

Caux Dialogue on Land and Security

addressing the human connections between poverty, conflict and
environmental degradation

Caux, Switzerland, 10 – 14 July 2015

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Transcript for panel speeches delivered on 11th July 2015 at Caux Dialogue on Land and Security 2015: Practical examples of new approaches to land, natural resources management and peacebuilding, which could be scaled up.

Gabriel Lagat, George Kiiru, Niguse Hagazi, Tony Rinaudo, Michael Ben Eli.

Gabriel Lagat

GABRIEL LAGAT, Deputy Governor, Elgeyo Marakwet County, Kenya. Dr Lagat holds a PhD in Agricultural Resource Economics.

I am convinced that I am in the right place because of what I have read about Caux and what I have seen so far. Today I am going to share with you briefly about the county of ours, and I am particularly impressed I am presenting this with this background. It is a mountainous county, with a highland, it has steep slopes and a valley just like Switzerland. It is 150 km length. Over so many years the people have encroached the highlands, completely endangering the water catchment areas, degrading the forest, without regard of the coexistence or the need for the people living in the valley, just like where this hotel is placed, and the need for the people in the valley to live and coexist.

So over a long period of time, the rivers flowing from the hanging valley began to dry. And they actually dried up, because there wasn't a drop of water flowing. An entire river which served a community faced extinction. As a result of this, the hanging valley began to go into unsustainable ploughing and agriculture. This was

to the extent that they stripped the hanging valley completely bare. Eventually the people in the lower valley moved up the slopes looking for water. In the process they drove the animals up, and as they proceeded they encountered several communities, and it created conflict. And the conflict became violent, and even fatal, as people went for the resources which they were missing. The water channels which had lasted over 300 years actually dried up. This was because firstly the animals driven looking for water drove over the farrows and the tunnels, and they were driven towards the forest as they moved upwards. That created a serious conflict. It is this conflict which prompted some of us to move from academia to sit in politics and to see if our voice could influence the way things are moving, and create a sustainable peace for those living in the highlands and in the valley, so that both can develop. We developed an approach called the transect approach to government. Transect is cutting across that cliff downwards, to the valley, so the people at the bottom of the valley could engage with those higher up, and understand the need to coexist, and create a dialogue, and create relationships for their economic survival, and economic development, and living in an ecosystem which is truly sustainable.

So our approach, since we took power about three years ago, was to do a planning process, in which we got communities within a transect to all meet in a series of discussions and to discuss the county development plan. That plan, out of their own engagements, using their community established systems, sought to create an engaging economic activity, by those at the top of the mountain, particularly in the forest areas. A set of activities which guarantees that this area has access to water and economic activities which guarantees the flow of water, so those people in the valley can stay in the valley, and do what they do best in the valley; those in the valley do what they do best, and those at the top do what they do best. So the project included 5 stakeholders. It brought in government, it brought in Red Cross, it brought in World Vision, and community faith organisations. We raised the resources collectively and we began intervening, and we focused on agriculture. We promoted rehabilitation of farrows and complete reforestation of the forest. Continuously we promoted agriculture in the hanging valley, for coffee and tea. Communities saw the need and we saw acceptance. Those in the valley, we've seen restoration of the river. We've seen people in the lower valley getting water, and the streams collecting volume. We have been monitoring volumes and we are back to irrigation. This year we are harvesting a good crop along the valley and we believe that with that food security, with that continuous intervention, we can actually store and create a sustainable relationship within a transect, within every transect. So we

have picked four of them, and we are seeing coexistence we have never had, we have had peacetime. This peace, we pray God, lasts. So it is possible if you unite people through their economic relations which push coexistence that they will not have the temptation to engage in violence, and in the process they will conserve the environment for their own survival. What are our lessons? Our lessons have been the power of community engagements, the power of using community established structures and institutions. Of using the elders, using faith based leaders within the community, so that communities themselves realise that it is in their own interest to live and to create something for their generations. One of our other lessons is the power of multi-sector engagements, creating government to behave like a civil society; to do those practices that actually a civil society are doing. We were surprised by how much money the community put in to restore their farrows, to restore their irrigation systems, and to buy seeds, and go in simply with dialogue.

