

Integrating environmental and social sustainability into agricultural commodities value chains and bank operations

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1. Introduction – importance and growth of agriculture in Brazil

Brazil is among the most important economies of the world and agribusiness stands as one of its main sectors. Agribusiness absolute value has increased in the last decade, representing almost R\$ 800 millions in 2008 (around US\$ 450 millions) and has ranged from 27% to 24% of Brazilian GDP from 1996 to 2008 – Figure 1. In the last 5 years it also has represented from 30% to 40% of Brazilian exports and total employment. The country is among the main producers and exporters of many commodities like sugar, coffee, orange juice, ethanol, meat – Table 1.

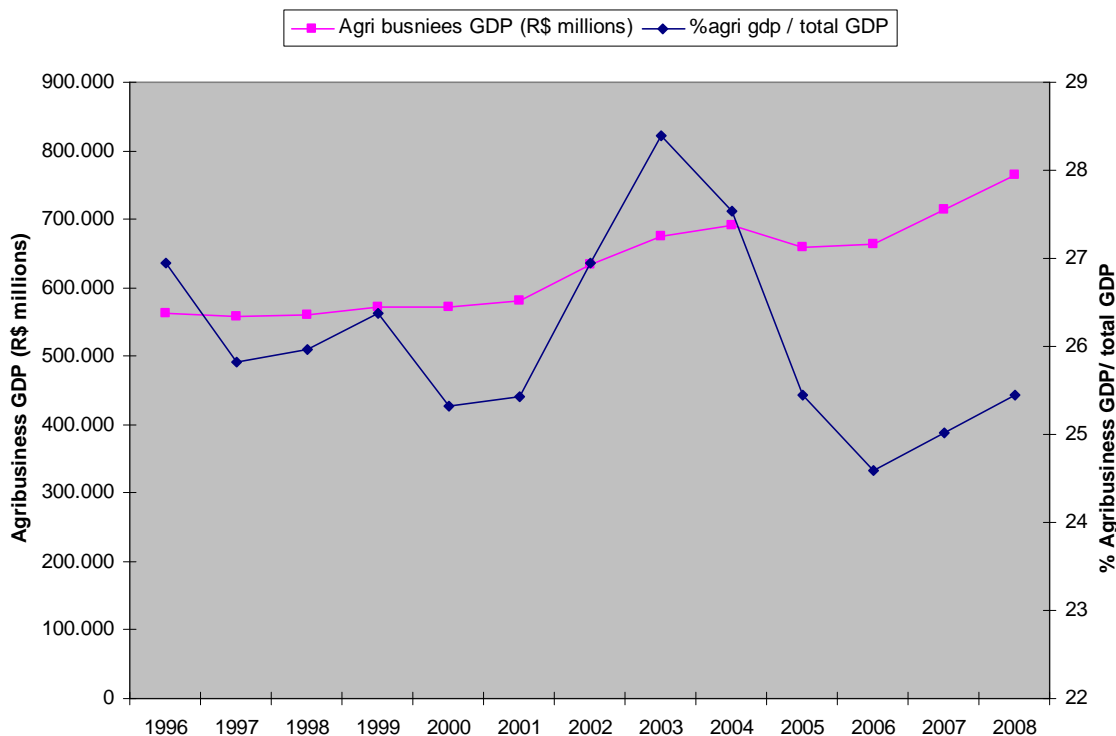


Figure 1. Total value and relative contribution of agribusiness to Brazilian GDP.
Source: CEPEA (2010).

Table 1. Data of production, exports and international ranking of main Brazilian agricultural commodities.

Main Products	Production	Exports	Number of Markets	Total Exports
				US\$ millions
Sugar	1 st	1 st	113	6,167
Coffee	1 st	1 st	134	3,364
Orange Juice	1 st	1 st	82	1,469
Soy	2 nd	1 st	74	9,308
Beef	2 nd	1 st	144	3,923
Tobacco	2 nd	1 st	114	1,752
Alcohol	2 nd	1 st	40	1,605
Broiler	3 rd	1 st	145	3,203
Corn	3 rd	4 th	34	460
Pork	4 th	4 th	72	1,036

Source: MAPA (2007)

Brazil is the 5th largest country in area in the world, with approximately 8,5 million km². Areas dedicated to agriculture occupy 35% of the territory. Pastures leads the portion of this occupation, with more than 200 million ha and 25% of the national area. Perennial and annual crops occupy 10%, where coffee, orange and cocoa are the most important perennials and soybeans, maize and sugarcane lead the annuals (DIEESE, 2008).

