

Women and conservation

Kathryn Fuller



During my career in conservation, some 20 odd years, I have had the opportunity to run a large international organization and to serve on a variety of boards, and to raise a family. While the trade-offs and the balancing act have always been somewhat challenging, and my role as a woman leader in conservation is somewhat unusual, I have never felt that society has placed any limits on me. My limits have been, as far as I have seen it, simply my own.

But the situation for women in many parts of the world is very different. Family and community traditions and expectations place real barriers in the way of women seeking to work on conservation issues. They face opposition, even ostracism, when they step out of conventional roles, and yet they do so, and do so effectively. Exploring their accomplishments and backgrounds and motivations has always seemed to me very important to understanding what it takes to achieve conservation results for the long term. Setting aside the role of women, though, I would like to give a sense of the seriousness of the conservation challenge, a challenge that has not lessened since I got involved a few decades back.

And indeed I would posit that it may be the greatest challenge that we humans face because the sad truth is that the natural world is everywhere disappearing before our eyes – more than 6 billion people with a predicted 9 billion in the decades ahead. We are simply too many, with large numbers of poor struggling to raise the quality of their lives in any way they can, and the fewer affluent who consume so much of nature's bounty. The litany is familiar to us all. Half the great tropical forests have been cleared. Species of plants and animals are disappearing a hundred times or so faster than before the coming of humanity. We have driven atmospheric carbon dioxide to the highest levels in at least 200,000 years, and contributed to a global warming that will ultimately be bad news everywhere.

Forests, freshwater and marine systems alike are suffering. The world's forests reached their maximum extent 6,000 to 8,000 years ago, around the dawn of agriculture and the retreat of continental glaciers. Today, with the spread of agriculture, only about half that forest cover remains, and it is being cut at an accelerating rate. Over 60 per cent of temperate hardwood and mixed forest has been lost, 30 per cent of coniferous forest, 45 per cent of tropical rainforest and 75 per cent of tropical dry forest. And half of the surviving forest has been degraded, much of it severely. As forest habitats shrink so does the number of animal and plant species. Conservation biologists use a rule of

thumb that if habitat is reduced to one tenth of its original size, animal and plant species decline by about one half. So removal of the final 10 per cent can wipe out the remaining half in a stroke.

The largest remaining intact areas of forest include the needle-leaf forests of Canada and Russia and the rainforests of the Congo Basin and New Guinea, and largest of all the Amazon. Vast as it is, though, even the expanse of Amazonian rainforests is not safe. With trees anchored by shallow root systems, and easily bulldozed then sawn into lumber or chopped and burned to make way for crops, Amazonian forests could disappear within decades. About 14 per cent has already been converted to other uses and Brazil, which holds two-thirds of the Amazon, has set aside only a modest 3 per cent in protected reserves.

To the extent that the Amazon is cut and burned, annual rainfall also declines, far beyond the Amazon Basin itself, and the wilderness remnants within the region are stressed still more. Models of the whole cutting process suggest that a tipping point could cause the forest to collapse, turning much of it into dry scrubland, with consequences for rainfall within the Amazon, within South America and across the oceans.

Freshwater systems in fact may be even more imperilled. Across the northern third of the planet, the most densely populated and industrialized, we have converted almost all large rivers with dams and channels. Some are dammed along their entire length and those running through drylands are substantially modified. Not only do we take nearly all the water from some rivers, we pollute them with an array of by-products from agriculture and industry, and that effluent in turn flows into the oceans.

Rivers, lakes and freshwater wetlands are hugely important biologically. While they contain only 0.01 per cent of the planet's water they hold a much larger fraction of the Earth's species. In fact, freshwater fishes alone comprise about 25 per cent of all of those vertebrate species that have been described scientifically. Scientists tell us that, because their habitats are so vulnerable, freshwater species face an extinction risk about five times greater than that for terrestrial animals. And freshwater scarcity is looming as a huge problem around the world. Oceans too are showing signs of abuse from poorly planned coastal development, burgeoning tourism, overexploitation of marine resources and global warming. And unlike on land, the establishment of parks and protected areas in the marine environment is still a relatively new concept in much of the world.