What are the issues which stop us from upscaling it? Another thing I want to talk about is political goodwill. It is a capital. When you have the right political goodwill to support community initiatives, the communities will focus at what it at stake; their environment and their need to coexist. Upscaling it? Yes, there are resource constraints. But that is that. The biggest driver is the demand for that development approach that the people have actually brought in. Thank you very much.

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George Kiiru

GEORGE KIIRU is a farmer, known in Kenya as “Many Trees”. Having worked in the Kenyan government Forestry Department, he retired to run his own farm, and gained his name because of his passion to promote agroforestry and the huge number he has planted.

I live in a beautiful country called Kenya 2,440 metres above the sea level, and about 90km east of Mount Kenya and near the equator. I am a retired forestry extension officer, and I have served in the government with the ministry of environment and natural resources for 30 years. Life has always been a struggle for me because of my deformed legs but this has given me understanding of what others suffer, and has made it challenging to compete with other physically able people. I was worried about the destruction of governmental forest, especially the

neighbouring forest near my home. Discriminate cutting down of trees was affecting our environment. People did not see the danger which would follow after the dense forests were destroyed. This is what made me decide to start campaigning for people to plant trees on their farms, and they nicknamed me 'Many Trees'. I started a nursery, and planted many trees on my farm, which I used to train farmers on how to plant them on their own farms, and on the benefits of agroforestry. To help them understand how this works I used my farm as a demonstration plot. I also taught them how to plant trees to repair the deep gullies caused by soil erosion on their farms. I also taught farmers, schools and community groups on how to utilise rocky parts of their farms by planting favourable and fast growing trees. I started nurseries in primary and secondary schools, where we planted in school gardens, so that they have timber and firewood for the school kitchens. Each child was given a tree to look after during their life at school. Many of these children then went home and persuaded their parents to plant trees on their farms. These and many other projects allowed people to save governmental forests and to benefit from their own trees. These also made a source of income for many families by either selling trees or tree seedlings. The changes which had come about due to forestry destruction have begun to improve and farming, which is the backbone of our country, is now changing for the better.

Although I have retired from government service, I have not retired from talking about natural resources, and I use the available opportunities to talk in churches, or within the communities, to pass my message that we should conserve mother nature. At this moment I am giving 500 tree seedlings to each of my neighbouring schools per year to keep this environmental fire burning. My vision for the future is to expand the forestry cover in my area through community initiatives such as schools and community centres. It is my vision that we will later expand to other parts of my country.

There was a question in my discussion group; what are my expectations after this conference? I would like to say that in this conference where I have met very many dignitaries I would like to have willing partners who can work with me to expand forest recover. Thank you very much.

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Niguse Hagazi

NIGUSE HAGAZI. *Consultant, researcher and trainer in the World Agroforestry Centre (ICRAF), Ethiopia. In Tigray, Northern Ethiopia, he has been part of a group that has achieved a large scale land restoration using terracing and water harvesting implemented by communities working together.*

To begin with I will focus on one region, located in the north part of Ethiopia, which we call Tigray. It has a range of altitudes. It starts at a very low level, about 500m above sea level and it goes up to some peak mountains, which are about 3900m. It was a very prone dryland area. Most of you will remember the famine in Ethiopia in 1984. This is one of the regions which was affected. We have vast expanses which are dominated by dryland. If you go to that area, most of that area is arid and semi-arid.

I want to stress the process and the implementation; how the different community based structures are being implemented over the last 20 years. People are working in very degraded land to restore in terms of soil, in terms of fertility and in terms of forests, so you can imagine how the people are committed and working to reverse back the natural resources in terms of bringing their productivity and natural base. Engagement of communities at different levels helped for active involvement during implementation.

Multiple activities have been done, in the last 15 or more years to bring the land to productive and make water and food security and mainly also to certain people in that area to work hard and to bring the water and to settle there and create strong social bond and integration. You can imagine how different activities are being used throughout the area chains of mountains areas and degraded flat lands. These are some of the activities, from farm level and up the hilly areas. There are different activities being implemented in each of these different landscapes, so you can imagine the habitations before and after. You can see the levels in terms of water productivity and in terms of food security and farm land management at watershed level and in terms of how water is being produced at farm level for irrigation and farm activities. In all cases tree management is also a good way of land management and getting food security, and as a tool and practices FMNR is being familiarising across the region in order to restore degraded lands and ensure the socioeconomic benefits and environmental services. This is a very brief summary of what has been done in terms of community based natural resource management

(soil and water conservation using different techniques, area exclosures, grazing land management, private and state reforestation and afforestation activities, etc...). You can imagine 86.5 percent of the total area of the region is now treated with either of these techniques or activities.

