

10 THINGS WE LEARNT IN SAO PAULO

Innovation. Technology. Intensification. What does the future hold? And how can we ensure developments in plantations are sustainable and accessible to all?

More than 100 participants came to Sao Paulo for the NGP 2016 Encounter to discuss these questions and many more.

Here are 10 of the things we learnt...



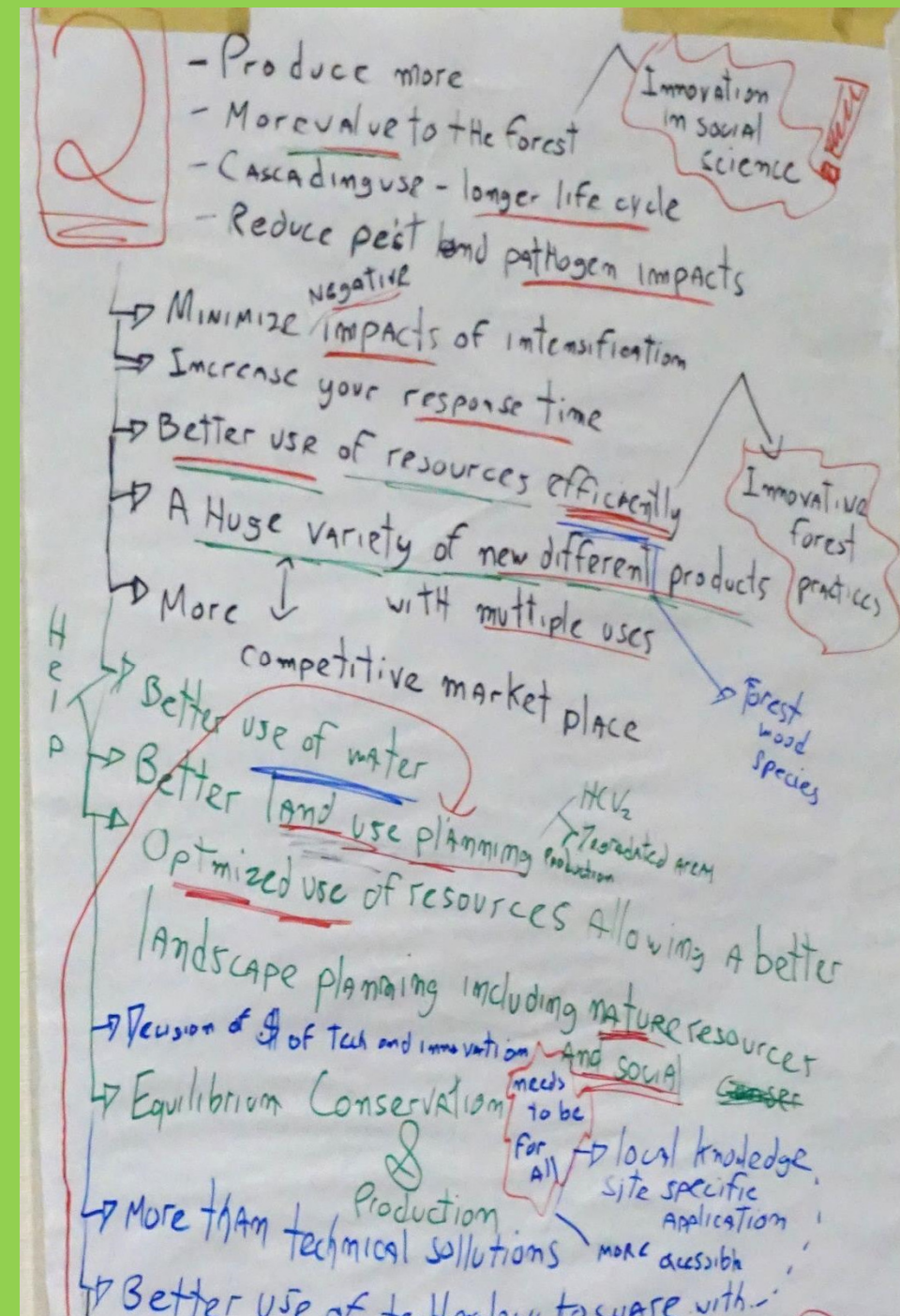
www.newgenerationplantations.org

1. TECHNOLOGY AND PRECISION FORESTRY HAVE REDUCED THE AMOUNT OF LAND NEEDED FOR PLANTATIONS

The area of land required to produce a million tonnes of pulp in Brazil has halved in the last 30 years, from around 160,000 hectares in the early 1980s to 80,000 hectares today. That means that, while demand for pulp has increased rapidly, the expansion in production has significantly outpaced the expansion in plantation area. Without these advancements, NGP's Brazilian participants Fibria and Suzano would each need around an extra million hectares of plantations to produce the same amount of pulp. And if that pulp was being produced from boreal forests in Canada or Scandinavia, where trees grow so much slower, 10 times as much land would be needed to produce the same volume of finished product.

