

# Reform or reversal: implications of the Common Agricultural Policy (CAP) on land use, land use change, and forestry (LULUCF) in developing countries

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## Abstract

In the European Union (EU), the Common Agricultural Policy (CAP) has an ambivalent legacy, in that agricultural production is distorted in favor of the EU economy which has had a direct impact on a broader scale on land use, land use change, and forestry (LULUCF) outside of the EU. The absence of tariffs for animal feed has evolved to a situation where the EU cheaply imports animal feed from Latin America, including soybeans that are among the main causes of deforestation in the Amazon and the Cerrado region. On the other hand, there is a huge potential for mitigating climate change by reducing emissions from deforestation and forest degradation (REDD+). This article focuses on one aspect—soy and REDD+ and attempts to make a modest contribution to policy debates by showing that REDD+ and agriculture are closely linked. The 2013 reforms (or lack thereof) of CAP may well have far-reaching impacts on the multifaceted and already complex landscape under which REDD+ will operate, to the extent that it may be in danger of derailing the mechanism in its infancy.

## Introduction

Deforestation and degradation of tropical forests account for 12–18% of global greenhouse gas (GHG) emissions, more than the entire global transportation sector and second only to the energy sector (Rogner *et al.* 2007; Solomon *et al.* 2007; FAO 2010). The main cause is agricultural conversion (IPCC 2007) when forests are cleared to make way for food and biofuel production. Cultivating the soils after deforestation further contributes to climate change, as cultivation oxidizes 25–30% of the organic matter in the upper meter of soil and releases carbon dioxide (CO<sub>2</sub>) to the atmosphere (Cortez & Stephens 2009). Currently, the developing world accounts for about 50% of global agricultural emissions and 80% of land use change and forestry emissions (TBD 2011) with the relative contributions differing dramatically by region as shown in Figure 1.

Understanding the drivers of deforestation is essential to the effectiveness of policies designed to slow forest conversion and hence forest loss. Without this understand-

ing, efforts will not only result in wasting money and resources but also lead to no reduction in deforestation, thus defeating the overall objective.

Most forest clearance in tropical areas takes place in regions with great demand for agricultural land (Kissinger 2011). A study by Wollenberg *et al.* (2011) for Climate Change, Agriculture and Food Security (CCAFS) includes 16 countries from Africa, Asia, and Latin America where agriculture remains the primary driver of deforestation and forest degradation. Moreover, many of these countries are pursuing food, cash crop, and biofuel production policies that could intensify pressures on forest lands. The authors advocate sustainable intensification of crops, and climate smart agriculture<sup>1</sup> as potential solutions, yet they provide very few details on how the link between agricultural and forestry policies can be addressed.

The conditions under which REDD+ is likely to succeed are taking a long time to come to fruition and remain very much in the evolving phase. Searches reveal a scarcity in the literature available on the possible implications of CAP on REDD+. Analysis and discussion of