So, the most important thing in terms of bringing peace, preventing conflict and reducing migration, which is common to the Middle East and to Europe, is maintaining people working hard with a good leadership and guidance and address food insecurity problems and bring back the natural resources bases. The community engagement and participation at all issues is critical to empower the farming community to work on their own farmland in a sustainable way. The commitment and leadership of local leaders is also very important to work with farmers as an extension that increases the willingness of the farmers to listen and exercise. The food and water security has greatly improved. So these are the results in a small village called Abreha we Atsbeha, which was an equator prize winner in 2012 organized in Brazil, for the community led activities. I am supposed to be here with that community leader, he is a farmer, but unfortunately we didn't manage to do that.

Here are simple impacts. Let me talk in terms of creating a job, for preventing migration, and in terms of the landless farmers, particularly the youths. The government is trying to create jobs in different landscapes with different activities, like beekeeping, which is one of the most important aspects, rehabilitating the area and engaging landless in job creation in that area including area exclosures and hillsides is one of the aspects which we can see. We can see currently the land productivity and how people are engaged in different activities. The figures indicated the slides are very important here.

Also here another aspect in terms of reforestation, creating a favourable climate condition and resilient ecosystem and society, and having more products from their own landscape with different aspects of community based intervention. It is really very important that we can learn from this region. This has an implication, and a lesson even for policy makers at the highest level, which is community based activities which are now being practiced across the nation because of the expansion and the importations they have got from these other regions. These are exceptional villages and a lot can be learnt from them across the nation. Starting from the design is very important, now you can see that the whole of the natural resource management focus is conservation based. You can see some of the implications, but before I conclude the most important thing, and the main barriers in terms of

scaling up of some of the practices, is that the grazing management needs to be improved, which we are working on. The population pressure is another problem. But the most important thing is the approach, the way we approach farmers. The challenge now is like the conflict between the promotion of irrigation and the promotion of bee keeping industry when we use pesticides for irrigation which in turn affect the bees. But we are working on that. There are some limiting issues while we are promoting these best practices across the nation, but they are still very important in terms of creating a peaceful and sustainable environment and in terms of increasing resilience in a given area. Working on the ground and maintaining people, making them happy with the production and helping with their expenses. Thank you.

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Tony Rinaudo

TONY RINAULDO is a Natural Resource Management Advisor at World Vision Australia who developed the approach to low cost regeneration of degraded lands known as Farmer Managed Natural Regeneration (FMNR). This approach has been recognised with numerous awards for its impact in supporting livelihoods in communities facing the dual challenge of poverty and environmental degradation.

I wanted to embarrass my wife; it seems that we are a male dominated panel here and I was going to ask her to stand up, but she must have read my mind and she fled. Even though it is me standing up here and what I am about to share is very much a team effort. I want to give a very gender neutral presentation.

We moved to Niger as very young agricultural graduates, and the landscape which we came into deeply shocked us, after all we were supposed to be the resident experts, offering solutions to people who were really struggling. There had been massive deforestation resulting in desertification on a grand scale, and as a consequence of that much hunger and poverty, and along with that the loss of hope. I think the scripture up there would mock me, because it is effectively saying that the land can provide everything that we need for our physical bodies and for our spiritual needs as well, but the reality in front of me said quite the opposite, so I had an internal struggle. But the longer that we stayed in Niger and listened and observed and worked with nature instead of hitting it on the head each time, we

realised that in fact this was true, that the land can provide everything which we need for our physical and spiritual needs.

