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REPORT

UK

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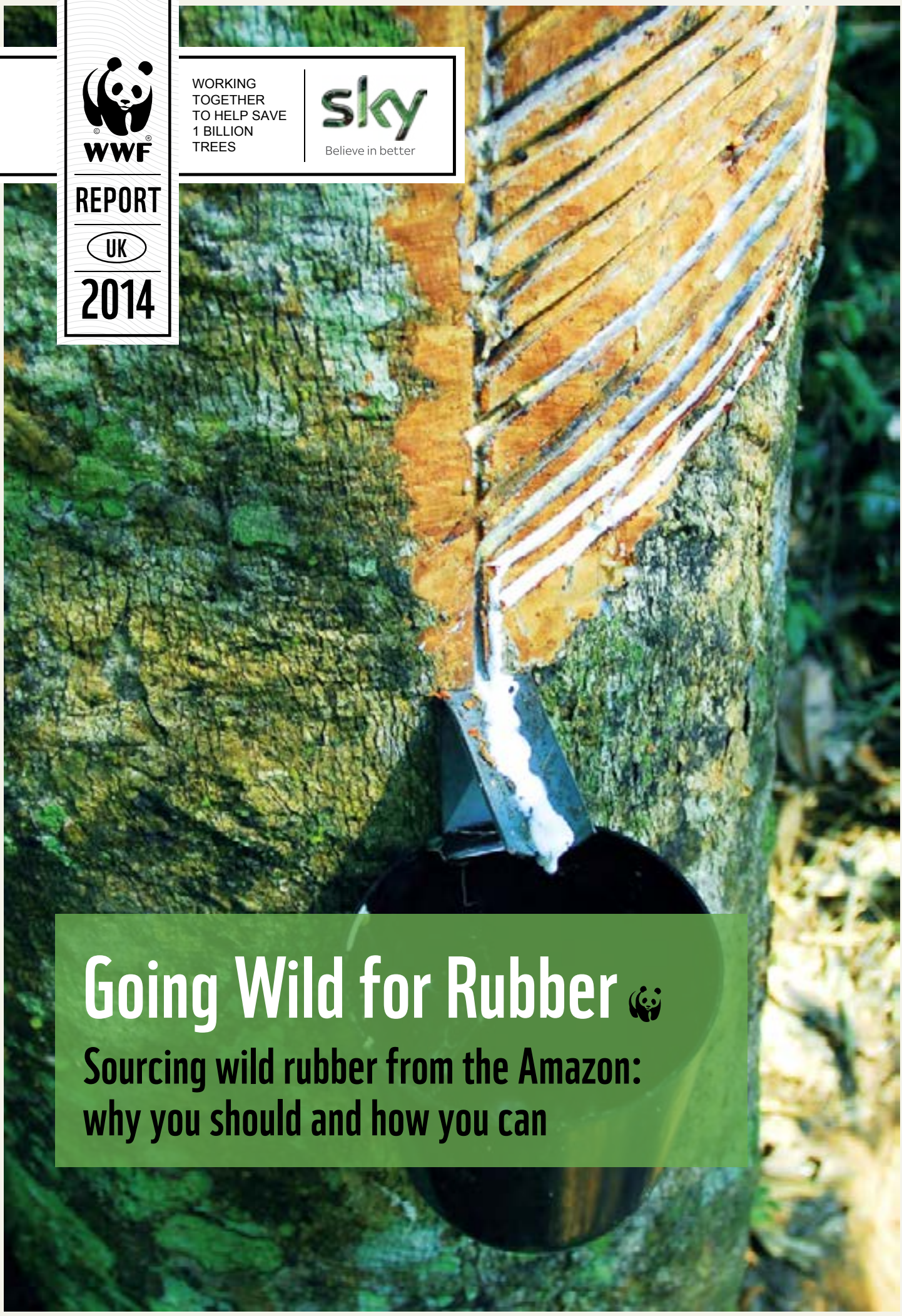

Going Wild for Rubber

Sourcing wild rubber from the Amazon: why you should and how you can

About WWF-UK

WWF is at the heart of global efforts to address the world's most important environmental challenges. We work with communities, businesses and governments to help people and nature thrive. As well as safeguarding the natural world, we promote sustainable production and use of resources.

The aim of this brochure is to provide manufacturers and retailers with an interest in natural rubber with a go-to guide about wild Amazonian rubber, with case studies and a directory of useful contacts.

It's been supported by the Sky Rainforest Rescue campaign, a partnership between Sky and WWF to help save a billion trees in the Amazon. The campaign is helping create better market conditions for rubber tappers in the Brazilian state of Acre.

wwf.org.uk
rainforestrescue.sky.com

CONTENTS

WILD RUBBER

Buying wild rubber can help protect the world's largest rainforest and transform the lives of communities.

