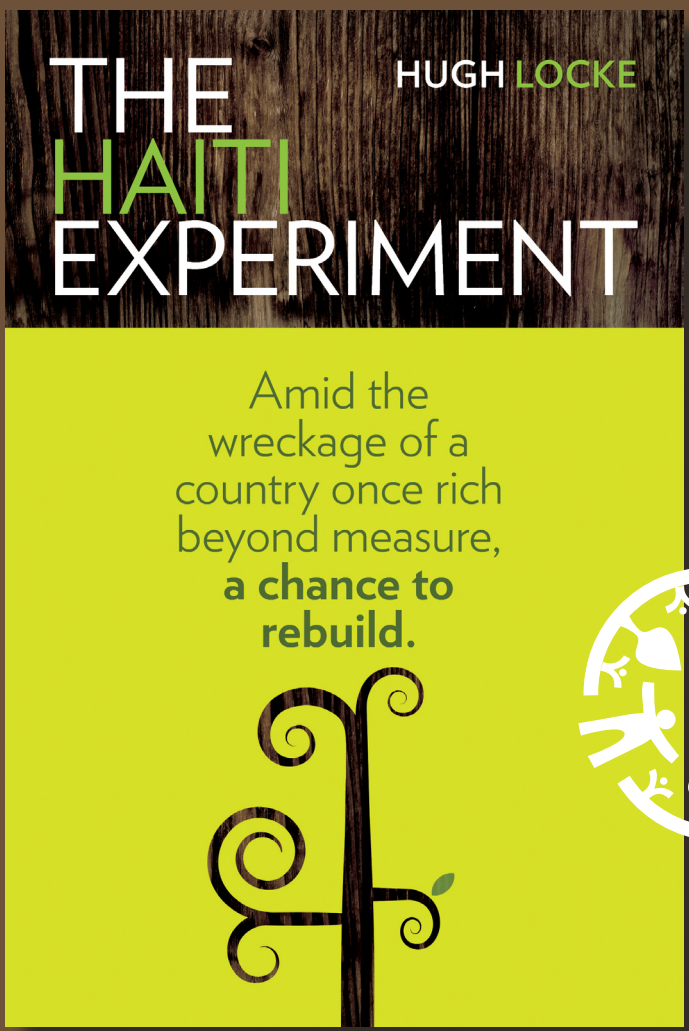
Excerpts from
THE HAITI EXPERIMENT
that tell the story of the Smallholder Farmers Alliance.



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To purchase the complete book go to
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THE HAITI EXPERIMENT

HUGH LOCKE

This version of ***The Haiti Experiment*** contains only excerpts from the complete book. These excerpts include the **Prologue**, **Introduction** and **Chapter 4: Green Glory**. The latter tells the story of working with small-scale farmers in Haiti to plant trees and improve agriculture.

HAWKEYE PUBLISHERS
New York
2012

Book website: www.TheHaitiExperiment.com

Facebook page: www.facebook.com/TheHaitiExperiment

ISBN-10: 0988216302
ISBN-13: 978-0-9882163-0-3

Hawkeye Publishers
New York, New York

Published September, 2012

Cover design and illustration by A. F. Cortés.
Back cover photo by William Charles Moss.

To forester, author and environmentalist
Richard St. Barbe Baker (1889–1982),
with warmest thanks for being my mentor in service
to humanity and my guide to a life well lived.

And to Wangari Maathai (1940–2011), founder
of the Green Belt Movement and winner of the
2004 Nobel Peace Prize, with deep gratitude for
your example, your message, and your friendship.

Shading indicates sections of the book NOT included in this special excerpt.

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Prologue

HAITI, 2005. Bright morning sunlight glinted harshly off the rolls of barbed wire topping the barricades on either side of the road as we entered the notorious slum of Cité Soleil, deep in the heart of Haiti's capital city of Port-au-Prince.

Suspicious, youthful eyes peered at us above bandana masks, the wearers' bravado pumped up by the guns they casually, but deliberately, brandished. They had been instructed to let the four men in our red car enter without shooting at us. Happily, all seemed to have got the message. Inside the car with me were three of my Haitian employees, who went by the names of Riro, Jimmy O, and Beaudy. We were all nervous but quiet as we passed through the barricades and followed a masked man on a motorcycle who was to guide us to our destination.

We were on our way to meet Amaral Duclona, the infamous gang leader, known throughout the country by his first name—the most wanted man in Haiti. His bloody reign of terror had kept the police and UN peacekeepers out of Cité Soleil and rival gangs at bay. I was meeting with him to negotiate terms for allowing Yéle Haiti—the organization I had co-founded earlier that year with musicians Wyclef Jean and Jerry Duplessis—to continue bringing in free rice for the local residents who were suffering for lack of food.

We reached Amaral's compound and were escorted into a courtyard. As we entered, about a dozen teenagers toting machine guns were chatting or leaning against the courtyard walls. One of them informed

us that Amaral would come out shortly. With dark clothes, sunglasses and wool caps they were clearly intending to look tough, an image not quite matching their youthful appearance.

My long training in protocol, honed over many years by contact with various royal families and a considerable number of heads of state, suppressed any fear that might reasonably have guided my actions. Without thinking, I immediately went around the courtyard and shook hands with each gang member, being sure to make eye contact in the process. My Yéle colleagues chose not to follow my lead and looked on in stunned silence. An interesting detail: holding a machine gun requires both hands, something I quickly realized when each of the gang members had to set down his gun in order to respond to my gesture. A small but useful addition to my protocol experience.

Amaral emerged and greeted me and my colleagues. He was just under six feet tall, rather pudgy, with very dark, pock-marked skin, short hair, and a neatly trimmed beard. I have to admit that I was intrigued to meet someone who was, by action and reputation, the very incarnation of pure evil, who held sway over so many thousands of people. Physically, he did not look the part, but when he began to speak, he exuded both power and charisma.

The meeting with Amaral had been set up from New York by Wyclef Jean, Yéle's co-founder, and one of the few people at that time with the moral authority to reach out to those on all sides of the conflict that had paralyzed Haiti. I knew that Wyclef had spoken by phone in advance with Amaral, but the latter was clearly surprised when we met. It had been arranged that I would call Wyclef on my cell phone. The connection went through and I handed the phone to Amaral. I only learned later that Wyclef had neglected to tell Amaral in advance that I was white. So his first thought on meeting me was that I could not possibly be representing Wyclef, and might even be part of a plot by the UN to capture him. Thankfully, Wyclef was able to convince him that I was, indeed, his trusted representative. I shudder to think what might have happened if cell phone reception had been bad at that moment.

Having established my credentials, I ended the phone conversation with Wyclef. From that moment on, it was just Amaral and me, with Riro serving as interpreter. Beaudy and Jimmy O stayed in the background and took no part in the negotiations. I acknowledged that Yéle was coming into Amaral's territory to deliver free food and expressed gratitude that he was allowing us safe passage. I expressed the hope that this would continue, and then got to the heart of the matter: negotiating the percentage of food that would be given to Amaral to feed his and other gangs. Until that time, we had no formal arrangement with the gangs for any percentage, but had simply given them a few bags of rice from time to time. However, several incidents had alerted us to the need for an understanding in order to continue the operation. After some back and forth, we finally agreed on 15 percent, and shook hands to seal the bargain. This was within the terms I had previously agreed to with the World Food Programme, which provided the rice. And it was considered by all an acceptable cost to be able to continue distributing food in Cité Soleil, since Yéle was the only organization able to get through the barricades at that point.

I thought things were going well and that it was now time to take up the second part of my mission: to explain our plan to have only women receive the food that Yéle was to distribute. Amaral did not take to this idea well at all. In fact, he shook his fist in the air and began shouting, asking me why I would do something so stupid. Two competing thoughts occurred to me at that moment: first, the man has guns; and second, that he would probably respect me more if I stuck to my principles. So I calmly explained that we felt women were more responsible when it came to making sure their families got the food, whereas men were often inclined to sell it. Having stated my case, I then thought it wise to formulate an exit strategy. To this end, I suggested we had probably reached the point where we could agree to disagree on the role of women in food distribution, particularly as I was not asking him to get involved directly in that activity. He smiled and became cordial again.

We said our goodbyes. I got back in the car with my silent colleagues and we headed out. It was only after we passed through the barricades that I phoned my wife, April. I had not told her in advance that I was going to Cité Soleil that day, for fear she would worry. But now I was able to relay the news that the visit had been successful and that I was alive and all in one piece.

Introduction

USA, 2012. The deluge of media-generated images of Haitian people in recent years seems to have coalesced to form a single impression, rather like a Chuck Close photorealist portrait consisting of thousands of smaller individual faces. We see a Haitian face distorted by fear, rage, and suffering, and, on closer inspection, the thousands of individual faces in the portrait portray similar emotions.

Although I have seen many such images over the course of seven and a half years of humanitarian service in Haiti, they are vastly outnumbered by faces expressing fortitude, determination, and joy. My experience there has yielded a very different portrait of Haiti and its people, one that I am honored to be able to share.

My introduction to the country was through two musicians, Wyclef Jean and Jerry Duplessis, with whom I worked to create a charitable organization called Yéle Haiti.

When I began travelling there in late 2004, it was as if the entire country of close to ten million people, living in an area slightly smaller than Belgium, existed in a parallel universe in which poverty, corruption, violence, and hopelessness were the norm. I could move in and out of this universe as easily as a three-and-a-half-hour flight from New York City. But while in Haiti, the most I could do was to help a few individuals and families beat the odds and improve their living conditions.

During that initial period, I was acutely conscious of a set of statistics that served as a kind of protective mantra. Taken together and

repeated in sequence, it went something like this: Haiti is the poorest and most densely populated country in the Western hemisphere. Eighty percent of the population is below the poverty line, while 54 percent live in extreme poverty. Every year, Haiti ranks as one of the worst failed states in the world. It is always near the top of the annual list of the most corrupt countries. It is regularly identified as having the second largest income gap between the very rich and the very poor in the world. Unemployment is running at more than 50 percent. The list goes on.

But this statistical interpretation of Haiti is does not reflect the people I met and worked with, who are diligent, resourceful, happy, even optimistic. How could Haiti have become one of the most damaged societies on earth? Why could they not organize themselves as a nation to correct the situation? And how could billions of dollars in foreign aid pour into the country every year and not result in significant and tangible improvement?