For about the first two and a half years of our time there we struggled to find solutions, and seeing that deforestation was a big part of the problem, we took the typical route to addressing that issue through tree nurseries and planting out, and it was a hopeless failure under those conditions as most of the trees died. After about two and a half years of this I was ready to give up and go home. It seemed to be a hopeless waste of time and effort. But sometimes we have to come to the end of our self and just stop struggling, before we can really hear God's voice, and what He is saying and what is in the landscape as possible solutions. For me personally the solution really did come as an answer to prayer when I realised that the solution was literally under our feet, and in that seemingly barren landscape there is a vast, underground forest, of many tree stumps, of roots which could sprout and regrow into trees, of seeds in the soil layers, just waiting for a chance to grow back into trees. I wonder how often the despised things, the overlooked things, the things which seem insignificant, may hold the very key to bringing a solution to the problems which we are trying to solve. I call it the underground forest because when you cut a tree down, for most tree species, especially in Africa, it is not the end of the story, and almost 50% of the tree is still there but underground. You have this massive root system with access to deep water, to nutrients, with so much energy in the root itself, waiting to get out, but we keep hitting it on the head with slashing, continuous grazing, burning, ploughing, fuel collection. This massive root system is like an idling V8 engine; the engine is on, it is running and wanting to get back up there but we keep hitting it on the head. And this FMNR which I will describe in a minute, is simply putting that V8 engine into gear, and allowing the trees to do what trees do best; grow.

It is not a new system, it is not an invention. It is actually quite common in many continents around the world going back centuries, and in technical terms we are managing that regrowth, we are reducing the competition between multiple stems by pruning and thinning. The results were just spectacular. Within three years, farmers who took this seriously converted apparently barren landscapes like this, where if you look very closely you can see tree stumps under the ground, land like this, without nurseries, without transporting trees, without fencing, at minimum cost and minimal effort transformed into productive landscapes like this. And it had an impact on food security because you improve the microclimate and the soil fertility, and the pest predator starts to change. And since FMNR in the last 30 years spread to around 5 million hectares in Niger, cumulatively it is estimated that

some 500,000 tonnes of additional grain are grown each year, not because of subsidies or technical inputs, but simply because people have begun to restore the environment. I should add that on the UN development index, Niger is 187th poorest country out of 187, and yet they're getting results like this. The estimated increase in family or household income is between 200 dollars up to 1000 dollars per household in this very, very poor country. It has gone upscale, between the 1970s, when we had so much news of the severe droughts and famines, between then and now, average tree density has increased from around 4 trees per hectare to around 45, with some farmers having 100, or even 150 trees per hectare, still growing crops, still raising a livestock, but in addition treating the trees themselves not as weeds, which was their perception before, but as assets, cash crops in their own right, and this time managing them sustainably.

Since joining World Vision in 1999 I have had the opportunity to promote this in many different regions. To my surprise, in more humid areas, I found there were many green deserts, and the reaction of the land to clearing and burning is this profusion of thorn bush encroachment, which is useless to livestock and wildlife alike, and totally unproductive. Simply by pruning and thinning that landscape, we have also seen great gains in productivity. With this example from Kenya, the same four cows, have seen a 500% increase in milk production. And in Uganda similar situation, increased livestock carrying capacity by 450%, without degrading the land. The land has such incredible potential for generation and productivity if we work with nature instead of against it. Once you start to restore the environment you have foundation stones for an economy. It could be something quite simple to begin with just fuel wood sales, but as people invest more in their agriculture and take more opportunities such as the honey which Neguse mentioned, and tourism etc., there is potential to increase profitability. Water tables, springs and rivers are drying up all over Africa. What we have seen as people have done this at scale is that water tables are rising, springs are starting to flow again and even streams. Conflicts reduced. There are so many beautiful stories, now that here is more fodder, there is no reason why people should push their livestock onto people's fields. In this case in Ghana, people are working with each other to restore environment because it is in their mutual best interests. There is a very, very moving story about Rwanda. During the genocide Emmanuel was forced to go into the swamp to go into the swamp and kill some people there. In the process of killing Alice's first child he cut off her hand. In the terror, she didn't realise that it was her own neighbour. Decades later they are together in the same working group on FMNR, and Emmanuel is feeling terrible and every morning he couldn't look her

in the face. Finally he came to confess and ask forgiveness, but what they told me was working together on environmental restoration has given them a forum to discuss what happened in the past, and to resolve never to let that happen again. Emmanuel goes to Alice's place and waters her trees which he planted; she comes to his place and prunes his FMNR trees.