"As long as the latex harvested from the Amazon is kept free of contaminants, it is the best rubber in the world. It has superior elasticity and mechanical properties to plantation rubber for the production of many items"

Floriano Pastore, Coordinator, Laboratory of Chemical Technology (LATEQ), University of Brasilia

Rubber comes from the latex of the rubber tree (*Hevea brasiliensis*), native to the Amazon. Today, synthetic rubber derived from petroleum makes up over half of the total rubber market. Natural rubber is valued for its higher elasticity, density and toughness – but the vast majority comes from commercial rubber plantations, mainly in Asia. The Amazon is the only place in the world where rubber tappers still collect latex from wild rubber trees, without harming them.

They make their living from the rainforest, and through doing so they're actively helping to protect it. And by buying wild rubber, you and your customers can too.

Every minute, an area of Amazon rainforest the size of three football pitches is destroyed. All too often, the economic incentives to keep forest standing are not there – better incomes can be made from deforesting. Tapping wild rubber is one way to make an income from the rainforest – but numbers of rubber tappers have dwindled as they struggle to make a living. Traditionally tappers have produced low value rubber that needs to be processed before being used in industry, mostly for the production of tyres. If these forest guardians are to continue their trade and pass it on to the next generation, they need a better market for wild rubber. Technologies are being developed that allow high quality wild rubber to be processed within the forest, adding value to the product at source – and strengthening the economic case for conserving the forest.

Rainforest conservation

Rubber tappers live in some of the remotest parts of the Amazon, where the native forest is still largely intact. These areas are rich in biodiversity, home to thousands of species including rare and threatened wildlife. The rainforest provides vital natural services, like storing carbon and regulating rainfall. More than 300 indigenous ethnic groups live in the Amazon, each with its own culture and knowledge of the rainforest, and other populations who traditionally depend on its natural resources. Buying sustainable wild rubber helps to conserve the Amazon rainforest and its extraordinarily rich natural and cultural heritage.

Poverty alleviation and community development

Rubber tapper families are among the Amazon's poor and marginalised populations – many have limited access to clean water and sanitation, electricity, schools and health services, with low incomes and reliance on subsistence agriculture. Producing higher value processed rubber – as outlined in this brochure – significantly increases families' incomes, and has helped people learn new technical and business skills. Organising into associations and cooperatives has also strengthened the position of rubber tappers to sell their product commercially.

While tapping rubber trees is almost exclusively a male activity, new processing technologies and producing rubber handicrafts present income opportunities for women too. There are other community benefits: for example, rainwater collection tanks that are needed for rubber processing can also provide a supply of clean drinking water for families.

A POTTED HISTORY OF WILD RUBBER

The Amazon rubber story is one of boom and bust, of exploitation, of courage... and of hope

Indigenous people in South and Central America were making things from latex-producing trees for centuries before the first Europeans arrived. Europeans began investigating the uses of rubber during the 18th century, but it wasn't until the 1850s that rubber really took off.

With the advent of the motor car, the remote Amazon rainforest became the hub of a hugely profitable global trade. Manaus, a small town on the Amazon River, bloomed into a modern metropolis. Some amassed vast fortunes. But for the region's indigenous people, it was a very different story. The local inhabitants, who had previously had next to no contact with the outside world, were forced to work as rubber tappers. Slavery and human rights abuses were widespread.

The Amazon rubber boom was short lived. In 1876, an Englishman called Henry Wickham had smuggled 70,000 Pará rubber tree seeds out of Brazil. From these, Britain established vast rubber plantations in its Asian colonies. The Amazon rubber market collapsed, and cities like Manaus sunk back into poverty.

World War Two brought a second Amazon rubber boom. In 1942 Japan invaded Malaysia and Indonesia, taking control of the vast majority of the world's rubber supply. Rubber was vital to the war effort, being used in everything from wiring to warships and especially for tyres. The Allies struck a deal with Brazil to reactivate rubber supplies from the Amazon.

The Brazilian government recruited tens of thousands of rubber tappers, lured by promises of riches and a hero's welcome on their return. The reality was different. These "rubber soldiers" were effectively slaves, forced to work long hours in harsh conditions for little or no pay. After the war many were left stranded in the rainforest, where they eventually settled.

They included the parents of rubber tapper and activist Chico Mendes. As large swathes of forest were cut down to make way for cattle pasture, Chico led the rubber tappers in a peaceful resistance. They lobbied the government to create extractive reserves where people could make a living from the forest without damaging it, through activities like tapping rubber, harvesting fruits and nuts, and collecting medicinal plants.

The movement gained international attention, alerting the world to the destruction of the Amazon. But Chico's activism earned him many enemies, and he was assassinated in 1988. His murder led to a surge of support for protecting the rainforest. Extractive reserves have been created across the Amazon. After a long history of exploitation, local people now have the chance to benefit directly from the Amazon's natural resources.