Haiti holds a kind of enchantment that is hard to explain, unless you have experienced it yourself. I found myself drawn to the country by a kind of ephemeral and beckoning presence from somewhere beyond the statistics. I started to focus less on the sorrow and began a quest to gain deeper insight into the soul of the country. I asked questions of people from all walks of life everywhere I went. I also started researching the country's history and customs.

What began for me as humanitarian service with Yéle took on a wider dimension. I came to realize that Haiti is a textbook case for understanding the nature and impact of development assistance as a whole. In many ways, Haiti resembles other developing nations that receive money from richer countries and benefit from the operations of the financial institutions those rich countries fund, such as the United Nations, the World Bank, the International Monetary Fund, and the Inter-American Development Bank. But Haiti is the canary in the mineshaft when it comes to the challenges faced by developing countries, whether it is deforestation, colonial oppression, political instability, corruption, hurricanes, earthquakes, or the dark side of

development aid that started flowing from richer nations in the early 1960s. It seems that the impact is often disproportionally felt in this beleaguered nation.

My goal in sharing what I learned about development is not to engage in polemics, but rather to try and understand the process in sufficient depth to be able to suggest ways in which it might be improved, not only for the benefit of Haiti.

The bottom line in development aid is that when a rich country gives money to a poor one, there are always strings attached. There is no such thing as pure altruism when it comes to development assistance. This is not unreasonable, depending upon the nature of the strings. Even when dealing with humanitarian aid in response to natural disasters, there are often conditions, although they tend to be less stringent. The simple fact is that the bulk of development funding is tied to the political, military, and commercial interests of the donor country.

My premise in this book is that the entire mechanism for delivering development aid has evolved over time into a bureaucratic and fragmented system that is no longer effective in meeting the objectives of the donors, let alone the recipients. Development funds are meted out in discrete chunks for specific projects which are not viewed in holistic terms by either donor or recipient. Donor countries often send in their own companies, non-profit organizations, experts, and suppliers to implement projects which are one-off in nature and not part of a comprehensive, multi-year national strategy. Thus, a school is not part of an education strategy; a bridge is not part of a national public works plan; a training program for farmers is not part of a broader agricultural initiative; solar panels are not integrated into the national energy grid, and so on. A given project may have a life of two or three years, almost never beyond the term of office of the government of the donor country. And when the funding stops, the project often collapses, either because it cannot be maintained, or because no one knows how, or has the will, to find the new leadership and funding necessary to sustain it. The recipient country has usually had a minimal role in implementing the project in the first place, and so has not benefited by building the domestic capacity

in industry, professional services, management, or government oversight that would allow it to continue the project that has been initiated.

Put more simply, development aid is both sides of a carrot-and-stick approach: the "carrot" is money for projects, in return for specified policies and actions on the part of the recipient government; the "stick" is the threat of withdrawal of that money by the donor country, if those policies and actions are not followed.

What I observed in the development system as it now operates, both internationally and in Haiti, is not only incredibly inefficient, but lacks an impact commensurate with the vast sums of money being spent to improve the lives of poor and disenfranchised people. It is equally inefficient in meeting the range of strategic needs of the donor countries. The world has become too complex and interconnected for the simplistic carrot-and-stick system to work.

I would go even further to say that the current overall levels of development funding from donor countries—were the funds to be used more efficiently and in full partnership with the recipient nations—could be reduced by as much as a third and still have a significantly greater impact than at their previous levels.

Over the past decade or so, there have been many calls for a change in development assistance, including the need for ownership of the development process by recipient nations. Donor governments, including the United States, have been enthusiastic in expressing their support for this concept. But it is nowhere to be seen in action and lives only at conferences, summits, and high-level retreats. In order for it to work, there needs to be an entirely new model for delivering aid. Tweaks to the existing system will not have much effect, because the system itself is based on principles that have long outlived their usefulness. We must progress further than the development equivalent of rearranging the deck chairs on the Titanic. What is needed now is a way to experiment with a new system for delivering aid that learns from the past, both from what works and what does not, and incorporates all the checks and balances needed to protect the interests of both funders and recipients as more equal partners in development.

Haiti is the perfect place for this experiment: a country where the ranking on just about every index of individual, family, community well-being, and government efficiency is about the lowest in the world. For once, this is an advantage. If an experiment in changing the way development aid is delivered can succeed here, it could succeed just about anywhere in the world. And Haiti is a small enough country that the experiment would be manageable, the outputs measurable, and the lessons extractable.

This book weaves together several themes. It begins with a short history of Haiti, because this background is key to putting my own story in context, and to understanding the country's current problems. To this is added, from late 2004 onwards, a narrative of my own direct experience in providing humanitarian assistance in Haiti as events unfolded around me. This includes going into the gang-controlled slum of Cité Soleil to deliver food in 2006; supporting a wide range of education services in various parts of the country; helping with the aftermath of the food riots in Port-au-Prince in 2008; overseeing emergency services to around 80,000 of the victims of the January 2010 earthquake—including employing up to 2,000 people at a time from the tent camps; and helping to support the first responders to the cholera outbreak in late 2010.

Over these seven and a half years, it is the experience of working with small-scale farmers that has had the greatest impact in shaping my views of Haiti and development assistance. These farmers represent a significant and untapped potential for reversing the fortunes of the country. With the support and active engagement of The Timberland Company, I led a team that created a community-managed agroforestry program that now generates one million trees a year and has increased the agricultural output of 2,000 participating farmers by as much as 40 percent.

Even though Haiti went from being mostly self-sufficient in food production in the mid-1980s to importing close to 60 percent of what its people now consume, small-scale or "smallholder" farming is still the main source of income for two-thirds of Haiti's working popula-

tion. We developed a simple system that combines tree planting with an agricultural service to improve food crops, building on the farmers' own long history of intensive small-plot agriculture. And now, the most disadvantaged people in one of the most disadvantaged countries in the world are defying the odds, as they transform their own lives and that of their communities. The results are not only gratifying, but embody practical lessons for Haiti and the rural poor around the world.

In recounting my own work in the fields of education, agriculture, health, and various aspects of emergency assistance—six years with Yéle Haiti and a year and a half with smallholder farmers—I will also share the insights that have led to my current, and admittedly somewhat radical, proposal regarding the changes needed in the field of development assistance. These recommendations come together in the fifth and final chapter, in which I propose Haiti as the subject of a ten-year experiment for exploring a new methodology for delivering development aid that will be of benefit to the entire world—if it succeeds. And if it does not succeed, Haiti is still worthy of having the opportunity to change a destiny that has been handicapped by monumental forces, both internal and external, from the moment its heroic slave revolt launched a new nation in 1804.

I first visited Haiti two centuries later, in November 2004. Two important statistics about the country were added to my list at that time: there were up to fifteen kidnappings a week and the bodies of three or four of those murdered during the night were frequently on display the next day by the side of the main airport road. I confirmed that my life insurance policy was up to date, that my wife knew where to find my will… and began my odyssey.

4

GREEN GLORY:

Working With Small-scale Farmers to Plant Trees and Improve Agriculture

HAITI, 2009. Richard St. Barbe Baker, to whom I have dedicated this book, was an early mentor. I met this forester, author, and conservationist while I was a university student in London, England, in the late 1970s. He spent a lifetime helping to restore and maintain what he called "the green glory of the forests of the earth," and he was a pioneer in taking forestry from the confines of a professional discipline to a movement that involved entire communities. With a lifetime of practical examples of work to choose from, it was his early experience in Africa that particularly inspired me. St. Barbe, as he was called by his friends and colleagues, had been assistant conservator of forests in Kenya in the early 1920s. Concerned that the colonial government of which he was a part was cutting down huge swaths of trees without any corresponding effort to reforest, he enlisted the native Kikuyu to form a volunteer tree planting organization that became known as the "Men of the Trees." What set St. Barbe apart from other foresters was his ability to get the voluntary cooperation of local people by tapping into their culture. With the Kikuyu, that meant creating a secret society of tree planters who took part in a ritual dance initiation. Wearing full war regalia and carrying shields and spears, they pledged to serve as "forest scouts" by planting trees and protecting the forests.

From the moment I first set foot in Haiti, there was no question that, regardless of the initial focus of my work, it had to include a contribution to reforesting the country. Exactly how that would happen

was unclear. Two early experiments, one in forestry and the second in agriculture, were each failures, albeit instructive: sometimes our biggest mistakes can lead to the most ground-breaking ideas.

The experiment in forestry that I undertook in 2005 centered on forming a national coalition of Haitian environmental NGOs to establish a series of tree nurseries across the country. This effort fell apart quickly, when, at the first sight of potential funding, one of the NGOs tried to take it over for their own financial benefit. Two lessons came from this failure. First, take care in choosing your partners, as one wrong step can create problems before you even get started. The second lesson came from the collective know-how I gleaned from the NGOs that had participated in some twenty years of planting trees in Haiti: it was clear that the only successful ventures involved working with small-scale, or smallholder, farmers.

The 2008 agricultural experiment was called "Together for Haiti," described in Chapter 2. Following the food crisis earlier that year, I had formed a coalition of like-minded organizations to work as a team to provide food, create jobs, and support local agriculture. The project itself was mostly a failure, except for the small and successful pilot program that involved providing high quality seeds to smallholder farmers. A simple thing to do, but it had a significant impact on the farmers, because they had never been able to afford the higher-yield seed that would bring them a corresponding higher income. In the brief time spent with these farmers, I was surprised to learn that they received no support of any kind from the government. Having grown up in the rural Canadian West, we took the government-run agricultural extension service for granted. I simply assumed that all farmers had a support system. But I quickly learned that most farmers in Haiti had never in their lifetime had a visit from the Ministry of Agriculture.

And then along came the Timberland Company. Wyclef had a commercial endorsement deal with this popular line of footwear and outdoor apparel. In early 2009, the company expressed interest in extending their involvement with Wyclef to supporting tree

planting in Haiti through Yéle.

Timberland first proposed establishing a park in Port-au-Prince, drawing on their tradition of creating and improving urban green spaces using teams of local volunteers in various parts of the world. I countered by suggesting that the desperate need for trees in Haiti was so far beyond the scale of a park that the company might want to consider something on a larger scale. I shared a copy of a concept paper I had just written on tree planting and environmental restoration in Haiti that had been commissioned by a US foundation. To my delight, they were immediately receptive and asked me to come up with a proposal.

It is one thing to be forever pushing and advocating for something, but how often does a major corporation, particularly one with a reputation for being an industry leader in environmental and social responsibility, respond with "Yes!" followed by "How?"?

