayed in favor of short-term economic and political considerations. These agreements harm the long-term prospects for the economic development of West African states, and have other adverse consequences, including malnutrition of their people and increased pressure on terrestrial resources. The absence of effective mechanisms to ensure sus-

tainability, coupled with the lack of efforts to create them, is unjust and breaches both international laws and those of the EU.

The access agreements between the EU and West African countries yield starkly different levels of benefit to each party. European states capture the lion’s share of the value of these fisheries’ resources, while African governments are paid relatively small sums. For example, in 1996, the government of Guinea-Bissau received US\$8,250,000 in license revenue in exchange for fish with an estimated value of US\$78,000,000. In total, less than 10% of the landed value of the fish remains in the region. This imbalance is likely to be perpetuated due to the consequences of over-fishing, since weakened ecosystems offer a reduced long-term benefit to the states in which they exist. Unchecked, the economic incentives that are currently presented to European fishermen will lead to the collapse of West African fisheries. Consequently, the behavior of the EU and the fishing fleets of its constituent nations violates international law, the internal law of the EU, and the terms of the access agreements. This issue transcends commonplace accusations of hypocrisy, because the costs of these ecologically unsound policies are borne by the present and future inhabitants of some of the world’s poorest countries – countries that the EU has repeatedly committed itself to assisting. Given the problematic legacy of European colonialism, the argument that present-day fishing policies should not be essentially neo-colonialist is further strengthened. The competing argument that the access agreements simply allow for the



Fishing boats at Cape Coast, Ghana, West Africa. PHOTO BY MICHAEL SARVER. USED UNDER CREATIVE COMMONS LICENSE.

use of these fisheries at the economically optimal level ignores both the long-term ecological consequences of fishing at a rate above that of natural replenishment and the inequitable consequences of the existing financial arrangements.

Understanding the significance of these agreements requires consideration of both ecology and politics. The ecological problem has been observed in damaged fisheries worldwide: a process of fishing waters to the point of depletion and then moving on to repeat the process elsewhere. To understand what is at stake, this aspect should be examined first. The North Sea, Canada's Grand Bank, and the Mediterranean were all once rich and widely exploited fisheries. In his groundbreaking 1943 book,

*The Fish Gate*, zoologist Michael Graham explains what he calls the Great Law of Fishing: "Fisheries that are unlimited become unprofitable...[and] inefficient." That process is accelerated by governmental subsidies, whereby taxpayers help to finance the cost of developing fishing capacity, and bear some of the direct and indirect costs of fishing activity. An analysis of five West African states between 1993 and 1997 established that European fishermen were subsidized such that they paid only 8-26% of the license fees due for their catches. Subsidies are problematic because they are difficult to revoke when evidence of resource deterioration comes to light. Indeed, the increasing depletion of the Grand Bank led to additional subsidies, this

time for the decommissioning of existing fishing capacity. Gordon Munro of the University of British Columbia's (UBC's) Economics Department and Ussif Sumaila of the UBC Fisheries Centre discuss at length the unintended consequences that arise from such buy-back programs, particularly when fishermen anticipate the development of said programs. Even subsidies that are intended to reduce fishing capacity have often, perversely, achieved the opposite effect: All too often, that "decommissioned" capacity ends up operating in places like Africa. Simply retiring a vessel's license to fish in the territorial waters and EEZ of its host state does not ensure that the vessel will stop fishing. With unfortunate frequency, such buy-backs finance the purchase of superior fishing gear that is then put to work in the waters off of some distant shore. Such behavior is encouraged by the kind of fisheries agreements that the EU has negotiated in West Africa; it also provides added pressure for more such agreements to be reached.

Unlike agriculture, where investment in technology and capital increases long-term yields, without regulation technological development in fishing can only lead to more rapid resource depletion. Fishing remains sustainable only when regeneration exceeds exploitation. That balance must be at the core of any sensible fisheries policy, like those emerging in Iceland and New Zealand. The comparative barrenness of the North Sea and the Grand Bank demonstrates that this balance has not been respected, even when the states that are involved are the richest, most technologically capable, and most scientifically advanced in the world. Dr. Daniel Pauly, of the UBC Fisheries Centre, equates the process of "fishing outwards" to a hole being burned through a piece of paper. At the center are the now depleted waters of Europe and much of the Atlantic. According to Charles Clover, Environment Editor of *The Daily Telegraph*, two-thirds of Europe's commercial fish stocks are already outside their biological safety limits, while cod stocks have collapsed from Canada to Swe-

den. These problems of depletion have spread to the coasts of Antarctica, Australia, New Zealand, Africa, and elsewhere. They have reached into trenches and onto sea-mounts that were previously inaccessible to fishermen. The global trade system conceals depletion by allowing access to ever more distant stocks, thereby perpetuating the process of fishing outwards while concealing its occurrence.

