

The discursive flexibility of ‘flex crops’: comparing oil palm and jatropha

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Abstract

‘Flex crops’ such as corn, oil palm and soy are understood to have multiple, interchangeable uses; they have *material flexibility*. We propose that *discursive flexibility* – the ability to strategically switch between discourses to promote an objective – equally shapes the political economy of flex crops and thereby patterns of agrarian and environmental change. Comparing oil palm and *Jatropha curcas*, we find that actors who cast oil palm as a multi-scale solution to food and energy insecurity, climate change and (rural) poverty successfully reinforce its high material flexibility. Jatropha’s proponents compensate for low material flexibility by positioning the crop as a ‘sustainable’ energy source that achieves both global and local goals. While this paper focuses on discourses that reinforce the oil palm and jatropha projects, understanding the power of discursive maneuvering can also inform efforts to contest them.

Key words: Flex crops; oil palm; *Jatropha curcas*; agrarian and environmental change; discursive flexibility; discourse

Introduction

Major changes in land use, control and rights are being driven in many parts of the world by the expansion of corn, sugarcane, soybean and oil palm (Kaag and Zoomers 2014, Cotula 2013). These are what Borrás et al. call ‘flex crops’ – their produce can have ‘multiple uses (food, feed, fuel and industrial material) that can be easily and flexibly inter-changed’ (2012, 851). Investors are thought to be attracted to such material flexibility because it lets them decide what to produce and sell based on price signals, thus diversifying markets for their investment while dealing with a single crop (Borrás et al. 2014).

While materialist explanations of crop flexibility are very important to understanding the political economy of contemporary agrarian and environmental change, we think they can be further enhanced by examining the shifting and interacting discourses around these flex crops. Indeed, these are usually not presented as ‘crops’ at all, but rather as means of achieving food and energy security, climate change mitigation, economic development, enhanced (rural) livelihoods and even improved governance at multiple places¹ and scales.² Conversely, for some actors flex crops embody multiple threats to food security, climate change and variability and to the livelihoods and human rights of peasants, pastoralists, fisher-folks and indigenous peoples. In addition to a material type of

¹ Broadly understood as a ‘unit of space that has discrete boundaries, shared internal characteristics, and that changes over time and interacts with other similar units’ (Gregory et al. 2009, 539)

² Scale ‘comprises the nested (and sometimes not so nested) hierarchy of bounded spaces of differing size’ (Jessop 2007, 104-5)

flexibility, then, flex crops are subject to what we call ‘discursive flexibility’ – the ability to strategically switch among multiple discourses which construe the necessary meanings and representations to achieve an objective.

We argue that acknowledging and exploring the discursive dimension of flex crops’ flexibility can help to move beyond the analysis of the contemporary political economy of agriculture, land and resource control to that of their very politics. Indeed, ‘beliefs, ideological controls and discursive practices, as well as negotiated systems of meaning, shape all forms of access [to resources]’ (Ribot and Peluso 2003: 168). Discursive flexibility is both a vector and an expression of contentious politics around flex crop cultivation, processing, circulation and consumption across different places and scales and through time. As we will discuss, these crops mean different – even completely opposite – things to different subjects, and even different things to the same subject under changing circumstances.

This is not to say that material flexibility only influences materialist outcomes of flex crops and discursive flexibility just ideational ones. The relationship is rather a co-constitutive one. Building on the ideational-material stream, Jessop’s concept of ‘economic imaginaries’ (2005) is very relevant to our approach to flex crops as economic objects in the making. He understands economic imaginaries as ‘imaginatively narrated, more or less coherent subsets of [economic] activities [that] identify, privilege and seek to stabilize some economic activities from the totality of economic relations and transform them into objects of observation, calculation and governance’ (2005, 145). As such, Jessop argues about the need to ‘not only study changing discourses but also the mechanisms and material practices through which visions, projects and strategies are realized’ (2005, 161). This provides a basis for our hunch that discursive maneuvering plays a central role in shaping not only the ideological-political but also the economic possibilities for flex crops – for example, by shaping regulation as well as demand, and therefore the very price signal. More broadly, we follow the precedent of Bourdieu (1994), Hall et al. (2012), Ribot and Peluso (2003), Li (2014), Tsing (2000) and Igoe (2010) in exploring the influence of the ideological field of contestation – whose main mechanisms of struggle are discourses – over resource control. We argue that material and discursive flexibility mutually influence both material and ideational outcomes of flex crops, and that they interact in multiple ways (e.g. reinforcing, compensating, amplifying or complementing each other).

Here we focus on how legitimating discourses have been used to ward off criticism of particular flex crops. Monoculture, high-input plantations have been roundly attacked for their ecological consequences and their impacts on land rights, livelihoods and labour, particularly through recent critical scholarship on land grabs (among many others, see White et al. 2012, Li 2011, Borras et al. 2011, Cotula 2012). Meanwhile the drive to produce biofuels from agricultural crops has attracted its own set of critiques,

prominently featuring the themes of food security and climate change (Franco et al. 2010, German, Schoneveld, and Pacheco 2011, Creutzig et al. 2013). Critics have asserted that agrofuel production diverts food crops for fuel, competes with food production for irrigation water, draws down grain reserves, and pushes up food prices (Brown 2007, Ogg 2009, La Via Campesina 2009). Jean Ziegler, then the United Nations Special Rapporteur on the Right to Food, declared agrofuel production a ‘crime against humanity’ because of its alleged contribution to hunger (Ferrett 2007). Research on land use change has also found that far from reducing greenhouse gas emissions, under many circumstances biofuel production incurs a ‘carbon debt’ that actually worsens carbon emissions in the short- to medium-term (Searchinger et al. 2008, Fargione, Hill, et al. 2008). In the face of these attacks on the legitimacy of large-scale land deals and biofuel production, actors who are invested in flex crop projects have strong incentive to reinforce positive discourses about their activities.

In this article we examine the discourses that state, corporate and social actors employ to legitimate the expansion of oil palm and *Jatropha curcas* (hereafter jatropha), how these discourses are activated in a way that shows discursive flexibility, and consider how discursive flexibility interacts with the material (in)flexibility of these crops. We aim, then, to explore the politics across and within multiple actors supporting oil palm and jatropha in different ways and for different reasons. We discuss how meaning-making discourses are strategically formed, signified and activated through a range of mechanisms with the result that material and discursive flexibilities complement and reinforce each other in the case of oil palm, while discursive flexibility compensates for the lower material flexibility of jatropha. It is our belief that revealing how control over discourse plays out as a form of strategic power can inform efforts not only to understand, but also to counter, current patterns of agrarian change.