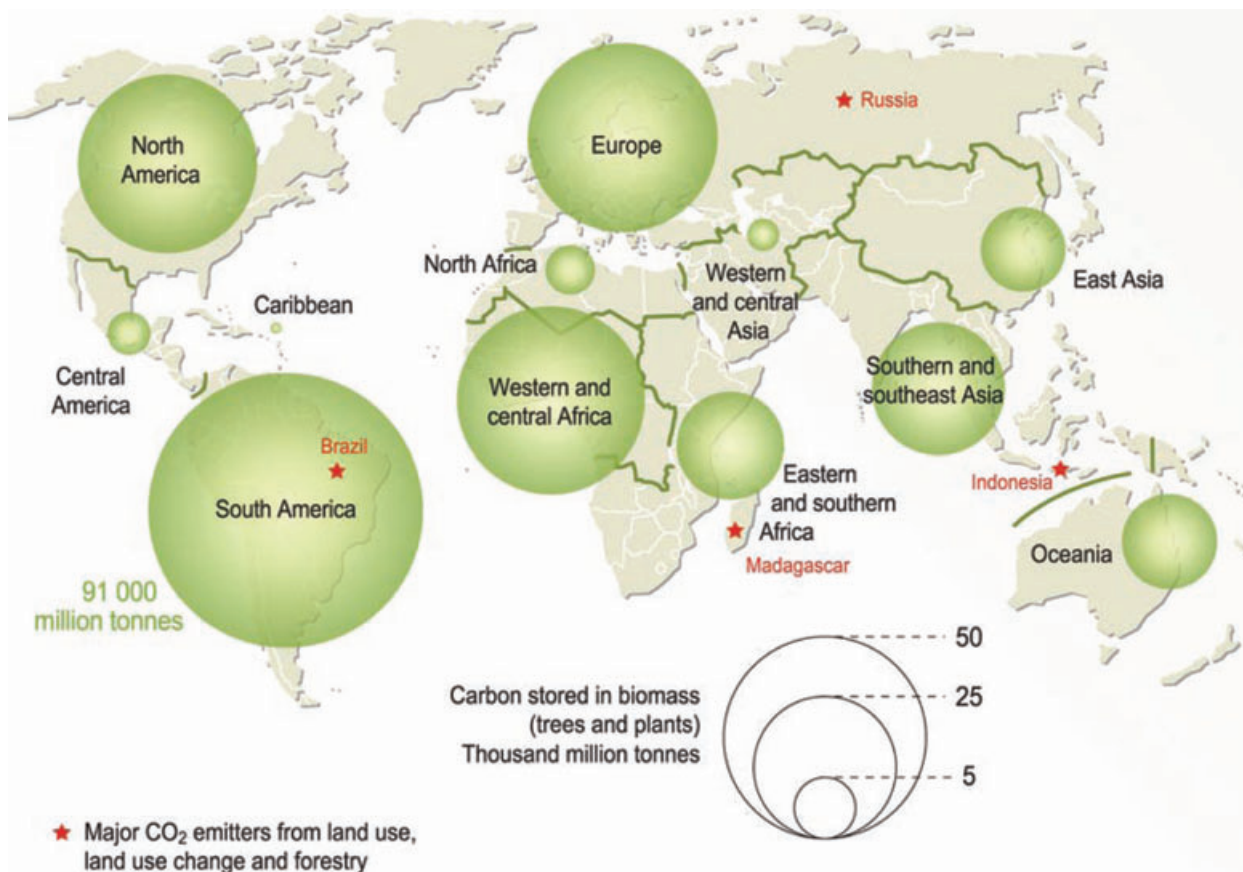


Figure 1 Major CO<sub>2</sub> emitters from land use, land use change, and forestry. Source: UNEP, FAO, and UNFF (2009).

the two policies are numerous when searched for separately, however any linkages between land use, land use change, and forestry (LULUCF) (outside the EU) and CAP are dealt with almost exclusively by “grey literature.” The implications of the European policy for climate change in the LULUCF context have not been addressed in the peer-reviewed literature, offering further evidence of the disconnecting nature between agricultural and climate change policy.

This article analyses how the Common Agricultural Policy (CAP) in the European Union (EU) impacts on climate change mitigation and economic potential in developing countries. It highlights that reform, or lack thereof, of CAP could have major implications for LULUCF activities, and in particular on both, the reducing emissions from deforestation and forest degradation (REDD+) mechanism, as well as on global agriculture than has been appropriated. In light of the short timelines available to mitigate climate change, the post 2013 reforms may well have far-reaching impacts on the multifaceted and already complex conditions under which REDD+ op-

erates. Here, I focus on one aspect—soy and REDD+ and attempt to make a modest contribution to policy debates in this field by showing that REDD+ and agriculture are very much linked. There are opportunities and a need for conceptual cross, for research as well as within the policy forum.

### Reducing emissions from deforestation and forest degradation

The origins of the mechanism known as REDD was first proposed by the Coalition of Rainforest Nations at the 11th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2005. Five elements of REDD+ were laid out in the Bali Action Plan (2007), with the core being reducing emissions from deforestation and forest degradation (REDD) “plus” the three supplementary elements conservation, sustainable management of forests, and enhancement of forest carbon stocks (Parker *et al.* 2009). However, the REDD text that emerged in the

Copenhagen Accord at COP15 in December 2009 followed by the Cancún negotiations in 2010 included all five elements on an equal basis. Thus the term “REDD” is inadequate to describe the issues under current discussion by negotiators. It has been replaced in all key texts and discussions by “REDD+” (FAO & RECOFTC 2010) as well as in this article. The overarching agreement on REDD+ is being negotiated under the UNFCCC with the rules governing REDD+ evolving rapidly and simultaneously by three multilateral institutions; the Forest Carbon Partnership Facility (FCPF), the UN-REDD Programme, and the Forest Investment Programme (FIP) (Global Witness 2010).