As well as fishing out, a process of "fishing down" to successively lower levels in the food web occurs, eventually yielding ecosystems containing nothing more than "jellyfish and plankton." Removing the top predators in an ecosystem does not, as earlier ecological science predicted, vastly increase the numbers of smaller animals. More often, it seems to destabilize food webs and populations. With a resource that is as important and as incompletely understood as the sea, it seems elementary to exercise caution when undertaking activities that have had tragic consequences in the past. When the states in question exist in far more dire circumstances than those of the developed world, such caution is doubly valid, especially as they have fewer means at their disposal to correct environmental mistakes.

Once a particular area, such as the Mediterranean or the North Sea, is depleted, its fishing capacity can no longer be used. The trawler fleets that once fished off of Naples or Plymouth must now travel ever farther afield to fill their holds. Disheartening evidence from depleted fisheries suggests that areas rendered barren may not soon recover, as they experience what is known in the ecological literature as the Allee Effect: a phenomenon whereby depleted resources are less productive and behave differently than healthy ones. This effect can drive species that are not eliminated by human activity to extinction regardless, as observed with the passenger pigeon. Such worrisome examples make the vast harvesting capacity of modern fleets deeply troubling. Much existing capacity arose through subsidies that directly and indirectly created incentives to enlarge and modernize fleets.

Modern fleets are often huge and self-contained, with massive ships carrying fuel, hospitals, and other necessities serving groups of freezer trawlers that can remain at sea for weeks and operate over thousands of kilometers. The pressure to find new areas in which to employ such capacity can be enormous, and the ecosystem damage caused by the introduction of a modern fleet is considerable. Since European industrial fishing capacity started to operate in West Africa during the 1960s, West African fish stocks have declined significantly. Dr. Jacqueline Alder of the UBC Fisheries Centre and Dr. Ussif Sumaila cite “a decline in biomass by a factor of 13 for fisheries” off the northwest coast of Africa. Dr. Daniel Pauly argues that fish stocks off of West Africa have declined by 50% since industrial exploitation began 40 years ago. The point at which West African fisheries could collapse from over-exploitation is unknown.

Sensible long-term decision-making requires the will to discipline present demands in consideration of future needs. That discipline is the essence of “sustainable development” as defined in *Our Common Future*, the report of the 1987 Brundtland Commission, which helped to shape discussion at the 1992 Earth Summit. That conference has in turn been central to subsequent international environmental lawmaking. Developing sustainable policies requires the cooperation of all those parties who are able to access the resource in question. It further requires the courage to confront individuals and groups who benefit most from the status quo and who will fight to perpetuate it. Perhaps most importantly, it requires the courage to accept scientific findings that are sound but politically inconvenient, as the early warnings about Canada’s cod stocks proved to be. Within an international legal climate where the importance of sustainable development has been almost universally recognized, the legal obligations of states must be interpreted in keeping with the principle of sustainability and the obligations of international law. Moreover, the necessity of confronting

vested interests increases the need for multilateral cooperation. If states are behaving recklessly – particularly if such recklessness violates treaties and other legal obligations – they must be called to account. Otherwise, those with a short-term interest in unsustainable fishing will dictate policy. It is important to remember that, ecologically, “short-term” can exceed a human lifetime – or even many lifetimes. In order to avoid adverse long-term consequences from present behavior, it is necessary to apply our considered judgments of scientific fact and prudent decision making, and put pressure on those who are not behaving appropriately.

### **TERMS OF THE ACCESS AGREEMENTS**

EU policy is not based on such long-term considerations. Associate Professors Vlad Kaczynski and David Fluharty of the School of Marine Affairs at the University of Washington open their universally cited paper by summarizing the general characteristics of EU-negotiated fishery access agreements. Namely, they argue, they are “purely commercial deals that are designed to maximize access to coastal state fishery resources, secure employment for European harvesting and processing industries and supply European seafood consumption markets at the lowest possible cost.” The EU covers a very significant portion of these access costs: both fixed license costs and per-ton fees. Drs. Alder and Sumaila explain that fishermen pay only 6-23% of the total cost of resource access. Such subsidies encourage unsustainable practices while increasing pressure on a resource already at risk of over-exploitation due to the depletion of other fishing areas worldwide. Drs. Kaczynski and Fluharty assert that, unless the subsidy and fishery access policies of the EU are changed, “West African coastal countries will face severe over-exploitation of their resources.” Alder and Sumaila explain that significant benefits could accrue to coastal states “if the real price to fish was paid by foreign fleets.” Those benefits emerge from a different incentive structure that forces individuals to conform their actions more closely to the

long-term interests of all.