The length of rotation in the Brazilian sector is now as short as eight years, and trees are replanted very quickly after harvesting – which also helps to minimize herbicide use as the young trees grow quickly before any weeds can become established. Any nutrients in the branches and leaves of the harvested trees are taken up by the young trees rather than leaching into the soil. Finally, fast replanting minimizes the time the soil is bare and unprotected and so reduces the risk of erosion from wind and rain. Precision forestry also includes the use of GPS – this means that sensitive areas such as wetlands or rare habitats can be accurately mapped and monitored, and their location shared with machine operators to reduce the risk of damage.

As well as these innovations in plantation management, processing in the mill itself has become much more efficient. And tree breeding – discussed in our recent blog – has also produced trees that grow taller and straighter and that thrive in the local conditions. Sustainable intensification has been a reality in Brazil over the last generation. The big question is, how much further can it go?

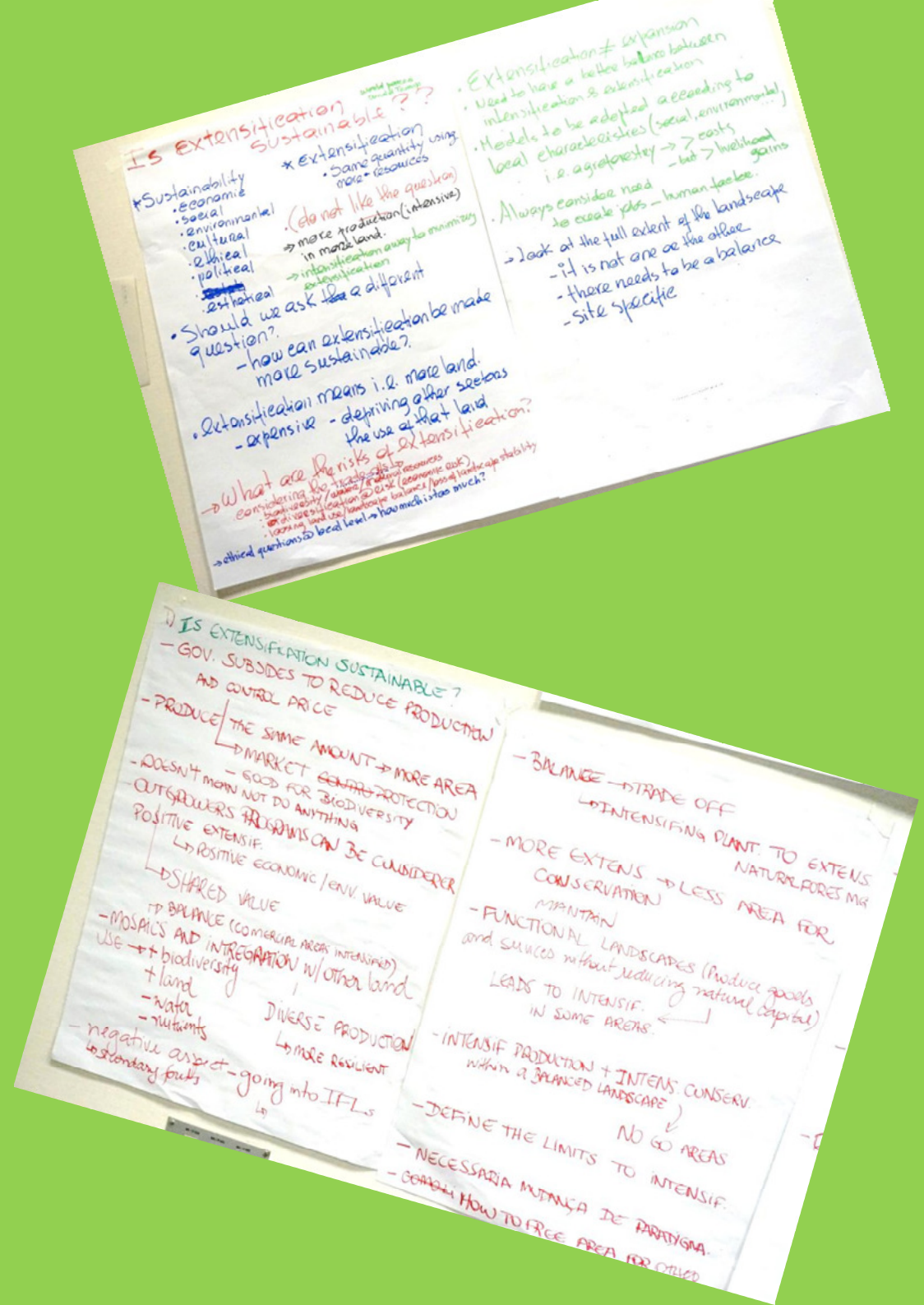


2. EXTENSIFICATION MAY BE THE UNSUSTAINABLE OPTION

To some, "sustainable intensification" – the theme of this conference – is an oxymoron. So it's worth turning the question round, and asking whether the opposite approach – producing fibre and other goods in a low-intensity way – could be more or less sustainable.

One interesting example is the boreal forest, and the contrasting cases of Russia and Finland. Russia has 50 times more forest than Finland, but produces only about three times as much timber (200 million m³ per year, compared to 65 million m³ per year). According to Alexander Kostenko of WWF-Russia, the extensive forestry model in Russia has led to massive forest degradation, which in turn has put increasing pressure on remaining intact forest landscapes. The recently established Boreal Forest Platform aims to reverse this by enabling more efficient and productive use of secondary forests. In this context, intensification of production in these areas looks like the more sustainable option – though the same might not be true in the already intensively managed forests of Finland.