Agroforestry experiment

Three disasters in Haiti: the global food crisis in early 2008, the set of four storms in late summer of 2008, and the devastating 2010 earthquake, collectively resulted in a blizzard of papers with plans for helping Haiti recover. These papers were generated by a dazzling array of research organizations, think-tanks, governments, NGOs, institutions, and consulting companies. I eagerly read many of these documents. But in almost all of them, I was shocked to discover that there were two key issues missing: agriculture and trees. All the papers dealt with job creation, improving education, investing in infrastructure, addressing corruption, and increasing security. And while they might have had a sentence or two bemoaning the lack of trees or a paragraph on the sad state of agriculture, neither issue was a focus of their recommendations for helping the country recover. One notable exception was an excellent paper by Robert Maguire for the United States Institute of Peace called "Haiti After the Donors' Conference: A Way Forward," which dealt with agriculture and trees at length.

To me, it is glaringly obvious that, while the other problems must all be addressed in tandem, it would be complete folly to ignore the

fundamental challenges of Haiti's lack of trees and the sorry state of the country's agricultural sector. With less than 2 percent of tree cover left—one recent estimate sets the figure as low as 1.4 percent—the country is moving from "tropical" to "tropical desert." Every major storm sends rain cascading down hillsides completely denuded of trees, resulting in untold damage from flooding. Topsoil has been washed away, leaving rocks perched on top of hard, baked subsoil. In agricultural terms, Haiti went from being largely self-sufficient in producing its own food in the mid-1980s, to now importing 58 percent of the food it consumes. This trend was matched by the decline of farm income, massive migration to the cities, and a dependence on food imports. Even with these pressures, two-thirds of the workforce is employed in agriculture, according to a 2011 World Bank report. I will never be convinced that it makes sense for a poor country like Haiti to spend an average of 80 percent of its export earnings to pay for imported food, when there exists a vast and capable reserve of smallholder farmers, who, if they were to receive just a little bit of technical assistance, could go back to producing much of the country's food, while increasing employment and income levels in the balance.

The lack of trees and the sorry state of agriculture are closely interconnected. As farm income declined beginning in the mid-1980s, more farmers turned to cutting down trees to produce charcoal for the increasing urban population. Already decreased to 5 percent by then, tree cover was further reduced over the next two decades to its current 2 percent or less. Fewer trees meant more farms were abandoned as entire watersheds collapsed or shrank, one after the other, throughout the country. And when a watershed is compromised, rivers dry up and ground water is greatly depleted. Irrigation becomes more difficult, and sometimes impossible, in a climate in which water is required to grow most crops.

As I set out to respond to the Timberland challenge, it was clear to me that for any plan to work, it had to be based on a combination of agriculture and tree planting, the discipline known as agroforestry. In the early 1980s, Richard St. Barbe Baker had introduced me to one of the worlds' leading authorities on agroforestry, Zhu Zhaohua, from

the Chinese Academy of Forestry. I subsequently hosted Prof. Zhu on a tour of Canada in 1985, and the images he showed of food crops interspersed with trees caused a sensation at the time, as the extent of China's use of agroforestry was largely unknown in the West. Those images had a profound impact on me, and I now drew on that inspiration in a very pragmatic way.

The challenge was not how to combine planting trees and growing food crops; it was how to introduce the idea in a practical manner to farmers. Just asking them to plant trees was not enough of an incentive, even with an education component to teach the value of trees in stabilizing and improving the soil, helping to increase water retention, and so on. I consulted with Wangari Maathai, the founder of the Green Belt Movement and winner of the 2004 Nobel Peace Prize, whom I had originally met through St. Barbe, and who had become a good friend. In her successful program in Kenya, women grew trees and received incremental payments once the trees were planted and until they reached maturity. But I felt this would not work in Haiti, because we did not have the organizational capacity to monitor the trees as Wangari did with her Green Belt Movement.

Finally, a simple idea presented itself: why not ask farmers to volunteer to grow the trees in exchange for an agricultural service that would help them significantly increase their food crop yields by receiving better crop seeds, tools, and training? Their work to grow the trees would be paid for through the additional income they received as a result of higher yields.

At first this seemed too simple. Surely this was already being done. I asked around in Haiti, and there was no program of this kind. I checked with various international sources, and no one was aware of an existing operation based on this model. I am still sure it has been done elsewhere, but to date, I have not been able to find an example of this particular concept having been implemented.

However good the idea, it would not have moved from theory to practice had it not been for a young Haitian agronomist named Timote Georges. Suzie Sylvain, a Yéle colleague who had been a vital part of

our organization since its inception, introduced me to an organization called Trees for the Future. Their program director, Ethan Budiansky, subsequently introduced me to Timote, who was the Country Director for Trees for the Future on the ground in Haiti. Both Ethan and Timote would become critical to the success of the new agroforestry program.

In mid 2009, before we formed a working partnership, Timote took me to see one of the tree nurseries he had created and was currently operating with the involvement of smallholder farmers. Located in the Artibonte Valley north of Port-au-Prince, this was exactly what I had envisioned: totally off the grid, extremely simple in operation, based entirely on organic principles, and run by local farmers. The only thing missing was the incentive component, linking it to food crops. When I explained that concept to Timote, he immediately embraced it, and in a matter of hours we had the whole program outlined.

I explained that we wanted to start a pilot program in the farming area outside Gonaïves, and that we would like to build an entirely new operation from scratch and not try and adapt any existing nurseries that Timote was already implementing. This was not a hard sell: Timote was keen to try this new idea. He was, in turn, backed by Ethan on the US side and together we set out to experiment with this new model. Gonaïves was chosen because of Yéle's years of activity there, and the fact that the city had been devastated by the 2008 floods, made worse because of the lack of tree cover surrounding the city.

Within a month, Yéle Haiti and Trees for the Future had joined forces to create "Yéle Vert," incorporating the French word for "green." The resulting community-based agroforestry program combined tree planting and sustainable agriculture in a way that would improve rural livelihoods, increase food production, and contribute to restoring the environment. With input from Timote and Ethan, I prepared an extensive document describing the proposed rollout of the program, along with a detailed multi-year budget, and we presented the plan to Timberland.

Nothing would have happened past this point had it not been for Jeff Swartz, the creative and dynamic president and CEO of Timberland. He is the third generation of the Swartz family to lead the company, his

grandfather Nathan having started its predecessor in 1952. The company was subsequently sold in late 2011, but two years of Jeff's support was enough to ensure the continuing engagement of senior management.

Jeff's early endorsement of the overall concept set things in motion in 2009, but it was up to Margaret Morey-Reuner, senior manager for values marketing at Timberland, to make it work.

NGOs generally look to corporate sponsors to hand over money and, from that point on, to stay out of their business. This had certainly been my own approach over the years. But from the outset, it was different with Timberland. Through the involvement of both Jeff and Margaret, each in different roles, it was made clear that this was not their company's philosophy. Timberland had a very different, hands-on approach, and a very different reason for being involved. Most companies, with motives ranging from greenwashing to a genuine commitment to the environment, ultimately focus on the public relations value of their relationship with an NGO when it comes to something like planting trees. I was only to learn years later that Timberland had a very different reason: they were considering opening a manufacturing operation in Haiti and wanted to make sure, before taking any steps in that direction, that they could make a real and tangible contribution to restoring the environment. They could not justify setting up shop in a country with such a denuded environment if they were not first convinced that they could make some contribution to restoring that environment.

They were also launching a new line of Earthkeepers footwear, with US$2 from the sale of each pair of shoes or boots going to support their two tree planting programs, the new one in Haiti and the other already underway in China. I have to admit being absolutely thrilled when I first picked up an Earthkeepers boot in a Timberland store and saw the Yéle Haiti logo on the inside of the tongue. It is one thing to deal with all the legal paperwork, mockups of artwork, and marketing strategies, but quite another to walk into a store and see the real deal.

If I had any advice to offer other NGOs when approaching a corporate sponsor to underwrite environmental activities—or any other form of non-profit service for that matter—it would be to look for

a company that has a business reason for supporting you. Any time you can find a sponsor that is engaged in philanthropy that ultimately affects their corporate bottom line, as was the case with Timberland, you will have a true partner and not just a source of funding.

Timberland was also the driving force that transformed Yéle Vert into a self-financing operation. It would have been an effective agroforestry program that lasted only as long as external funding kept flowing, but Timberland was key to turning it into a self-financing and farmer-managed operation, designed to function effectively long after the funding stopped. This they did by introducing a business discipline which, when combined with an NGO capacity to engage farmers at the local level, ultimately created something with real potential to transform farming in Haiti. More details on this later; meanwhile, back to how it all got started.

In October 2009, we signed an agreement between Yéle Haiti and Timberland, in which the latter agreed to be the sponsor and partner for the new Yéle Vert program. In a second agreement, Yéle Haiti hired Trees for the Future as the subcontractor responsible for implementing the program. I had overall responsibility, Timote headed up day-to-day operations on site, and Margaret and Ethan worked with me on the administrative details.

Just as Richard St. Barbe Baker had created a secret society of tree planters in Kenya in the early 1920s, drawing on local cultural traditions, so Timote came up with the idea of basing Yéle Vert on existing local farming associations. Almost every smallholder farmer throughout Haiti is a member of one or another informal local association. This is a phenomenon not only among farmers: almost every one of the working poor throughout Haiti is a member of a professional association. It was Timote who recommended that Yéle Vert begin by inviting the farmer associations, and not the farmers themselves, to take part. As a result of this important recognition of the existing local structure, twenty-five associations in the farming area northwest of Gonaïves immediately signed up as word spread that this program was respectful of the local traditions and worth a try.

The first innovation of Yéle Vert was to get farmers to plant trees by "paying" them in the form of an agricultural service that increased food crop yields. The second was to organize the program as a network of existing farmer associations, so that it was seen as a natural extension of the way in which farmers had always organized themselves.

In December 2009, we rented the land for the main tree nursery in a small farming community called Mapou, about fifteen minutes from the outskirts of Gonaïves. Land was donated for a second, smaller nursery in another nearby farming community called Rofilie. The plan was to eventually construct six of these smaller nurseries, all on land donated by the community. The tree nurseries had to be disbursed in this way so as to be close enough to the plots of participating farmers that they could transport the trees by wheelbarrow. The overall operation, and all trainings, would be conducted from the main nursery. To facilitate these activities, plans were made to build two structures: a three-room office and a traditional *choucoune*, which has a thatched roof supported by poles and open sides allowing ventilation. The office was for administration and storage of seeds and equipment, while the *choucoune* was for training sessions and regular meetings of the farmers.