The EU has concluded agreements on fishery access with 12 West African nations. These agreements include few, if any, provisions designed to maintain the integrity of these nations' ecosystems. The agreement between the EU and Senegal, for example, involves no catch quotas whatsoever designed to maintain fish stocks. Dr. Ndiaga Gueye, the Senegalese Director of Marine Fisheries, explains that during the 18 months of negotiations on the access agreement, "the EU actively resisted numerous conservation measures and drove a hard bargain on price." Such an approach neither aids the development of African nations nor maintains the sustainability of fisheries. Where restrictions on fishing practice do exist within the agreements – usually in terms of a zone reserved for local artisanal fishermen – they are routinely violated. Along with restricted mesh sizes, such restrictions help prevent the capture of juvenile fish prior to breeding. Unfortunately, these theoretical concerns have not been widely manifested in practice.

## THE IMPORTANCE OF WEST AFRICAN FISHERIES

Drs. Alder and Sumaila highlight the importance of fisheries to West African states, referring to "marine resources [as] their only low-cost source of economic growth." Also vital is their role in maintaining the health of those who rely on fish as an affordable source of protein. According to a United Nations Environment Program (UNEP) study, the growth of export-based fisheries in Senegal has led to protein deficits by disrupting domestic supplies. Protein deficiency contributes to illness and low productivity, perpetuating poverty cycles. Ousman Drammeh, the Gambian Director of Fisheries, also stresses the value of small-scale artisanal fisheries. In an expert consultation organized by the Australian Government, he lists numerous benefits, beyond basic income for communities:

Small-scale fishing communities tend to be critically dependent on fish resources for their

food and livelihood security and are highly vulnerable to external pressures and shocks. Small-scale fishing communities are highly dynamic and provide significant direct and indirect employment. They are labor intensive and generally equitable in the sense that large income disparities tend to be avoided. Small-scale fisheries are usually well integrated with local marketing arrangements, thereby tending to have a positive impact on food security and gender involvement (since women are frequently key players in fish processing and marketing).

African nations cannot develop sustainably in the absence of viable resources and industries. Foreign aid can never cure the need for food and employment, each of which a well-managed fishery provides indefinitely. Without such opportunities, there are few options for those in fishing communities but to move elsewhere. These secondary and tertiary impacts of the industrial exploitation of West African fisheries must be critically weighed, along with the more direct effects of these practices.

In a chapter entitled "Robbing the Poor to Feed the Rich," Charles Clover angrily expounds the inequity of these access agreements, asserting that "the neo-colonial days live on for Spain, which maintains a fleet of over 200 trawlers off the coast of West Africa, largely at other EU nations' expense." With the conclusion of a new agreement with Mauritania, there will be 200 European trawlers off of just that nation's coast, fishing for shrimp, hake, tuna, and other fish species. He provocatively charges that the current laws of the European Commission (EC) compels African countries to continue unsustainable practices, and allow their waters to be exploited by EU fleets.

If the EU is to retain credibility on environmental and developmental issues, one hopes that he is wrong. Fisheries have an enormous ability to boost human welfare in diverse ways, from basic nutrition to tourism. For the EU to be considered environmentally responsible, it must adopt policies that safeguard such benefits in the long term.

## EU POLICIES AS A BREACH OF INTERNATIONAL LAW

It is sensible to examine the relevant treaties and norms when considering the legal issues that relate to the conduct of the EU and its member states towards West African fisheries. All nations necessarily have an interest in the sea, because it sustains the planet as a whole. Environmentally concerned nations should evaluate the sustainability of their own policies and reconsider their acquiescence to those of the EU in West Africa. The point at which industrial exploitation of West African fisheries will cause irreparable harm is unknown, but cases like that of the North Sea demonstrate that it can occur. The painful lesson has been learned that it is possible to destroy a fishery that was once considered inexhaustible; ignoring this lesson will eventually harm everyone involved.

Numerous articles of the United Nations Convention on the Law of the Sea (UNCLOS) refer to the importance of sustainability and environmental cooperation; indeed, these two concepts can legitimately be seen as guiding principles of the entire agreement as regards renewable marine resources. UNCLOS has been ratified by the states in question, both in Europe and West Africa. UNCLOS places obligations related to sustainability and environmental cooperation on both coastal states and those who cooperate with them in the use of natural resources. Part V, Article 61(3) provides that

[The coastal State] taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the Exclusive Economic Zone is not endangered by over-exploitation. As appropriate, the coastal State and competent international organizations, whether sub-regional, regional or global, shall cooperate to this end.