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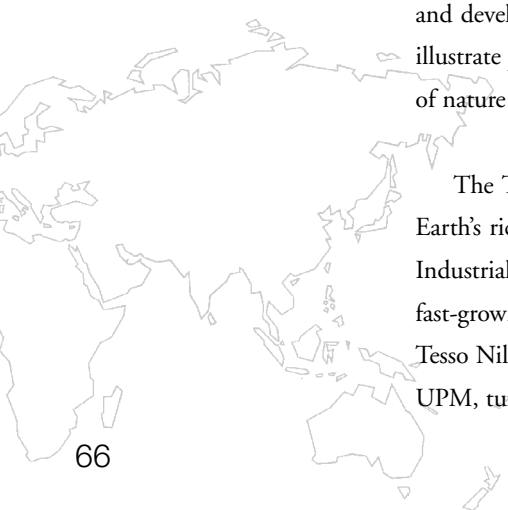
Of the world's coral reefs almost 60 per cent are threatened by human activity and 10 per cent may be damaged beyond recovery. And that, I think, is a conservative estimate. We have lost half the world's coastal wetlands in the last century. Seagrass beds, among the most productive sea-life nurseries, are in retreat along virtually all inhabited coastal areas. Close to 70 per cent of the world's beaches are eroding at higher than historic rates.

Fishers go everywhere, from the dwindling pack ice of the Arctic to the pack ice of Antarctica, in winter and in summer. With today's sophisticated modern technology, virtually no potential fishery is too remote. Not only are 70 per cent of fisheries overexploited, or on the verge of becoming overfished, they also waste huge amounts of unwanted fish and other animals, so called bycatch, and physically damage the ocean floor. The oceanic fish catch now yields \$2.5 billion to the US economy and over \$80 billion worldwide. But research reported in the *Financial Times* states that catch is down by half compared to 50 years ago, even though the effort to harvest those fish is up threefold and the energy used in the process is up tenfold.

Aquaculture takes up part of the slack, but at rising environmental cost, converting wetlands – valuable wild fish nurseries – into ponds, using fodder diverted from crop production, and often producing substantial pollution.

As these background comments suggest, a number of factors converge to produce alarming losses to the natural wealth of our planet – sheer human numbers, increasing rates of consumption in developed and developing countries alike, and the globalization of the market place. Let me give an example to illustrate just how these factors can play out, and how far-reaching our approaches to the conservation of nature have to be.

The Tesso Nilo Lowland Forest of Riau Province, on the island of Sumatra, has been called the Earth's richest forest for vascular plants, and is home to endangered elephants, tigers and orangutans. Industrial exploitation has already wiped out vast pockets of forest in Sumatra and converted them to fast-growing tree and oil-palm plantations. Protecting the remainder has become a race against time. A Tesso Nilo tree travels widely. An Indonesian company, APRIL, logs and pulps it. A Finnish company, UPM, turns it into paper in China. America's International Paper sells it to Hewlett Packard, which in



turn sells it to consumers around the world for home and office printing. Along the way the governments of Germany, the United States of America, Austria and Japan, among others, provide export credits to their machine manufacturers to install pulping and paper-making machines in the various mills that handle the tree.

So protecting the forests of Tesso Nilo, and the wildlife that the forest contains, requires not only community engagement and activism, stepped up poaching patrols and park status, but also identifying the chain of investors, creditors, financial advisors, processors, merchants and consumers who handle the tree. It means engaging them one by one from the ground to the international arena, telling the story of Tesso Nilo and involving everybody in the effort to protect the forest that remains. While Tesso Nilo remains at risk, the good news is that a park has finally been created and a corporate exploiter has now become an ally.

So finding nature conservation solutions – truly durable and effective solutions – requires operating at multiple scales and through multiple disciplines, from the local community to the multi-national agency or company, through expertise and development biology, economics, law and so forth.

