


Market research and business models for new FSC ecosystem services tools

A summary of findings from the ForCES project

March 2017

Contents

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Front cover, top left: Reforestation for soil conservation in Quang Tri, Vietnam. © FSC GD / Que Anh Vu Thi
Front cover, top right: A watershed protected in Lombok, Indonesia. © FSC GD / Vlad Sokhin
Front cover, bottom left: Forest biodiversity in Pumalin, Chile. © FSC GD / Ana Young
Front cover, bottom right: Measuring the carbon stock in Charnawati, Nepal. © ANSAB / Shambhu Charmakar

Pumalin, Chile. © FSC GD / Ana Young

The need for market research on ecosystem services

In its *Global Strategic Plan 2015–2020*, FSC commits to offering new tools to certificate holders so that they can access ecosystem services markets that result in increased net revenue for forest owners. This commitment is part of a broader strategy to increase the market value of FSC.

These new tools will help answer the global challenge that forest governance and economic systems in many parts of the world provide greater incentives for deforestation, forest degradation, and related social inequities than they do for responsible forest management.

New FSC ecosystem services tools will increase the confidence of governments, investors, buyers, and businesses in ecosystem services markets, and can be used to demonstrate the impact that investments have on preserving ecosystem services. These tools will offer forest owners and managers an additional incentive to become FSC certified rather than pursue the short-term economic benefits of forest degradation, and an added economic support for FSC certificate holders already managing their forests responsibly.

The new FSC ecosystem services tools include a procedure for demonstrating the impact of forest management activities on ecosystem services, as well as tools for accessing ecosystem services markets.

To support the design of the new FSC ecosystem services tools, FSC and its partners in the ForCES project (see Box 1) needed to assess the current state of the market for different ecosystem services. FSC and its partners therefore undertook and commissioned several market studies to understand the demand for ecosystem services certification in general, and the demand of FSC verification of ecosystem services in particular, both globally and at the national level in the four pilot countries in the ForCES project (Chile, Indonesia, Nepal, and Vietnam).

The main aim was to build an evidence base that would help FSC design a system that would meet users' expectations and needs. A further aim was to establish where FSC could best fill a gap in what remains a complex, fragmented, and diverse marketplace.

In particular, the market research commissioned by FSC sought to answer the following questions:

- Is there a demand for verified, certified ecosystem services from forests?
- Where does this demand (if it exists) come from: buyers, sellers, governments, or the organizations that promote certification?
- What are the 'best bets' in terms of markets for forest-based ecosystem services? Where is demand greatest?
- What are the expectations, from forest managers and potential buyers, for a verification and certification system?
- What are the key challenges to such a system, as perceived by potential buyers and sellers?
- What claims do different actors want to make, and how should they be measured?
- How should a verification and certification system be structured? What form should market tools take?
- How much are buyers willing to pay for verified ecosystem services claims?
- What role could and should FSC play in a verification system for forest-based ecosystem services?

Box 1. The ForCES project

FSC's expertise and experience in certifying timber production from sustainably managed forests means that the organization is ideally placed to establish systems for verifying and certifying forest-based ecosystem services. FSC is therefore expanding its forest management certification scheme to include forest ecosystem services through the Forest Certification for Ecosystem Services, or ForCES, project.[1]

In 2011, working with several international and local partners (UN Environment; Center for International Forestry Research (CIFOR); Asia Network for Sustainable Agriculture and Bioresources (ANSAB) in Nepal; FSC Chile; SNV in Vietnam; and the World Wildlife Fund (WWF) in Indonesia), FSC began to explore how its standards could be adapted to support the emerging markets for ecosystem services, and how existing and new FSC certificate holders could be supported to access these markets. The ForCES project provided a steady source of funding, from the Global Environment Facility via the United Nations Environment Programme, which was needed to put FSC's plans into effect.

The project tested the markets for specific forest-based ecosystem services – biodiversity, carbon, recreational services, soil, and water – under different socio-political and environmental conditions at 10 pilot sites in Chile, Indonesia, Nepal, and Vietnam. However, the purpose of the project was broader than these specific sites: the overall aims were to test the global market demand for a range of ecosystem services, develop global and national standards with adapted ecosystem services requirements, and develop and test systems to assess environmental and social long-term impact. The ForCES project is concluding in 2017.