More generally, UNCLOS must be interpreted within the context of an international system that has embraced the concept of sustainable development and increasingly recognizes the wisdom of the

precautionary principle: the idea that, when faced with scientific uncertainty about the potential consequences of an action, policy should favor a cautious approach, with the onus on proponents of potentially harmful policies to prove the wisdom of the choice. This principle is endorsed in Article 174 of the 1997 Amsterdam Treaty of the European Union:

Community policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Community. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.

In many areas, humanity's ability to alter the environment has exceeded the state of scientific understanding, to the point where the effect that major human activities will have upon the planet and future generations is largely unknown. The precautionary principle helps to manage this uncertainty. While the extent to which the precautionary principle has been adopted by states and international organizations remains disputed, references to the principle by organizations as diverse as the European Union and the World Trade Organization suggest that it should be considered when policy is constructed. The precautionary principle can also be seen as recognizing the extent to which policymakers must sometimes defer to experts who are capable of producing the best theories about the state of the environment, and who are hopefully less subject to political manipulation.

Despite existing regulations and occasionally vigorous attempts at enforcement, tolerance for illegal fishing is widespread in the EU. While this breach does not manifest EU policy, per se, there are numerous documented cases of illegal European fishing in waters including those of Canada and New Zealand. A general lack of enforcement feeds a culture in which illegal fishing is tolerated and indirectly encouraged, rather than punished and stigmatized. As is the case with the Biodiver-



sity Convention and the Kyoto Protocol, the role of science in this case should be to inform law such that it can adhere to the sound demands of ecology. The preamble to the Convention on Biodiversity underscores the importance of science-based policymaking, citing “the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures.”

The emerging norm of sustainability is the most complex and important aspect of international law violated by the EU’s policy in West Africa. The world has rejected the idea that fishing fleets can go wherever they wish and take advantage of the marine resources that exist there. Likewise, the world has accepted the fact that maintaining the viability of fisheries requires limits on fishing activity. Treaties like those of UNCLOS and the Biodiversity Convention must be seen as part of a larger legal framework founded on the principle of sustainability. Fed by the currents created by desert winds and a great Atlantic up-welling, West African coastal waters are among the richest marine habitats anywhere, home to more than 1200 species of fish. The Convention on Biological Diversity was created in order to preserve exactly this kind of environment, rightly called “a common concern of mankind.” UNCLOS likewise emphasizes the value of the sea and maritime species. In 1996, the International Court of Justice rendered an “Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons,” recognizing that

the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of states to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment.

The principles of conservation and sustainability are therefore embedded not only in legislation,

including foundational EU treaties, but also within the broader context of norms that form the basis of customary international law. For over 30 years, these principles have largely driven the creation of international law pertaining to resources and the environment. Present EU fisheries policy persists in defying the letter and spirit of this extensive combination of legal instruments and ideas.

### **EU POLICIES AS A BREACH OF EU LAW**

The responsibility of the EC for upholding EU laws is assigned in Section 3 of Part 5 of the Treaty of Rome. Foremost among those laws are the foundational documents of the Union, such as the Maastricht Treaty of 1992. Article 130u of Title XVII of that document “commit[s] [the] EU to ensure that relations with developing nations should help to reduce poverty and promote sustainable development.” Under the section entitled “The Union’s Objectives” within “The Treaty Establishing a Constitution for Europe,” Part 4 holds that “In its relations with the wider world, the Union shall uphold and promote its values and interests. It shall contribute to peace, security, the sustainable development of the Earth ... as well as to strict observance and development of international law.” While this passage is not part of an EU Constitution, it exemplifies the primary values to which the EU sees itself as being committed. These values, as well as specific points of law, are clearly violated in the West African fishery access agreements, which neither promote sustainable development nor strictly conform to international law.