Agricultural production has increased substantially in the field in the last three decades. From 1975 to 2007, 90% of the growth was due to increase in productivity and 87% of the growth from 2000 to 2007 (Gasques et al., 2010). Investments in technology, genetic improvement and use of fertilizers have been the main drivers of this increase in productivity. Brazil is recognized as a leader in research and development in tropical agriculture, having EMBRAPA (national public enterprise of research in agriculture) as an international reference of development and export of technology.

The other component of growth in production comes from expansion of the cropped area, mainly for cultivation of soy, sugarcane and pastures. National and international demand for agricultural commodities, meat, food, timber, paper and pulp and biofuels have pushed a new cycle of investments, growth and expansion of the sector. As an example, the area planted with soy almost doubled in the last 15 years, reaching 21 million ha in 2006/2007 season (Dall’Agnoll et al., 2007). Until 2012/2013 it is expected an increase of 30% of the sugarcane area, adding new 3 millions ha to the present 7 millions with the crop. The cattle production reached 7,4 milions heads in 2007 and from 2003 to 2006 more than 90% of the growth happened in the Amzon (Smeraldi and May, 2008) – growth of cattle heads in Figure 2.

2. Social and environmental impacts of agriculture and its expansion

Initially, it is important to remark the diversity of the environment in the country, the profile of producers and level of technology. Agriculture occurs in the whole country, made by smallholders, professional companies, medium size farmers and a wide range of other entrepreneurs. Another important feature is land concentration, where farms up to 50 ha represent 74% of the numbers of

farms, but only 12% of the area and farms larger than 1.000 ha represent 1,7% of the number and 43,7% of the area.

The high diversity of location, conditions of cropping and technology, level of education of farmers, technical assistance and governance result in a heterogeneous production, productivity and socioenvironmental performance. In the country it is possible to find state of the art farms, but also ones with very low productivity, with occurrence of degradation of natural resources and low quality of livelihoods of rural workers and surrounding communities in the consolidated and expansion regions of agriculture.

The consolidated region means the Center South of the Country, mainly the South, Southeast and the coastal and humid part of the North-east. This is the region first occupied, with highest population density and intensity of land use. It is coincident with the domain of the Atlantic Forest, one of the biomes with highest biodiversity of the world, being considered a hotspot for conservation (Myers et al, 2000). Most of its natural vegetation has being removed (93%) – ISA (2008).

Expansion has happened in the last decade mainly in the Cerrado and Amazon regions, where pastures and crops have replaced natural forests. Besides loss of biodiversity, degradation of soils and water resources, deforestation has had global impact, as those related to climate change. Deforestation is responsible for 75% of Brazilian green-gas-houses emissions and the country stands among the 5 top in global emissions. Around 18% of the Brazilian Amazon has been converted and deforestation of Cerrado varies from 39% to 57% according to EMBRAPA and Conservation International respectively (ISA, 2008). Cerrado also stands out as one of the top 10 hotspots for biodiversity, according to Myers (2000). Nepstad et al. (2008) predicted that synergistic trends in Amazon economies, forests and climate could lead to the replacement or severe degradation of more than half of the closed-canopy forests of the Amazon Basin by the year 2030, even without invoking fire or global warming.

The dynamics of deforestation are complex, evolving drivers as predatory logging, implementation of infrastructure such as roads and dams for electricity, settlements of smallholders, but there is no doubt that expansion of the agriculture frontier has a critical contribution for it. It is estimated that 75% of the 72 million ha converted until 2007 (legally and illegally) became pastures in large properties or settlements of small producers (Alencar et al., 2004, Barreto et al., 2005, Smeraldi and May, 2008). Studies have also identified that soybeans have direct relation to deforestation in the Amazon (FBOMS, 2004). In regions of higher level of technology in agriculture, soil fertility and governance and better infrastructure, the expansion has contributed to a certain degree of development. But in locations where these conditions does not exist, the replacement of the forest by pastures and crops has resulted in a boom and bust pattern that ends up in local poverty, degradation of natural resources and violence (Celentano and Veríssimo, 2007).