Prompting action in the face of such daunting challenges can be difficult, especially when many people react to warnings of resource depletion and pollution with apathy or despair. So showcasing success stories, demonstrating that individual and community initiatives can truly make a difference, provides a message of hope and a stimulus to take on issues that may otherwise seem overwhelming. And it is the importance of success stories that brings me back to the role of women.

In many instances it is women who, often in unassuming fashion, effect major changes in the way their communities use forests, fisheries and water. In Tesso Nilo, in fact, a young woman from Riau, Sisi Mariachi, has played a pivotal role. She went to college to study communications and then returned to her community to promote the creation of a national park, working with both community members and government agencies. Last year, as a result of the lobbying efforts and long-term investments of all sorts of human and financial resources, the Tesso Nilo National Park became a reality. This young woman now leads the effort to implement new management practices in and around the Park. She also travels through Jakarta regularly to advocate for the Park with the national government. All of this is no



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small feat for somebody who started life in a village, and is now 30 years old and raising two small children as a single mother.

The critical role of local women was vividly born out for me early in my time at WWF when I had the opportunity to witness one of nature's truly grand spectacles – the migration of the monarch butterflies. As you may know, the monarch butterflies from east of the Rocky Mountains migrate thousands of kilometres south, to their over-wintering sites in the mountains about 80 kilometres west of Mexico City. And it is hard to describe what an overwhelming and really very moving sight it is. The oyamel fir trees on which the butterflies congregate over the winter are so covered that you cannot even see the trees, and when the sun comes out and the butterflies warm up they begin to fly off the trees, cascading in amazing patterns. The only thing you can hear is the sound of their wings.

But at the same time that this remarkable spectacle is moving and inspiring, you cannot ignore the reality of what is around it. It is a hilly, rutted area where people, largely women, are ploughing the fields to plant corn on extremely steep and eroded slopes, and all around them as they plant are fluttering the monarch butterflies. So why was the confluence of these images so important to me? Well, the monarchs' habitat has come under increasing pressure in recent years from the growing human population and increased demand for commercial timber and firewood. The destruction of the monarchs' habitat to fuel this demand, though, is also eroding the landscape and leaving local people with nothing to look forward to but an impoverished future. It was a no-win situation for people and monarchs alike.

As tough as their lots were, the women I encountered there were nonetheless taking conservation action. One woman, with her long braids and maybe eight or ten children, explained, as she tended both her children and a field, that if the forest disappeared nothing would be left for her children and those to follow. And so she, and the other local women, had broken with tradition and begun to work with a local tree nursery, funded and supported by a Mexican conservation organization. Involving their families in tree planting, the women worked to bring about acceptance of the tree nursery by the full community. Since forestry was traditionally a male enterprise, these efforts represented quite a break from local tradition and initially aroused a fair amount of community criticism. It had been very difficult, said this woman, to step outside a traditional female role. But the importance for the future

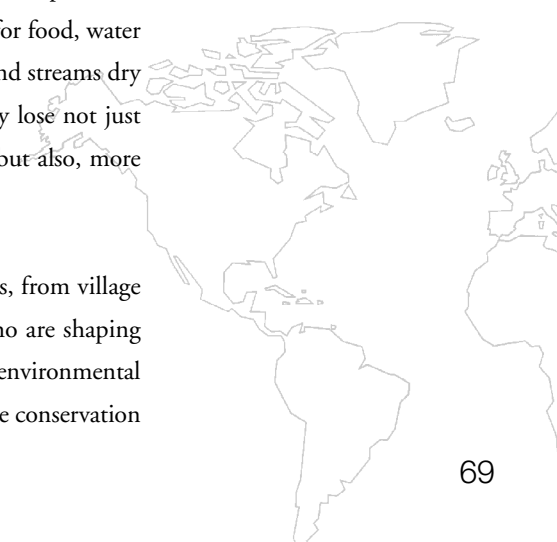
made it worth it, along with the fact that they could see within ten years' time the beginnings of significant change in forest protection and regeneration.