"AT FIRST I THOUGHT I WAS FIGHTING TO SAVE RUBBER TREES. THEN I THOUGHT I WAS FIGHTING TO SAVE THE AMAZON RAINFOREST. NOW I REALISE I AM FIGHTING FOR HUMANITY."

Chico Mendes (1944-88), rubber tapper and activist

RUBBER TAPPING IN THE AMAZON

An Amazon rubber tapper usually has a number of daily trails through the dense rainforest to reach around 100 trees each day. Early in the morning, he makes a cut in the bark and the latex starts to flow down into a cup placed below. The rubber tapper returns in the afternoon to collect up the latex before it coagulates and takes it home for processing. Some of the largest trees can be tapped on two or three sides on the same day, while smaller ones will only have one cut. A tree can produce 5-10 litres of latex in a year. It's hard work: the tapper covers long distances, and risks running into snakes or even a jaguar. But rubber tappers have a close relationship with the forest and a deep knowledge of the local flora and fauna, including its uses for food and medicine.

TYPES OF WILD RUBBER

Natural latex can be processed in a number of ways to produce different kinds of rubber.

FIELD COAGULATED LATEX BLOCKS

Latex coagulates naturally into basic forms of raw rubber. These include:

- Blocks of pressed raw rubber – known in Brazil as *Cernambi Virgem Prensado* (CVP).
- Latex that has coagulated naturally in the collecting cup, known as free bowl coagulum (*cernambi a granel* in Brazil).
- Large balls of latex smoked over a fire, known in Brazil as *pelas* or *bolas*.

The tapper stores these blocks and sells them to agents or cooperatives that supply rubber processing (or granulating) plants. These plants clean and purify the field coagulates into a type of rubber know in Brazil as Dark Brazilian Granulated (*Granulado Escuro Brasileiro*, GEB). Most are located far from the Amazon, but Brazil has the Borracha da Foresta plant in Amazonas state and another plant under construction in the state of Acre.

Advantages:
- Requires minimal equipment.
- Produces higher volume than refined rubber.

Challenges:
- Low, variable prices for tappers.
- Health hazards from the smoking process used to make *pelas/bolas*.
- No way for manufacturers buying from the processing plant to know where the rubber originated.
- High water and energy footprint due to the processing required.

Uses:
- Field coagulates such as CVP can only be used once they've been granulated.
- GEB rubber is used in wide range of rubber products, predominantly tyres.

FIELD COAGULATED SHEETS

Rubber tapper groups in Brazil, Bolivia and Peru are now producing high-quality field coagulated sheets.

In Brazil, a number of rubber tapper groups are producing smoked liquid sheets (*Folha Defumada Líquida* or FDL), using technology developed by the Laboratory of Chemical Technology (LATEQ) at the University of Brasilia. The process involves adding a coagulating agent (pyroligneous acid, or "liquid smoke") and a fungicide to prevent mould. These thin sheets can be produced in the forest and sold directly to manufacturers, such as footwear company Veja (see p.25), without further processing.

In Bolivia, tappers in the Manuripi reserve are producing coagulated rubber sheets (*coágulo de goma*) using lime juice. They are currently sold within Bolivia to shoe manufacturers.

In Peru the company ECOMUSA is producing a similar type of sheet coagulated using citric acid and sodium sulphate. This is sold to French trainer firm Piola.

Advantages:
- Adds value for tappers who can process their rubber themselves.
- Clear production chain from rubber tapper to manufacturer makes it easy to identify as wild rubber.
- Production is often a family activity, with women getting involved in the processing.
- High elasticity, light colouration and reduced odour differentiate FDL from most field coagulates, which could allow access to more specialised industries.

Challenges:
- As with other forms of processed rubber, tappers need training and support to buy equipment.
- Local rubber tapper organisations need to be able to manage commercial arrangements.
- Chemicals like fungicide need to be handled with care – research is ongoing into alternatives.
- Without initial technical assistance, quality may be compromised.

Uses:
- Most common current use is for shoe soles.
- Can be used directly in manufacturing of many rubber products.

SEMI-ARTEFACT SHEET *(Folha Semi-Artefato – FSA)*

FSA, like FDL, was developed by LATEQ and allows the tappers to coagulate the latex into high-quality, thin sheets to make handicrafts within the rainforest. They add dyes to colour the rubber and a vulcanising agent to improve durability and its mechanical properties.

While the sheets are in the coagulation stage, the rubber can be moulded and bonded together to make shoes, accessories or decorative objects. Once dry, the sheets can be cut into flat shapes, and used like an elastic textile or leather to manufacture numerous design products.

Products made from FSA rubber are maintained in optimum condition with silicon gels or waxes, which help remove naturally occurring white residues. LATEQ has developed a wax specifically for this purpose. Research is on-going on further improvements.