In the World Wildlife Fund’s “Manifesto for the Review of the EU Common Fisheries Policy,” Niki Sporrang, WWF Fisheries Policy Officer, underscores the particular responsibility of the EC to develop and uphold sustainable fishery practices. The report highlights the connections between subsidies, overcapacity, technological progress, and over-exploitation of fisheries. While the report focuses on domestic European fisheries, many of its recommendations refer to unsustainable prac-

tices being applied even more harmfully in West Africa. Niki Sporrang asserts how, as a party to the Biodiversity Convention and the UN “Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks,” “the EU also has an obligation to ensure that its fleet is operating sustainably outside the waters of Member States.” The lack of legal obligations is not the problem. Title XX, Article 177 of the Treaty Establishing the European Community states that “Community policy...shall foster the sustainable economic and social development of the developing countries, and more particularly the most disadvantaged among them.” The problem is a failure to respect and uphold obligations entrenched in numerous pieces of EU law, both binding and non-binding.

The artificial segregation of fisheries-related institutions is a problematic aspect of the EU fishery policy architecture. The Directorate General for Fisheries regularly refers to the strictly “business character” of access agreements, thus attempting to circumvent obligations such as those in the Maastricht Treaty. Considerations of sustainable development nominally fall within the purview of the Directorate Generalship for International Cooperation. That being said, the organizational separation of these two bodies does nothing to lessen the sustainability commitments that are codified in EU and international law. The perpetuation of agreements that violate the oft-repeated principles of the EU demonstrates the degree to which the watchdog bodies of the EU, particularly the EC, have been at best ineffective and at worst complicit in the violation of principles that the EU espouses.

### **THE PRACTICE OF EU FLEETS AS A BREACH OF THE ACCESS AGREEMENTS THEMSELVES**

Despite the enviable terms established for European fishermen, the provisions of these access agreements themselves are neither adequately respected nor enforced. Many access agreements

restrict the area within ten kilometers of the coast to local, artisanal fishermen. These provisions, Dr. Pauly maintains, are routinely broken – a practice that may have contributed to night-time collisions and fishery depletion. A pattern of non-compliance with the agreements themselves further establishes the EU’s culpability. A report produced in cooperation with the Australian Government and the UN Food and Agriculture Organization cites the existence of “ample evidence of large scale fishing vessels operating illegally in fishing zones, which are exclusively reserved for small-scale fisheries.” These violations are part of a pattern of misbehavior: habitual encroachments also include the use of prohibited gear, including, for example, nets with a finer mesh size than is permitted. Ousman Drammeh describes encroachments into restricted zones as routine in the whole West African sub-region, based on data from aerial surveillance missions that demonstrate extensive illegal fishing in Western Africa. Such malfeasance is not restricted to West African fisheries. In Madagascar, two-thirds of the catch of EU shrimp trawlers in 1998 was taken within the two-mile zone defined by law as exclusively for artisanal fishermen.

Charles Clover, Ousman Drammeh, and others cite the tendency of European fishing vessels to catch juveniles of locally important species before they have matured or spawned. These species are generally caught unintentionally and discarded as “trash fish” or “by-catch.” Nevertheless, their removal from the ecosystem contributes to the loss of biodiversity, reduced sustainability, and consequences for human health and welfare. The general absence of by-catch limitations is one of many such policies that are open to abuse. Thus, Drs. Kaczynski and Fluharty discuss how trawlers supposedly targeting shrimp off the coast of Guinea-Bissau were able to use 25 millimeter shrimp fishing nets, rather than the 65 millimeter mesh nets that are meant for finfish. Because the vessels were allowed to keep whatever catch came into their nets, and because compensation payments to the coastal

state were based on the shrimp tonnage, fishing vessels could catch non-shrimp with shrimp nets while simultaneously avoiding payment of per-ton fees for them. Drs. Kaczynski and Fluharty claim “the state of Guinea-Bissau fishery resources” was “seriously affected” by this practice. Other vessels, supposedly intending to catch cephalopods, produced a large by-catch of demersal fish, for which no compensation was paid to coastal states.

Given the lack of coastal state enforcement capacity, developed nations must assist in funding and undertaking enforcement. States with limited access to technologies like aerial and satellite surveillance will not be able to maintain environmental standards without aid. Additionally, the failure of states like Spain to prosecute nationals who have been caught engaging in illegal fishing sends a clear signal that environmental laws are not to be respected.

## CONCLUSIONS AND RECOMMENDATIONS

In many cases, the most scientifically advanced and ecologically concerned nations of the world have failed to maintain the health of their own marine ecosystems. How, given that record, can impoverished states in West Africa hope to do so? Dr. Pauly’s response is not encouraging. In his view, wherever sustainable fishing has been practiced in the past, it has occurred accidentally because of physical limitations. Dr. Pauly argues that deliberate sustainability must be invented. Given the multiple violations of domestic and EU laws, as well as of the agreements themselves, described above, it is not impossible that the EU and implicated EU states will eventually be held accountable. Clearly preferable is an immediate shift towards fishery policies that preserve the ecological integrity of West African marine ecosystems while helping to address the social and economic problems that exist therein.