It is not surprising that these women in and around the monarch reserve have such a keen sense of the importance of protecting their forests. Like their counterparts elsewhere, it is women in many cases who are in closest contact with the land. Women are the world's farmers to a large extent, producing almost 60 per cent of all food grown and consumed locally. They plant crops, gather firewood, tend animals, bring in water. They carry out all the tasks that allow families to survive from day to day. There is indeed a lot of truth in the old adage, "a woman's work is never done". From dawn until well after dusk, in fields and forests, and in the home, their toil is difficult and lengthy.

In Tanzania, for example, women work on average more than 3,000 hours a year, compared to a little more than 1,800 hours for men, and that burden only grows as more and more men migrate to the cities for employment, leaving women behind to manage everything else in miserable conditions and frequently on meagre diets. Consider these statistics: by some estimates women perform two-thirds of the world's work, but receive only 10 per cent of the world's income and own just 1 per cent of the world's land. That is another way of saying that their labour is invisible, ignored by the formal economy. And without access to credit, education, training and technology, their situation only worsens. As that happens the pressure on them, and on their natural resources, only increases.

It is these women themselves who are the biggest victims of environmental degradation. As providers and carers they depend on the renewability of natural systems to meet their basic needs for food, water and shelter. As the soil erodes they cannot plant the crops to feed their families. If lakes and streams dry up they must walk longer distances to secure precious water. Forests disappear, and they lose not just fuel, wood and fodder, but also fruits and nuts – an important source of extra income but also, more basically, protein.

In addition, local women typically have been excluded from decision-making bodies, from village councils to the halls of national governments. Men, for the most part, are the ones who are shaping economic and political policy. And until recently even conservation, development and environmental groups have largely ignored, or not fully appreciated, the role that local women play in the conservation



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struggle. So, for example, in the Gambia in West Africa, when conservationists and government officials came together to create a new park, they agreed to abolish the traditional access of women collectors to oyster shells in the mangrove swamps around this park. The lime from burning the shells was then used to construct a new park headquarters. This, though, took place at the cost of the women who had traditionally sold the lime to local builders and used it to support themselves and their families.

These obstacles have not stopped women from taking action. Faced with necessity they take on the complex task of shaping conservation attitudes and practices, often without wanting or seeking recognition from others. Scholars who look at questions of women's leadership note this characteristic – not in all cases, but in many – of self-effacement. They say that women's approaches to bringing about change are frequently different from men's, especially at the grass roots, not from inherent characteristics, but from the life experiences and cultures in which these women have grown up.

In order to avoid negative reactions from families and communities women who take on non-traditional activities underscore their roles as wives and mothers, and the need to address threats to family and to community. As one writer notes, their activism “closely resembles housework”. Indeed, women who bring about dramatic change frequently do not consider themselves leaders. Nor do they fashion themselves as bold or charismatic visionaries. They prefer to mobilize collective action, rather than to emphasize individual accomplishment.

In this way their work not only deflects criticism but also becomes more deeply embedded in the values and behaviours of the community. One of the best known and most inspiring examples of women taking collective action in conservation comes from India, where some 30 years ago women from the Chamoli district faced the loss of their forest to loggers. They knew this would mean the loss of their forage and fuel and would increase their vulnerability to catastrophic flooding. So when the first loggers arrived, the women went into the forest, joined hands, and encircled the trees. They told the loggers that anyone who wanted to cut down a tree would first have to cut off a woman's head. The result? The loggers withdrew, and the forest was saved.

That courageous act of “chipko”, or hugging, became an extremely powerful symbol. Out of that initial protest grew a movement that spread throughout the Himalayan region. Local activists – men

and women alike – now trek hundreds of miles to educate other villages about the importance of preserving their forests.