Therefore, deforestation has resulted in severe impacts in large scale like loss of biodiversity, soil degradation, climate change and the ones regarding water resources. Besides that, there are similar impacts related to agricultural practices at the farm level, due to inappropriate use of pesticides, incorrect disposal of residues and intensive use of machinery, exploiting and degrading the natural resources base of Brazil.

Although agriculture is responsible for a significant part of employment in Brazil, it is considered to be a sector that provides low salaries and inappropriate working conditions, according to ILO definitions. Child, slave and precarious labor have been reported in expansion (more frequently) but also in consolidated regions (Sakamoto, 2007; Wilkinson and Herrera,2008). Health and safety

labor regulations are not consistently followed and it has ended up in deaths, diseases and low expectation of life length for rural workers. Moreover, the expansion of the frontier in large properties has also resulted in rural exodus, expelling local communities from their lands. Not considering cultural and social dynamics, there are doubts about the balance of employment caused by this process.

Low governance, absence of a comprehensive land use planning, integrated policies and monitoring are among the reasons that explain the problems related to the social and environmental impacts of agriculture in Brazil:

- a) Governance – Brazil is considered to have a robust and modern environmental law, that tackles licensing, preservation of riparian forests and conservation of natural ecosystems in private lands, pesticide use, wastes disposal and soil conservation. Labor conditions in farms are also covered by the national labor law and specific regulations regarding health and safety conditions in the field. However, part of the law is not totally enforced. For instance, the compliance with the Forest law is systematically not followed. And even components of the labor law that are enforced rely on the level of governance and presence of public infrastructure across the country. There is a gradient of governance that decreases from South to North and from East to West and the intensity of compliance of the regulation follows these axis.
- b) Land use planning – there is no comprehensive land use planning for the country, considering the ecological, economic and social dimensions. Some States have developed theirs and the Federal government has made a specific one for sugarcane. However, these efforts have not been enough to orientate a long term planning of land use in Brazil.
- c) Land tenure, environmental and labor regulations, agriculture policy, credit policy, technical assistance and others tools influence the performance of agriculture in ground, but are not integrated nor in the Federal, neither in the State or Municipal Levels. They are not easily available for farmers and not “translated” in a way to be understood by decision makers at the farm level.
- d) Monitoring – Brazil has today one of the most advanced monitoring system of land use cover of the tropical world. It has been improved with the high rates of deforestation of the last decade and has been fundamental to prioritize law enforcement actions and creation of conservation units. But the tool is limited to the Amazon and there is lack of such a monitoring system for Cerrado, Caatinga, Pantanal and Atlantic Forest. It is necessary to have monitoring tools to monitor water and soil conditions in different scales across the country.

Finally, land tenure is the most critical factor contributing to impacts in agriculture in the expansion frontier of agriculture, mainly in the Amazon. In this region land grabbing still occurs and there is high uncertainty about land ownership. As land is occupied, but has no legal owner, it is impossible to enforce the law and increase governance in the region.

Concluding this section, we need to emphasize again that despite all the severe impacts of agriculture activities in farms and the others related to its expansion, there are examples of best management practices of production, conservation and labor issues in many farms, again in different scales, locations and profiles of producers.

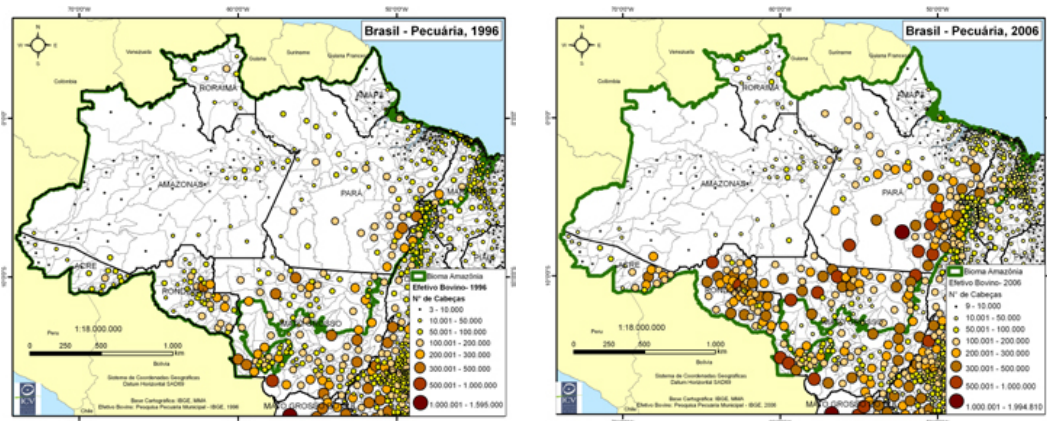


Figure 2. Expansion of cattle heads in the Brazilian Amazon between 1996 and 2006.