Beyond the physical impacts, what I am seeing is a transformation in people, and this increase in dignity and self-respect and hope for the future, in community after community, people feel like hopeless victims of climate change and poverty. They don't know which way to turn. And through this simple, low cost accessible process of environmental restoration, it also restores their hope and their willingness and eagerness to stay home and to fight the forces which they feel are against them.

Finally Luc asked me to say what have been the constraints to scale up. I would say at this point, a lack of awareness; most decision makers, donors and even farmers don't know about FMNR. I would say there is an element of disbelief, because there is an element of belief around the world that such complex, long standing and intractable problems such as land degradation and conflict, must require equally complex, expensive and long term responses. So this FMNR is a bit of a slap in the face if you hold that world view. What are we doing about spreading the news? There are many champions in this room. Chris Reij through the World Resources Institute talks to many donors and governors and policy makers, sharing the sheer scale of the impact of these techniques. From World Vision's end we have created a website; FMNR website, putting information up there regularly. UNCCD through the Land for life award is raising awareness for FMNR. World Vision has projects in over 20 countries now, and including Niger, perhaps more than 10 million people are benefiting from FMNR. From time to time we hold international conferences in collaboration with other organisations such as the World Agroforestry Centre and UNCCD and World Resources Institute. The last one that we held in Malawi this year attracted 560 people from 28 countries. So the news is getting out there. Then media people like Sylvia bringing film makers and journalists out to spread the story, and we're hoping that a film will be available in time for the Paris Climate Change Convention, speaking about some of the work in Ethiopia. Thank you.

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Michael Ben-Eli

MICHAEL BEN ELI, Founder of The Sustainability Laboratory. Dr. Ben Eli graduated from the Architectural Association in London and later received a Ph.D. from the Institute of Cybernetics at Brunel University. Prior to founding The Sustainability Laboratory, he worked as an international management consultant, pioneering applications of Systems Thinking and Cybernetics in management and organization.

Dryland Ecosystem Restoration at Project Wadi Attir

The Sustainability Laboratory is a not-for-profit research, development and education organization, established in order to develop and showcase innovative approaches to sustainability practices. The Lab is being developed as a global network of activity centres, aimed at addressing critical sustainability issues. The network will consist of advanced research and development centres mapped onto specific eco-zones: desert ecology, tropical ecology, alpine ecology, island ecology, urban ecology, and the like. I will be sharing with you one particular project, Project Wadi Attir, founded with the Bedouin community in Israel's northern Negev Desert. This ground breaking initiative, demonstrates application of The Lab's sustainability principles in developing a community-based model for sustainable agriculture in an arid zone. It is designed to leverage Bedouin traditional values, aspirations, know-how, and experience with modern-day science and cutting edge green technologies. It has been developed as a source of employment and entrepreneurial activity as well as a centre for eco-tourism, technical training and education.

The project is based on a 100-acre site, an image of which you will see in a moment. The site, houses an experimental farm basically, where we are developing a number of productive functions like, for example, a mixed herd of goats and sheep for the production of high-end dairy products, again based on the Bedouin tradition of herding and dairy production. There is also a very interesting women-led project for cultivating authentic desert vegetables like cucumbers and tomatoes, grown from heirloom seeds that have fallen out of use, but which have been kept by members of the community and are desert hardy: growing with very little water in high salinity and boasting high nutritional content. We launched a program whereby women are training other women to use those seeds to create gardens and return it these vegetables to household use. There is also an important function dedicated to cultivating, domesticating and growing medicinal plants that Bedouin healers have been using for hundreds of years, and creating a whole range of health products

from them. Finally, the project includes an extensive effort developing a Visitor, Training and Education Centre, which serves as a focal point for ecotourism, a technical training centre for surrounding villages, as well as a regional education centre where high school kids from the south—not just Bedouins but everyone—will come to do their ecological and environmental studies.