Advantages:
- Tappers add value to their rubber by processing it themselves.
- Vulcanised sheets can be used directly for crafts, fetching a higher price than FDL.
- Tapper families can use FSA to produce and sell their own handicrafts.
- Clear production chain makes it easier to identify wild rubber.

Challenges:
- As for FDL, training, investment and capacity building are needed.
- As this is for final product, quality is key and this requires suitable training and quality controls.
- Finding the right fixings can be a challenge, as many metals will react over time with rubber.

Uses:
- A wide variety of handicrafts, including shoes, jewellery, bags and accessories.
- Can be used by local artisans within the Amazon rainforest, further supporting sustainable livelihoods.

RUBBERISED TEXTILES AND VEGETABLE LEATHER

Indigenous Amazonian cultures used latex to make waterproof fabrics. Today, a range of rubberised textiles are produced in the Amazon, from the rustic to the technologically advanced.

Vegetable leather is made by coating a fabric base such as canvas in liquid latex and curing it to produce a material that can be used in place of leather. LATEQ is developing a technology called Amazonian Rubberised Textile (*Tecido Emborrachado da Amazonia – TEA*) with the Jamaraqua community in Santarem, Para state, Brazil. This produces vegetable leather that is cured by smoke over a fire then finished (vulcanised) in a kiln adapted to forest conditions.

The Poloprobio initiative in Brazil is supporting Amazonian communities to produce a range of handicrafts made from rubber. One technology they use involves mixing liquid latex with woody vegetable fibres and natural pigments and shaping it in moulds.

Advantages:
- Provides a vegan alternative to leather.
- Adds value to the communities at source through production of finished handicrafts.

Challenges:
- As for field coagulated sheets and FSA, training, investment and capacity building are needed.
- As this is for final product, quality is key and this requires suitable training and quality controls.
- As with FSA, community-based artisans require support with product design, quality and marketing.

Uses:
- Rubberised fibres are used to make handicrafts such as tablecloths, placemats and bags.

LIQUID LATEX

Centrifuged liquid latex is used in high-quality rubber products such as condoms, balloons and surgical gloves. To date, just one factory, in Brazil, uses wild liquid latex.

To prevent the latex from coagulating naturally, rubber tappers add ammonia – a chemical that requires careful controls along the supply chain. Special industrial equipment and processes are needed to process the liquid latex using centrifugal force.

Advantages:
- Creates top-end rubber products, adding significant value.

Challenges:
- Requires investment in industrial equipment and processes.
- Needs careful health and safety controls.
- As the latex needs to remain liquid, only tappers living within a certain distance of the factory can supply it.

Uses:
- Dipped rubber products such as condoms, surgical gloves and balloons.

TAPPING INTO NEW MARKETS

Doing business in the Amazon presents a number of challenges that can be overcome with the right approach.

Sustainable production initiatives in the Amazon face challenges that are difficult for the communities themselves to resolve without support. WWF has learnt some important lessons over the course of eight years supporting Amazonian rubber tappers:

Portuguese is the main language of business in the Brazilian Amazon, Spanish in other countries.

Joint efforts: Working in partnership with communities, similar businesses and third parties such as government agencies, NGOs, social movements and research organisations is often the best approach. Partnerships have made important progress in sustainable harvesting and improved production and processing, storage and quality controls, as well as regulatory aspects such as environmental and health and safety licences. By strengthening local capacity in areas such as social organization, leadership skills, business administration and access to credit, they can help build successful long-term business relationships.

A *glove that fits* approach: The most successful producer-buyer relationships have a good fit in terms of values, volumes, capacities and commitment. Too large a demand, for example, can destabilise sustainable harvesting or community cohesion. This often requires a degree of flexibility on behalf of the buyer.

Reaching markets: Traditionally communities sell their products very locally, and have little experience of dealing with international markets. WWF-Brazil has supported "market agents" to help communities negotiate with buyers and commercialise their products until they have the experience to take on this role themselves.

Payment terms: Individual rubber tappers working deep in the forest need to be paid upfront for each batch of rubber they deliver – they can't afford to wait until their association or cooperative has received payment for a large order. Buyers and associations need to ensure there's enough working capital to pay at least part on delivery.

Ten questions to consider:

1. Where are the gaps and pinch points in the production chain, and what investments and support are needed to build capacity?
2. What are the costs for the company and the community, and who should pay?
3. What price should be paid to individual rubber tappers and producers groups, and by the consumer?
4. How, when and to whom will payments be made?
5. What are the quality and quantity requirements, and what controls and support are in place to fulfil them?
6. Is it a good idea to have an exclusive or preferential buyer/seller relationship?
7. What's the delivery timetable, and does this take account of seasonal variations, cultural aspects and infrastructure conditions?
8. How long should the agreement last, and what are the possibilities and expectations for renewal?
9. How will you promote the social and environmental benefits of wild rubber, and is the community on board?
10. What systems are in place to monitor, evaluate and learn from the project?