Source: Imazon (2008)

3. Value chain approach

In function of the intensity of expansion of the agriculture frontier in the last decade and its consequences, a series of public and independent initiatives were settled aiming to increase governance and minimize or mitigate impacts in the field.

Understanding of the process was built and raised as a result of NGOs studies demonstrating the connections between the expansion and its impacts and campaigns against companies evolved in controversial situations. Among these we can mention the Greenpeace campaign against Cargill, the Greenpeace Report about the cattle / beef / leather industry, the Friends of Earth – Brazilian Amazon report about the expansion of the Cattle and beef industry, the FBOMS study linking soy expansion to deforestation, the IMAZON and IPAM/Woods Holes Research Center studies about the Amazon and the Repórter Brasil reports about biofuels.

Those actions created a favorable environment for searching solutions to face the issues raised, many of them in dialogs between NGOs and the private sector. Among them, we can mention the Soy Moratorium, the Roundtable for Responsible Soy (RTRS), the Roundtable for Sustainable Biofuel (RSB), the Sustainable Cattle Working Group (GTPS), the Brazilian Initiative for Agriculture Verification, the Sustainable Agriculture Network, the Sustainable Amazon Forum, the Leather Working Group. These are either national or international initiatives, but have some common features:

- 1) They are multistakeholder, having participants of the private sector and civil society.
- 2) They are working towards tools to improve overall governance and best practices in the field.
- 3) They aim to influence public policies, but do not have government as members, but only observers.
- 4) They have the value chain approach, bringing together not only producers, but all the parts of then chain, from the farm to the end consumer, including the financial sector. They recognize the importance of the market and independent tools and intend to influence business practices across the chain. Some consider standards and third party verification or certification as a way to achieve it, as suggested by Nepstad et al. (2006).
- 5) They identify traceability as a bottleneck to guarantee origin of responsible / sustainable products throughout the chain.

The analysis of the value chains of the most important commodities (soy, cattle / beef and sugarcane / ethanol / sugar) showed concentration in one or two of its parts. For soy, although there are thousands of producers and many end users, there are a few traders that commercialize most of the volumes produced – Figure 3. At the cattle / beef chain, a few processors (*frigoríficos*) concentrate most of the volumes traded and almost all the meat exported. The 3 most relevant supermarket chains operating in Brazil are responsible for 50% of the beef sold in the country (Smeraldi and May, 2008) – Figure 4. Identifying the key players of each chain has helped decision makers to prioritize policies and actions. The connections across the chains has also raised private and public awareness about the relations of corporative and end consumers with impacts in the field. After that, food companies, supermarkets, fast foods, fuel companies and other have engaged in the initiatives in place. The same occurred for banks.

The value chain approach has also had legal implications. The Prosecutor of the State of Pará has moved a legal case against meat processors, making them accountable for practices of their cattle suppliers. All this dynamic resulted in a paradigm that has meant a new role for drivers and big players of the chains, including the financial sector.

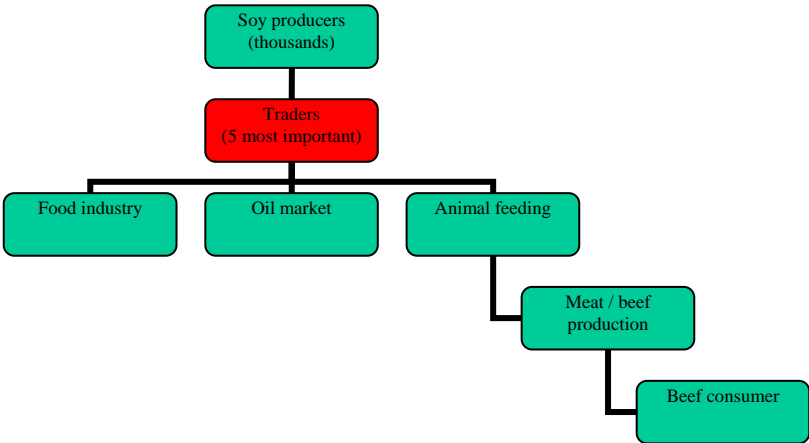


Figure 3. Soybeans simplified value chain and its concentration component (red)