Context is important. In Europe, environmentalists and animal welfare activists might object to more intensive livestock farming – but in Brazil, extensive cattle ranching means one or two cattle per hectare, often on degraded land. More intensively managed grazing can be good for the soil, while enabling more land to be restored to forest or used for growing timber.



3. WE NEED TO TALK ABOUT BIOTECHNOLOGY

Conventional tree breeding in Brazil has resulted in high-performing eucalyptus clones that produce more fibre on the land available, and that are more resilient to pests and climatic stressors like drought. But there's a strong feeling within the industry that more could be achieved by using biotechnology tools, including genetic modification.

Trials are taking place all over the world, but it's in Brazil that GM tree plantations are closest to becoming a commercial reality. Suzano has been running trials since 2006 on a modified tree which has a 20% higher yield than conventional trees, with no other discernible differences.

Walter Schalka, CEO of Suzano, admits that when he joined the company, "GM freaked me out. I came from the environmental movement, and it was not what I believed in." But, having found out about the science, he now believes the environmental impacts are only positive – using less land and less water, gaining more biomass and carbon sequestration, adapting to a changing climate. "My feeling is we can't avoid it," he says.

Stanley Hirsch, from Suzano's biotech subsidiary FuturaGene, makes the same point. Meeting the demands of a growing global population, while sparing natural ecosystems and coping with the impacts of climate change, will only be possible if we use all the tools available to us, he argues. And those tools should be made available to all, so small growers can benefit from the technology that big companies have developed.

Nevertheless, biotech remains controversial – some in the room are sceptical, and many outside it virulently opposed. Suzano and Fibria, which is also running biotech trials, are taking an open approach to developing the technology. Both companies have proactively engaged with various stakeholders, inviting environmental organisations and certification bodies to see what they're doing. "Tell us what we're doing wrong and we'll reverse it," is the message from Walter – and so far, the organisations haven't highlighted any issues.

"My view is that it's unavoidable," Walter concludes. "Let's not postpone it, but let's work together and get it right."