Rubber tappers typically live in the remotest parts of the Amazon, often many hours by foot or by boat from the nearest town or road. Telephone connections can be limited. Local producer organisations often require help to improve their business skills and capacity.

UNTAPPED POTENTIAL

With the right support, sustainable wild rubber production could grow significantly.

How much wild rubber is available?
Only a tiny fraction of the Amazon's potential to produce wild rubber is being tapped. In 1990, Acre state alone produced almost 12,000 tonnes of wild rubber – the whole of Brazil produced just 2,000 tonnes in 2012. Many rubber tappers have turned away from the trade in recent years, but greater market demand is providing an incentive to increase production.

In 2013, 48 tappers from four associations supported by the Sky Rainforest Rescue project produced 7 tonnes of FDL and the potential exists to more than double this in future. With 117 FDL units planned across the state, Acre could produce up to 35,000 tonnes of this type of wild rubber a year. In Amazonas state, the local tyre industry has a potential demand of 7,000 tonnes of CVP each year.

How is wild rubber transported?
CVP, field coagulated sheets and FSA are usually stored in wooden huts by producer groups and transported by mule, boat or truck depending on the area. Seasonality affects accessibility: some remote communities can only be accessed when river levels are high enough to navigate in the wet season, while others are only accessible during the dry season when unpaved roads are passable. Once at a main road, the rubber can be transported by truck over long distances.

How much does wild rubber cost?
Wild rubber can be a viable choice, especially for higher-margin, premium markets that need high-quality rubber and where customers care about the environmental and social benefits. The price of wild rubber varies from place to place and according to the type and quality of the product. Wild rubber cannot compete on price alone with plantation rubber, but it isn't prohibitively expensive. The price of basic CVP from wild sources in Brazil is around R$4 per kilo. Producers can receive nearly twice as much for FDL and almost three times as much for FSA.

What additional financial support is available to rubber tappers?
Brazil subsidises some types of Amazonian rubber. Acre state's Chico Mendes law sets up an additional subsidy, and certain municipal subsidies also exist. These subsidies can be extremely important to rubber tappers, to supplement otherwise very low prices. However, the paperwork required means some tappers in remote areas miss out. This is something buyers could help with.

Is all rubber from the Amazon wild rubber?
The Amazon has rubber plantations as well as wild rubber trees. Well planned and located plantations, for example on degraded grazing lands, can support sustainable development – but clearing rainforest to make way for rubber plantations would be environmentally destructive. If you want to make sure you're only using wild rubber, a clear chain of custody will be important – this is easier to achieve with some types of rubber, such as coagulated sheets.

DEFINING THE DIFFERENTIAL

Wild rubber is unique: it helps conserve the world's most important rainforest, promotes social justice and forges links with people living in one of the world's most remote regions.

Certification

No certification scheme exists for wild rubber, though this could be an option in future. Forest Stewardship Council (FSC) and Fairtrade-certified rubber is available from plantations, FairWild provides certification scheme for wild-harvested plant products, and Rainforest Alliance has experience of this kind of certification. Certification of origin is another option – it's being used for rubber and Brazil nuts from the Manuripi reserve in Bolivia, for example.

Internationally recognised certification can be costly and does not always add enough value to cover the costs involved. It's out of the financial and technical reach of most Amazonian producer groups, so would need to be supported by the business partner.

In the absence of certification, raising awareness and building an identity for wild rubber is especially important. Manufacturers and retailers should be able to develop the information they need to substantiate claims about the role wild rubber plays in supporting local livelihoods and conserving the Amazon rainforest.

Health and safety and child labour

In terms of health and safety, walking long distances through rainforest, in areas far from medical services, arguably presents the biggest risk. Where chemicals are handled, controls and safeguards need to be in place.

Children sometimes accompany their father on his rubber tapping rounds – this is seen as a necessary part of learning about their surroundings and how to be safe in the rainforest. Children may also get involved in producing coagulated sheets with their family. While most children of rubber tappers attend primary school, opportunities to attend secondary schools can be limited in the region where they work. International standards on child labour are quite strict, but the local context needs to be understood, and locally appropriate guidelines developed.

Making sustainability claims

In partnership with producer groups and third parties such as NGOs and research organisations, companies can monitor the positive impacts their purchasing is having. This allows you to communicate them to consumers, ideally providing up-to-date progress updates. It's equally important to monitor and mitigate any risks and negative or unexpected impacts that might undermine this progress.

CASE STUDY: VEJA

© SKY

"The Amazon is the only place on earth where rubber trees grow in the wild. A fairer price paid for latex guarantees a better income for the rubber tappers and helps to keep trees up."