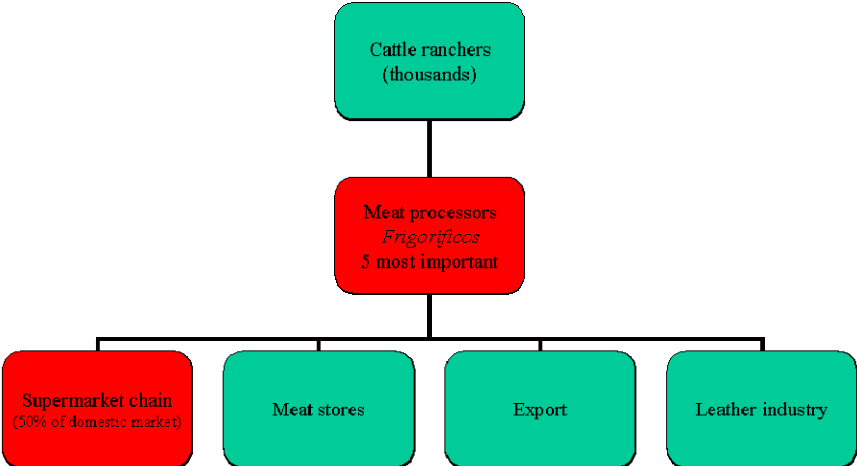


Figure 4. Cattle / beef simplified value chain and its concentration component (red)

4. The way towards sustainable development and the financial sector

Although banks have had their businesses monitored by civil society for some time, by organizations such as BankTrack, there is one case that became a milestone for the agriculture-deforestation-financial sector dynamics in Brazil. It was a loan of the IFC to the Amaggi group in 2004. The US\$ 30 millions loan was for the group to increase its capacity to process soy in the expansion areas of the company in the Amazon. The Brazilian NGOs, represented by its national forum (FBOMS), formally claimed against the risk categorization of the loan, defined as “B” by IFC staff. NGOs argued that it should be categorized as “A”, that requires a more detailed analysis of the impact of the operation. The CEO of IFC at the moment (James Wolfensohn) answered the claim from the NGOs and sent the case to the Ombudsman of the corporation. Nevertheless, the IFC argued that the loan was to the industry part of Amaggi and not field activities and the process should not change. Therefore, the categorization was not changed and the loan was done, but the case had high visibility and raised awareness of the connections of banks and their direct or indirect impact to the deforestation.

Another similar IFC loan was also contested by NGOs and FBOMS. It was a US\$ 90 millions loan to meat processor Bertin, planning to increase its industrial processing capacity in states of the Amazon. Despite the evidences that the loan to the industry would have high impact in the field and that the process was not followed according to international guidance as the Ecuador Principles, the loan was approved.

At the same time, two initiatives became positive references of the role of banks in promoting responsible businesses. The first was the Socioenvironmental Risk Analysis of ABN-AMRO, taking in account a new dimension for loans of the bank. It included this procedure for loans at the amazon, for operations such as timber companies. Due to the repercussion of the IFC loan to Amaggi and its focus of in Agribusiness in Brazil, in 2006 Rabobank published its Socioenvironmental Policy. It defined guidelines for dealing with companies operating in situations with risk of deforestation, violation of human rights and use of GMOs.

Besides independent initiatives of banks, the financial sector already counts with a robust framework to guide its operations in terms of their social or environmental impact. There are series of national and international guidelines or protocols in this regard, most of them of voluntary purpose. From the official side, Brazil has had the Green Protocol (Protocolo Verde) since 1995. In the international level, the Ecuador Principles stands out as the reference for the financial sector. Besides these two, one consultation at the web-site of a Brazilian bank show that it adheres, considers, reports or participates in more than 10 process regarding sustainability, like Global compact, Carbon Disclosure Project (CDP), Unep – Finance Initiative, Institute of Social and Ethical Accountability, National Pact for End of Slave Labor, National Forum for Preventing Child Labor, Roundtables, among others.