4. PEOPLE ARE DISENGAGED. WE NEED TO MOTIVATE THEM.

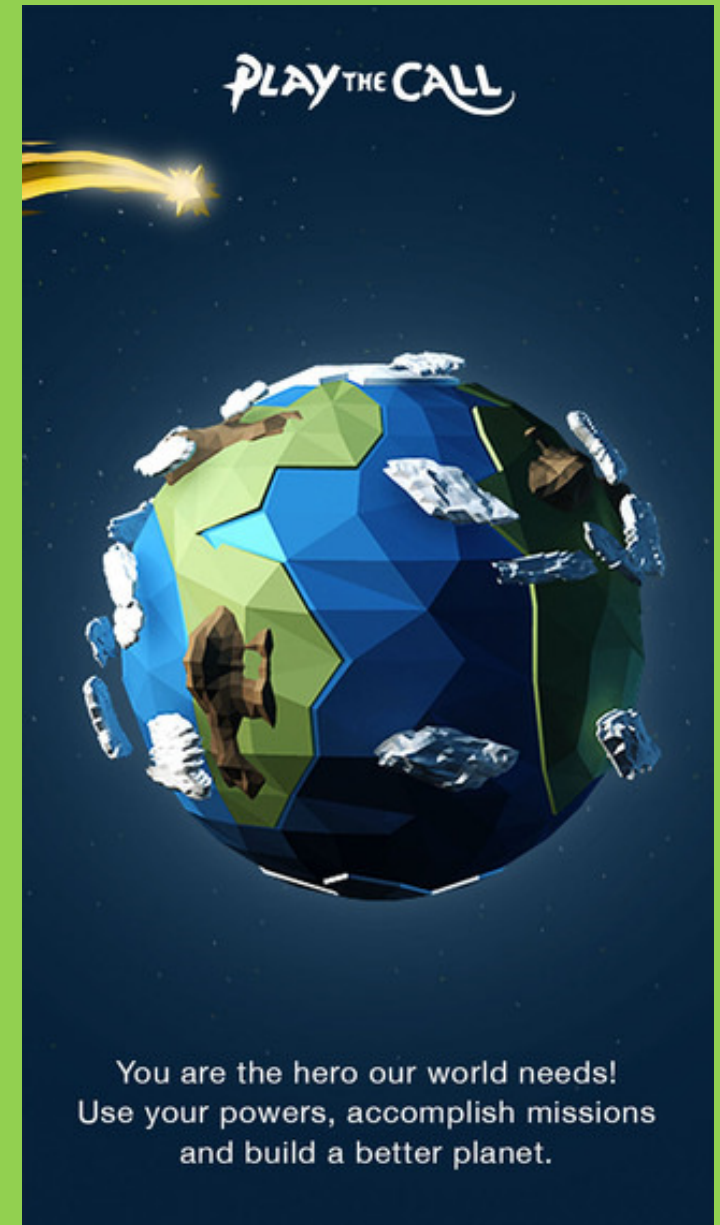
Renato Guimaraes of Greenpeace Brazil talked about how he mobilizes people on a range of environmental issues. Renato stressed that NGOs and companies tend to spend a lot of time engaging the 10% of people who are already interested in an issue or topic – and even more time arguing with the 10% who always tend to disagree. However, 80% of the population is apathetic and disengaged on the majority of topics. These are the ones we need to engage.

A key way to do this is through storytelling and connecting issues with people's everyday lives. Most consumers use products originating from plantations every day – but how many take any interest? What could we do to reach them?

Perhaps there are lessons we could learn from activist and urban architect Edgard Gouveia Junior, who gave a lively and inspiring talk. Edgard believes that building a better world should be “fun, fast and free”. In 2012 he organized an online game that mobilized people to bring back the joy of life to communities hit by flooding in Santa Catarina, Brazil. The game generated huge interest, and within a couple of weeks people from across the country and beyond had formed 64 teams of volunteers, who went on to build 45 playgrounds and other constructions in flood-hit communities. Importantly, the focus was on the community's dreams and aspirations – not just meeting their basic needs.

Edgard is now working on a global game, PlayTheCall, which aims to inspire similar fun, fast and free world-changing ideas. His modest aim is to reach 2 billion people...

Not free or fast, but fun and inspirational: WWF-Brazil is working to create a 2,000km coastal path connecting 66 protected areas along Brazil's Atlantic coast. The path will help recover biodiversity corridors and reconnect people with nature and the Atlantic Rainforest. Plantations companies have been actively restoring and reconnecting rainforest in the region, so there's definitely a role for them to play in this visionary project.



You are the hero our world needs!
Use your powers, accomplish missions
and build a better planet.