Scope of the market research

Between 2013 and 2016, FSC and its partners carried out 14 research studies and surveys to assess the demand for market tools for ecosystem services among potential buyers and sellers.[2] This extensive process combined international-level research with national-level surveys in the four pilot countries. In total, over 1,000 organizations and individuals took part, including FSC certificate holders (667 participants), FSC supporters (132), certification bodies (127), potential buyers (86), and regional policy-makers (7).[3] These represented countries from across the world. Table 1 shows the market segments covered by this research.

The key findings for FSC came from **FSC certificate holders** – including the private sector, public sector, and not-for profit organizations, which are likely to be the primary sellers in a forest-based ecosystem services market – and from the **potential buyers of ecosystem services**.

This summary also outlines some **business models** for payments for forest ecosystem services. These were developed and tested at the 10 pilot sites during the ForCES project, and demonstrate the market potential for these schemes.

1 See: http://forces.fsc.org/index.htm
2 A full list is available in Annex I.
3 These numbers represent total participants; participants in different studies may have been counted more than once.

Table 1. Market segments

Market	Segments
Biodiversity	Conserving biodiversity
	Government-mediated biodiversity payments for ecosystem services
	Species/habitat compensatory mitigation
	Voluntary offsets
	Wetlands and stream habitat mitigation
	Wetlands compensatory mitigation
	Wildlife habitat mitigation
Carbon	Compliance forest carbon markets
	REDD+[4]
	Sequestering and storing carbon in forests to alleviate climate change
	Voluntary forest carbon markets
Certified commodities	Commodity certifications and credits
Ecotourism (Chile and Nepal only)	Providing biodiversity experiences through ecotourism
	Providing cultural experience through ecotourism
	Providing scenic beauty through ecotourism
Global commodities commitments	Management and protection of High Carbon Stocks
	Protection of High Conservation Value (HCV) areas
	Protection of human rights
	Protection of peatland
	Sustainability
	Zero net deforestation
Non-timber forest products	Providing non-timber forest products from forest ecosystems
Soil conservation (Vietnam only)	Conserving soil
Timber	Providing timber from forest ecosystems
Water	Environmental water markets
	Local payments for watershed services
	Public finance for watershed protection
	Trading and offsets
	Watershed protection for the provision of a certain quantity of water
	Watershed protection in forests for the provision of high water quality
	Watershed protection to reduce water-related risks, such as floods

4 This stands for 'reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries'.

Major findings from FSC certificate holders

Interest in certification for ecosystem services

Certificate holders are most interested in systems that verify **biodiversity conservation, watershed protection, soil protection, and carbon storage/ sequestration** (Bennett et al., 2016; Juang and Putzel, 2013a; Juang et al., 2016c; Thuy, 2012). The first three services match certificate holders' current areas of experience and expertise, which is unsurprising as these ecosystem services are already covered by FSC's International Principles & Criteria.

Certificate holders have less experience in carbon storage[5] and ecotourism, but perceived these services (along with biodiversity conservation) as having the **highest sale potential** (Bennett et al., 2016; Juang and Putzel, 2013a). This helps to explain the interest in these activities being part of an FSC certification scheme for ecosystem services.

Current management and monitoring of ecosystem services

Most certificate holders currently **monitor, report on**, and/or **verify biodiversity** and the **social and economic benefits** that sustainable management brings to communities living in or near forests. Monitoring, reporting, and verification is less common for soil conservation, carbon, water, and the recreational and cultural values of forest areas (Bennett et al., 2016).

Opportunities and perceived benefits

Figure 1 shows the leading opportunities and potential benefits from the certification of ecosystem services, as identified by FSC certificate holders. These results demonstrate some wide-ranging reasons for involvement, including **commercial possibilities** (i.e. increasing

Figure 1. Opportunities and potential benefits for certificate holders from the certification of ecosystem services

Source: Bennett et al. (2016)

5 Juang et al. (2016c) state that carbon is not explicitly covered in FSC national standards, but some FSC accredited certification bodies already audit forest carbon projects and audit carbon credits in voluntary carbon markets.

revenue), **improving relations** (e.g. with clients and communities), and a desire to have **tangible evidence** of the environmental impacts of their work. While it will be a challenge for FSC to ensure that any new scheme delivers on all these fronts, these results indicate a broad interest and set of motivations among certificate holders.

Challenges and perceived risks

Certificate holders identified several potential risks from a certification scheme for forest-based ecosystem services, which may affect their decision to be part of such a scheme. Figure 2 shows the leading responses.