If the EU seeks to be a world leader in environmental issues, it must enforce the commit-

ments listed above. These policies can be made both more equitable and more sustainable. Dr. Justin Brashares, of the University of Cambridge, explains that an “immediate route to increasing production and sustainability of [West African] domestic fisheries...[would be] to limit the access of large and heavily subsidized foreign fleets to fish off West Africa.” Drs. Kaczynski and Fluharty suggest catch quotas, proper accounting of by-catch, and the restriction of destructive fishing practices as mechanisms for achieving sustainability in EU fishing activity in West Africa. Processing more fish in the region would promote coastal states’ economic development, while helping them to extract a larger portion of the total value of their resources. Since cash payments are the major inducement for coastal states to participate in access agreements, fisheries management must be coordinated with overall aid and development policy, not generated from a “business-focused” perspective.

The doctrine of state sovereignty, as applied to the environment, allows states to be held to account for their choices. International law can only be enforced through the voluntary actions of states or the collective enforcement of treaty obligations. If these access agreements are not revamped, and the practices that they encourage not altered, the entire global community will suffer. That will include lost biodiversity, the value of which may never be known, as well as the depletion of additional important fisheries in ways that damage human health and ecological integrity. Finally, those who will suffer disproportionately will turn out to be the poorest natives of West Africa. Such considerations must lead the industrial countries of Europe to take action against an evolving threat and prevent a humanitarian crisis from taking place. **IR**

PHOTO BY POOJA WAGH

# An Exchange of Ideas in Pabal: Defining Development

BY POOJA WAGH



*Pooja Wagh is a consultant for International Business Machines' Global Business Services. She may be contacted at [pooja.wagh@gmail.com](mailto:pooja.wagh@gmail.com)*

- Since January 2005, six students have been working on engINdia, a project that aims to establish communication between university students and a rural area of India.
- They returned from their travels with twenty-one Design Challenges and a renewed perspective on development work.

## UNDERSTANDING THE CHALLENGES OF DEVELOPMENT

The summer of 2005 began, for me, in a village populated by several thousand Indians, located about five hours east of Bombay. I was living in a three-room house in the core of the village of Pabal with one other American, three Britons and an Indian. We were all students with international experiences, but none of our experiences could compare to our journey that summer. We went to Pabal as members of engINdia, an international project whose aim is to promote communication between students worldwide and the local people of Pabal, Maharashtra in India. Though my team and I spent half a year planning our six-week stint in the village, we didn't realize until we arrived in Pabal that our trip would be as educational, inspirational, and perspective-altering as it turned out to be.

The purpose of engINdia is to form a channel through which local Pabal residents and foreign university students can discuss potential solutions to the technological challenges facing the Pabal community. The students and the locals have experienced life in different parts of the world. They have seen technology advance uniquely within their respective settings and have developed different views on the possibilities that technology can offer. engINdia's expedition model is based on the belief that these differences between the students and local people will allow for the cultivation of a diverse array of unique solutions to the same problem. By encouraging communication between the students and locals, the array of solutions created for each technological problem can be hybridized into a single, optimal solution to target the problem in the most effective way possible.



PHOTO BY POOJA WAGH

Our approach to forming this communication channel was comprised of several stages. First, we gathered information about technological challenges faced by Pabal's people through direct interviews with community members. From the information we gathered, we then identified the major technological challenges in the community. We documented the challenges methodically, making sure to include all the information that a student outside Pabal would need to design an appropriate solution. Finally, we distributed the documented challenges to students at our home universities and over the Internet. Students who decide to work on any of our projects are put in touch with the organization with whom we worked in Pabal, and the students communicate regularly with those in Pabal who were working on the same project.

EngIndia began in January 2005 when six students from three universities came together to create a multinational team. We spent six months planning a six-week expedition to a village in India that took place from June-August of that year: raising funds, planning our field methodology, seeking approval from Cambridge University and

the Royal Geographical Society. We created a wide network of contacts in India until we finally identified the village of Pabal as the ideal location for the expedition.