5. TIME TO MOVE FROM ACKNOWLEDGING THE PROBLEM TO SEEING THE OPPORTUNITY

Creating shared value is a business strategy that recognises that companies can become more profitable by solving social and environmental problems. First articulated in an article in the *Harvard Business Review*, it's a concept that's been gaining traction within the NGP platform over the last couple of years. And it's becoming an increasingly important idea on the global stage: last year, *Fortune* magazine argued that "The companies that perform best over time build a social purpose into their operations that is as important as their economic purpose."

We're lucky to be joined by Dane Smith from consulting firm FSG, one of the leading experts on the topic. Dane and FSG have advised some of world's leading businesses, including NGP participants Arauco and Stora Enso, on developing a shared value strategy. Arauco, for example, is working with NGOs to support small wood producers around its newest mill: this will provide much-needed income to people in a poor, rural area, but will also help secure Arauco's supply of raw materials and mitigate the risk of reduced production at the mill. Meanwhile in China, Stora Enso has been supporting the development of small businesses – creating rural employment and opportunities, but also fulfilling its own need for reliable local contractors.

Dane talks about the journey companies have taken toward shared value:

1. "It's not a problem" – the company ignores the problem and minimizes its own responsibility. It considers traditional philanthropy to be enough.
2. "It is a problem" – the company acknowledges the problem. It may respond with a PR offensive, perhaps increasing philanthropy and engaging with stakeholders.
3. "Let's fix the problem" – the company puts money and other assets into fixing the problem, and reports transparently on the results. This is the stage reached by most credible CSR and sustainability programmes.
4. "It's an opportunity" – the company builds social and environmental issues into its corporate strategy. This enables it to create shared value through reduced costs, increased revenue or enhanced competitiveness.

While traditional CSR and sustainability activities can be seen as a cost – albeit one that may be essential for the company's social licence to operate and long-term viability – creating shared value is an investment. This creates an incentive for businesses to innovate and scale up solutions.



6. THE PROBLEMS AREN'T NEW – BUT YOU ARE!

There are challenging times ahead, says Milagre Nuvunga from Micaia. Populations and the need for resources are growing, but productive land is scarce. Land, resources and production systems generally aren't well managed, leading to degradation. Economies are growing fast in Africa and other developing regions, but so is inequality. Climate change is having increasing impacts. Land conflicts and social unrest are inevitable.

“Nothing new then?” asks Milagre. Well, the problems may not be new. But, she says, “You are new.” The kinds of engagement and cooperation we're seeing in NGP and initiatives like The Forests Dialogue or Milagre's own Micaia company didn't exist 10 years ago. Collaboration between companies, environmental and social NGOs, communities, academia and government is creating innovations and new solutions.

Nevertheless, Milagre believes companies can do more to support social transformation and local prosperity. At the moment, there's still an “us and them” mentality. Her message: don't wait for the revolution! Lead the way.



7. COMPANIES ARE PUTTING NGP PRINCIPLES INTO PRACTICE

The principles of maintaining ecosystem integrity, protecting high conservation values, involving stakeholders and contributing to economic development were agreed in the early days of the NGP platform, but remain as relevant as ever. They provide a useful framework and a common language for companies to communicate how they are making plantations work for people and nature.

We saw several presentations showing explicitly how companies are putting the NGP principles into action, in a wide range of contexts. A few examples include:

- **Ecosystem integrity:** Fibria's research shows that water availability can be maintained by varying the age of trees within a plantation unit (because trees use most water in the first couple of years).
- **High conservation values:** UPM manages 60,000 hectares of natural grasslands in Uruguay – half of all the species in the country are found in these areas.
- **Stakeholder involvement:** Arauco has been working with nomadic indigenous peoples in Argentina to identify the forest resources they use.
- **Economic growth:** China Green Carbon Foundation's climate-focused afforestation projects improve the income and capacity of small farmers.

The next challenge is to get these principles adopted more widely – both within the plantation sector and by other land users.



8. DIALOGUES AND COALITIONS ARE THE WAY FORWARD

Conflict is the enemy of progress. And talking is the best way to overcome conflict.

Over the last decade, the plantation sector has got better at talking to others. This is happening at global, national and local levels, involving both multilateral dialogues and direct relationships between companies and communities.

In Chile, CMPC has transformed the way it relates to the 150,080 people, including 1,000 community organisations and 358 indigenous communities, who live alongside its plantations. Eduardo Hernandez admits that the relationship used to be “one-way” and based on the company’s own vision. Now, there’s much more dialogue, the company has developed long-term relationships, and plans are inclusive and involve entire communities.