Oil palm as a *response-able* phenomenon

Today, it is possible to say that oil palm has fully joined the global league of dominant commodity crops. Not only has oil palm increased its world acreage threefold between 1993 and 2012 to reach almost to eighteen million hectares, but also and most distinctively, the gross production value of its main commodity so far, crude palm oil, increased more than eightfold in the same period to stand for more than forty one billion US\$ by 2012 (FAOSTAT, accessed on 11-12-2014). And the industry is confident this growth will endure and Oil World foresees a solid 5% annual growth on palm oil production, to reach 78 million tons in 2020³. In 2011, 48% of the world palm oil was produced in Indonesia, 38% in Malaysia and 14% in the rest of the world. Among the

³ RSPO Technical Director in First Latin American Conference of Oil Palm Growers, Guatemala, October 17 2013.

world's top ten palm oil producing countries, excluding Indonesia and Malaysia, five of them are in Latin America and the rest in Asia and Africa⁴.

One of the keys to oil palm's success within current world historic politico-economic conditions has to do with its increasing multiple uses among which investors can flex (Alonso-Fradejas et al. 2015). There are already many uses for palm oil in the food, fuel, feed and consumer goods industries. And still, according to oil palm industry representatives, 'we are using just around 5% of the many potential uses of palm oil which also include plastics and polymers, paper and so on'⁵. Besides these multiple uses associated with palm oil there is a 'second generation' of uses associated with oil palm's biomass processing in bio-refineries. Indeed, oil palm bio-refineries allow for an increasing number of uses in the energy, biofuels and bio-chemicals sectors (Loh and Choo 2013, Hassan and Shirai 2013). This is what we describe in Figure 1 below as 'all uses for oil palm'. Thus, a traditional value chain analysis is not fully apt to capture the technological, economic and political dynamics, and their manifold interrelations, which shape the flexing among all these multiple uses of oil palm. This is why we adopt here for analytical purposes the 'value web' approach as elaborated by Borrás et al. (2014), following Virchow et al.,

In which the 'web perspective' is used as a multi-dimensional methodology to understand the *interrelation between several value chains*, to explore synergies and to identify inefficiencies in the entire biomass sector [...] The web perspective focuses on the numerous alternative uses of raw products, including recycling processes and the cascading effects during the processing phase of the biomass utilization' (2014, n.p. stress added).

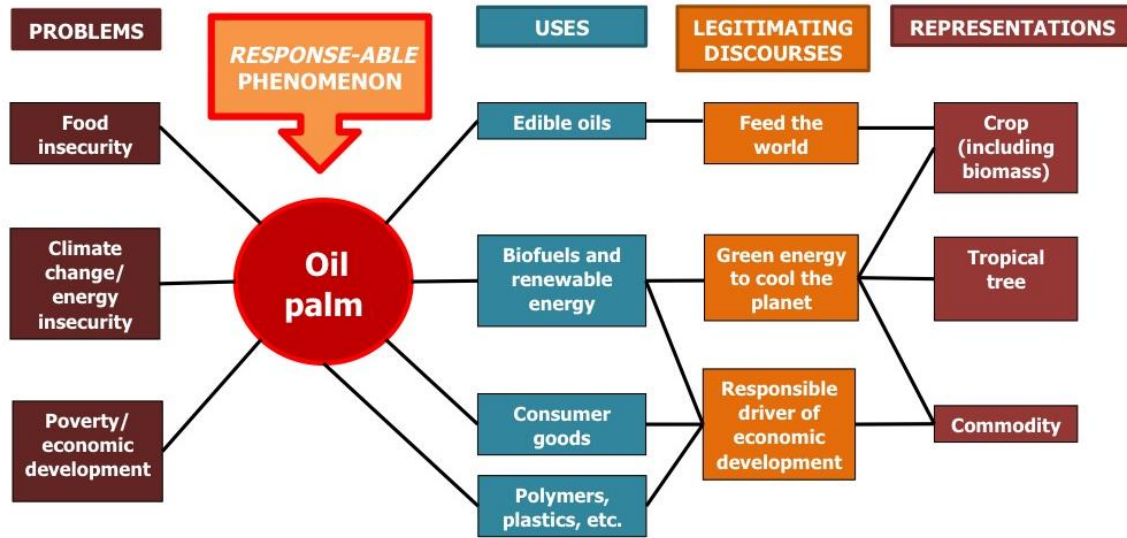
The oil palm value web could be understood as the dynamic materialization of the economic imaginary of oil palm as a flex crop 'grounded both in an "imagined economic space" and an "imagined community of economic interest" among diverse social forces' (Jessop 2005, 160). Different type of corporations are the main actors *in* the oil palm value web, though there are also multiple state and social actors *around* it, with varying positionings towards oil palm or any of its multiple uses.

The material flexibility of oil palm is associated with a series of legitimating discourses that Borrás et al. (2014) call the 'flex policy narratives by governments and corporations'. In the case of oil palm, these flex narratives abound basically on the virtues of its multiple uses with regards to food security, climate change mitigation, and (economic) development. This is what we describe in Figure 1 below as 'oil palm for all purposes'.

⁴ RSPO Technical Director in First Latin American Conference of Oil Palm Growers, Guatemala, October 17 2013.

⁵ Executive Director of Guatemala's Oil Palm Growers Guild -GREPALMA- in First Latin American Conference of Oil Palm Growers, Guatemala, October 18 2013.

Figure 1: Oil palm’s discursive web



Source: Authors’ elaboration

We suggest that the impact of such flex narratives is multiplied when actors in and around the oil palm’s value web switch strategically among them to construe the appropriate representations of oil palm, and meanings for its multiple uses, according to the ideological-political character of the interlocutor. In other words, the material flexibility of oil palm is further endowed with meaning when its multiple representations and use-meanings are activated in a way that shows discursive flexibility.

We will discuss how discursive flexibility works for oil palm with examples from the two world top producers of the crop, Indonesia and Malaysia, and from the main producing countries in Latin America, namely Colombia, Ecuador, Honduras and Guatemala. Exploring the discursive flexibility oil palm in Latin America is interesting because, while the crop is neither new nor as longstanding as in South East Asia, it is definitely booming. Industry representatives from our four selected countries in this region⁶ declared in 2013 they all foresee oil palm acreage to keep increasing in the future at no less than last decade’s 10% average annual growth. And the World Bank states that ‘as much as 46% of the world’s potential area of non-forested, non-protected land, close to market, most suitable for oil palm under rainfed cultivation is in Latin America and The Caribbean’ (Fisher and Shah 2010 in Deininger et al. 2011).

⁶ Those are the Colombian Federation of Oil Palm Growers (FEDEPALMA, in its Spanish acronym), the Ecuadorian National Association of Oil Palm Growers (ANCUPA), the Guatemalan Oil Palm Growers Guild (GREPALMA) and the Honduran National Federation of Oil Palm Growers (FENAPALMA).

Legitimizing discourses around oil palm

As we advanced, the main legitimating discourses for oil palm spin around the contributions of its multiple uses to three interrelated realms of great societal concern: food security, climate change mitigation, and (economic) development. A detailed examination of the three legitimating discourses is beyond our possibilities here. Rather, we focus on empirical examples that can help to put forward an initial discussion about *who says what, why, to whom, where and when*.