We all agreed that the first tree seeds in this pilot operation would be planted starting on January 15, 2010, which turned out to be unrealistic because of the earthquake a few days earlier. But because the earthquake did not affect the Gonaïves area directly, the planting was delayed by only a few weeks.

Yéle Vert began as a program under the auspices of Yéle Haiti, but success brought with it ever increasing management demands over time. It became clear that, in order for this program to reach its true potential, it needed to become a stand-alone operation. Once again, it was Timberland that played a critical role by encouraging us to create a new NGO that would continue the program. Out of that discussion was born the "Smallholder Farmers Alliance." As this book goes to print, we have formed not one, but two new organizations. Smallholder Farmers Alliance is the new Haitian NGO that is now managing and guiding the agroforestry program, acknowledging the critical

role played by Yéle Haiti and Trees for the Future, but moving ahead, independent of both. I serve as president of Smallholder Farmers Alliance and Timote is Country Director; we are both co-founders.

The second organization involves the incorporation of the farmers who implemented the pilot program into a separate agroforestry cooperative called "Alyans Ti Plantè-Gonaïves," using the Creole for Smallholder Farmers Alliance. As of May, 2012, there are now 1,000 farm households that are members, through their respective associations; this translates to some 2,000 farmers, when considering that most farms involve the equal participation of both husband and wife. Between them, the farmers in Alyans Ti Plantè-Gonaïves have approximately 1,500 hectares of land (just over 3,700 acres), and together, they now operate a total of eight tree nurseries—one main nursery plus seven smaller community nurseries—with a combined annual output of one million trees a year.

Meanwhile, Timberland opened a shoe factory in Haiti in late 2011, located in the Northeastern city of Ouanaminthe.

Global food fight

I was raised in a small prairie town in the Canadian province of Saskatchewan, surrounded by farms. It was an idyllic place to grow up, with waving fields of grain, mostly wheat, stretching to the horizon in every direction. The average size of farms in that area is just over two square miles (1,280 acres). I took for granted that farming always involved tractors, trucks, combines, synthetic fertilizer, and a plethora of chemical-based herbicides and pesticides. To us, this was just the natural order of things; we did not know it was the quintessential definition of industrial farming.

Now I understand that the farming community in which I was raised was part of a significant global phenomenon. Humanity bases two-thirds of its diet on three grains: corn (also known as maize), rice, and wheat; and the livestock we eat also depends largely on grains for feed. What is truly amazing is that since the early 1960s, grain production around the world nearly tripled, as the world population doubled.

Had grain production not increased so dramatically, there would not have been enough food to feed the world; and this increase in food production was possible only because of industrial farming.

But it was not until I started working in Haiti that I thought about the consequences of industrial farming. It seemed a noble thing that a solution had been found to feed the world, and that my forbearers and the farmers I grew up with were part of this effort. Canada is among the six countries that, between them, supply 90 percent of global grain exports, the others being the United States, France, Australia, Argentina, and Thailand. It took a dramatic event in Haiti to tear away the veil concealing a jerry-rigged, dysfunctional, and inefficient system, into which the unsuspecting farmers of Saskatchewan had been unwittingly drawn.

There is nothing quite so effective in garnering public attention as mass protests and riots in dozens of countries at the same time, all in response to the same situation. The global food crisis in early 2008 was a popular uprising in response to a major rise in food prices. The bill came due for a dysfunctional global food system that relied too much on industrial farming, and millions upon millions of the poor were being asked to pick up the tab. They said "no!" in a collective roar, loud enough to reverberate around the world.

In Haiti there were violent riots throughout the country in March and April of 2008 to protest food prices. President René Préval sacked his prime minister and cabinet not long after protesters tried to storm the presidential palace. While a new prime minister was appointed some months later, most of the previous cabinet was quietly returned to office after the protests died down.

So how did the global food crisis come about? First, some background: The tripling of world grain production since the early 1960s did not happen by accident. The economists, planners, and politicians who were re-drawing the postwar map of the world in the 1950s and early 60s saw the need to restructure global agriculture in order to make it more productive. Approximately half the world's workers at that time were farmers, but the majority of the food was already being grown by the minority involved in large scale industrial

farming. This had the advantage of producing food more cheaply than the small-scale farmers who constituted the majority could do. Steps were taken to focus research, resources, and regulations to support industrial farming, and then to export the increased grain production to poor and underdeveloped countries, whose farmers could not afford to invest in industrial methods. Over the course of forty years, the huge increase in grain production was almost entirely the result of increased support for industrial farming. The good news was increased grain production. The bad news was that, behind the scenes, the original concept was flawed from the outset and matters kept getting worse over forty years until the dam burst.

There is, to my mind, a very clear and necessary role for industrial farming. But it is not the sole answer to feeding the world, at the expense of smallholder farmers. At first, industrial farming seemed like a simple and elegant formula for providing food for a growing world population. Modern, efficient, logical. Take the burden off poor countries by growing cheap food elsewhere and exporting it to them so that their rural poor could abandon farming and move to the cities, buy cheap imported food, and become part of the urban industrial model that, supposedly, would help improve economies everywhere.

It was not long, however, before unforeseen problems with this formula surfaced. The smallholder farmers who lost their incomes because they could not compete with cheap imported food moved in record numbers to cities that were not able to offer them jobs. The result was often increased poverty. In order to keep local food prices down, it became necessary to lower import tariffs in the poor counties receiving the cheap food from abroad. But this meant reduced tax income to run those governments. At the same time, high tariffs were maintained in most of the countries growing the food, because they would otherwise face unfair competition from poor countries. And when it seemed that the exported food would not be cheap enough, the rich countries began to tap their own taxpayers to give ever larger subsidies to their industrial farmers. But that would only

Author photo.

The 2,000 farmers in the pilot agroforestry cooperative of the Smallholder Farmers Alliance (SFA) currently grow one million trees a year in eight nurseries. They plant the trees on their own farms and community land.

William Charles Moss.

SFA agroforestry cooperative member Jacqueline Castin, shown here holding the fruit from a papaya tree she planted on her farm near Mapou. Jacqueline sells the papaya to supplement her farm income.

Sebastian Petion.

Rigaud Joseph, shown here with his sorghum crop in 2011. Farmers in the Smallholder Farmers Alliance cooperative receive seed, training, and tools that help them increase their crop yields by an average of 40 to 50 percent.

Author photo.

Children of farmer members attending an environmental education class. Full time teacher Rosie Despergnes (left, holding leaf) is assisted by noted Haitian environmentalist Jane Wynne (right), who is also an SFA board member.

Sebastian Petion.

Children of farmers are shown here helping to fill some of the 700,000 bags used each year to transplant tree seedlings into plastic bags filled with a soil-compost mixture.

Timote Georges.

Cooperative farmer members planting a "living fence" of trees to define their property and keep out wandering livestock. Fences made of posts and barbed wire are too expensive for most smallholder farmers in Haiti.

Sebastian Petion.

Author Hugh Locke with Timote Georges (center), co-founder of the Smallholder Farmers Alliance and our Country Director in Haiti. We are conferring with Thanael Jean (left), one of the agroforestry technicians with the SFA cooperative near Gonaïves.

Louis Dario Louis.

Farmer members of the SFA agroforestry cooperative near Gonaïves grow one million trees a year in eight nurseries and then transport the seedlings, usually by wheelbarrow, to their nearby farms and community land for transplanting.

work if the poor countries promised never to give their own farmers any subsidies, a general policy that was reinforced by making the removal of all farm subsidies a condition for continued development funding from the rich countries. And because these actions all seemed profoundly unfair, they were collectively given a name that meant the opposite of what was actually happening: the whole system became known as "trade liberalization," when, in reality, it meant systematic trade *restriction*.

Over time, what could originally be outlined in an elevator ride became a book. The book became many volumes. The volumes became an entire library. Every time there was a problem, more regulations were added to prop up the system, so that eventually the entire collection was so large that nobody knew exactly what all the rules were. Here was a complex system rather like a computer in need of regular updates to guard against viruses. But suddenly, with little warning, the computer crashes. The original formula in which industrial farms would feed the world had been patched up so many times, that it was finally unable to correct itself in response to a set of conditions that caused a total systems failure known as the "global food crisis" of 2008.

There was no one trigger for the food crisis. The real story is complex. Start with core numbers: the world's population is now growing faster and is close to consuming more food than the world can produce, because the increase in the yields of industrial farming peaked years ago. Add to this an increase in the cost of the fossil fuel needed to run industrial farm machinery and operate the ships that take the food to markets around the world. Then factor in the growing prosperity of countries like China, where people are eating more meat, which in turn requires more grain to be diverted to livestock. Add to this the significant increase in the use of biofuels for cars and the resulting loss of arable land from food production. And to top it all off, legalized gambling by investors who speculate in the agricultural futures market. Without even considering the significant long-term impact on the environment and human health, this set of factors came together to create the perfect storm in food prices.

Whatever the immediate causes for the food crisis, the bigger story is that the entire global agricultural sector has not been managed in humanity's collective best interest. Industrial agriculture was given every advantage and forced to carry the burden for generating most of the world's food, while hundreds of millions of smallholder farmers had much of their support withdrawn. Simultaneously, regulations and laws were put in place to systematically reduce smallholder output and force them to leave farming. Thus, smallholder farmers—who still constitute close to one third of the world's workers—are not being given the opportunity to help bridge the gap, even as industrial farming has reached the limits of its capacity to produce. This is the situation that caused the global food crisis of 2008. Because of its artificial structure favoring the minority and working actively against the majority, the agricultural sector had become too complex and was unable to respond and adjust to the set of conditions that triggered the crisis.

While the food crisis is no longer on the front page, there is no question that the underlying conditions have not gone away. We still need to grow more food: by 2050 we will have added the current equivalent of two Chinas to the global population. Ahead lay two forks in the road, each pointing to a potential solution: one road leads to a new green revolution with supercharged genetically engineered seeds (commonly referred to as genetically modified organisms, or GMOs) that will significantly increase the yield of existing industrial farms. The other leads to a smallholder farm revolution that will finally support the world's 900 million currently marginalized smallholder farmers, enabling them to improve their sustainable and ecologically friendly practices to meet growing global demand.

In reality, both roads have a place. But from my vantage point there is nothing resembling an even playing field between the two. Powerful forces are already lining up behind a new GMO green revolution and discounting even the possibility of discussing a smallholder farm revolution. If the latter are considered at all, they are seen as merely incidental players, to be enlisted to ensure that the GMO juggernaut achieves maximum global coverage.