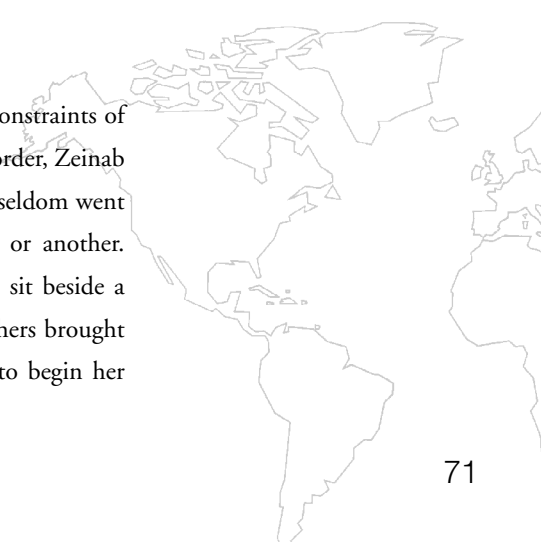
As I prepared to step down from WWF last year, I wanted to dig more deeply into the ways women are individually and collectively engaged in bringing about positive conservation change. I have had the good fortune to be able to do so over the past several months as a public policy scholar at the Woodrow Wilson International Center for Scholars in Washington DC.

My project there has involved looking at similarities and differences in the stories of local women from different parts of the world. Are these women alike in the ways they tackle problems? Are their motivations the same? Did they choose the path or did the path choose them? What skills did they bring to their activism and what skills did they have to acquire? What costs have they incurred and how have they changed as individuals? Where are they now and where do they see themselves in the future?

Women who have collaborated on the projects of WWF and partner organizations provided a rich pool. These are not women who are celebrated internationally, although certainly global leaders in this arena exist, most notably the Nobel Prize laureate Wangari Maathai, whose vision and determination propelled the “Green Belt” tree-planting movement that transformed Kenyan landscapes.

Some of these women have received college educations, others not. Some have stayed rooted in their communities, while others have broadened their ambitions and ambitions following upon local success. All, however, have truly made a difference in conservation. Here are a few examples.

Zeinab Musa is a young Muslim woman in her 20s who chafed as a girl under the constraints of local custom. One of nine children from a small Kenyan village not far from the Somali border, Zeinab had few prospects. Education was not a priority in her village and in any case girls there seldom went to school. Zeinab was ambitious, though, and decided to get an education one way or another. Sneaking out of her family’s home, she would follow her three brothers to school and sit beside a window with the lessons being taught inside. After a few weeks of this, one of her brothers brought her into the classroom, where, at mid-year without books or a uniform, she was able to begin her studies in earnest.



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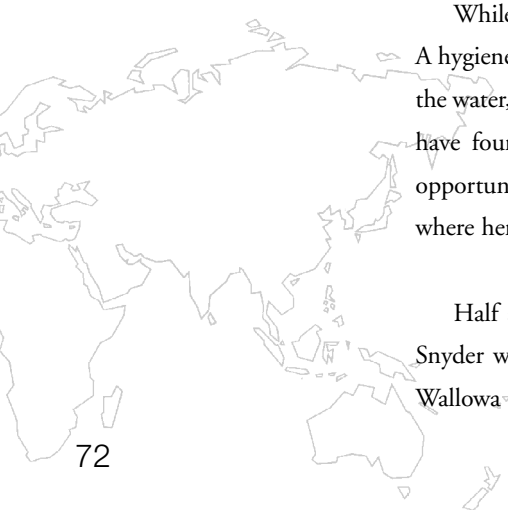
Zeinab not only caught up with the other students, but excelled. She went on to college, received a diploma in science education, and returned to her home village in order to give something back to others in the community. She soon found work for WWF on a conservation education and awareness project on the Kiunga Marine Reserve, a recently established protected area made up of small islands, coral reefs, turtle nesting beaches and mangroves. The Muslim communities there have few economic opportunities and depend heavily on fish and other marine life for their livelihoods.

Zeinab's work has focused on young people, especially girls, involving them in coral transplants, resource management and environmental awareness. "By supporting girls you are improving a household," said Zeinab. "Before, the girls could never imagine that there would be a woman working in the field of conservation. They admire and appreciate what I am doing... Girls need to be brought up to learn they can do more."