Oil palm is the champion of the oilseeds to feed the world

Food insecurity is one of the most controversial issues the actors in and around the oil palm value web have to deal with, especially when questioned with the ‘food vs. fuel’ and the ‘land-grabbing’ critiques. In dealing with such critiques, these actors have often recurred to two mutually reinforcing narratives. First, they elaborate on a discourse aimed at representing oil palm as *food*. This is especially the case when favorable state, corporate and social actors raise public alert about the need to increase food production to feed a growing world population⁷. Following a neo-Malthusian argumentative thread, they aim to push through the idea that ‘large-scale agro-industrial projects are the answer to food insecurity *in the country and worldwide* [thus], thus, public policies should consider this *reality*’.⁸ Often seeking legitimation in the ‘spectacular’ figures (Li 2014) carefully selected from reports by the World Bank, FAO, UNEP and other international financial and governance organizations (IFIs&IGOs), industry representatives from Latin America stress that 150 million tons more of edible oil need to be produced to feed the world by 2050⁹.

Secondly, oil palm’s representation as food is enhanced when promoted as the fittest of all oilseeds to fill the gap on the needed amount of edible oil. Palm oil is argued to be ‘a perfect substitute for mild vegetable oils, like soybean or sunflower oil, which are subject to a process of partial hydrogenation to give them more stability which damages human health’.¹⁰ Furthermore, and turning once again to spectacular figures, industry representatives argue that in order to achieve those extra 150 million tons of edible oil worldwide ‘it would be necessary to plant 333 million hectares with soy, or 217 million

⁷ These include the Colombian FEDEPALMA’s President (in XVII International Conference on Palm Oil in Colombia, September 26-28 2012), the Ecuadorian ANCUPA’s Executive Director, and the Guatemalan GREPALMA’s President (in I Latin American Conference of Oil Palm Growers, Guatemala, October 18 2013). But also the Agriculture Director of WWF-US, and the Executive Director for Central America and the Caribbean of CropLife, an international organization representing Bayer CropScience, FMC, Syngenta, Basf, Sumitomo Chemical, DuPont, Dow AgroSciences, Monsanto and Arysta LifeScience (<http://www.croplife.org>), both in the 4th Latin American Conference of the RSPO, Honduras, August 8 2013.

⁸ Guatemalan GREPALMA’s President, in First Latin American Conference of Oil Palm Growers, Guatemala, October 17 2013.

⁹ In First Latin American Conference of Oil Palm Growers, Guatemala, October 18 2013

¹⁰ Guatemalan GREPALMA’s Executive Director in http://www.prensalibre.com/noticias/aceite_de_palma-primer_productor_mundial-cultivo_0_1018098334.html accessed on October 29 2013

hectares with rapeseed *but only* 36.5 million hectares with oil palm'.¹¹ Thus, 'oil palm saves land' because 'using only 1% of the world's total farmland it provides 30% of all vegetable oils: *Oil palm is more oil in less land*'.¹²

Oil palm is green energy to cool the planet

The virtues of oil palm to reduce greenhouse gas (GHG) emissions and mitigate climate change can adopt multiple narratives. Among the most common ones are those that elaborate on the environmental benefits of oil palm itself, palm oil and oil palm's biomass.

Thus, oil palm can be sometimes presented by the industry as a 'tropical tree',¹³ arguing that 'the life environment created by an oil palm *forest* is very positive for climate change mitigation',¹⁴ and that oil palm plantations 'have reduced vulnerability to natural disasters and avoided soil erosion due to floods' (Grepalma 2012a, 4).

Besides, one of the major uses of palm oil today keeps being that of feedstock for biodiesel. As stated in 2013 by the governmental Malaysian Palm Oil Board, the 'development of green fuels will contribute significantly to reduction of GHG emissions and mitigate climate change' (Loh and Choo 2013, 12). This is supported by the Secretary General of the Colombian FEDEPALMA who even provides figures to argue that 'palm oil biodiesel greenhouse gasses emissions are between 83 and 108% lower than those from fossil fuel diesel'.¹⁵ According to different IGOs working with Latin American governments in the development and enactment of biofuel substitution mandates, palm oil is the most efficient feedstock for first generation biodiesel (Horta Nogueira 2004, Reyes et al. 2010). Once again oil palm is portrayed as the best of all oilseeds – this time as a biodiesel feedstock.

However, the GHG emissions reduction possibilities associated to palm oil do not stop with biodiesel. The methane produced by palm oil mill effluent (POME) is often captured by covering open POME disposal lagoons with a geo-membrane. This is a technique straddling the traditional oil palm mill and the more recent oil palm bio-refinery. While the former is mainly focused on palm oil extraction, the latter is thought to further explore the 'green energy' generation possibilities associated with palm oil and especially oil palm's abundant biomass, namely fronds, trunks, empty fruit bunches, mesocarp fiber and palm kernel shell (Hassan and Shirai 2013). As the President of the Colombian

¹¹ Guatemalan GREPALMA's President in First Latin American Conference of Oil Palm Growers, Guatemala, October 17 2013, stress added

¹² Latin American industry representatives in First Latin American Conference of Oil Palm Growers, Guatemala, October 17-18 2013, stress added

¹³ Guatemalan GREPALMA's Executive Director in I Latin American Conference of Oil Palm Growers, Guatemala October 18 2013

¹⁴ Colombian FEDEPALMA's President in I Latin American Conference of Oil Palm Growers, Guatemala October 18 2013, stress added

¹⁵ Interview in Bogotá, September 20 2013

FEDEPALMA argued at the XVII International Conference on Palm Oil in Colombia, on September 26 2012:

The possibility of producing second generation biofuels out of oil palm's biomass, and the use of its byproducts and residues to generate electricity and mitigate greenhouse gasses show that our business has an important potential for energy generation which is still very little exploited.

Indeed, in the article issued on May 27 2014 by the Indonesian Ministry of Energy and Mineral Resources about the bioenergy potential in Indonesia, one of the key messages for oil palm's biomass is that 'processing the waste is generally like a problem that turned into a blessing' (ESDM n.d.). In Malaysia, where bio-refineries are operative already, the government affirms that 'the oil palm industry plays an important role in supporting the nation's energy requirement in transportation, electricity and industrial sectors' (Loh and Choo 2013, 12).

Oil palm is a driver of responsible and sustainable development

On September 26 2012, the President of Colombia addressed the participants and the media at the XVII International Conference on Palm Oil in the following terms: 'we need to make of oil palm a source of "*opportunities, progress and development*", as this year's conference slogan states [...] in this way -you and us- will be contributing to a *better world*' (Presidencia de la República de Colombia 2012). In a similar line, the President of the Guatemalan GREPALMA finished his inauguration speech at the First Latin American Conference of Oil Palm Growers in Guatemala, on October 17 2013, by stressing that: 'we firmly believe that supporting *sustainability* conditions for the crop and the *eco-industry* of oil palm means contributing to the country's formal economy and thus to *real development, prosperity* and the *wellbeing* of the families from the rural areas where we are present' (stress added).