Sébastien Kopp and François-Ghislain Morillion, founders

Sébastien Kopp and François-Ghislain Morillion founded ethical fashion brand Veja (known as VERT in Brazil) in 2005. They've been working with rubber tappers in Acre to make soles for their trainers since the beginning, sourcing the processed latex directly from the rubber tapper associations and paying a fair price. They have a transparent and efficient supply chain that directly benefits 60 rubber tapper families.

"We wanted to make sure that each step was as harmless as possible for the environment and that every person involved in the process was paid and treated well," says François-Ghislain. "From the heart of the Amazon, it wasn't very easy at the beginning to bypass the middlemen and avoid unnecessary additional costs."

Veja's wild rubber order started small and grew gradually, building in incentives and rewards for tappers to increase their production over time. In the first year of purchasing FDL – at that time a totally new type of rubber untested by the market – Veja and the producer group saw their contract as a shared risk and a practical experiment they could both learn from.

"The introduction of FDL was a big improvement for our supply chain," says François-Ghislain. "The process allows the rubber tappers to transform latex into rubber sheets, without any industrial intermediary processes. The sheets of rubber are then directly sent to the factory and shaped into soles.

"As the rubber is processed right after being harvested it is much purer and better quality than GEB. This allows us to use 30-60% wild rubber in the composition of every Veja sneaker's outer sole. It's a very good example of how innovation and ecology can be combined."

http://project.veja-store.com/en/caoutchouc
http://project.vert-shoes.com.br/borracha

CASE STUDY: THE MASTER OF RUBBER

© FLAVIA AMADEU

"I'm an environmentalist. My work is always to protect the environment."

José Rodrigues de Araujo, rubber tapper

José Rodrigues de Araujo is known as "Doutor da Borracha" – the Master of Rubber. Born in the Chico Mendes Extractive Reserve in Acre, Brazil, he began tapping rubber with his father at the age of eight. By the time he was 13, he was tapping rubber on his own and making CVP.

"In 2004 I had the opportunity to participate in the first FDL liquid smoked sheet technical training, thanks to which latex production began to be more highly valued," he recalls. "I then started to work with FSA, making my first shoes and taking them to various trade fairs.

"Over the years I have been perfecting my work with latex and creating objects such as key rings, bracelets, necklaces and curtains, as well as the shoes."

José's award-winning shoes are now sold in Europe through Dutch company Handprint Crafts (www.handprintcrafts.org). With support from WWF, he has trained many other people in using FSA.

José is one of several rubber tappers that also transform small blocks of rubber into cleverly crafted figurines of Amazonian animals, such as tapirs, agoutis, and peccaries. These are made by moulding the figures over fire.

"I survive from latex to this day," he says. "I consider the *seringueira* – rubber tree – as a mother where I extract the latex milk for my own sustenance."

CASE STUDY: FLAVIA AMADEU

© NICK KANE

"More than being a unique material, what makes me passionate about FSA wild rubber is that it is about people, and people who take care of the Amazon rainforest."

Flavia Amadeu, designer

Flavia Amadeu, a Brazilian designer, has created a unique range of organic wild rubber jewellery using FSA. She's been working with LATEQ and Amazon communities to research and develop the material for 10 years.

"The design of this contemporary jewellery emerged from this intense research," she says. "My aim was to give value to the material through exploring its particular characteristics such as elasticity, malleability, resistance and colours. The unusual designs enable the user to wear them creatively in different ways."

In 2012/2013, Flavia worked with Lily Cole to develop a jewellery collection for the Sky Rainforest Rescue campaign, made from FSA produced by the community of Parque das Ciganas in Acre.

"In addition to the economic return from the sales of sheets, producing FSA and handicrafts made from it attracts and includes women and the younger generation," she says. "I taught the women handicraft making with the coloured rubber, and saw their enthusiasm being spread among the community."

"The most important thing for me is to support the local communities in their efforts to continue making a life from wild rubber and the Amazon rainforest."

www.flaviaamadeu.com

CASE STUDY: NATEX, WILD CONDOMS

© FERNANDA MELONIO / WWF-BRAZIL

"Acre in Brazil is home to the world's only wild rubber condom factory."

Based in the town of Xapuri, the award-winning Natex condom factory uses liquid latex collected by around 420 tappers, most of whom live within the Chico Mendes extractive reserve. Most of this latex comes from wild trees, although a part is produced in plantations.

COOPERACRE, a local cooperative, buys the latex and manages the supply to the factory. Natex is owned and operated by the government to supply the Ministry of Health with condoms, which are distributed free to control HIV and other sexually transmitted diseases. In 2013, the Natex factory won a national award for technological innovation in the field of sustainability and social development from FINEP, a government body dedicated to promoting innovation and research.