REDD+ offers the opportunity to utilize funding from developed countries to decrease deforestation in developing countries. However, by relating the provision of financial incentives to the reduction of land-use emissions, REDD+ is indirectly imposing a view on how land and forest should be managed/used in a given country. By delivering multiple benefits, this new mechanism can, in addition to mitigating climate change support livelihoods, maintain vital ecosystem services, and preserve globally significant biodiversity (CBD 2009). In particular, Cortez & Stephen (2009) cite that “*the ultimate goal of REDD+ is to make standing forests more valuable than the timber or agricultural revenues that would result from clearing forests and provide significant incentives to plant new trees.*” It is this objective that is the main point of discussion in this article, which conflicts with CAP in its current form.

Renowned climate change-related reports, such as the Stern Review (2006) have stated that, reducing deforestation is the “*single largest opportunity for cost-effective and immediate reductions of carbon emissions.*” More recently, the Eliasch Review (2008) has examined the impacts of linking REDD+ credits within a global carbon market, and concludes that the mechanism can become a critical and cost-effective means of reducing global GHG emissions. Furthermore, there have been claims about the additional benefits of REDD+ programs and projects in terms of biodiversity conservation and poverty alleviation (Angelsen *et al.* 2009). However, any successful strategy to enhance carbon sinks using forestry activities will need to take into account all underlying causes of deforestation and degradation.

It would be an understatement to say that expectations are high for REDD+, given the numerous overlapping areas such as development, economics, and climate change, all encompassing conflicting aims and processes, ultimately contributing to unrealistic expectations and overall confusion. There are also many national and global stakeholders involved ranging from opportunistic land speculation by investors, to naïve assumptions about what it takes to implement a REDD+ program

by the various interested entities (Cortez & Stephens 2009). Given the scope and the interest in REDD+, CAP reforms are of particular significance otherwise it can act as one more obstacle to the already complex landscape under which REDD+ will operate. Through an examination of REDD+ “readiness proposals,” CCAFS conclude that those nations currently pursuing food and biofuel production goals appear to be in direct conflict with their REDD+ forest preservation priorities (Wollenberg *et al.* 2011). With rising population and income, there will be increased pressure on the demands placed on forests if current trends persist, which will in turn, result in further shifts in land use to crops and livestock from environmentally rich land.

## The Common Agricultural Policy

The EU’s Common Agriculture Policy was initially established after World War II to ensure food security in Western Europe and is the main mechanism through which the EU regulates its farming sector. It is a system of subsidies, incentives, and rules that is applied across Europe and takes up 30–40% of the EU budget (Jomini *et al.* 2009). The broad aims of the policy were to (1) increase productivity; (2) raise incomes for farmers; (3) stabilize markets for farm produce; (4) ensure the continuity of food supply from farm products; and (5) ensure reasonable prices (Fekete 2005). In order to achieve these aims, the EU (then the European Commission) introduced a price intervention system. This in real terms means that the EU buys its agricultural products at above world prices by guaranteeing prices for certain produce, in particular for cereal, dairy, and meat (Fekete 2005).

However, an undesired consequence of this intervention was to encourage farmers to produce as much as possible of these products in order to maximize their income, which in turn, led to the creation of food mountains, and an oversupply on international markets by heavily subsidized producers. Thus, the trade distortion impact of the CAP, equivalent to “dumping” resulted in global price decreases and import surges that threatened the ability of less competitive local producers in net food-importing developing countries.