That education and awareness work led in turn to an innovation that has both bettered the local environment and provided a new source of income. Trash was accumulating in great volume along the beaches, the bulk of it made up of discarded sandals carried by the currents from across the Indian Ocean. As part of a beach clean-up initiative, the children began collecting the sandals and other debris. The community women then turned the sandals into handbags, key rings and other crafts. The items have been sold in the region and beyond – all the way to Nairobi and even to international markets – and for the first time the women have found themselves with income at their disposal.

While marketing remains a challenge, the project has provided multiple benefits to the community. A hygiene problem has been reduced, turtles can more easily nest and their hatchlings more easily reach the water, the cleaner beaches hold promise for attracting ecotourists, and the women of the community have found a way to bring in funds for their families. Zeinab herself has now had a number of opportunities to travel and to continue her education, but she has stayed rooted in her community where her work continues to focus on environmental issues.

Half a world away, in the rolling hills of rural northeastern Oregon in the United States, Diane Snyder works to protect and manage community forests. Diane is a fourth generation rancher from Wallowa County whose commitment to the land runs deep. She has served as Executive Director of



Wallowa Resources since the organization was founded 10 years ago to promote forest and watershed health and to create family jobs and business opportunities from natural resource stewardship.

Like many other western communities at the time, the Wallowa County logging industry was at a crossroads as a result of changes in environmental legislation, depleted timber supplies, and new technologies. Sawmills were closing, jobs were disappearing, and many families had begun to move out. The ranching business was also in decline. Schools even cut back to four days a week because the tax base had dropped so sharply.

The tensions between environmentalists and the timber business ran high, pitting neighbour against neighbour, classmate against classmate. Environmentalists were burned in effigy. As a rancher who considered herself an environmentalist, Diane Snyder felt she had to do something to bridge the divide. She was in her 30s at the time, married and with a daughter, and did not think of herself as a leader or particularly qualified to mediate conflict or find solutions. “I am a native of Wallowa with a high school degree. I sometimes feel that I’m not smart, because I don’t have a diploma on my wall,” she said.

And yet she knew she had to take action. Using her skills as a good listener and storyteller, Diane began organizing community meetings with the help of a regional organization, Sustainable Northwest. As a fourth generation native, she was trusted and respected, even when her personal views were not shared by others.

The Wallowa Resources organization emerged from these community meetings and quickly became influential. The county commissioners recruited the organization to implement its economic development strategy, and the US Forest Service entered into a cooperative agreement with it to demonstrate new watershed management approaches. Working with public, private and tribal landowners, Wallowa Resources has spearheaded stream improvements, undertaken wildlife and native vegetation restoration, and developed training and education initiatives for children and adults. As the various groups in the county began to work together, the deep hostility that had divided them largely dissipated.

The rapid success of Wallowa Resources began to attract state and national interest as a model, and Diane soon found herself travelling and speaking widely. This recognition came with personal costs,



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however. Local residents began to wonder if she had got too big for her home town and she faced tensions within her family.

Diane responded quickly. She made a point of building a strong team within Wallowa Resources which could share both leadership responsibilities and travel, and carefully limited her own. And despite the continued requests for her involvement in initiatives outside the region, she made it clear that her family and Wallowa County remain her enduring priorities. For Diane Snyder, satisfaction in life comes from an unbroken connection to place.

Returning to another example from the developing world, Sushila Nepali did not grow up in a rural setting, but rather in Nepal's capital, Kathmandu. She had a strong interest in working in local communities and in the natural world from her early school days, however.

As Sushila approached college age, she thought about focusing her interest in biology by pursuing studies at Nepal's forestry school. There was one problem, though, she noted: "Forestry school was only for the men." But Sushila was undeterred. She made a success of her studies and then followed her heart into the field, working along Nepal's border with India in what is called the "Terai Arc", a landscape of dry forests that harbours tigers, rhinos and elephants. The Terai Arc is also home to a number of poor indigenous groups struggling to survive alongside wildlife and forests that nature conservationists have identified as a priority for protection.