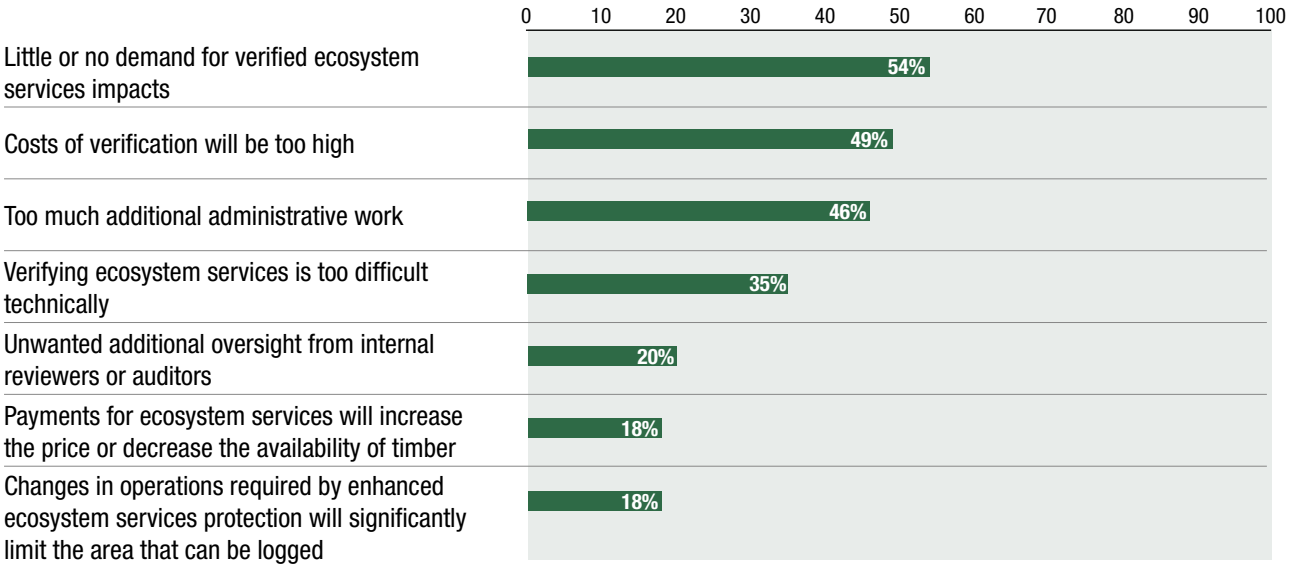
A study in Vietnam found that 61% of respondents saw the **costs of verification** as the most important constraint (Thuy, 2012). High costs are a particular challenge for the owners of small businesses and land plots. Concerns about the **additional work** involved are also pertinent, because many certificate holders have insufficient capacity to implement verification on the ground (Juang et al., 2016a; Thuy, 2012) and may not have the resources to decipher and implement technically difficult procedures (Juang et al., 2016a). These concerns are interlinked: the more complex the verification requirements, the costlier they are likely to be, and the greater the need for additional capacity.

Preferred form of ecosystem services product

Certificate holders showed a strong preference for receiving **price premiums** for timber products carrying an ecosystem services claim, followed by a modest preference for direct payments for FSC-verified impacts (i.e. either through the sale of FSC ecosystem services assets or in response to promotional statements). There was also some interest in buyers paying for an add-on if it had an associated FSC-verified ecosystem services impact.

Certificate holders prefer to communicate the benefits of ecosystem services through product logos (Bennett et al., 2016). This could be through an adapted version of the existing FSC logo with a **promotional statement** describing the benefits, or specific logos or labels for ecosystem services. Table 2 summarizes some potential market tools for verified ecosystem services claims.

Figure 2. Perceived risks among certificate holders from the certification of ecosystem services



Source: Bennett et al. (2016)

Table 2. Market tools for verified impacts of ecosystem services

Add-ons	Impacts are verified to generate a claim that pairs, or 'adds-on', to existing ecosystem services assets (e.g. a carbon offset).
Assets	Impacts are verified to generate a standardized claim, which can be purchased and the impacts be 'owned' or 'assigned' to an entity.
Products with associated verified ecosystem services benefits	Impacts are verified for FSC-certified timber and pulp products, or non-timber forest products.
Promotional statements	Impacts are verified and used to make promotional statements regarding the protection of ecosystem services within the supply chain.