Thriving agricultural and forestry sectors are essential for the sustainable development and poverty alleviation objectives of many nations. The CAP creates competition from Europe that is unfair to poorer nations and threatens food security for their people by making it harder for these countries to have access to markets, deters investments in their agricultural sectors and undermines their productive capacities (Coordination Européenne 2010; United Nations 2011). One of the most severe extra-European effect is in Latin America, where the policy has

caused a welfare decrease of around €4.4 billion due to the price movements which have induced some of the largest contractions in the livestock sectors (output depressed by 12.7%). The largest contributor to this welfare loss is the border protection component of the CAP (Costa *et al.* 2009).

Many nations outside the EU have criticized the CAP for its unfair subsidies, its contribution to global price collapses and its dumping practices (Swinbank 2005). Much has been written about the subsequent trade distortion and the derived consequences these distortions have had for international agricultural markets (Gersfelt & Jensen 2004; Josling 2008; Daugbjerg & Swinbank 2009; Jomini *et al.* 2009; Boulanger & Jomini 2010). Sommerauer (2010) asks “*Why is the Common Agricultural Policy of the EU fostering deforestation or why is the EU fighting illegal logging but not deforestation?*.” The author points out that the EU communicates illegal logging as a major source and force for global deforestation, and thus climate change. It is active in fighting illegal logging through the FLEGT initiative (forest law enforcement, governance, and trade) yet, more than three quarters of global deforestation is not due to selling of illegal timber but due to the establishment of agriculture land.

The CAP has undergone a number of reforms since its inception in the 1950s, significantly influenced by the World Trade Organization (WTO) negotiations, where the first of such reforms began with the MacSharry reform in 1992 and continued with the Agenda 2000 reform and the most recent Fischler’s 2003 reform. The CAP in 2013, once again faces a new set of reforms, setting the scene, for consequences, and/or opportunities for agricultural production and international trade as well as on global climate change mitigation and adaptation efforts.

### **Soy production in the Cerrado biome: example of the conflict between CAP and REDD+**

Starting in 1962, the decision was taken for the CAP to exclude animal feed from any tariffs. Subsequently, the EU abandoned its own production of plant proteins, evolving to a situation where EU farmers cheaply import animal feed from Latin America, including soybeans, primarily from Brazil and Argentina. Thus, encouraging these nations to start producing soybeans at the expense of food crops and pasture land, thereby exacerbating deforestation rates. The expansion of soy planting has largely been driven by rising consumption of meat, and there is also a significant market for soy oil for use in food, biodiesel, and other products (WWF 2011). In just 15 years, the production of the crop has doubled, and the

land used to grow soy worldwide now covers an area almost the size of Egypt (Boucher *et al.* 2011) and is set to increase as shown in Figures 2a and b.

Large-scale soy agriculture in the southern Brazilian Amazon and the Cerrado now rivals deforestation for pasture as the region’s predominant form of land use (Soares-Filho *et al.* 2006). Despite recent drops in Amazon deforestation rates, 6,450 km<sup>2</sup> are still lost annually, with the Cerrado biome faring even worse with 20,000 km<sup>2</sup> destroyed every year (WWF 2011). Being one of the most biodiverse savannahs in the world, the Cerrado is very important for the wider area. The biome holds many native species exclusive to the region and its location on the high plateau of the continent gives it an important role in the preservation of water resources for a large part of Brazil and several nearby countries. The region also has huge global importance because of the large stock of carbon stored in its vegetation and soil (WWF 2011).

As illustrated by Figures 3a and b, nearly half of the original vegetation cover had been lost by 2008, if unchecked; at least 70% of its natural vegetation cover and a further 9.6 million hectares could be lost to soy expansion by 2020 (UNEP, FAO, and UNFF 2009). Land use for soy in the Cerrado is unsurprising based on the prices attainable compared to other drivers of deforestation, where the approximate net present value (NPV) per hectare is \$200–\$1,400 for timber, \$200 for cattle ranching and almost \$2,000 for soybeans, respectively (UNEP, FAO, and UNFF 2009). In the Cerrado, the conversion of native woodlands to soy crops is even more profitable, worth over \$3,000 a hectare. The strong link between soy expansion and this continued loss of the Cerrado is shown in Figure 4. It can be seen that the municipalities with the highest recent rates of deforestation also have prominently high levels of new soy plantations (WWF 2011)<sup>2</sup>.