These messages present oil palm as a 'development driver'. While there is nothing new about accumulation projects represented as developmental, the qualifications of oil palm as a socially and ecologically *responsible* project are very telling of the 'pretty-up strategy' to resignify oil palm from a hazard to a blessing (Alonso-Fradejas 2015). In so doing, 'sustainability gatekeepers' (Alonso-Fradejas 2015) play a fundamental role. They are championed by big development and environmental (inter)national NGOs which are part and parcel of corporate social responsibility (CSR) certification schemes around the oil palm value web, most distinctively the Roundtable on Sustainable Palm Oil (RSPO) and the Roundtable on Sustainable Biomaterials (RSB). Sustainability gatekeepers 'pretty up' oil palm by resignifying major social and ecological concerns around oil palm as responsible and sustainable. For instance, the Dutch NGO Solidaridad promotes inclusion of small land-holders as contract farmers (Solidaridad Network n.d.) as a way to twist the land-grabbing problem associated with oil palm expansion, which they understand only

happens when people are physically expelled from their land. And regarding the ecological issues raised by oil palm plantations, the Vice-President of WWF-USA suggests that ‘when done right, oil palm can be *carbon positive, improve biodiversity, and improve livelihoods*’.¹⁶ Certification by any of these roundtables has become, indeed, an imperative, at least for those actors in the oil palm value web who want to keep on supplying western transnational corporations. For instance, many companies involved in production, circulation and retailing of consumer goods, some depicted in Figure 2 below, have made public their commitment to buy only RSPO-certified palm oil from 2015 onwards.

Figure 2: Companies involved in production, circulation and retailing of consumer goods with palm oil which committed to buy only RSPO-Certified palm oil from 2015 onwards



Source: Colombian FEDEPALMA’s President presentation in XVII International Conference on Palm Oil in Colombia, September 26, 2012.

In spite of certification being a major trend, 82% of the palm oil produced in the world remains uncertified by RSPO (RSPO 2015).¹⁷ This is considered a threat, by some corporate players, and an opportunity by others. On one side, representatives from Unilever, AHOLD and Nutreco questioned the validity and global scope of these commodity certification schemes if only transnational companies like theirs call suppliers

¹⁶ In 4th Latin American Conference of the RSPO in Honduras, August 8 2013, stress added

¹⁷ According to a Unilever representative, ‘only 30 out of the 500 palm oil companies or so in Indonesia are RSPO certified’. In meeting on “Certification and beyond: solutions for responsible agro-commodity governance”, organized by the “Ecosystem Alliance” (IUCN Netherlands, Wetlands International and Both Ends), October 30 2014, The Hague, The Netherlands.

to certify while large importers in China and India do not¹⁸. On the other side, some corporate actors in the oil palm value web see the question of ‘sustainability’ as a potential source of competitive advantages. As stated by the Secretary General of the Honduran FENAPALMA, ‘in Africa and Asia large forest and high ecological value areas have been deforested to expand oil palm plantations while in Honduras we use abandoned lands previously dedicated to large scale banana cultivation and cattle ranching’ (Agrytec 2011), while arguing elsewhere that ‘we can reach faster and cheaper (to the USA and the EU) through the Atlantic, being lucky that Honduran palm oil is seen as sustainable and with attributes the Asian one lacks’ (ICEX n.d.). This seems to be a condition shared among other major oil palm producing countries in Latin America. According to the president of the Colombian FEDEPALMA:

Oil palm industry development of our world leader, Indonesia, is underpinned by cheap labor force, low production costs and large swathes of land given under concession and other forms by the government. But those conditions are neither easy to find somewhere else, especially in Latin America, nor sustainable. Thus, oil palm agroindustry must build and consolidate competitive advantages over more solid bases¹⁹.

The latter statement is further backed by the Environmental Leader of FEDEPALMA, who argues that ‘the Malaysian and Indonesian oil palm sectors’ problems have been generalized to Latin America’.²⁰ In the face of such perceived stigmatization, the Secretary General of FEDEPALMA suggests that ‘this is why we need to certify under RSPO, to have a *competitive advantage* over Asian palm oil exporters. We do not advance the agrarian frontier’.²¹

Oil palm’s discursive flexibility in action

As argued before, legitimating narratives by actors in and around the oil palm value web are much more effective when activated in a flexible fashion. Preliminarily, we identify two major and interrelated ways in which the discursive flexibility of oil palm is activated; namely, the selective representation of oil palm; and the strategic choice of oil palm’s use-discourses.

Way one: selective representation of oil palm

The discursive flexibility of oil palm works this way by re-naming oil palm as different ‘things’. In this way, a whole set of narratives are mobilized in the making of the particular identity of oil palm that the concerned actor needs to achieve its objectives. We

¹⁸ At the meeting “Certification and beyond: solutions for responsible agro-commodity governance”, organized by the “Ecosystem Alliance”, October 30 2014, The Hague, The Netherlands.

¹⁹ President of Colombian FEDEPALMA in XVII International Conference on Palm Oil in Colombia, September 26-28 2012

²⁰ Colombian FEDEPALMA’s Environmental Leader in 4th Latin American Conference of the RSPO, Honduras, August 8 2013

²¹ Interview with Colombian FEDEPALMA’s Secretary general in Bogotá, September 20 2013

have identified three main ‘identities’ for oil palm, that is, as a *crop*, as a *tree* and as a *commodity*.

Oil palm is represented as an *agricultural crop* when the objective is to either support the discourse on its abilities to feed the world, or that related to its contributions to sustainable development. It is indeed a way of de-constructing and countering the critics about food crops substitution by expanding oil palm plantations. Beyond denying time and again that the expansion of oil palm plantations has led to staples’ substitution in Latin America, we discussed how industry representatives, together with a cohort of (inter)national consultants, state actors, NGOs and academics, present oil palm as the fittest of all oilseeds to provide the required edible oil to feed a growing world population, while saving land and generating employment and export revenues. Besides, and although this is much more emphasized in the case of *jatropha*, it is also often argued that oil palm is fit to grow in degraded soils.²²

Oil palm is also presented as *tree*, and accordingly, oil palm plantations as a *forest* with a large source of *biomass*, when the aim is to fully exploit the discourse on the benefits of oil palm to green energy generation and climate change mitigation. In dealing with accusations of deforestation, the Honduran FENAPALMA argued in 2009 that ‘a hectare of oil palm produces 20 tons of oxygen, that is, *more than a hectare of tropical forest* because oil palms are sown with specific distances among themselves to avoid competition, which is not the case of the forest’ (in Ríos 2009, 41, stress added).

And finally, oil palm can be generically presented as a commodity feeding multiple intermediate and end uses. This is especially so when there is a need to circumvent representations of oil palm that hinder its abilities to circulate freely. Most distinctively, at the World Trade Organization (WTO) oil palm’s representations as a food crop and a tree are covered up under its multiple products/uses as an industrial good. In this way, trade of oil palm’s multiple uses can be negotiated as industrial goods in the WTO instead of being subject to the more restrictive provisions of the Agreement on Agriculture. Another example is that ‘when looking at the ingredients on packages of products containing palm oil, dozens of aliases rather than “palm oil” are printed there’ (Alonso-Fradejas et al. 2015). But it is also the case that oil palm is presented by industry representatives as a commodity, and most distinctively, as a valuable and flexible one, when the goal is to ‘trap’ a wide spectrum of investors in its value web, ranging from financial and other corporate investors to other non-corporate investors like contract-farmers (see Borras et al. 2014, Alonso-Fradejas et al. 2015).