In the time I have, I can only give you an impressionistic view of the “before and after” of this site. This is the site, a hundred acres. You can see this moonscape kind of thing. That was the typical condition on the site before: very high erosion, very low fertility, very low vegetation cover, just about nothing there. You may have found a scorpion there, and occasionally a raven if there was a dead animal on the site. One of the problems in this area is that the soil is such that when it rains the top hardens like concrete and the water doesn’t seep into the ground, but creates this pattern of erosion that feeds into ever larger ravines, so water never stays on the site. That is why there is this phenomenon in that area that when it rains in one place, you get huge floods some 20 or 30 miles away. So we wanted to do a number of things here: stop the erosion, increase the fertility of the soil, enhance and enrich the biodiversity, stop the runoff, things of that nature. We have been doing this by planting some 4,000 trees, which we grew in greenhouses for five years and then transferred to the site. We also created a system of low impact, low earth mounds onsite to stop the runoff, and we planted trees within these areas. One of the things that happened right away was that even with only a little rain, about 200mm per year, for the first time ever, water actually stayed on the site. Large pools of water were created, and the reaction of the vegetation was amazing. Everything exploded within a few months. The fruit trees flourished, and the whole flora on the ground level completely changed. We have grass there now which is 2 meters high. We planted around 32 different species of trees that were designed to work in synergy with each other, complement each other and so forth, and you can see the rich, different shrubbery that began to develop: shrubs in the rocky areas and some of the ravines, a whole different kind of flower cover that began to emerge there.

This is the Indigenous Vegetable Initiative, where we are using permaculture techniques to grow those vegetables that I mentioned before. Some of the Bedouin families still keep old seeds which nobody uses anymore. We are collecting them and creating a seed bank, then creating kitchen gardens and returning those vegetables to household use. Although it is a small part of the project as a whole, this is important because nutrition in the Bedouin community has become a major issue. Like many other indigenous groups that moved onto a Western diet, within

one generation all the typical diseases of the modern world—obesity, high blood sugar levels, coronary issues and some forms of cancers—emerged there, most seem to be related to the change in nutrition. People basically eat junk food and drink Coca Cola and so on.

This is the Medicinal Plant area, where we are planting about 20 acres of medicinal plants. These are wild plants and in the last four years, we experimented with methods of domesticating them before they were planted on the site itself, in order to be able to grow them in large quantities under-irrigation, and without losing the potency of many of those herbs. They are doing very well. Here is the field, and we have had the first harvest. Now we are beginning to develop the health related products, which I mentioned before. We already have the animals on site for the dairy initiatives, and they are also doing very well.

I wanted to end by saying a few words about the biodiversity on the site. One of the expressed goals of this part of the project, the Dryland Ecosystem Restoration Initiative, was to enhance and enrich the biodiversity of the site. I personally thought that was something which would take five or ten years to manifest, but here everything Tony spoke about came into being astonishingly quickly: let nature do it by itself, with all its self-mutually-reinforcing cycles and it will do it much quicker than you can imagine. This is a bird that fishes, which would never have been found here before. They came here to try and catch tadpoles which began to grow in the pond. And once the flowers start to grow, practically in no time at all, all these little cross-pollinating bugs begin to appear to do their work, and then of course they are followed by birds. We had some conversations with Israeli bird NGOs some years ago about helping us by introducing owls to that area in order to control the rodent population. We didn't need to bring those owls; they found their way by themselves in no time at all. All those different species of birds were never seen in this area before and now they are here and doing quite nicely. Following the birds other animal appeared, like this rabbit and then some predators, like this fox followed.

The work I have been describing is only one dimension of Project Wadi Attir as a whole. To support the operation we are developing to integrate infrastructure of green technologies including a combined solar and wind system—the first in the world—which will provide energy for the electric and thermal needs of the site. Additional elements include treatment of waste water and organic waste and biogas and compost production. When we started with the project, we were told that this

was a fantasy; this is why this picture of this duck swimming in one of the ponds epitomises the project to me. If you remember the first slide of the site before our work, a duck in that area is an impossible concept, and they even appeared again this year after the rains. This project has been going on now for 8 years, and actual implementation started two years ago. There have been results on two fronts: First is the dryland ecosystem restoration, but the other—which is something alluded to by Tony as well—is the impact on the community and the people who are involved, and who have grown very much like those trees, and like those flowers, and like all the life coming back to that place. Thank you.

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More information about the Caux Dialogue on Land and Security 2015 is available at www.landlivespeace.org.