The proposed *sustainable Cerrado initiative* is a REDD+ type effort by the Government of Brazil, the global environment facility (GEF) and the World Bank to support the conservation and sustainable development of the Cerrado. The objectives are to “*ensure that globally significant biodiversity is maintained, in priority regions of the Cerrado Biome, considering both production landscape and in protected areas without negatively impacting the traditional communities, through the establishment of key policies, biological corridors, promotion of sustainable use of Cerrado resources and sustainable agricultural practices*” (The REDD Desk 2011). However, such initiatives may be undermined from the onset without first addressing the current drivers of deforestation, including land for soy production that offer high prices but do not promote sustainable agricultural practices. There exists a huge

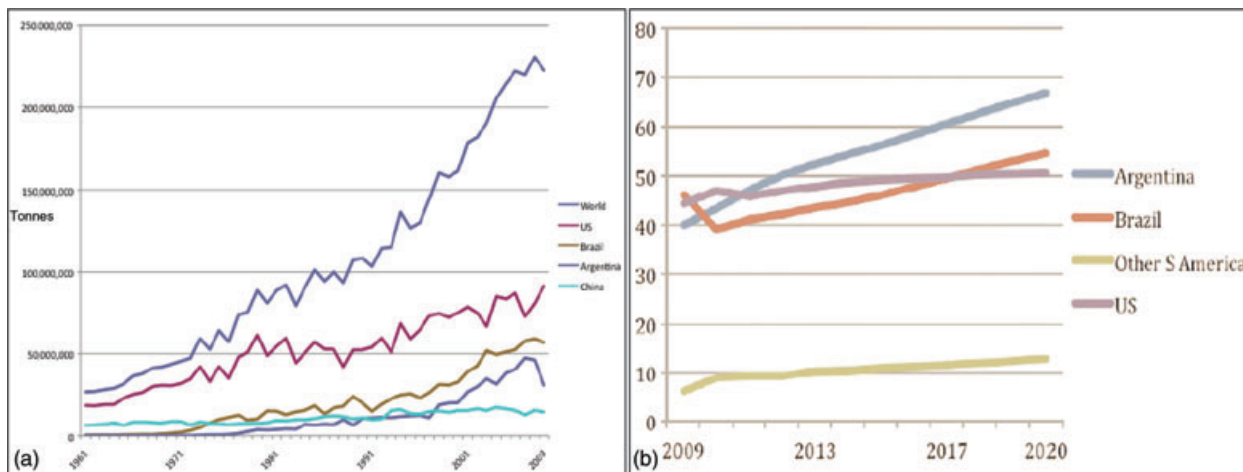


Figure 2 (a) Soybean production 1961–2009. Source: FAOSTAT (2011). (b) Projected soy exports to 2020. Source: UNEP, FAO, and UNFF (2009).