At the moment all the latex is used for condom production, but the factory has the potential to supply other manufacturers interested in centrifuged liquid latex. Increasing production could provide a market for more rubber tappers.

www.preservativosnatex.com.br

CASE STUDY: SKY RAINFOREST RESCUE

"Sky and WWF are a powerful combination and this is evident in the results we are seeing as part of Sky Rainforest Rescue. Working together, we have what it takes to make a difference and raise much needed funds and awareness to help save the Amazon rainforest for the long term."

Fiona Ball, Sky

Sky Rainforest Rescue is a partnership between WWF and UK entertainment and communications business Sky to help save a billion trees in the Amazon state of Acre. The project was launched in 2009 when a major new road threatened to increase deforestation in a still mostly intact area of rainforest. It aims to increase productivity on open land and improve livelihoods for those who rely on the forest's natural bounty, such as rubber, acai berries and pirarucu fish.

The project has equipped rubber tappers to produce FDL and FSA rubber to get a better price. This has involved funding rubber production huts, tools, equipment and chemicals, as well as training in production and quality control. A market agent helped identify market opportunities and negotiate with buyers.

WWF teams in Brazil and the UK have been working to build market awareness of wild rubber. Lily Cole, the model, actress and environmentalist, has been an enthusiastic ambassador, designing a limited edition collection of rubber jewellery with Flavia Amandeu and a special range of shoes for Veja.

www.rainforestrescue.sky.com

GO-TO GUIDE

This guide lists some of the producers, manufacturers, stockists, research institutions and other organisations working with wild rubber.

If you'd like more information, or to be put in touch with any of the people listed, feel free to contact the relevant WWF office:

WWF-UK:
through the Sky Rainforest Rescue project, provides funds and support to WWF-Brazil for its work with wild rubber in Acre, and supports the development of markets for wild rubber.
Contact: *wildrubber@wwf.org.uk*

WWF-Brazil:
provides support to a number of rubber tapping associations in Acre state on production of CVP, FDL, FSA and improved market conditions for wild rubber as part of its work on forest conservation. Contact: Kaline Rossi do Nascimento *kalinenascimento@wwf.org.br*

WWF-Bolivia:
supports wild rubber production and marketing from the Manuripi reserve.
Contact: Victor Hugo Garcia Cabrera *vgarcia@wwfbolivia.org*

WWF-Peru:
supports the work of wild rubber producer group ECOMUSA.
Contact: Edith Condori *edith.condori@wwfperu.org* or Heidi Rubio *heidi.rubio@wwfperu.org*

Brazil

- **LATEQ**, the Laboratory of Chemical Technology at the University of Brasilia: developers of wild rubber technologies such as FDL, FSA and TEA. Provides research and community training.
  Contact: Floriano Pastore *Jr fpastorej@gmail.com*
- **Mercur**: manufacturers of a wide range of rubber products for flooring, health, sport and education applications for a national market. Wild rubber forms part of its supply chain.
  www.mercur.com.br
- **Maria Beatriz Saldanha**: social entrepreneur and wild rubber specialist
  Contact: *saldanha@treetap.com.br*
- **VERT**: the Brazilian arm of French ethical trainer firm Veja – uses wild rubber for the shoe soles.
  www.vert-shoes.com.br

Acre state

- **Amopreab**: the Association of Residents and Producers of the Chico Mendes Extractive Reserve, in the Municipality of Brasileia and Xapuri.
  Contact : José Rodrigues de Araújo, President *josearaujo484@gmail.com*
- **Association Curralinho**: rubber tappers' association in Feijo municipality, supported by WWF-Brazil and Sky Rainforest Rescue.
  Contact: Antônio Paulino Barroso +55 68 991 18426
- **CAET**: Agroextrativist cooperative in the Tarahuaca municipality, supported by WWF-Brazil and Sky Rainforest Rescue.
  Contact: Erismar Souza Silva erismartk.*souza@hotmail.com*
- **Cooperacre**: cooperative of producers of forest products that brings together 25 smaller cooperatives and associations across Acre in the commercialisation of rubber, brazil nuts, copaiba oil and fruit pulp such as acai. Cooperacre will be operating the granulating plant under construction in Sena Madureira, due to open in 2014. The plant has a planned capacity of 176 tonnes per month, with potential to reach 600-800 tonnes per month.
  www.cooperacre.com
  Contact: Manoel Monteiro *coopman.monteiro39@gmail.com*
- **Doutor da Borracha (the Rubber Master)**: nickname of rubber tapper José Rodrigues de Araújo, an experienced FSA producer, who has developed his own line of completely wild rubber shoes and sandals. José has some experience of export, and is training other rubber tappers in the production of FSA and rubber shoes.
  Contact: Lene (his wife) *dr.daborracha@hotmail.com*
- **Gilberto Miranda**: artisan who produces Amazon animal figurines from wild rubber
  Contact: +55 68 994 85347
- **Natex**: the world's only wild rubber condom factory, operated by the state government and producing condoms for Brazil's Ministry of Health. The Acre government is exploring the possibility of a commercial line.
  www.preservativosnatex.com.br
- **Projeto Acre Látex Design Lab**: project run by the state government, through its Instituto Dom Moacyr and in partnership with Sebrae.
  www.acrelatexdesign.com.br/capa
  Contact: Elisângela Rocha + 55 68 998 53677
- **Reserva Extrativista do Cazumbá Iracem**a, in the municipality of Sena Madureira
  Contact: Aldeci Cerqueira Maia (known as Nenzinho) *nenzinho_cazumba@yahoo.com.br*