Source: Adapted from Bennett et al. (2016)

Gaurishankar, Nepal. © ANSAB / Shambhu Charmakar

Major findings from potential buyers

Interest in certification for ecosystem services

FSC's Business Advisory Group on ecosystem services was established in 2016 to provide feedback on FSC's new market tools. This group comprised major retailers of FSC-certified products; members of all three FSC chambers; representatives of the global investment and finance community; a representative of an existing payment for ecosystem services scheme; and market intermediaries that connect the buyers and sellers of ecosystem services. Encouragingly, all of these participants felt that there was value for their sector in FSC's proposed verification system.

According to a global market survey of 33 market buyers and potential buyers carried out by Bennett et al. (2016), just under half of potential buyers (45%) are interested in FSC-verified ecosystem services. An additional 42% were either neutral or unsure of their interest, while 13% indicated no interest at all – but these prospective buyers were not active in ecosystem services markets (Bennett at al., 2016).

In their global study of 25 market actors – including project developers, buyers, and intermediaries, but not forest management certificate holders – Peters-Stanley et al. (2015) found that 38% of respondents were **unconditionally interested** in a system to verify ecosystem services, and an additional 29% were interested depending on certain conditions, including marginal transaction costs and market development. The remaining 33% were uninterested, citing concerns about market demand and competition with existing schemes. Interest was highest among buyers where land affects their business (e.g. food and beverages, consumer product markets, agri-business) (Peters-Stanley et al., 2015).

In terms of the type of ecosystem service, buyers are most interested in the verification of **carbon**, **biodiversity**, and **water** (Bennett et al., 2016; Peters-Stanley et al., 2015). This largely matches the leading sectors identified by certificate holders and thus identifies clear focus areas for FSC. However, these categories are broad and the nature of the specific values of interest varied; for example, water-related values included issues around water quality, water quantity, and universal access to water.

Buyer motivations

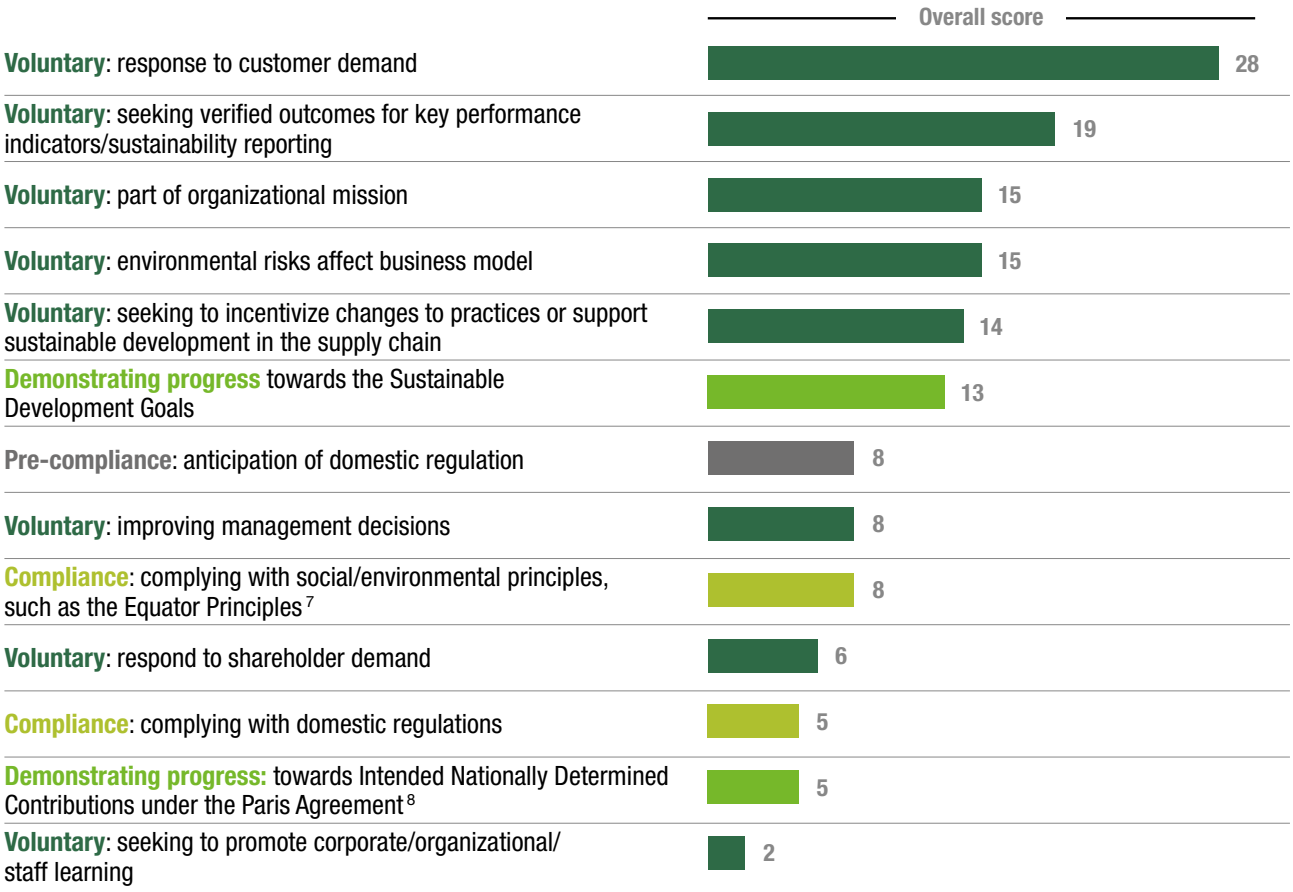
Figure 3 lists buyers' motivations for entering markets for ecosystem services.[6] A mix of mission-driven and 'good citizenship' considerations accounted for four of the top five motives. Interestingly, they were all voluntary, rather than due to the need to comply with regulations. Responses from the participants in the FSC Business Advisory Group largely aligned with the top scores from this survey. One participant also highlighted the relevance of emerging laws requiring the protection of ecosystem services.