The Forests Dialogue was set up in 2000 as a forum for discussing contentious issues around forests, in order to build trust and collaborative solutions. The success of the global programme has spawned national and regional dialogues in several countries. And now the scope is being broadened to set up “land-use dialogues” in a number of high-risk regions, including Mozambique, Brazil, Tanzania, Chile and Indonesia. The dialogues will bring together stakeholders from different sectors to reconcile competing interests, identify policy options and development opportunities, and attempt to put large-scale landscape approaches into practice.

Dialogues are often a response to conflict, but the trust and cooperation they build can lead to new, positive developments. It’s unlikely that the Brazilian Coalition for Climate, Forestry and Agriculture would have come about without the earlier forest dialogues in Brazil and the sometimes heated debates around the country’s Forest Code. As it was, more than 50 forestry and agriculture businesses and civil society organizations came together to find common ground on low-carbon development, and develop 17 proposals for ambitious action on climate change and sustainable land use which Brazil took to the Paris climate talks.

As the African proverb often quoted at NGP meetings has it: “If you want to travel fast, travel alone. If you want to travel far, travel together.”



9. RESTORATION IS EASIER WHEN NATURE LENDS A HAND

At last year's climate change conference in Paris, numerous countries committed to restore forests on an unprecedented scale, with Brazil taking a strong lead with a pledge to restore 12 million hectares by 2030. Meeting these commitments would bring massive benefits to people, nature and the climate – but will be a massive challenge.

NGP participants have been involved in restoring thousands of hectares of Brazil's Atlantic Rainforest (Mata Atlantica) – and we have a chance to see the results on Saturday's field trip to Parque das Neblinas. The 6,100 hectare reserve is managed by the Ecofutura Institute, a non-profit organization funded by Suzano. The forest here was cleared for charcoal back in the 1950s and subsequently planted with eucalyptus, but now dense rainforest has reclaimed the land.

In some severely degraded areas, restoration requires a lot of active intervention and specialist replanting. But it's most effective – and a lot cheaper – when nature is able to take its course. While eucalyptus monocrops certainly aren't tropical forests, the plantations have helped maintain shade and humidity that have helped to preserve of the natural vegetation.

We visit one valley where the eucalyptus trees were cleared from a 5.74 hectare area in 2011. Already, natural regeneration has taken off, with more than 100 tree species recorded. In other places, the tall, straight eucalypts have been left in place, but rich rainforest has grown up around them. Some of the eucalypts have been killed with herbicide, but the dead trees have been left standing, providing deadwood habitat for insects and perches for birds – which in turn help with seed dispersal and further regeneration.

The regeneration has also been assisted by scattering some 5.5 million juçara palm seeds. Juçara is a key Atlantic Rainforest species, prized for its palm hearts and fruits, but had been severely overexploited. Now it's well re-established within the park, and is being sustainably harvested by local people. The fruits provide important food for the local fauna in winter, and this in turn aids further regeneration.

Parque das Neblinas provides a great example of successful forest regeneration in a relatively short space of time. The challenge over the coming decades? The small matter of scaling up restoration from a few hundred hectares to tens and hundreds of millions...