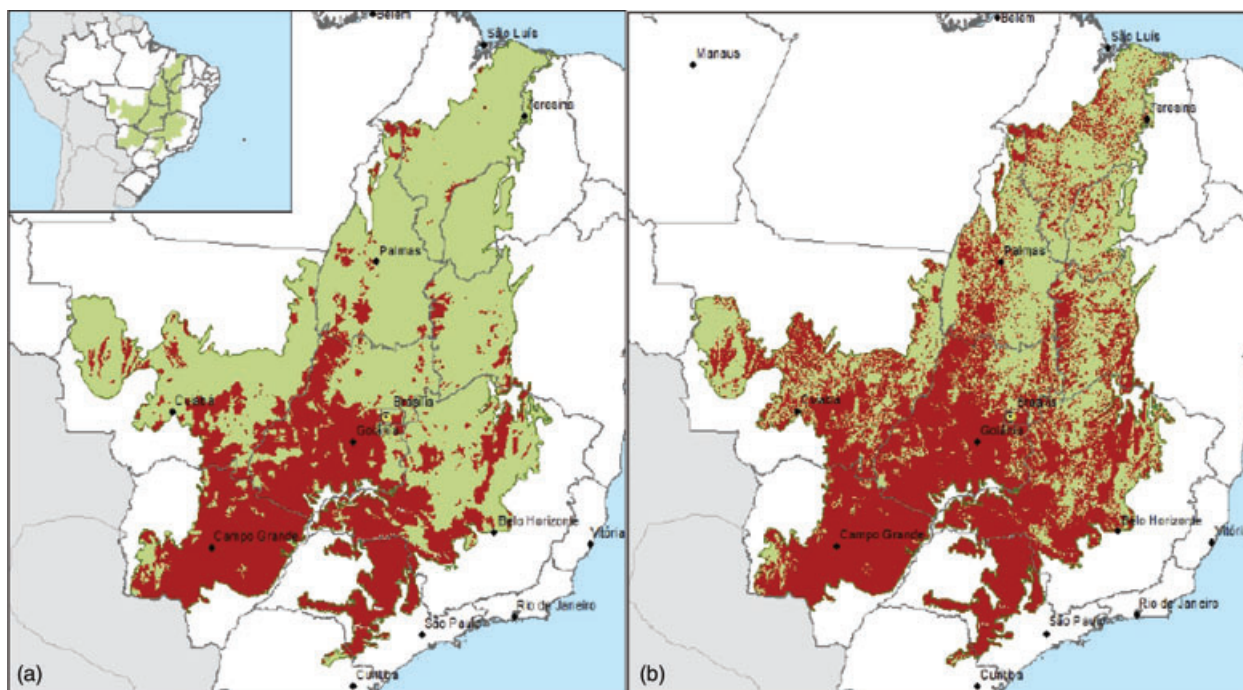


Figure 3 (a) and (b) Remaining natural vegetation of the Cerrado in 2002 and 2008. Source: MMA and IBGE (cited in WWF 2011).

potential for REDD+ for forested nations such as Brazil. However, to realize this potential, there is a need to create an environment that promotes low-risk carbon emission reduction opportunities (Khatun 2011). The Round Table for Responsible Soy (RTRS) has developed processes, criteria, and indicators that improve the environmental and social performance of soy. Certification prohibits planting on land recently deforested, creating a global incentive for future agricultural expansion to take place

on other lands increasing the amount of overall forest carbon (IPAM 2011).

### Conclusion

Forestry and agriculture are sectors that offer real potential for the world’s rural poor to participate in adaptation and mitigation activities related to climate change that directly affect them. There are opportunities offered, within