Respondents repeatedly noted the opportunity that certification offers to **demonstrate and monetize** a project's benefits. Conversely, the current lack of data on a project's impacts is seen as a limitation to the growth of ecosystem markets. Several respondents mentioned that, from a financing perspective, certification could provide clearer information on outcomes for decision-making, and that certified projects might be more attractive to investors (Peters-Stanley et al., 2015).

For project developers and buyers, a mechanism for verifying the impacts of ecosystem services could **establish minimum standards** for a project and a guaranteed level of service delivery, increasing the willingness of buyers to pay for certified impacts. Ecosystem services certification also presents an appealing branding opportunity for companies wanting to communicate their commitment to environmental sustainability (Peters-Stanley et al., 2015).

6 Scores for buyer motives were calculated based on the number of respondents selecting the respective motive, multiplied by the rank (1–3) assigned by the respondent. Thus, the most important motive scored three points, followed by two points for the second-most important motive and one point for the third-most important motive. Points were collated to generate scores the scores.

Figure 3. Motives for paying for verified ecosystem services



Source: Bennett et al. (2016)

A further potential buyer motivation – one that was not investigated in the market research, but has come to FSC directly from project developers – is the need to meet the requirements that exist in some certification schemes to **compensate for the past destruction** of HCV areas or forest conversion. FSC-verified ecosystem services could make FSC-certified forests an attractive recipient of compensatory conservation funding, if they meet the requirements of those systems.

Willingness to pay for ecosystem services

According to Peters-Stanley et al. (2015), 39% of respondents indicated a **willingness to pay** for verified ecosystem services, with an additional 28% expressing support conditional upon the certification scheme being able to demonstrate how to monetize the measurements and environmental benefits. When asked specifically about **FSC-verified claims for ecosystem services**, 45% were willing to pay for these and a further 23% would be willing dependent on certain conditions (Bennett et al., 2016).

The amount that buyers are willing to pay varies according to the ecosystem service in question. Buyers were willing to pay an average premium of **8% for biodiversity services**, and **6.8% for carbon-related services**. However, willingness to pay a premium for claims about verified social and economic benefits for communities was much lower, ranging from 0.5–2% (Bennett et al., 2016).

7 See: http://www.equator-principles.com
8 These are the national-level commitments to tackling climate change that each country has outlined under the Paris Agreement. See: http://unfccc.int/focus/indc_portal/items/8766.php

Participants in the Business Advisory Group urged FSC to find creative solutions to **increase buyers' willingness to pay**. Participants from the investment community – where there is contention about who should pay for the demonstration of impacts – suggested that using an existing certification scheme, and thus avoiding additional costs, could be compelling. Consumer goods companies advised FSC that downstream companies would not have a great willingness to make additional payments through traditional supply chains.