Meet the farmers

I would like to introduce you to one family in order to give you an understanding of the life of smallholder farmers in Haiti.

Gustave and his wife Rosemary (I am not sharing their family name) and their seven children live on a farm near the tiny community of Rofilie. Gustave is fifty-three years old, and Rosemary is forty-eight. The children range from three to the eldest, Guibert, who is nineteen. Gustave and Rosemary, assisted by Guibert and other family members, are equal partners in farming their one hectare of land, half of which they own, while the other half is rented. The family also includes two older women, Rosemary's mother and an aunt of Gustave, bringing the total count to eleven people in this farm household.

They live together in a two-room house with a cement floor, wood frame walls, plastered inside and out with packed earth painted light yellow, and a corrugated tin roof. There is one door, painted turquoise blue with a red frame, and three windows without glass, but which can be closed using wooden shutters painted to match the door. The roof extends over the front of the house to form a sheltered area. The front room has a table in the middle with a single exposed light bulb suspended over it, power being supplied by a jerry-rigged link to a nearby power line—and it is likely that no bill ever arrives for this service. There is also a cabinet in the front room with a display of artificial flowers and several pieces of exuberant porcelain. The room is immaculately clean, as is the second room, with its several beds and almost no space between them.

The house opens onto a courtyard of hard, packed earth, bordered on one side by a storage building, of the same construction as the house, and a pigeon coop. The other two sides of the space are defined by a fence made of woven palm fronds. Again, all is clean and well organized. In the courtyard and the covered area in front of the house are a number of metal and plastic chairs, as this is where the family spends most of their time when at home. This outdoor area also serves as the kitchen. Set into the courtyard surface is a

small charcoal pit with an open metal structure that holds one pot at a time for cooking.

Upon enquiring about bathroom facilities, I am informed by Gustave, with a sweep of his hand aimed at the outdoor area beyond the compound that, depending on which direction you want to go, you will find the "bathroom." Bathing is done in a large metal bowl in a sheltered area near the compound.

In a second adjoining courtyard, there is a chicken coop built by Gustave, with six chickens on three levels, each enclosed with wire netting. The structure is supported by four corner posts that raise the whole coop several feet off the ground. An ingenious system of recycled plastic pipes delivers water to each level from a storage tank on the top. Also in this second courtyard is a cow that the oldest son Guibert is responsible for milking each day.

It is a short walk from the family compound to the first part of their farm. The field is bordered on one side by community land owned collectively by the neighbors, on which several cows are grazing contentedly. On this morning, the perfect stillness is broken by American rock music blaring from a nearby house.

The farm itself consists of two separate fields together measuring one hectare (just under 2.5 acres). The first field is a rectangular space divided into several sections by a method dating back to the colonial period, when plantation slaves were allowed to grow food for themselves on similar small plots. This farm, like those during slave times, represents a particular type of intensive agriculture that reminded me of the market gardens of my youth. On this one field are onions, eggplant, and corn, each growing within squares defined by a ridge of earth about a foot high. These ridges allow the field to be flooded, one square at a time, to irrigate the crops. On the second field, a few minutes away, are the same smaller plots; but in this case, they are all planted with beans.

In this area of Haiti, most farming involves irrigation. As you drive down the dirt roads that connect the rural communities, you come across small, one-story pumping stations that were originally installed

during the Duvalier era, and are now kept running by the farmers. They have a knack for keeping the ancient machinery going in the absence of any government help. The pumping stations draw water from underground sources and feed it into a network of hand-dug irrigation channels, most no more than two feet deep, that crisscross the whole area for hundreds of miles. The entire operation, other than the pumping stations, is managed by hand. When the water needs to be re-directed, earth is shoveled to plug up one route while the embankment is broken to open another. Once off the roads, movement through the fields is mostly accomplished by walking along these irrigation embankments.

Gustave and Rosemary have been part of Yéle Vert, and now the Smallholder Farmers Alliance, since its inception in 2010. Touring their farm in early 2012, there is clear evidence of the trees they have planted on their land. The first field is surrounded on two sides by a "living fence" that has been built up over the last two years by planting a combination of jatropha bushes and siwel trees. Jatropha is a thorny bush that helps to keep livestock out, while the siwel has very long, thin branches that are bent down and woven into the jatropha to form a very dense enclosure. In addition to keeping out cattle and other animals, living fences are very important for avoiding land disputes. When you have two fields next to each other under similar cultivation, the exact border can be hard to maintain. This is where living fences come in, and they are significantly cheaper than those made of posts and barbed wire, which are too expensive for most farmers in Haiti.

While the living fence was clearly an asset, what excited me in touring this farm were the six papaya trees in the middle of the field. These had been grown as part of Yéle Vert and transplanted here by Gustave and Rosemary in May of 2010. The trees were now about twelve feet high, and the reason they worked here was that the foliage began about seven feet above ground, and did not disrupt or shade the crops. From seed to first fruit is about one year, and as of January 2012, these six trees had each produced an average of eighty large papayas,

enough to significantly add to their overall farm income, as the fruit, beyond what the family could eat, was sold.

Farmers in this part of Haiti grow three crops a year. Depending on the arrival of seasonal rain, the crops are usually planted in April, July, and December. Once stable and predictable, local weather patterns have become much more erratic over the past decade and planting is often delayed by several weeks or even a month. This causes problems for the farmers because it delays income and cuts down the time needed to prepare the land between crops. All three seasons include the planting of vegetables and corn, while sorghum is planted in April and beans in December.

Typical of the 1,000 farm households taking part in the agroforestry cooperative, Gustave and Rosemary farm as partners. They farm together and they both volunteer to tend the tree nurseries. In return for that volunteer service, they receive trees to plant on their land and seeds for their food crops. Visiting their field in January 2012, the onions had been provided through the cooperative, as were the papaya trees and the living fence; their second field was planted with beans provided by the program.

While the partnership of husband and wife covers the operation of the farms, Rosemary's role in dealing with the household finances is typical of most farm households: she is responsible for selling all the produce at the outdoor market in Gonaïves and handles the money for the household.

Gustave and Rosemary are also typical of other farmers involved the cooperative. Finally able to get higher quality seed, some training, and good quality hoes and shovels, their yields increased and income along with it. To give a specific example, their sorghum harvest in July 2011, with seed provided by the cooperative, had a 50 percent higher yield than any they had ever had. Out of their overall operation on two fields and three seasons a year, sorghum accounts for close to half their annual income. The higher yield of sorghum meant that the family was able to send two of their children to high school. This marked the first time in the family's extended

history when anyone was able to attend high school. Gustave was fairly bursting with pride as he told me of this development. And it was interesting that he and his wife choose a daughter as well as a son, rather than two sons, for this privilege, as the culture definitely favors boys over girls.

Gustave has an additional role as a member of the farmers' committee. This is another of Timote's very important innovations. He realized that the farmers had to own the program from the outset. So he had the farmers identify one leader from each of the twenty-five participating farmer associations and began training them to oversee both the tree nurseries and the agricultural service.

The resulting farmers' committee is responsible for canvassing the other farmers to find out what trees they want to grow and where they will be planting them. This ensures that the use of the trees has been predetermined by the farmers themselves. The committee then has to find a source of tree seeds, and, guided by Timote, negotiate the purchase price. They oversee the planting schedule and care of the nurseries by the other farmers. This is followed by organizing the entire community at planting time when the trees are taken from the nurseries and transplanted on fields and community land. With one million trees a year now being grown by the eight nurseries, this is no small undertaking.

The second major task of the farmers' committee relates to food crops. They canvas all the farmers as to what seeds they need and in what quantity. Then the committee, again guided by Timote, must find a source for that seed and negotiate the price. Once the seeds are planted, the committee goes regularly to inspect the growing crops. Any problems are reported back to Timote and his small team of agronomists and technicians and they help formulate a response. In the case of insect control, this usually takes the form of a spray made from the neem tree. This tree grows throughout Haiti, and the leaves are pressed to extract oil that can be mixed with garlic, peppers and other natural ingredients to make a spray. Different combinations are tested until an effective solution is found.

The farmers' committee consists entirely of volunteer farmers who

are members of the cooperative. The small paid staff of agronomists serve as a resource to the committee, but they are not members. In this way the farmers themselves become experts in every aspect of running the program and have an ownership stake in the operation. That would never have been the case if we had followed the typical top-down management style of most NGO programs.

Tree portraits

Now that you have met some of the farmers, I would like to introduce you to five of the typical trees grown in our nurseries. It is one thing to say that the trees are grown for their fruit, timber, and for fodder, but what does that actually mean? In Haiti, there are close to two dozen indigenous tree species, but these five have been chosen by the farmers as most important.

My favorite by far is called *Moringa oleifera*, known locally as *doliv* or *benzoliv*. This tree is both elegant and tough. While most trees are initially grown in seed beds and then allowed to mature in plastic bags until transplanting, the *Moringa* is so hardy that it is grown in the ground and then pulled up to be transplanted. Not dug up with care to keep soil on the roots. Rather, pulled out like a common weed and planted in a field, where it begins to grow again very quickly. The result is astonishing. Within a year the young tree can reach fifteen feet. The leaves are very delicate, each a composite made up of many smaller leaves, arranged off a central stem.

The drought-resistant *Moringa* is considered one of the world's most useful trees, because almost every part can be used for nutrition, medicine, fodder, or water purification. The leaves have more protein per weight than beans, making it unique among all known tree species. The leaves can be eaten right off the tree, added to soup or rice, or dried and ground into a nutritious powder as a protein supplement to almost any other food. Although the *Moringa* grows in many tropical countries, it has not yet been sufficiently studied to verify its attributes. If an organization such as UNICEF or the World Food Programme were to one day endorse and begin using dried and ground Moringa leaves,

Haitian farmers could be major producers.

I spoke earlier about Gustave and Rosemary's papayas. In just three months, a papaya tree grown from seed can be transplanted to a field, and in a single year attains a height of twelve feet and produces around eighty large papayas. There can be as many as twenty fruit ripening on the tree at once—not modest little fruit, but huge papayas with an incredibly sweet flavor.