²² Interview with the Oil Palm Programme Director of the Government of Guatemala, in Guatemala City, September 21 2009

Way two: strategic choice of oil palm's use-discourses

The discursive flexibility of oil palm works this way on the basis of two discursive strategies, namely the *conflation* of oil palm's use-discourses, and the *strategic dissociation* from oil palm's use-discourses.

Discursive strategy 1: *conflation of oil palm's use-discourses*

This strategy entails the simultaneous use of narratives related to two or all of the three types of oil palm legitimating discourses discussed above. This is arguably the most common way in which the discursive flexibility of oil palm is activated and, as such, examples abound across geographies and actors. Two meaningful examples may suffice here to make the point. One is reflected in article 1 of the 2012 'Decree 1303 on the Production and Marketing of Biodiesel in Ecuador', which states:

Biofuel development in the country is to be declared of national interest *as a means to promote the agricultural sector*. Biofuel production, use and consumption will respond to an *inclusive rural development* strategy, protecting *food sovereignty* and *environmental sustainability*. (Government of Ecuador 2012 stress added)

The other example can be found in the statement by leading technocrats from the Malaysian Palm Oil Board about how 'Malaysia and the oil palm industry have a huge potential to become *producer for RE* [reduced emissions] besides producing *oil to feed the world*' (Loh and Choo 2013, 12, stress added).

The maximum expression of this discursive strategy 1 is when oil palm is resignified from a thing (a crop/tree/commodity) to a 'response-able' phenomenon. This entails the making of a meta-narrative that goes beyond the particular discourses elaborating on the benefits of oil palm for different purposes, to make of oil palm 'the answer'²³ to food *and* climate *and* development problems. The strategic resignification of oil palm as a response-able phenomenon is arguably a response to the overwhelming critique of oil palm expansion, meaningfully synthesized by the Vice-President of WWF-USA during the 4th Latin American Conference of the RSPO, when he suggested that 'currently palm oil is the most controversial of all the globally traded commodities: Access to market and license to operate being seriously questioned' (in Honduras, August 8 2013).

Discursive strategy 2: *strategic dissociation from oil palm's use-discourses*

This works by choosing strategically whichever one, or two, of the three types of legitimating use-discourses serve better their purpose, and then covering up, distancing from, or even denying the other one, or two, discourses and associated uses. This is not as

²³ Slogan of the First Latin American Conference of Oil Palm Growers held in Antigua Guatemala in October 17-18 2013

usual as the previous strategy, but it is especially useful to circumvent unsurmountable critique.

An example of how some legitimating discourses are overtly embraced while others are buried, can be found in the narratives around biofuel regulations. For instance, even though biofuel regulations in Colombia and Guatemala were originally thought by policy makers as a means to reduce dependence on increasingly expensive fossil fuels²⁴, such intention is buried in actual bills and policies which instead emphasize the benefits of biofuels production over agricultural growth and employment, and global climate change mitigation without compromising national food production.

The maximum expression of this discursive strategy occurs when the material flexibility of oil palm is purportedly denied. For example, the Guatemalan Oil Palm Growers Association (GREPALMA) argues time and again that their palm oil is intended to feed the world and not fuel tanks. They not only denied the use of palm oil to produce biodiesel in Guatemala but they go further to argue that ‘oil palm contributes to the strengthening of the edible oil industry and thus to *food sovereignty*’ (Grepalma 2012b, 4, stress added).

Finally, it is worth stressing that these two ways of getting discursive flexibility working for oil palm, that is the *selective representation of oil palm*, and the *strategic choice of oil palm’s use-discourses*, are neither mutually exclusive, nor static. They are not mutually exclusive because the same particular actor can strategically employ one way *and* the other, depending on the addressed interlocutor. For example, the Guatemalan GREPALMA conflated all three representations of oil palm as a crop, a tree and a commodity to make of it a ‘response-able’ phenomenon at the First Latin American Congress of Oil Palm Growers, but focuses strategically on oil palm as a crop with developmental benefits when addressing outraged villagers complaining about land-grabbing and poor labor conditions in northern Guatemala (Alonso-Fradejas 2015). And both ways of making discursive flexibility work for oil palm are not static but contingent on actors’ choice to move from one way to another based on contextual changes over time. For instance, FEDEPALMA in Colombia moved from an initial emphasis on oil palm as a food crop, taking distance from palm oil as a biofuel feedstock, to include the latter when export markets constrained and there was a need to expand domestic demand for palm oil.²⁵

²⁴ Interview with the Biofuels Coordinator of the Sustainable Development Vice-Ministry, Guatemalan Ministry of Energy and Mines, Guatemala City May 21 2008, and with the National Coordinator for Biofuels Development of the National Planning Department of the Colombian government, Bogota July 2 2008.

²⁵ Interview with Colombian FEDEPALMA’s Secretary general in Bogotá, September 20 2013

Synthesis: oil palm

As we suggested at the beginning of this section, the material flexibility of oil palm is further endowed with meaning when its multiple representations and use-meanings are activated in a flexible fashion. But as we have tried to show, discursive flexibility as a resource to legitimate oil palm does not only shape in favorably social imaginaries and ideological-political standpoints. It also *facilitates* and *mobilizes resources* around the multiple uses of oil palm in materialist terms. We argued how discursive flexibility works in facilitating investors' decision-making, access to markets, and differentiation in pursuit of competitive advantages. It also mobilizes resources of a different nature, ranging from favorable regulatory frameworks in the realms of production, circulation and consumption of oil palm's multiple uses, to a wide variety of subsidies and fiscal exemptions under the umbrella of the food-, climate- and development-related purposes of the response-able phenomenon of oil palm.

However, all these expected and unexpected outcomes of the discursive flexibility of oil palm are not automatic. They are strategically activated by the many and diverse "masters" of the discursive flexibility of oil palm. Those positioned favorably to oil palm include corporations in the oil palm value web (especially their CSR departments/discourses), (inter)national politicians and bureaucrats, the mass-media, and NGOs acting as sustainability gatekeepers. These favorable masters of oil palm's discursive flexibility resort to different strategies for augmenting the legibility and legitimation of their narratives. Arguably, such strategies are often based more in enticement and self-disciplining mechanisms than in force and coercion. Among them, two are especially recurrent in the examples we have discussed above. The first one is the packaging of arguments and statements in a sort of 'scientificity aura', usually backed-up by IFIs, IGOs and/or the academia. The second one is the summoning of world historic patterns and trends of global societal concern.