Alternative approaches put forward by this group included attracting payments from companies' communications budgets, or using a results-based payment scheme as a catalyst for remodelling traditional supply chain relationships: sponsorships for environmental impacts in exchange for longer-term supply security. One company acknowledged that if FSC verification tools provide the information it needs to demonstrate that its climate commitments are being met, this would represent significant value that the company should be willing to pay for.

Preferred form of ecosystem services verification

The preferred form of ecosystem services product (see Table 2) depends partly on who you ask. Current buyers of voluntary carbon credits generally preferred ecosystem services market tools that are an **add-on to existing assets** (e.g. carbon credits) (Bennett et al., 2016). By contrast, few retailers currently have offsetting programmes, making add-ons a more challenging proposition to introduce to this sector (FSC, 2016).

The market research indicated that stand-alone **FSC ecosystem services assets** were a close second choice, tied with **products with associated verified ecosystem services benefits**; these were preferred by buyers with a track record in purchasing sustainable commodities (Bennett et al., 2016; Peters-Stanley et al., 2015).

The FSC Business Advisory Group generally favoured market tools that allowed for the **greatest specificity** and were **linked directly to forests** (FSC, 2016). By contrast, consumer goods companies highlighted the importance of communicating directly to their customers through **labels** and **high-level messaging**.

One market intermediary emphasized the growing movement away from tradeable carbon credits and towards **results-based financing**. While strategic investors will see more value in a liquid asset (such as a carbon credit), impact investors and companies driven by corporate social responsibility will be more attracted to results-based financing. One investor observed that while the carbon credits market can be confusing, adding **stories about impact** might make it easier to relate the benefits to buyers. Another market intermediary said that there is a market for all the product forms that FSC is considering.

Major findings for the verification system to be developed for FSC

Some of the research collated the desires and concerns of stakeholders across the sector (i.e. buyers, sellers, and others), notably the two studies conducted by Ecosystems Marketplace (Bennet et al., 2016; Peters-Stanley et al., 2015). The main findings regarding the suitability of FSC to design and deliver a certification scheme for forest-based ecosystem services were as follows:

- There is demand for a **simple, cost-effective verification system** for the impacts of forest-based ecosystem services. This should be flexible and applicable across different regions and different ecosystem services.
- Demand is highest for verified impacts related to biodiversity, carbon sequestration and storage, and water.
- Buyers also show some willingness to pay for verified ecosystem services impacts, but this willingness varies with the ecosystem service and may require creative new ways to deliver value to buyers.
- **Results-based claims** are preferable to activity-based claims, demonstrating the need

for a certification scheme that quantifies the impacts of interventions.

- There is a demand for **different forms of** FSC-verified ecosystem services impacts. FSC could develop several market tools, or choose one that fits best with its existing certification system.

- Sustainable commodities buyers continue to represent a **key opportunity for FSC verification**. A verification and enforcement system that more fully incorporated companies' commitments to zero deforestation, protection of biodiversity, and the protection of human rights, for example, would appeal to these buyers as a streamlined solution.

- FSC's role in such a scheme should be to **open markets up**, not set prices, make introductions between buyers and sellers, or intervene in transactions.

- To encourage uptake of its ecosystem services market tools, FSC should invest in efforts to **generate demand** within key market segments, relevant associations, and their influencers. FSC should seek the approval, recommendation, and/or endorsement of as many market-relevant institutions as possible, to ensure maximum demand for FSC-verified impacts.

Medicinal plants harvested from the forests in Carahue, Chile.
© FSC GD / Paola Mendez

Business models for verified ecosystem services

To add value to FSC forest management certification, FSC's new ecosystem services tools need to help certificate holders convert demonstrated impacts into direct benefits. Table 3 lists the business models that the ForCES project validated at its pilot sites.