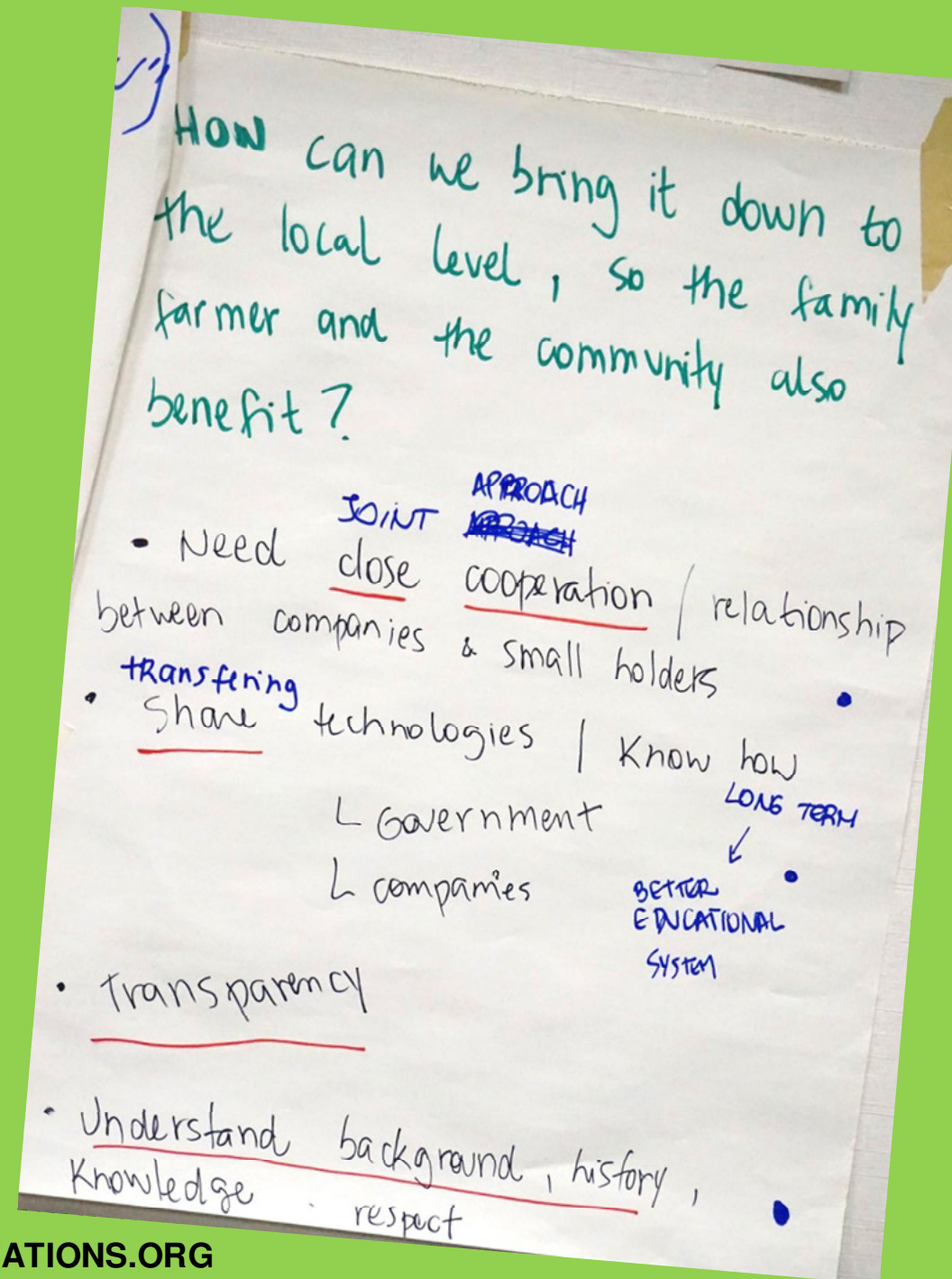
10. MAYBE FOREST COMPANIES DON'T HAVE TO OWN FORESTS

Traditional economic models tend to be based on scarcity. A few people have something that a lot of people want. By controlling a lot of the supply of a product into a particular market, then it's possible to influence that market. In forestry, the main resources are land and/or forest products, with many companies vertically integrated, owning forest land and production facilities.

Abundance works differently – think how the price and power of microprocessors has changed in the last 20 years. Or think about the shift to a sharing economy and the rise of Uber and Airbnb: they are now the largest companies in their respective sectors, but don't own a single taxi or hotel room between them.

Is there potential for a similar business shift in the forest products sector? There are significant variations in the forest product supply model – in Finland, companies such as UPM have 30,000 suppliers of forest products from a huge network of small, family-owned forests. Many plantation companies own or lease long-term the land which provides the majority of their wood supply. Increasingly, though, companies use “outgrowers” to supply 20-30% of their requirements. The nature of outgrower arrangements varies considerably, from a full management service to simply purchasing material delivered to the mill.

Could there be a third way, to work with small growers on a huge scale, or for communities to aggregate land and production and the company to supply the knowledge, machinery and expertise in a shared value model? In many developing countries the ownership of and access to land is often complex and unclear; this in turn can lead to inequality and accusations of “land-grabbing” by companies. Could an investment model based on sharing of land rather than its acquisition lead to a more inclusive and equitable outcome?



JOIN THE CONVERSATION AT WWW.NEWGENERATIONPLANTATIONS.ORG

#NGP2016