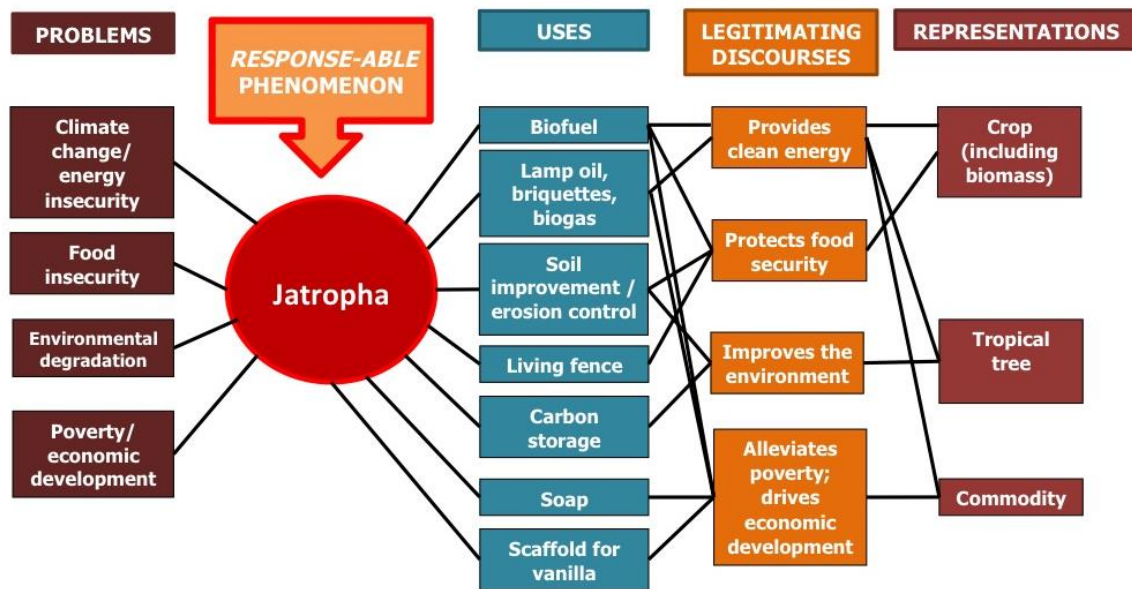
Jatropha as a 'resource of dreams'

Like oil palm, the oilseed shrub jatropha has been promoted as a solution to problems of climate change, rural poverty and food insecurity and it has spread rapidly in the global South (GEXSI 2008). Jatropha does not have the high material flexibility of oil palm: it cannot be consumed as food, and can only be made into livestock feed if it is first detoxified. While proponents claim that producing jatropha oil could yield valuable co-products, this has more potential to create dependency between multiple value chains than to offer a choice between them – a point to which we will return. Most recent interest has focused on jatropha as a source of liquid fuel (Nielsen et al. 2013).

Despite this low material flexibility – indeed, at times because of it – jatropha has been the subject of multiple discourses that actors have used to encourage its spread (Figure 3).

We propose that while discursive flexibility has an *amplifying* effect on oil palm’s many uses, it has a *compensating* effect for jatropha’s relatively few. Selectively promoting and combining particular discourses has been a key strategy used to build and maintain momentum for jatropha activities. In the following sections we examine multiple claims about jatropha’s uses, purposes and representations and show how the fluidity of these claims has shaped its recent history. After reviewing a series of legitimating discourses that have been attached to jatropha we draw on interviews with key actors in Kenya to present three examples of discursive flexibility in action for jatropha.

Figure 3: Jatropha’s discursive web



Source: Authors’ elaboration

Legitimizing discourses around jatropha

Jatropha’s reputed ability to grow in harsh environments and its non-food character are two aspects of its materiality that have helped support legitimating discourses. Many of the positive claims about jatropha’s potential discussed below have been publicly challenged by NGOs (Friends of the Earth 2009, WWF 2009), and research in numerous countries has declared jatropha an overall failure (Slingerland and Schut 2014, Kant and Wu 2011). Nevertheless, some efforts to establish long-term projects continue (von Maltitz, Gasparatos, and Fabricius 2014, Nielsen et al. 2013). Our interest here is in how narratives of jatropha as a means to achieve clean energy, food security, environmental improvement and poverty reduction have been used to promote uptake of the crop.

Jatropha provides clean energy

Narratives about biofuels as clean, renewable energy have played a central role in enabling recent jatropha projects. Jatropha has benefited from the general view that biofuels can help mitigate climate change and enhance energy security (e.g. IPCC 2011) as well as the more specific claim that energy crops grown on ‘wastelands’ do not incur a significant carbon debt (Romijn 2011, Fargione, J. Hill, et al. 2008). Jatropha’s carbon balance has been favourably compared to that of fossil fuels as well as other biofuels, as long as it is not cultivated on former woodlands (Ndong et al. 2009, Bailis and Baka 2010). The claim that jatropha has low land use impacts and resource input requirements has helped support the idea that it is more sustainable than other sources of biofuel.

The materiality of jatropha affects the ways it has been represented as ‘clean energy for development.’ When crushed, jatropha seeds produce a crude oil that can be used locally in modified household lamps and some diesel engines. Further processing turns this oil into biodiesel that can be blended with fossil fuel diesel, making it suitable for a more diverse and geographically widespread set of applications. Discussions about jatropha’s merits and problems as an energy source tend to cluster around these two scales.

At an international level, airplane test flights that ran partly on fuel derived from jatropha raised hopes that in time, jatropha oil could help reduce emissions from the aviation industry (Jha 2008). The potential to earn carbon credits through the Clean Development Mechanism has been part of the justification for some jatropha activities (van Rooijen 2014), even though no biofuel projects have managed to obtain CDM certificates to date (Kim, Popp, and Prag 2013). Many projects have promoted jatropha as ‘clean energy for development’ at a local level, hoping it would provide off-grid power for small engines like irrigation pumps and grain mills (Achten et al. 2008). At a household level, jatropha has been said to produce less smoke than fuelwood or charcoal (for cooking) and kerosene (for lamps) (Brittaine and Lualadio 2010) although others report more mixed results (Nielsen et al. 2013).

Jatropha protects food security

As mentioned, biofuels have been strongly attacked for threatening food security. While jatropha has faced criticism in this respect (e.g. Friends of the Earth 2010, 2009), a persistent legitimising discourse holds that jatropha can circumvent the ‘food versus fuel’ critique for two main reasons: 1) as an inedible crop, it would not cause food to be directly converted into fuel; and 2) due to its reputation for growing in dry and nutrient-poor conditions, it was expected not to compete for land and water with food production (Francis, Edinger, and Becker 2005). Further, some claimed that growing jatropha would improve rural food security by: 3) providing a micro-climate that would help food crops grow where conditions would otherwise be too harsh; 4) protecting food crops from

animals when grown as a fence; 5) generating income that could be used to purchase food; and 6) providing a local energy source to improve food processing or storage (Brittaine and Litaladio 2010, Achten et al. 2010). Together these arguments helped jatropha to assume ‘sustainable’ status among sources of biofuel.