Table 3. Business models at ForCES pilot sites

Business model	Results of testing FSC ecosystem services tools
Attract an additional price premium when selling timber or non-timber forest products	• Charnawati, Nepal: Exporters of hand-made Lokta paper have agreed to pay a premium price to a certified community forest, based on an FSC ecosystem services claim regarding positive biodiversity impacts. • Quang Tri, Vietnam: Purchasers of FSC-certified timber from a certified community forest have agreed to pay a premium based on an FSC ecosystem services claim regarding soil enhancement.
Attract payments from the direct beneficiaries of ecosystem services	• Charnawati, Nepal: A downstream water users' institution, Charikot Drinking Water and Sanitation Users Institution, has signed a contract with an upstream FSC-certified community forest to make monthly payments, based in part on compliance with FSC's draft ecosystem services procedure. • Charnawati, Nepal: FSC's partner in Nepal is negotiating with a downstream hydropower facility to pay for demonstrated impacts in terms of reduced sedimentation. • Gaurisankar, Nepal: Trekking tourists have reported a willingness to pay additional fees on trails where certification can demonstrate sustainable forest management and a high-quality nature experience, without incidences of forest fire, encroachment, and degraded forest patches along the route.
Attract investments and funding for restoration projects	• Cuenca Río Mechaico, Chile: A private watershed restoration fund is being created, using FSC-verified watershed restoration impacts as a foundation for payments.
Attract sponsorship for conservation impacts	• Huong Son, Vietnam: FSC will promote the sponsors that financially support the protection of HCV areas. FSC has prepared supporting materials, but has not yet launched a campaign to find sponsors.
Use demonstrated impacts to improve stakeholder relations	• Carahue-Imperial, Chile: An FSC-certified plantation manager in Chile has worked with local indigenous Mapuche people to establish guidelines for sustainable forest management and collection practices that protect traditional medicinal plants. The company intends to use the FSC-verified biodiversity impacts to strengthen its reputational credentials and community relations.

Annex I

The following research studies were conducted in the framework of the ForCES project. The studies marked with an asterix (*) in the 'Scope' column were consulted in the development of this summary.

Completed by	Date	Scope	Title
ANSAB (Asia Network for Sustainable Agriculture and Bioresources)	2014	Nepal	Market Analysis of Demand and Interest for FSC Certified Ecosystem Servicers at Pilot Site and National Level (Nepal)
Bennett, G., Hamrick, K., Ruef, F., Goldstein, A. and McCarthy, B. (Forest Trend's Ecosystem Marketplace)	2016	Global*	Verified Value: Investigating Potential Supply and Demand for Verified Ecosystem Services Benefits from Responsibly Managed Forests
FSC	2016	Global*	FSC Ecosystem Services Business Advisory Group Session Report
Infor	2016	Chile	Expanding FSC Certification at Landscape Level through Incorporating Additional Ecosystem Services
Juang, W. and Putzel, L. (CIFOR)	2013a	Global*	Forest Certification for Ecosystem Services: Analysis of Market Conditions (International Market Assessment Part II)
Juang, W. and Putzel, L. (CIFOR)	2013b	Global	Supply Market Analysis for Certification of Forest Ecosystem Services: Forest Certification Bodies' Preferences and Audit Capacity: International Market Assessment Part I)
Jaung, W., Putzel, L., Bull, G.Q., Kozak, R. and Markum	2016a	Indonesia*	Certification of Forest Watershed Services: A Q Methodology Analysis of Opportunities and Challenges in Lombok, Indonesia
Jaung, W., Putzel, L., Bull, G.Q., Guaiguata, M.R. and Sumaila, U.R.	2016b	Global	Estimating Demand for Certification of Forest Ecosystem Services: A Choice Experiment with Forest Stewardship Council Certificate Holders
Jaung, W., Putzel, L., Bull, G.Q., Kozak, R. and Elliot, C.	2016c	Global*	Forest Stewardship Council Certification for Forest Ecosystem Services: An Analysis of Stakeholder Adaptability
Peters-Stanley, M., Bennett, G. and Cardono, S. (Forest Trend's Ecosystem Marketplace)	2015	Global*	PES Marketing: The Nature of Market Scale, Expectations, Needs and Opportunities
Thuy, N.T.B	2012	Vietnam*	Market Assessment of Ecosystem Service Demand in Vietnam
Tuan, D.A. and Duyen, N.T.M. (Tran Viet Ha)	2013	Vietnam	Assessing Opportunity and Implementation Costs of Forest Certification for Ecosystem Services (Vietnam)
WWF	2013	Indonesia	Market Assessment of Ecosystem Services in Danau Sentarum, Indonesia
WWF	2014	Indonesia	Market Assessment of Jasa Lingkungan Service in East Kalimantan, Indonesia

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For more information on helping us develop and promote FSC ecosystem services tools, or to support or invest in ecosystem services markets, please contact Chris Henschel, FSC International, Programme Manager (Ecosystem Services), c.henschel@fsc.org

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