In this sense, it is expected that loans and other banks operations would guarantee that their investments only go to responsible businesses. In this sense, in 2008 we made a survey with some Brazilian banks regarding their products and tools to finance activities in the chains of soy, cattle and sugarcane and manage social and environmental risks.

We found different policies and profiles of banks. One pattern is the conservative one. When the bank identifies that the project is not socially or environmentally appropriate, their preference is not to finance the company. The second option, in case of high risk, is to make the business condition (guarantee, interest, grace) unattractive for the client. During the review process, the bank has no formal mechanism to review certificates of guarantee or independent certification, but may consider

them as a decreased risk, which may make the conditions of the loan more attractive. The condition of suppliers of the companies, like sugarcane and cattle producers are considered, but in a declaratory way. It does not check performance in the field and the bank recognizes the difficulties of its analysts and the lack or inadequacy of existing databases (MMA, IBAMA, INCRA) for a more meaningful analysis.

Another profile of banks, make a detailed risk assessment and adopt a different approach: they have exclusion criteria and qualifications. The exclusion considers serious disrespect for law or violation of universal rights. The qualifying considers the social and environmental performance of enterprises. They finance adequacy of companies, including compliance with the Forest Code and other changes necessary to satisfy the law. The performance and level of fitness to social and environmental conditions will affect business conditions (interest rate and others) both positively and negatively. They consider certification as an instrument that reduces risk and can contribute to a better deal for the company. They may consider the performance of suppliers in risk analysis, and have products to invest in change for this public and considers this a positive deal for the image of the bank.

The main question of all these tools and products of banks relies in the field verification of the conditions of the contractor. Most of the guarantees rely on paper and official documents, what has not being a guarantee of performance, considering the conditions of low governance. Besides, the present official and independent databases to check law compliance and social and environmental performance are inadequate or insufficient for such a complex analysis. Taking suppliers of the chain in the process makes it even more complex and difficult to be performed with assurance and safety.

Therefore we made the following recommendations to improve the analysis of banks to finance agricultural companies and their chains:

- a) It is essential to develop systems to check compliance of legislation relevant to agribusiness. These should be integrated and automatic. This mechanism would significantly expedite the process of analyzing the situation of the companies and their suppliers
- b) In addition to funding the social and environmental appropriateness of suppliers throughout the key companies and clients of the value chain, the financial sector should consider fund directly the farmers, through cooperatives and producers associations.
- c) It is necessary to develop simple and low costs traceability system of agricultural products, which can be done remotely and automatically, with a combination of sampling in the field.
- d) It is necessary to foster a long term relationship between suppliers (farmers) and their buyers (traders, supermarkets, mills). Economic and legal instruments should be considered.
- e) A voluntary and independent social and environmental certification system can help to ensure a minimum social and environmental performance for the agricultural sector and reduce their risk. The joint certification between companies and suppliers is challenging, but should be encouraged. The bar of the standards of verification is the greatest dilemma of the instrument. A very strict standard minimizes risk and increases the guarantees, but lowers the target audience. The reverse increases the public, but decreases the guarantees. It is necessary to consider a system of continuous improvement.

Final Remarks

Agribusiness is very important for the Brazilian economy and it tends to grow in the coming years. Yields will increase mainly due to gains in productivity, but expansion of the cropped area is likely to occur in the next years. The dynamics of deforestation, expansion of the agricultural frontier, generation of richness and socioenvironmental impacts are complex, but have been better understood recently. It became clear that policies, actions and tools to promote changes towards sustainable development and minimizing or mitigating impacts in the field level need to consider the value chain from the farm to the end consumer. Solutions in this direction rely on regulatory and public policy level, but also in independent, voluntary and private sector - civil society dialog and construction of alternatives to increase governance and enhance best practices in the field and throughout the value chains.

The financial sector has a fundamental role to encourage and guarantee these goals, since it has financed operations substantially in different parts of the chains. Instead of financing negative impact operations or just avoiding business in the risk areas, banks should be drivers of responsible business. For such, besides following formal guidelines, they should develop new products to finance changes towards responsible practices and restoration in the field and industry levels. To achieve such, it is necessary not only to develop robust and transparent policies and tools, but to make sure they are applied and have the desired impact in the field. Coordination with public policies, creating feedback and monitoring tools, dialogs with civil society and considering independent and credible standard systems are ways to achieve it.

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