The perception that jatropha was more ethical than other energy crops for not compromising food security found its way into policy documents. Kenya’s draft biodiesel strategy of 2008 stated that in light of food security and poverty concerns, jatropha ‘stands out among others as the primary non-food biodiesel crop that will be promoted for development in the bio-diesel industry’ (Government of Kenya 2008, 11). India’s policy similarly encouraged non-edible oilseed cultivation on ‘wastelands’, implicitly favouring jatropha (Baka 2013). As policy makers have increasingly shown awareness and concern about the potential negative impacts of agrofuel production on environments and livelihoods (Bailis and Baka 2011, Hunsberger et al. 2014), jatropha’s ‘sustainable’ potential continues to be reflected in biofuel policies. For example, as long as jatropha is not produced on ‘high-carbon land’ it will probably not violate the sustainability criteria of the 2009 EU Renewable Fuel Directive (Romijn 2011).

Jatropha improves the environment

Environmental discourses typically rest on representing jatropha as a tree rather than a crop or an energy source. As such, jatropha has been linked to a reforestation narrative (Valdés Rodríguez, Vázquez, and Muñoz Gamboa 2014) and included in tree-planting projects that aim to earn carbon credits (Slingerland and Schut 2014). Jatropha’s potential to mitigate climate change by storing carbon as it grows has been promoted in its own right and even referred to as ‘carbon farming’ (McGrath 2013). In addition to expanding or restoring forest cover, some claim that jatropha can reduce deforestation by providing pruned branches and seed hulls that can be burned instead of fuelwood or charcoal (Achten et al. 2010). These arguments about jatropha protecting and enhancing forests intersect with the issues of climate change mitigation and land use change already discussed.

Jatropha has been credited with improving local environmental conditions in other ways: by controlling erosion, enriching soils, promoting water infiltration and reducing floods (Orwa et al. 2009, Green Africa Foundation 2008). These functions are sometimes framed as reclaiming or restoring ‘degraded’ lands (Openshaw 2000, Francis, Edinger, and Becker 2005). Jatropha has also been said to benefit wildlife, increasing ‘the habitat value of barren lands’ by attracting birds and animals (Francis, Edinger, and Becker 2005, 21). However, opponents of a proposed plantation in Tana Delta, Kenya contested the project using a counter-discourse that portrayed jatropha as a threat to biodiversity (Krijtenburg and Evers 2014).

Jatropha alleviates poverty

Jatropha has frequently been promoted as a ‘pro-poor’ crop (Brittaine and Litaladio 2010, Kuntashula, van der Horst, and Vermeulen 2014) based on expectations that it can provide income, extend energy access and reduce household expenses in remote rural areas. Some expect these benefits to be great enough to reduce rural-urban migration (Muok and Källbäck 2008, Green Africa Foundation 2008). Claims about jatropha’s ability to generate income and reduce poverty rest on optimistic assumptions about how quickly and abundantly it produces seeds (Achten et al. 2008), mirroring the high-yielding, fast-growing narrative used to promote oil palm.

In terms of income generation, jatropha plantations and processing facilities have been touted as new sources of rural employment while small-scale farmers have been told that jatropha is a reliable cash crop (Francis, Edinger, and Becker 2005, Green Africa Foundation 2008). For example, some initiatives focus on producing and selling ‘white’ soap made from jatropha oil (Favretto, Stringer, and Dougill 2012). Indirectly, jatropha is seen to enable income-generating activities such as adding value to other crops when it is used to provide energy in places without easy access to electricity.

Jatropha has also been said to reduce poverty by substituting for resources that take time or money to acquire. Project proponents have argued that jatropha could improve education by providing cheaper fuel for household lamps than kerosene, helping children to study in the evenings (Hunsberger 2010). Experiments have been undertaken to make fertilizer or biogas from jatropha residues (Jongschaap et al. 2007). The plant’s fruit coats have been tested as a fuel for special stoves designed to burn sawdust; they were found to be suitable fuel for fast-cooking but not slow-cooking foods due to the stove’s design (Grimsby and Borgenvik 2013). ‘Black’ soap, made from jatropha residues, does not have a market but can reportedly reduce household expenses by substituting for purchased soap (Favretto, Stringer, and Dougill 2012). Jatropha can also perform important non-monetary functions. Various parts of the plant have medicinal uses and jatropha has also been used as a living fence and a grave marker (Heller 1996, Orwa et al. 2009). However, van der Horst et al. (2014) argue that these traditional uses are not compatible with the scale needed for commercial production.

Jatropha and material flexibility

How flexible is jatropha in a material sense? It is not as ecologically flexible as many thought, producing few seeds under dry conditions (Pipal 2012, Nielsen et al. 2013). It cannot easily ‘flex’ in the sense of producers or investors deciding which of several products to make from it. In theory, jatropha oil can be used to produce soap if not energy, but large-scale soap production is not likely to emerge as an alternative value chain. Jatropha oil can be directed toward various energy applications, but the different

infrastructure needs of each pathway make it less likely that crude vegetable oil and biodiesel could be easily interchanged. Further, all energy uses would be affected by the same fluctuations in fossil fuel prices; thus, shifting from biodiesel for transport to crude oil as a kerosene substitute would probably not improve a seller's position with respect to prices.

Some suggest that selling byproducts is essential for jatropha energy production to be economically viable without subsidies (Pipal 2012) – but this type of multiple use should not be mistaken for flexibility. If economic success relies on having not one, but two or more value chains operating simultaneously, then what looks like diversification may in fact reflect a codependence that does not increase investors' freedom to switch between end products. So far, this question remains hypothetical since markets for most of the anticipated co-products have not yet emerged (Vel 2014). Numerous jatropha initiatives have been discontinued because of unfavourable economic results (Messemaker 2008, Schoneveld 2011). Producers have found few ways to benefit from growing jatropha where value chains for both energy and by-products have failed to emerge. Ironically, jatropha's low material flexibility positioned it as a 'sustainable' energy crop and accelerated its spread even as it placed risk on farmers and reduced options for investors.

Jatropha and discursive flexibility

Actors associated with jatropha have shown remarkable flexibility in producing and maintaining positive representations of the crop. Media coverage illustrates a wide range of coexisting views, ranging from 'wonder shrub' (Mutua 2007), 'trophy tree' (Obala 2010), 'savior' (Cheboi 2008) and 'resource of dreams' (Thomas 2009), to 'blunder crop' (Lane 2009) and 'biofuel gone bad' (Time 2009). Meanwhile, researchers have expressed concerns over the financial, social and ecological risks of a large-scale experiment with jatropha, doubts that such a system would benefit farmers, skepticism about jatropha's agronomic potential, and disbelief that jatropha can produce high enough quantities of oil to deliver promised benefits (Brittaine and Lutaladio 2010, Achten et al. 2007, Jongschaap et al. 2007, Kant and Wu 2011). The persistence of optimistic messages in the media (e.g. McGrath 2013) despite increasingly critical research findings suggests that neither of these perspectives has become dominant over time.