Pabal is a village of approximately 9,000 people, but because it is a primarily agricultural community, most of the population is scattered outside the core of the village. It is located five hours east of Mumbai by bus; the closest major city is Pune, which is two hours away. The villagers always seemed eager to implement new technologies into their lives thanks to the presence of Vigyan Ashram, an educational institution in Pabal whose focus is to give students hands-on experience with rural technology. Vigyan Ashram's offer to act as engINdia's community partner made Pabal the best possible choice for the expedition destination.

our main corridor was already filled with a group of children who had wandered in to investigate our sudden appearance. Since it isn't often that a mysterious group of people moves into Pabal, the novelty of our presence didn't diminish during the course of the summer. An average day included multiple invitations to tea or dinner, and no venture into the village to collect information could take place without a dozen children following and asking for our autographs. We were amazed that we were being welcomed with such open arms. We had expected our presence to be met with some suspicion, or at least skepticism about our mission, but pleasantly found none.

Despite our numerous social engagements on any given day, we managed to collect what we had come for: documentation on what Pabal's resi-



PHOTO BY POOJA WAGH

## CRAFTING SOLUTIONS

We drove into Pabal on a hot, dry day, with the eight of us (the team, a driver, and our guide for the first day) and our luggage packed into a six-seater Jeep. A couple of hours after we had moved our hiking packs into our new home in the village core,

students felt were their most pressing technological problems. Each day, we split into two groups and conducted interviews with Pabal's residents. We started our series of interviews with Pabal's professionals – the baker, the tailor, the oil producer, and more. Gradually we moved on to family-style

interviews, during which we discussed with entire families how they envisioned technology positively impacting their lives. After interviewing residents for close to two weeks, our team devoted time to consolidating the abundance of information we had recovered into concise and unique problem statements. By the end of our brainstorming process, we had created a list of 21 Design Challenges that cover a variety of topics, ranging from human waste disposal to lighting during power cuts (Please see Focus Box: 21 Challenges in Pabal). Solutions to many of the Challenges are being designed by students in the United States, the United Kingdom, and India. The solutions will continue to be refined through constant communication between their student designers and Vigyan Ashram, and will eventually be implemented in Pabal.

a village without electricity for much of the day, where the water is drawn from wells and farmers plow their fields with wooden steel-tipped plows pulled by pairs of bulls. Though the way of life in Pabal seemed primitive at first, we soon realized that many of the technologies employed by Pabal's people were used not for lack of a more modern replacement but because they were appropriate for the particular environment. The local community never ceased to amaze us with their numerous ideas on ways in which to make their work more efficient, using only a sense of innovation and readily available materials.

It was very important to the engINdia team to document technological problems present in Pabal without assuming that existing solutions to similar problems would be applicable there. We continue



PHOTO BY POOJA WAGH

## REFLECTIONS

The experience of the expedition was life-changing, as I was exposed to international development work for the first time in my life, and I was in an environment that was completely alien to me. I had never had the experience of living in

to believe that it is crucial to take into account the environment and culture of Pabal when implementing solutions to any of our Design Challenges. After all, even in the summer of 2005, Pabal's residents were careful to implement appropriate and sustainable technologies; others who have the opportu-




nity to implement new technologies within Pabal should be just as careful as Pabal's own residents. Our experiences in Pabal illustrated that existing solutions to technological problems cannot simply be transplanted to a new place; new solutions must be tailored to fit the problem, taking into account the constraints that are unique to the area.

We were impressed by many examples of appropriate technology during our stay in Pabal. We came across Eknat's farm during our first week. All of the farm's plowing and sowing is done by bulls and mostly-wooden tools, and the irrigation system consists of allowing pumped well-water to flow down a hill into the field. Eknat could purchase a tractor and a more advanced irrigation system; both are easily available. However, after years of running his farm with his existing technology, he is sure that his system is more economical and efficient than a system involving more advanced technology. Aside from his moderate purchases of chemical fertilizers (without which his farm would still be successful), he is not dependant on any external resources. Each year, he is confident that the farming system he has built will have a high enough crop yield to feed his family, and to reap enough profits at market to meet his family's other needs.

During our stay in Pabal, we learned that the people of Pabal are natural innovators, excellent engineers, and, often, born entrepreneurs. Sanjay is one of the first students of Vigyan Ashram and now owns a thriving business in the village: a workshop where he and his staff manufacture custom-made Jeep "hoods" – metal frames which fit on the backs of Jeeps to form storage spaces. When he first began his workshop, he was the only employee. He brainstormed ways in which he could outdo his larger competitors. Realizing he could deliver high-quality products without modern machinery, he instead used the simplest possible tools and materials and hired several employees in whom he placed his complete trust. Sanjay implemented numerous innovative ideas to increase efficiency without compromising quality, and now, while it

takes three days for his competitors to fit a custom hood, he manages to complete the task in under three hours. His loyal customer base has expanded all the way to the city of Pune two hours away. Though Sanjay has had little technical training, even less business education, and limited access to tools and materials, he has managed to build a business that is impressive by most standards.