Jatropha curcas, known locally as *gwo medsiyen*, is actually a bush. I mentioned it earlier as a popular choice for living fences, as Gustave and Rosemary did on their farm. This is a scrappy bush that even its most ardent supporters could not call attractive. But it can flourish under the harshest conditions, and the large thorns make it ideally suited for keeping livestock out of fields. Many people know *Jatropha* for the small fruit that is pressed to extract biofuel. Despite the initial flurry of support for this process, it has never taken off in Haiti because harvesting on a commercial scale would require planting large plantations and not just hedgerows. Proponents of biofuel have pledged not to take over land currently being used to produce food, but it is difficult to imagine how that could be prevented if there were a viable market in Haiti for biofuel made from *Jatropha*.

And then there is *Cedrela odorata*, or *sèd*, Spanish cedar. An award for the tree most suited to one thing would surely go to this species, which produces perfect poles and planks. It has a single, straight trunk and few side branches, except for a modest flurry at the top. Within two years of planting, it can be harvested for use as a pole up to fourteen feet high. Wait three more years, and it will be large enough in girth for cutting into construction planks. It has the added feature that, when harvested, the *Cedrela* grows back from the root. A good example of how it is used is to be found in the family farm compound of another couple, Anouce and Idelia, who live near the rural community of Mapou. In November, 2010 they planted fifty *Cedrela* on their quarter-acre compound, along with five papaya—all of which they had helped to raise in the tree nursery cooperative in Mapou. The couple have already been harvesting the papaya and will

be able to begin harvesting and selling the *Cedrela* trees later this year. Between the papaya and *Cedrela*, they will receive a reliable supplement to their income for years to come.

The *Citrus sinensis*, known locally as *oranj*, and in English as an orange tree, seems somehow very stately. It will not be rushed, and takes five years before it produces fruit. But it is worth the wait, because, once started, it will bear bountiful crops of oranges for several decades. The leaves are a glossy dark green and the flowers wonderfully fragrant. Its introduction to this part of Haiti is an experiment, as it is a native of more northerly regions near the coastal city of Cap-Haitien; but we see no reason why it should not be as successful in Gonaïves.

Nurturing the nurseries

The eight nurseries that form the core of the pilot operation of the Smallholder Farmers Alliance in Gonaïves are entirely off the grid. No electricity lines, no water from faucets, no tractors or other fuel-powered machinery, and no lights, the single exception being the main nursery, which has a generator to power two laptop computers and an internet connection. When you walk into any of the nurseries you see thousands of tree seedlings, either in long rows of raised beds or in individual black plastic bags set in neat rows on the ground. Some trees are transplanted with just bare roots, but most are started in the raised beds and transplanted after a few months to individual dirt-filled black plastic bags, where they grow for a few more months until they are ready for transplanting onto the farmers' land.

An ongoing activity at all the nurseries throughout the year is preparing the soil and filling the bags. Try as I might to get the men involved, this is something that is done by women farmers and their children. My frequent participation in this task has failed to inspire any of the male farmers to help out. Men manage the process of sifting the soil through fine mesh and adding compost, while women and children then fill hundreds of thousands of 6-inch-high bags. It is a huge task in itself, apart from the work of transplanting the seedlings into the soil-filled bags.

Each nursery has a compost pile, the output of which is enhanced with manure from nearby farms. In addition to providing compost for each nursery, it is a practical training for farmers, who then create their own compost operation. Even on hot days you can see steam rising from the watering hole at the top of the compost piles. Protruding above the mound is the tall stake that extends downwards to the bottom and which is used to continually "stir" the pile to ensure the penetration of both air and water into its depths, ensuring that plant matter breaks down efficiently.

Despite all our "off the grid" procedures, we are still dependent on purchasing close to 700,000 black plastic bags a year, with the remaining 300,000 trees being grown for bare root transplanting. This constitutes the single largest non-personnel expenditure in the budget. We looked into recycling Haiti's ubiquitous 10-ounce plastic water pouches, but after extensive experimentation over two years, we found that only one species of tree would grow in them. *Swietenya macrophylla*, known locally as *acajou*, used for timber and fuel, was the only tree that grows successfully in the recycled pouches.

But now we have a program to recycle the black bags. Children collect them from the farmers after they are discarded, sort them, and receive a credit for the reusable bags. That credit is then exchanged for illustrated books which are paid for through the savings in purchasing new bags.

The books, in turn, are part of an environmental education program for the children of the farmers who operate each of the nurseries. A full-time teacher travels between the nurseries giving classes to the children. They learn through a range of activities, such as pressing strips of wet paper to make briquettes and learning songs incorporating tales of wildlife. This education component came about as a result of an oft-repeated request from the farmers shortly after the program began, and is now hugely popular.

Radical seed saving

Farmers the world over have traditionally saved seed from their grain and vegetable harvests in order to plant again the following year. Haitian

farmers have the same tradition, but face two very real problems. First, it is often difficult for them to save enough money to initially purchase the better seeds that would give them higher yields; and when you start off with poor seed, you will be stuck with it every season as you save and replant. Better seed is not a reference to hybrids, but rather to open-pollinated seed for crops that have been grown for generations in Haiti and have adapted over time to the tropical climate. The second problem is the financial pressure to sell the entire crop at the end of the season in order to meet their family's needs, and then having to struggle to get the money together to buy new seed for the next planting season.

It is hard to believe, but the seemingly simple task of organizing our farmers to contribute a portion of each season's harvest to a community seed bank is a fundamentally radical step that, by definition, engages the Smallholder Farmers Alliance in a worldwide debate about the future of farming.

To put this debate into context, we need to step out from the fields of Haiti. The foundation for the debate was spelled out in the last years of the 18th century by the English scholar and economist Thomas Robert Malthus. He was the first to put forward a theory of population which states that the number of people in the world increases in a geometric ratio, while the food supply increases in an arithmetic ratio. Population, he predicted, would increase faster than food supply, and the result would eventually be famine, disease, or war.

Malthusian theory did not take into account other factors, such as lowered birth rates. But his lasting influence has to do with two lines on a graph: one line represents the global population and the other line is our food supply. In 1960, there were three billion people in the world and a projection that this number would double within thirty years. Total global agricultural output was not growing at the same rate, leading economists, policy makers, and politicians to propose a wholesale move to industrial farming as the answer. At the time, as mentioned earlier in this chapter, it was thought that a massive investment in industrial farming was the only possible way to double global food output during the same period that population doubled. While it

may not have been the only option, it certainly did increase food production, and it unquestionably averted what would have been a major global catastrophe: population did not exceed food supply.

Now the two lines on the graph are once again getting perilously close. Charting the population line, the United Nations announced that the world population hit 7 billion in October, 2011. We are projected to be at 9.2 billion by 2050, an increase of more than two billion people from 2012. The problem is that the food production line has leveled off in recent years. Nearly 40 percent of the earth's land surface is already used for agriculture, and the UN's Food and Agriculture Organization (FAO) projects that 90 percent of the growth in crop production between now and 2050 will need to come from higher yields on existing farms. At the same time, they predict that developing countries will more than double their import of grains, because the majority of the population growth will be in countries that are not currently growing enough food to feed themselves.

It is industrial agriculture that has largely fed the world up to now, but it has reached its limit, both in terms of available land and the yields that can be achieved using hybrid seeds, synthetic fertilizers, herbicides, and pesticides. Today's equivalent of the economists, policy makers, and politicians who advocated for industrial farming in the 1960s are again pushing for the same kind of global intervention, but this time in favor of genetically modified seeds (GMOs): a "gene revolution." If the combination of hybrid seed and industrial farming was the answer in the 1960s, so goes the prevailing theory, then the worldwide introduction of GMOs to industrial farming is the answer to feeding 75 million more people a year.

An issue of this magnitude is worthy of more exploration before we get back to the fields of Haiti. First, what is the difference between a hybrid seed and a GMO seed? All grain and vegetable seed is either open-pollinated or hybrid. All GMO seeds are hybrids by definition, but not all hybrids are GMOs.

Open-pollinated is a term that refers to seeds that produce the same plant in successive generations. Pollination occurs with the help of

either bees, birds, or wind. You plant the crop, save some of the seed from the harvest, and then use that saved seed to plant the next crop. The saved seed will result in a plant that is similar to the parent. Over long periods of time specific grains and vegetables will evolve and adapt to local conditions; but in the process, they remain stable; that is, the saved seed can be grown and will produce the same offspring.

Hybrid seeds are produced by crossing two parent varieties from the same species, as in one species of tomato being crossed with another. Hybrids are developed by plant breeders who are specialists in combining the best traits of separate varieties into new varieties that offer higher yields, greater resistance to disease, and more vigor. One variety of wheat, for example, might have a higher yield but the heavier seed tends to make it fall over. It is then crossed with a second variety of wheat that does not have such a high yield, but which has a stronger stem. The first generation offspring from these two varieties will then have both a high yield and a strong stem. However, the second generation will often revert to one or other of the parents and will not duplicate the positive first generation results. Greater uniformity is another valuable characteristic in developing hybrids, because it makes it easier to use machinery to harvest the resulting crops. Most farmers who plant hybrid seed purchase it each growing season and do not save any for the following season, either because the next generation of plants will not match the first, or because they have signed a contract with the company that produced the hybrid seeds which obliges the farmer not to save seeds for replanting.

Hybrid seeds combine genes from different varieties of the same species through controlled pollination, but it is still a natural process. GMOs could never be produced in nature, because it involves combining plant genes with those from animals, bugs, fungi, and viruses. This process of combining plant with non-plant genes can only be done in a laboratory by scientists. But by opening up the gene pool beyond just those from plants, researchers are able to come up with plant hybrids that are custom designed to meet all kinds of very specific criteria, particularly higher yields than were

ever possible with traditional hybrids.

So what, you may ask, is all the fuss about? Why is there so much fear regarding GMOs in so many parts of the world? The reasons vary, and high on the list are concerns about the environmental and health ramifications. But there are also concerns that date back to the green revolution of the 1960s. As detailed above, the massive international investment in industrial agriculture that began at that time required a range of trade policies in order to work. These policies protected the countries producing food for export and ensured that the poor countries importing the food kept their import tariffs low and agreed not invest in smallholder farming. A good example is the US Congress passing of the Bumpers Amendment in 1986 to the Foreign Assistance Act, which bars the government from helping farmers in developing countries to increase the yields of crops that could compete with staple US exports to those same countries. Public policy in many rich nations also ensured that research money went into developing hybrids and the related synthetic fertilizers, herbicides, and pesticides that these hybrids need in order to produce maximum yields. In short, investment, regulations, and research were all lined up behind industrial farming, with the result that smallholder farmers the world over suffered the consequences. The orchestrated effort behind industrialized farming is fast transforming into a full symphony singing the praises of GMOs, with nary a dissonant note to be heard.