Sushila's job was to work with the communities on finding ways for wildlife and people to co-exist. The work was hard, but gratifying, she says, and in some ways made easier by the fact that she was a young woman. "I can go into a village and talk to the people more openly than the men do," she commented. "Men might not be able to talk to the women of a village, whereas I can talk to both men and women." Nonetheless, it took time for Sushila to gain acceptance by the local women, even to have them call her by name. "Before the women talk to you openly, they need to see you as a person. I have to just be me."

Having devoted the time to listening, learning and becoming trusted, Sushila's project began to take off, with the participation of men and women alike. Critical forests were restored through natural regeneration and plantations, forest users' groups came together to resolve conflicts, the communities

stepped up anti-poaching efforts, and they began to feel they had an increasing stake in, and control over, forests and other natural resources.

Having spent time myself with the women in some of these Terai communities, I had the chance to see first-hand how local women have become engaged in active conservation work there, both in order to take advantage of the opportunities the project offers in the acquisition of new skills in sewing and crafts production, and also because they had become more aware of their dependence on healthy forests and the need to take personal action to protect them.

Sushila Nepali returned to Kathmandu after some years in the field to work with WWF on getting the successes of the Terai Arc work more broadly known and the model applied throughout the region. She now pursues PhD studies in Nepal and plans to continue a career in conservation. While she takes pride in her own contributions, Sushila's bottom line is that the women from the villages are now writing their own work plans and proposals and have an abiding sense of their own capacity to improve their families' lives and to protect their forest and wildlife.

Stories like Zeinab Musa's, Diane Snyder's, Sushila Nepali's and the women with whom they have worked underscore the importance to conversation success of including local women in conservation initiatives. In much of the rural world, in developing and developed countries alike, women are in the majority and are closest to the land. It is they who see the erosion of soils, the despoiling and scarcity of water and the loss of forests as they go about the hard work of their daily lives.

To recognize the importance of women and their special link to the environment, however, is only part of the answer. Bringing about community engagement in conservation always requires much patience, good listening skills, and sensitivity to cultural nuances. That only becomes more complex where women are involved. Women typically do not play leadership roles politically in their communities or in the forestry and fishery sectors. Bringing their perspectives and skills into the mix requires working around their demanding schedules tending to children and animals, gardening, cooking and cleaning. A community meeting called for mid-day simply will not draw women who are busy well into the evening hours. And meeting with women typically requires going to them, for women often cannot go far from sleeping children or a fire they are tending.



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In addition, the way that women become involved and the vocabulary for describing their involvement often needs to be different from what is prevalent in the wider world. A woman urged to become a “leader” in a conservation initiative because of her good reputation for getting things done in the community may well shy away. “Leadership” by a woman may evoke hostility from family and community and lead to difficulties for the woman and the conservation initiative alike.

This means that governments and conservation groups planning conservation programmes need to make a special point not just of inviting the participation of women, but of finding the most effective ways of securing it – understanding their role in the community, recognizing their special constraints, finding ways to ease their participation, supporting their access to education, helping them to secure better income through micro-credit and other options, and ensuring that the full community sees the project as inclusive and transparent. And then they need to monitor and evaluate their projects, including the role of women, to get the word out about what has worked and what has not.

Communication, it seems to me, is critical. If we can get these powerful, yet little celebrated examples more broadly known, we will not only underscore the distinctive and important role of women in conservation, but also may capture imaginations and inspire others to step forward. Changing practices at the community level does not fully address the complex challenges of protecting the biosphere, to be sure, but is one essential starting point. To repeat a well known quote from the anthropologist Margaret Mead: “Never doubt that a small group of thoughtful, committed people can change the world: indeed, it’s the only thing that ever has!”



Kathryn Fuller, Chairman of the Board of the Ford Foundation.