Perhaps the most important lesson that I took away from Pabal was that the people there are not ignorant villagers waiting for engineers from MIT to come and help them solve their problems. They are people who think logically about the inefficiencies in their lives, brainstorm innovative, practical solutions, and apply very effective technologies to increase their productivity. The engINdia team's expedition to Pabal was not about "helping" people; it was about pooling ideas to learn more about how people in different environments can think about problems. It is the hope of the engINdia team that by documenting the ideas of the people in Pabal, we can facilitate the exchange of ideas across borders and environments to the ultimate benefit of all participants. For now, we are thankful to have been given the opportunity to learn these lessons on a firsthand basis. 

**If you are interested in learning more about engINdia, initiating your own expedition, or applying your skills to the Pabal Design Challenges, go to <http://home.btconnect.com/engindia/> or contact the author. You can also contact the entire team at [engINdia@googlegroups.com](mailto:engINdia@googlegroups.com)**



# engINdia Design Challenges

The solution to every Design Challenge should be low-cost, locally producible, and sustainable by the people of Pabal. Students who take on the Challenges are encouraged to collaborate with Pabal locals to produce as appropriate and sustainable a solution as possible. For more information on engINdia Design Challenges, go to <http://home.btconnect.com/engindia/>

## WATER

- *Assessing Suitability of Well Sites:* Design a system to quickly and accurately assess the potential of a site for well construction.
- *Rainwater Harvesting:* Design a system for rainwater collection and storage.
- *Water Testing:* Design a low-cost, easy-to-use water testing kit using locally available materials.
- *Water Treatment:* Design a cost-effective method for water treatment to reduce the number of water-borne pathogens that are ingested by Pabal's population.

## WASTE

- *Human Waste Disposal:* Investigate the possible implementation of a composting toilet in Pabal.
- *Waste Management:* Devise a solution to reduce, re-use, and recycle the non-organic waste in the village.

## ENERGY

- *Alternative to Batteries:* Devise a lower-cost method for supplying electricity during power cuts. This could involve introducing a charge-storing device that is cheaper than the car and truck batteries currently used, increasing the life of lead acid batteries currently used, or both.
- *Biodiesel:* Design a biodiesel plant that runs on locally-produced organic materials.
- *Biogas Generator:* Develop a small-scale, low-cost, easily maintainable biogas generator. The generator should use solid organic matter to produce biofuel gas for cooking.
- *Lighting during Power Cuts:* Design a more efficient lighting source that can be used during power outages. Current sources such as kerosene lamps and battery-operated flashlights use energy too inefficiently to be cost-effective.
- *Natural Water Heating on Roofs:* Design a system to heat and store water without using a costly energy source.

## STRUCTURES

- *Bamboo as a Structural Component:* Conduct a study of bamboo as a building material, including identifying the ideal species of bamboo that should be used,

how to cultivate it in the local area, and how to assess its strength, and how to expand its lifespan as a structural component can be increased.

- *Cooler Housing in Hot Climates:* Design housing which can stay cool without the use of electrical appliances such as air conditioners or ceiling fans.
- *Structural Analysis of a Geodesic Dome:* Model the structural response of the Pabal Dome, a geodesic dome designed as a low-cost housing skeleton by Vigyan Ashram; suggest improvements to the structure that will allow for a greater load.

## EDUCATION

- *Educational Software:* Design software that can help Pabal's students reinforce what they learn in school. The software should follow the standardized school curriculum and illustrate concepts that are difficult to grasp using pencil and paper.
- *Simplified Computer:* Design a reduced-cost, low-power computer that can be used in Pabal.

## ECOLOGY

- *Limiting the Use of Detergents:* Develop a biodegradable or natural detergent for washing laundry to reduce the level of detergents released into the Pabal water table; or, devise a detergent-free washing method.
- *Printer Ink:* Create an organic, low-cost, color printer ink from locally available materials to reduce Vigyan Ashram's printing costs. Currently, printing costs are high because ink must be shipped into the village for use in the inkjet printer.
- *Soil Testing:* Devise a low-cost, easy-to-use method of soil testing that will allow local farmers to determine the nutrient content of area soil, so that fertilizer levels can be adjusted accordingly.

## EFFICIENCY

- *Oil Mill Optimization:* Process re-engineer the local peanut oil mill to increase efficiency and reduce the price of peanut oil in the community.
- *Short-Term Food Preservation:* Design a portable, energy-efficient food preservation system that can preserve produce for up to one week to give farmers time to transport crops to markets outside of Pabal.



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