There is one key difference, however, between the industrialized farming strategy of old and the new worldwide expansion of GMOs currently underway. Unlike the original green revolution that backed industrial farming, the GMO revolution is being led by private companies that have taken out patents on their laboratory-generated seeds. These private companies are responsible for some 90 percent of the worldwide research in GMOs. By asking governments around the world to enact laws to protect their investment, they have created a situation whereby all farmers who use their GMO seeds will be breaking the law if they save seeds for replanting.

To put the issue into perspective, it is currently estimated that approximately 80 percent of all grain and vegetables grown commercially on farms of all sizes come from hybrid seeds. If you break down hybrid seed between conventional hybrids and GMOs, the GMO percentage of the overall total grain and vegetable production stood at 7 percent as of 2011. Many parts of the world, including more than a dozen developing countries, are now experimenting with planting GMOs, but so far some 90 percent of GMO use is concentrated in only four countries: the United States, Argentina, Brazil, and Canada. But the use of GMOs is doubling, on average, every year.

The world faces the very real challenge of how to feed two billion more people by 2050. We have already reached the limit of available arable land, and the capacity of that land to produce food is only enough to feed the current population, with a little to spare. One scenario is that GMOs will expand on their current trajectory and by 2015 will represent more than half of global grain and vegetable production. Then, if there is one bad harvest in a significant industrial farming area, investor speculation on the agricultural futures market could, as it has in the past, send food prices through the roof. In a world in which food is a commercial commodity, millions would starve as a result. And in this scenario, they would starve not because there is not enough food being produced, but because the food they need is grown in the wrong place and controlled by companies whose business is not to feed the starving, but to maximize shareholder returns.

I am not suggesting that industrial farming, hybrids—and even GMOs, moving forward—do not have a vital role to play. They are absolutely essential to feeding the world, and without them we would long ago have faced a human catastrophe of historic proportions. What I am suggesting is that we need a core change in the global agricultural paradigm that will diffuse the extreme polarization that currently exists between industrial and smallholder farming. We need to make room for more sustainable and ecologically friendly practices that benefit from the same kind of research, investment, trade regulations, and legal frameworks that are being extended to industrial farmers. The main beneficia-

ries of this change would be the 900 million smallholder farmers around the world who have been marginalized for generations, but who could easily begin to fill an important gap in the global food chain.

Ultimately, this whole issue goes back to Gustave and Rosemary and their sorghum harvest in July 2011. By volunteering to grow trees, they earned the high yield sorghum seed that was used to plant that crop, seed that came from a seed bank managed by the farmers' committee. Participating farmers receive seed for food crops at the beginning of each growing season, and then return the same amount when they harvest their crops. To get the seed bank started, and to regularly replenish it, we buy high quality open-pollinated, non-hybrid seed. Before any harvested seed is added to the bank, it is first checked by the committee. In this way the seed source for the community is maintained at a high level, resulting in an average of 40 to 50 percent higher yields. These increased yields are not only based on better seeds, but also better farming practices that includes the use of compost, not burning off plant remnants at the end of the season, and more controlled spacing between plants.

Gustave and Rosemary are like many other smallholder farmers. They save seeds from season to season; except that in their case, they are now doing so as part of a cooperative of other farmers and in a manner that increases their output and income. In common with hundreds of millions of other smallholder farmers worldwide, they have always planted non-hybrid seeds and have never used any chemical fertilizer. With a little training, better seeds, and a new spirit of community, a modest experiment in rural Haiti is being offered up as one contribution to the larger global food challenge.

It is often claimed that smallholder farmers benefit from higher yields when they switch to hybrid seeds. For the most part, those espousing this view have never set foot on a small farm in a developing country. If they knew and worked with smallholder farmers, they would understand that switching to hybrids that require new seeds to be purchased each season represents a complete break with a centuries-old tradition of seed saving, not to mention the added cost of purchasing fertilizer

and pesticides. Moreover, hybrids often require more water, adding to the burden in most rural farming areas.

Industrial and smallholder farming represent polar opposites on the agricultural spectrum. Industrial farming has had every imaginable kind of support over the years but, as the global food crisis in 2008 clearly demonstrated, it has serious handicaps that make it both vulnerable and unable to adapt in periods of emergency. At that time, the price of imported food had dramatically increased in many poor countries. With no significant domestic food production to cushion the blow, the result was widespread social and political unrest. Closer examination of the underlying causes of the "Arab Spring" of 2011 make it clear that in places like Egypt and Yemen, the spike in food prices was a significant contributing factor to those popular uprisings. Rather than seeing industrial and smallholder farming as enemies, why not change the game and view smallholder farmers as an under-utilized asset—thinking small could be the next big thing in agriculture. Smallholder farmers could become the principle agent for a worldwide experiment in developing sustainable and ecologically sound farming practices that would compliment agribusiness, and at the same time serve as a domestic buffer against spikes in imported food staples. What better place to begin the experiment than in Haiti? Gustave and Rosemary have already started.

Community building

The new spirit of community among the farmers in our program warrants a closer look.

Small-scale farmers in Haiti, as in many other parts of the world, live from crop to crop. For the most part, they do not have bank accounts or cash reserves. One misstep that leads to a lost crop, and that family is at risk. There is much good will among the farmers, who do help each other out, particularly at harvest time. But there is still an innate caution that holds them back from new forms of collaboration. That is where our cooperative model enters the picture. As we built up trust, the participating farmers felt more comfort-

able contributing seed to a common bank, for example. The farmers' committee was something completely new, but it soon earned the respect and support of the entire community. Of course, the most tangible benefit of this new method of collaboration was increased income for the participating farmers.

The success of the overall agroforestry cooperative model is due to its ownership by the farmers themselves, and the leaders from among them who make up the farmers' committee. And at the heart of that committee is a new form of open consultation when dealing with issues affecting the farmers. And not only farming issues, but any issue affecting the community can be discussed. All financial transactions are in the open. Every member must treat the others with respect or face censure by the group. When inevitable disputes arise, the members must first reach a consensus on the best method for resolving the matter. Another interesting procedure, previously unknown to me, takes place when there are new people in a meeting: everyone present will be asked to introduce the person next to them, rather than introducing themselves—a great way to get to know your colleagues.

I have sat in on some two dozen of these farmers' committee meetings over the last two and a half years, and never once been asked for money. I mention this because there is a prevalent misconception, particularly among NGOs, that poor and illiterate Haitians cannot be trusted to run programs. My experience is very different, having watched this committee deal effectively with a wide range of issues over the years. But it was cholera that provided the most poignant proof.

When cholera struck Haiti in late 2010, there was widespread panic among the population because they had no idea how to deal with the disease. People were dying agonizing deaths in front of their families, in what seemed like only hours after contracting cholera. As the first few deaths occurred within the extended farming community in which our program is based, the entire population turned to the farmers' committee for leadership. No one from any level of government—or any NGOs for that matter—had come to the area to talk about the outbreak. The farmers were entirely on their own.

I happened to be attending the farmers' committee meeting when this issue was initially raised, and their first request was not what you might expect. The farmers asked if there was a way for them to be trained so that they could help prevent cholera in the area. Within a few days, fifteen of the farmers and nursery technicians had been given a short training by Partners in Health, the exceptionally effective NGO which, along with Doctors Without Borders, had taken the lead in responding to the outbreak throughout the country.

Within a week of the meeting at which cholera prevention was discussed, I returned with a truckload of soap. Most farm households do not have a toilet, and consequently they do not wash their hands after a visit to the bushes. I realized it was not enough just to drop off the soap, so we called the community together at the main nursery. With a few hundred people watching, I conducted a demonstration of how to wash your hands. We had a basin of water on a small table, and several children helping with the demonstration. I turned it into a game of counting the number of times we scrubbed our hands and washed up past our wrists. I was struck by a vivid memory of my mother teaching me the same thing as a child, along with her admonition to always wash up past your wrist.

All the nurseries in our program became involved in cholera prevention, running regular sessions for anyone from the community to come and learn the basics of prevention, how to identify the symptoms, and what to do if you contracted the disease. We brought in thousands of bars of soap and liquid hand sanitizer, and these were distributed from the various nurseries.

One afternoon, Wilson Noel, a technician in the main nursery, received a call on his cell phone from someone who had just come across a boy who lay dying on a road close to the nearby farming community of Morancy. Wilson jumped on a motorcycle and within a half hour was back at the main nursery in Mapou with a barely conscious fifteen-year-old boy named Florvil. When he had become violently ill with cholera, Florvil's family had not known what to do: they were concerned that the whole family would die if they had any further

contact with their son and so, having nowhere to turn to for help, they abandoned the boy on a road to die. One can only imagine what an agonizing decision that must have been for the parents. No one approached Florvil as he lay on the road out of the same fear and lack of knowledge that guided his family; luckily, one bystander knew to call the cooperative. Once at the nursery, the farmers gave him the basic oral rehydration mixture they had learned about from Partners in Health, made with specific proportions of salt, sugar and water. This stabilized him and Wilson then took him by motorcycle to a hospital in Gonaïves. Within a week Florvil was completely restored to health, back with his family, and attending school as usual.

For Haiti to undergo any real and lasting transformation as a nation, a new sense of community must be built from the ground up. Our program is making a contribution to this process by training farmers in a fair and transparent collective decision-making process, which is also nurturing natural local leadership. It started off as a way to manage an agroforestry cooperative, but has already evolved into at least one component of a new model for rural self-governance.

Sustainable business model

Few words are so widely used, but so misunderstood, as the term "sustainable." It is bandied about everywhere with such abandon that it has lost all meaning.

There are two applications of the word that pertain to my work in Haiti. The first is sustainable agriculture, which I define as growing food in a manner that does no harm to either the environment or biodiversity, and which contributes to a healthy rural economy.

The second application of sustainable is in connection with NGO programs in general. Too often, in reality, the word is interchangeable with "aid dependency." I believe that a specific project or program in a developing country can be deemed sustainable if it meets the following test: is it still operating effectively three years after the original NGO has stopped providing core funding and has ceased to oversee the day-to-day operations of the program? This applies not only to NGOs, but also to

programs that receive funding and/or oversight provided by donor governments, the United Nations, or other international institutions.