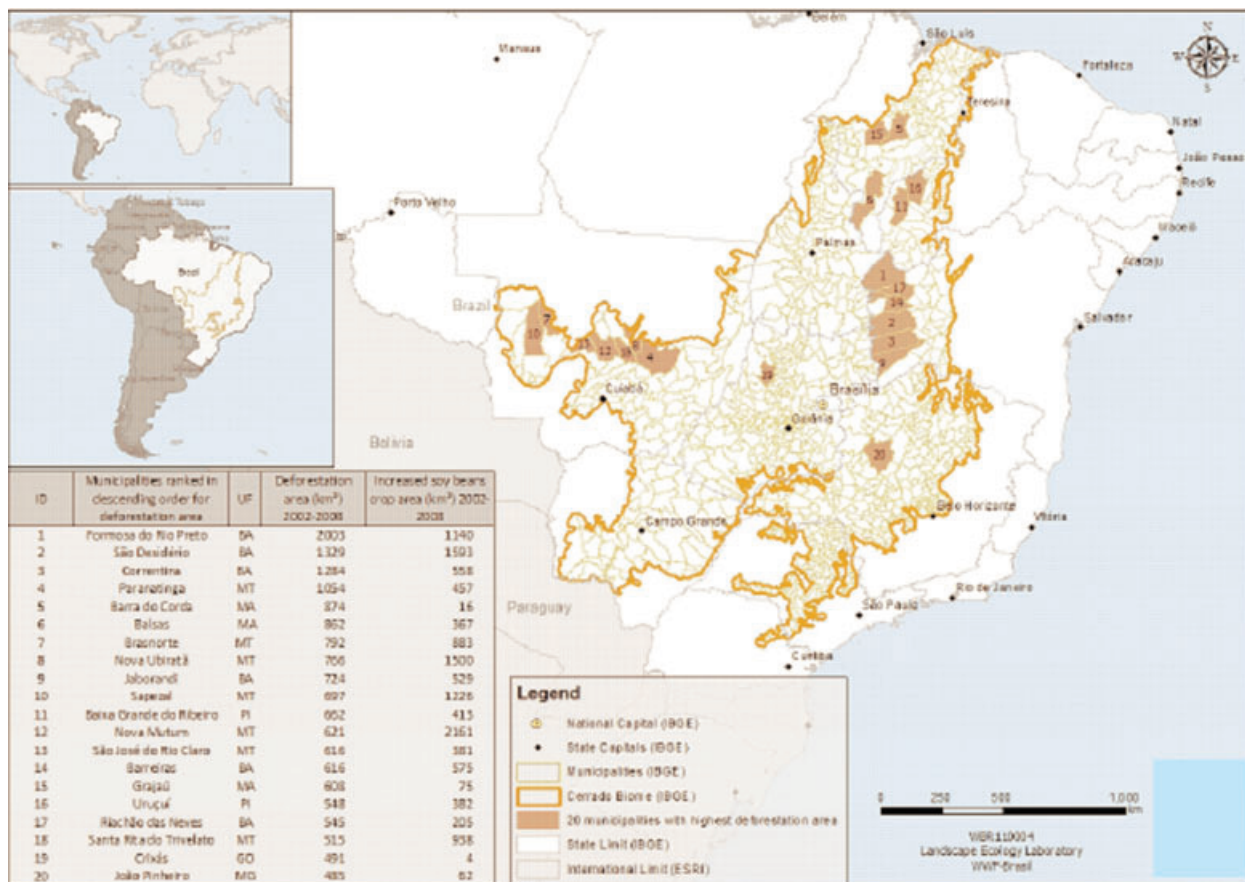


Figure 4 Soy planting increases in municipalities with the highest rates of Cerrado conversions. Source: WWF 2011.

international markets mechanisms such as REDD+; however, CAP is deterring that potential. There is a consistent shifting of key concerns and positions among nations, and the linkages between deforestation and agriculture are complex and context-specific. The success of REDD+ will ultimately depend on how well it contributes to the development needs of a country. Climate smart agriculture, that addresses food security, development, and climate change adaptation/mitigation (Wollenberg *et al.* 2011), by taking a global viewpoint, while challenging, needs to be the core approach in reducing overall deforestation and promoting sustainable land use. In Brazil (and worldwide), the success of REDD+ in mitigating climate change will depend upon redirecting agricultural expansion away from tropical forests toward lands that are already cleared, but below their productive potential, and freeing up nutrient rich land for subsistence agriculture rather than for European market demand for soy, meat, biofuels, etc. Subsistence agriculture is also a driver of deforestation, however, this can occur in place of cash crops, instead of in addition to them.

EU support to its own agricultural producers must not be realized at the expense of developing nations. Initial steps should remove CAP activities that drive global deforestation and affect the LULUCF sector as whole. Growing vegetal protein in Europe (as has been done in the past) to feed animals would go some way to solving the problems created by intensive soy production in the south, and EU reliance toward imported animal feed. If the EU chooses to eliminate CAP subsidies and tariffs, conservation and subsistence efforts would be made more competitive and encourage better land use, as well as expanded market access opportunities for developing country products, in terms of both, exports into developed country markets, as well as improved competitive circumstances in their own national markets. The agricultural sector in Europe has a political importance well beyond its economic impact. Any justification in terms of its original mandate (although reforms have been made) are no longer applicable in a vastly different planet than the one that accompanied the birth of the CAP more than half a century ago, and it must be reformed

accordingly. Therefore, without reforms of the CAP, the policy can easily be the reversal of the objectives of another, namely REDD+ and thus derail the mechanism in its infancy. Large inconsistencies remain between climate and agricultural policies, which if left unaddressed, will increase agricultural expansion demand into forested areas, thereby exacerbating both climate change, and have far reaching consequences for food security and the development priorities of many nations.

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## Notes

<sup>1</sup> Climate-smart agriculture seeks to maximize synergies and minimize trade-offs in addressing food security, development and climate change adaptation/mitigation challenges (Wollenberg *et al.* 2011)

<sup>2</sup> It is worth noting that, soy is not the only driver causing the destruction of the Cerrado biome, cattle pastures, and increasing demand for sugarcane to produce ethanol, also play an important role.)