Amazonas state

- **Poloprobio**: an initiative to support the commercialisation of rubberised textile artefacts, working with around 17 communities of rubber tappers and indigenous peoples in the states of Acre, Amazonas, Rondonia and Para. Products include sandals, bags and placemats.
  www.poloprobio.org.br
  Contact: *poloprobio@yahoo.com.br*

Para state

- **Jamaraquá**: producer group producing FDL and FSA. The website includes a catalogue of products.
  www. jamaraqua.wordpress.com
  Contact: *Rose rosenildes@ineamazonia.com* or *ineamazonia@gmail.com*

Bolivia

- **ASGOMA**: Association of Rubber Tappers of the Manuripi Reserve (Asociación de gomeros de la reserva Manuripi). They produce sheets of rubber similar to FDL, currently for a national market. A WWF video explains the rubber tapping process:
  www.youtube.com/watch?v=WMDHORZzSIA&feature=related
  Contact: *reservamanuripi2012@hotmail.com*
- **Herencia in Cobija**: NGO based in Pando department, supporting integrated forest management. It works with the Palacio community to produce coagulated sheets which are currently sold to the national market for making car parts.
  Contact: Juan Fernando Reyes (director) *jfr@herencia.org.bo*

Peru

- **ASARSHIT**: Association of Artisans of Shiringa Tahuamanu works alongside ECOMUSA in Iberia to produce vegetable leather handicrafts.
  Contact: Alicia Quino Velarde (president) *cuerovegetal@gmail.com*
- **Co-management of the Amazon in Peru**: project supported by German international cooperation agency GIZ, which works with indigenous groups in protecting and sustainably managing biodiversity, including wild rubber production in the form of coagulated sheets.
  www.giz.de/en/worldwide/13298.html
  Contact: Alois Kohler *alois.kohler@giz.de* (based in Lima)
- **ECOMUSA**: company formed by rubber tappers in Iberia. ECOMUSA has a 7,900ha forest concession and also works with partners on privately owned forests. They produce coagulated sheets for the national market and have also exported to Portugal for the shoe company Piola SA. WWF-Peru is among ECOMUSA's partners.
  Contact: Jorge Escompani Vásquez (Presidente de la ECOMUSA) *ecomusajebetahuamanu@gmail.com*

UK/Europe

- **Flavia Amadeu**: Brazilian designer and design consultant for the development of FSA products and projects with communities. Fashion designer of the Organic Jewellery FSA rubber jewellery range. Can also supply small batches of FSA sheets. Based in the UK. Stockists are listed on the website.
  www.flaviaamadeu.com
  Contact: *flaviaamadeu@gmail.com*
- **Handprint crafts**: retailer of ethical products (currently in Portugal and Amsterdam), stocks wild rubber shoes made by Doutor da Borracha in Acre.
  www.handprintcrafts.org
  Contact: *Andréia Rocha andreiatrocha@gmail.com*
- **Mumo**: produces ethically produced fabrics for homeware. Stockists are listed on the website.
  www.mumo-uk.com
  Contact: *info@mumo-uk.com*
- **PIOLA SA**: French firm producing trainers, manufactured in Portugal. Their soles contain 60% wild rubber from the Ecomusa company in Peru.
  www.piola.fr
- **Veja**: ethical shoe brand using FDL rubber for shoe soles. Currently purchasing from around 60 rubber tappers. Shoes are stocked in their online store and a list of stockists is available on their website.
  www.veja-store.com

More information on wild rubber and working with Amazonian communities

- Visit our pages about wild rubber on the Sky Rainforest Rescue website *www.rainforestrescue.sky.com/our-campaign/how-your-money-helps/sustainable-products/rubber-tapping*

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Wild rubber in numbers

2,000

Tonnes of wild rubber produced in Brazil in 2012

11.3 M

Number of tonnes of natural rubber produced globally in 2011

420

Rubber tappers supported by the Natex condom factory

35,000

Tonnes of processed wild rubber sheets that could be produced in Acre state alone

Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

wwf.org.uk