A small confession: as smug as the above sustainability test may sound, most of the past projects I have been involved in did not meet this criteria. I am in debt to Timberland, and more specifically to Jeff Swartz, for making me take a hard look at the true meaning of sustainability. His emphasis on striving for the maximum social impact with the strategic use of minimal financial resources forced me out of the comfortable NGO zone of thinking that, simply because you are doing work to better humanity, the universe should supply an unlimited amount of funding. I can hear NGOs objecting en masse, although many know that this is true. And I am the first to acknowledge that, in striving to deal with immediate needs in a country like Haiti, it is not easy to incorporate an exit strategy that ensures your project will continue and thrive without you.

The first thing I had to do was to frame our agroforestry program differently in my mind. The traditional method would have been to think about the desired impact and work back from there to figure out what it would take to achieve this specific result, translate that into a budget, raise the money, and implement the program. But I now had a chance to step back and start with a clean slate. I realized that our program would work better if we viewed it as a business model, albeit a non-profit version. Go into a given community of farmers with a model that combines growing trees and improving food crop output, train them from day one to own and operate the project, build in several diverse income streams, and then plan to walk away after three years and have it be self-financing and self-managed without direct involvement of the NGO. Thinking of the program in this way meant that it was designed to transform a group of farmers rather than simply direct them. Our goal was to create a farmer-owned agroforestry cooperative model that could be implemented anywhere in the country, with each cooperative—an economic unit defined as people jointly operating an enterprise and sharing equally in its benefits—becoming independent and self-financing after three

years. As was mentioned earlier, the participating farmers in the pilot program are now in the process of becoming their own legal cooperative, Alyans Ti Plantè-Gonaïves.

Stepping out of my NGO comfort zone, I have been actively working with Timote over the past two years to create non-profit business elements within the framework of the cooperative. We had already envisioned that participating farmers would volunteer to grow trees as payment for an agricultural service to improve food crop yields and bring them higher income. But the bigger question was how the overall program would operate without external funding. This led us to create a menu of seven options for every cooperative to utilize, depending on what the farmers feel will work in their area, itemized in the following list. Each option has been conceived as one business element that can generate income for the cooperative to allow it to cover the cost of ongoing operations once we stop providing funds after three years:

- ***Selling trees***—Each cooperative is designed to generate an average of one million trees a year. While most are for the farmers' own use, there are enough to be able to sell a portion. After two and a half years of operation, the first cooperative in Gonaïves will begin offering 100,000 trees for sale in November, 2012. Based on what we learned from this experience, the plan is to make this a permanent feature of all future operations.
- ***Seed bank surplus***—The farmers in the Gonaïves pilot have, until recently, given back the same amount of food crop seeds as they received at the start of the growing season. We have begun to experiment with increasing the return policy to 15 percent above what they received so that we begin to build up a surplus that can either be sold by the community as seed to farmers in the area who are not part of the program or, if the quality is not high enough, sold in the market as grain. Either way, the income goes to the cooperative.
- ***Marketing and sales***—Still a work in progress, the idea is to sell the farmers' output in bulk in order to fetch a decent price—saving them the task of having to sell it themselves in local markets or sell their crops to an agent at a lower price. When they sell to an agent,

that individual resells the food and pockets the difference. Eventually the farmers can start planning their crops based on advance agreements to purchase specific items. The plan, by the end of 2012, is to be marketing a good portion of the output of our farmers, with a small overhead on the sales going to the cooperative.

- ***Microfinance***—With a one-time investment of capital, combined with the cost of training two people to manage the operation, we plan to have a microfinance component in place by September, 2012. Loans of between 2,000 and 30,000 Haitian gourdes (roughly from US$50 to US$750) will be given for repayment in one to six months. Loans will be limited to groups of five or six women who form a lending circle, with the group assuming responsibility for ensuring repayment. The money will be used by the women to finance purchases for their farms, as well as equipment that will allow them to turn their crops into saleable products. We estimate that within four months from the start of operation, this microfinance service will become a modest profit generator for the cooperative.
- ***Farmer field schools***—We currently provide ongoing training for the participating farmers. But our plan is to launch a 90-day intensive training course, in segments over the course of a year that correspond to down times in the agricultural cycle. Farmers will earn a certificate and, in addition to learning basic farming techniques, they will get instruction in basic financial literacy and other life skills. Farmers already in the cooperative will pay a modest amount for the school course, but we will be approaching donors to underwrite scholarships for other farmers in the area. Our hope is to make this a permanent program element, with profits going directly to the cooperative.
- ***Tree seed gathering***—Training has begun in the art of tree seed gathering. This is not just a matter of finding trees and picking off the seeds, but of identifying "mother trees" and harvesting the seeds at a precise time. By gathering our own seeds for our tree nurseries, we are able both to save more on the seeds used for planting and to generate further income by selling the surplus.

- ***Land reclamation***—The most ambitious idea for generating income, as yet untested, is to have the cooperative paid to reclaim degraded land and turn it into productive farms using agroforestry techniques. This plan needs more work before it can be implemented. However, the farmers of Haiti would seem to represent the best resource to take on restoration of the denuded landscape. And the most likely recipe for success is to use trees to turn that land into productive farms that generate income. When trees have an immediate economic value, there is a reason for protecting them from the dual ravaging forces of charcoal gatherers and wandering livestock.

As each cooperative within the program becomes independent and self-financing after three years, they become part of a network of cooperatives with a financial link to the parent organization, drawing once again on the Timberland play book. The Smallholder Farmers Alliance will sell them tree and crop seeds, although each cooperative will always be free to find the best deal if we are not competitive. We will help the various cooperatives to work together to market their trees and food crops, leading to savings of scale. We will also cover the salaries of three agronomists for each cooperative on an ongoing basis, ensuring that there is good technical input and as a way to monitor that the cooperatives continue to function effectively and meet a strict code of conduct. In addition to full transparency and the following of democratic principles, central to that code of conduct is keeping out of politics. We are keenly aware that with the success of the program comes the temptation for it to become politicized, particularly as it is based on blocks of 2,000 well organized farmers managing each cooperative.

In 2013 we plan to have completed the basic guidelines for replicating the Smallholder Farmers Alliance model. The plan is to create as many cooperatives as we can throughout the country. But we will also be making the details available as open-source development technology. While they will need to come up with their own name and secure their own funding, anyone will be able to take the model and implement it. We will provide some technical assistance if requested, but our hope is that this agroforestry model will start popping up around the country.

Two-part harmony

The experience of working with smallholder farmers in Haiti has taken shape as a vision in two parts.

First, that an agroforestry revolution spreads throughout the country as a grassroots movement far beyond the scope of any one NGO. In the process, I think we can show the potential for smallholder farmers to go from being marginalized to leading the way in sustainable food production. We began in 2010 in Gonaïves, and will soon have more cooperatives established in other parts of the country. Hopefully, within a few years, we will have created a network of cooperatives, as other organizations begin applying the open-source technology that we will soon be making available.

The second part of the vision has to do with the "Haiti experiment": the proposal outlined in Chapter 5 for Haiti to become the site for a 10-year, country-wide research study in how to significantly improve the use of development aid. Agriculture is one vital component of this larger research, and I am suggesting that the smallholder farmers in Haiti could engage in this experiment on behalf of smallholder farmers the world over. According to census data from the UN Food and Agriculture Organization (FAO), there are around 525 million farms in the world. Together they provide a livelihood for about 40 percent of the global population. Nearly 90 percent of these are small farms, defined as having less than two hectares of land, and occupying roughly 60 percent of arable land worldwide. Humanity faces a massive global food crisis unless production rises significantly in the next decades, and smallholder farmers are central to meeting that challenge. They need to be enlisted, and their counterparts in Haiti are a great place to start.

About the Author

HUGH LOCKE was born in Canada in 1954. He began his professional career directing a nation-wide tree planting program for Katimavik, Canada's national youth service organization, and establishing a foundation and archives related to the work of forester Richard St. Barbe Baker (1889–1982). He went on to spend 20 years in the field of development, working with a wide range of governments, non-governmental organizations, corporations, and United Nations agencies on social, environmental, and economic programs which contributed to the common good. In 2005, he co-founded Yéle Haiti with musicians Wyclef Jean and Jerry Duplessis, and together they provided emergency relief, employment, education, and environmental services to the people of Haiti. Hugh stepped down as president in early 2011 to launch the Haitian-based Smallholder Farmers Alliance, of which he is co-founder and President. He currently advises and serves on the boards of a number of Haitian NGOs. He lives with his wife in New York state and commutes to Haiti.

THE HAITI EXPERIMENT is Hugh Locke's fascinating and heartwarming account of his efforts to help the people of this impoverished nation. His principal companion on this journey is hip-hop musician Wyclef Jean. Together they endure triumph, heartbreak, and ultimately trial-by-media for their labors as co-founders of the charitable organization Yéle Haiti. Locke traces the roots of Haiti's loss of economic power to key events in its history, and offers a revealing and irreverent portrait of the inner workings of global agribusiness and foreign aid. Locke had been accustomed to working with heads of state and royalty, but in Haiti, he negotiates with gangsters in the slums of Port-au-Prince, works with survivors of the tragic 2010 earthquake, and, ultimately, finds inspiration among the country's farmers for a new approach to humanitarian assistance. Locke concludes with a bold proposal to make Haiti the site of a 10-year experiment aimed at restoring, reforesting and rebuilding the country while pioneering an innovative model for helping the people of the developing world to take charge of their own destiny.

A brave, clear-eyed, and ultimately hopeful account of working in—and with—Haiti. Locke offers a striking analysis and critique of the current structure of aid to the country, and draws on the lessons he has learned to offer a charter for a new approach. Anyone who has wondered "Where has all the money gone?" should read this book, which shows us why reconstruction can only succeed if we change the way we think about what 'development' truly means "

LAURENT DUBOIS
author of Haiti: The Aftershocks of History.

Hugh Locke delivers a chronicle of Haiti from its inception to the current state of disrepair. He helps readers see a different way of helping Haiti—one that is not focused on philanthropy, but on growing the hearts and minds and capabilities of the Haitian people "

JEFF SWARTZ
former President and CEO, Timberland

Armchair experts on Haiti have generated countless pages about the country that gained notoriety with the devastating January 2010 earthquake. But Hugh Locke draws on his hands-on experience and intimate relationship with Haiti and its people to go far beyond "the-poorest-country-in-the-Western-Hemisphere" type of statistics. He presents a sensitive narrative that takes us from Haiti's origins through to the present, and points the way for it to again become "The Pearl of the Antilles", if not the richest Caribbean island nation it once was. A must read for anyone concerned with Haiti and its future. "

RAYMOND ALCIDE JOSEPH
former Haitian Ambassador to the United States

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ISBN 978-0-9882163-0-3
90000>
9 780988 216303