Multiple discourses in Kenya

This section examines the discourses and representations of jatropha offered by actors in Kenya, based on semi-structured interviews conducted with government, NGO, research, donor and private sector representatives in 2009 and 2013. For several years, peaking around 2007-9, jatropha activities spread quickly in the country. NGOs promoted jatropha to small-scale farmers; the government verbally endorsed jatropha and convened a multistakeholder process to inform a biofuel policy; and a few private companies

experimented with pilot plantations (Hunsberger 2010). By late 2013 these activities had largely dropped off. The biofuel policy was never finalized; research increasingly cast doubt on the economic and agronomic potential of current varieties of jatropha in the country (Pipal 2012, GTZ 2009, Iiyama et al. 2013); and proposals to establish large-scale plantations had attracted opposition and negative media coverage (Krijtenburg and Evers 2014, Ross 2011). While some of those who had worked with jatropha several years before remained optimistic about its potential, most of the organizations and individuals who had advocated most strongly for jatropha projects in 2008-9 had since moved on to other pursuits.

Below we draw on interviews conducted in 2009 during an intense period of expansion of jatropha projects largely funded by NGOs and international donors; policy development through a multi-stakeholder process; research; conflicting media stories; and growing international criticism of biofuels. At least two broad discourses of jatropha-led development in Kenya were articulated by those responsible for promoting and regulating such a process. One of these discourses advocated large-scale production to meet national objectives, drawing on themes of global climate change, fuel blending, foreign exchange and national poverty alleviation; another promoted small-scale cultivation to support household or farmer group objectives, drawing on themes of income generation, soil improvement, value addition and rural energy access. That jatropha could be portrayed as an instrument of both market-led national economic growth and community-led rural development helps explain why it appealed to actors with widely varying priorities. This multiplicity of discourse (Hilhorst 2001) created an opportunity for actors to strategically choose which discourses to activate in which situations, maintaining a creative flexibility to link discourses together or shift between them.

Discursive flexibility in action

The following examples from Kenya illustrate ways in which jatropha's promoters took advantage of discursive flexibility. These can be grouped into two broad strategies: selectively representing jatropha's end uses by deploying particular narratives while dissociating from others depending on the circumstances (Example 1); and conflating discourses that may in fact be contradictory (Examples 2 and 3).

Example 1: Shifting representations of jatropha's purpose

Actors who changed how they presented jatropha's purpose over time provide one example of discursive flexibility. One approach for growing jatropha in Kenya has been to use it as a living support for vanilla vines. Two of the NGO representatives interviewed initially promoted jatropha for this purpose, before interest in jatropha for biofuel became widespread. One described how a visiting trade delegation prompted the realization that vanilla was being grown as a profitable cash crop in Uganda but not in

western Kenya, which is only a short distance away and shares similar ecological conditions. The interviewee looked for a tree species that could act as a scaffold for vanilla, settling on jatropha.

Vanilla did not grow well in this case. A private sector interviewee reported observing that where farmers had tried to grow vanilla and jatropha together, the vanilla vines were often dead or stunted while the jatropha was growing reasonably well. He encouraged these farmers to change their strategy and keep the jatropha, saying: ‘When I went to help these farmers sort out their vanilla-jatropha issue, and already they had planted it, put a lot of money, I told them instead of cutting, *change your perception* that you will get oil from this plant’ (stress added). An NGO representative described a similar shift in focus, stating that vanilla and jatropha could be decoupled and jatropha pursued for its own sake as an energy crop.

This shift in strategy may appear to be an example of material flexibility, but we argue that it is not. Changing the stated reason to grow jatropha – from a support plant for another cash crop to a source of fuel – in the absence of processing capacity to produce energy appears to be a way of keeping farmers focused on the crop itself rather than on achieving successful results. This discursive tactic can be interpreted as an attempt to stem losses or deflect attention away from failure rather than as a choice producers could make between viable options.

Example 2: Portraying different approaches as co-dependent

Actors who presented large- and small-scale jatropha production as mutually dependent illustrate another form of discursive flexibility. Several interviewees stated that small- and large-scale approaches to growing jatropha would stimulate and mutually reinforce each other. Some described how large investments could build processing capacity, raise interest among potential buyers, and encourage more farmers to plant, thus building momentum that could in turn enable smaller projects. One researcher stated that large projects, if successful, could provide examples to motivate and support small initiatives. An NGO interviewee said this when asked what would be the best approach to growing jatropha in Kenya:

I would say the hybrid. Whoever is able to plant more, let him plant because until we get a critical mass we cannot talk about jatropha as a business. When we get sizable quantity, that’s the time you will find probably investors bringing crushing machines, investing in an industry of trans-esterification and all that. But until we get to that point we cannot. At the same time, the villager there who can get a few kilos, extract oil, she can use them for local lighting, for the stove and all that. So to me, a hybrid would work very well. The commercial would assist, would be a link to the small-scale.

These comments imply it was not only possible, but necessary that small- and large-scale

production should occur side by side. Two distinct approaches – articulated as commercial production led by the corporate, private sector and livelihood-oriented production for local use – were portrayed as not only compatible, but interdependent. Bundling together approaches in this way creates the impression that jatropha would *necessarily* achieve a wide range of goals simultaneously, a theme to which we will return shortly.

Example 3: Blurring discourses

In contrast to local production for local use, some actors promoted an outgrower role for small-scale producers. Typically, an outgrower arrangement involves small-scale farmers producing a crop on their own land under contract for a company that also operates a nucleus plantation. This means inserting small-scale producers into a commercial value chain where they would sell jatropha seeds into a centralized system for cash. Several interviewees drew parallels between a potential jatropha industry and existing systems of coffee, tea, sugar, and wheat production, presenting these as examples of how large and small farms could successfully coexist.

The outgrower production model appears to offer a different kind of ‘win-win’ situation than the parallel advance of commercial and local production just described. Those who espoused the outgrower approach described it as able to achieve multiple benefits: ecologically, small plots would be preferable to large, monoculture plantations, while in terms of land tenure, farmers would keep the title to their own land – an arrangement that might appeal to smallholders while sparing investors from controversial negotiations over land (Pipal 2012). An outgrower system could (in theory) also achieve the economic objectives associated with large-scale, centralized production. In this way, some promoted a nucleus-outgrower production model as compatible with many goals of both large- and small-scale approaches.

But enlisting small-scale farmers as outgrowers is not the same as producing energy to meet local needs. A donor expressed doubt that an outgrower approach would benefit small-scale farmers:

No one wants to set up a plantation where he’ll have to spend so much money and receive so little yield. So what they’ll opt to do is have outgrowers grow it for them, and then they’ll source it from the outgrowers, and then put punitive measures to make sure they receive the maximum out of that. ...How long will it take for a farmer to pay off his debt? It’s a very risky thing.

Actors who promoted the outgrower model portrayed jatropha as good for small farmers and good for the country while glossing over risks that small-scale farmers would likely face. The discursive flexibility here lies in portraying one production model (the

outgrower model) as achieving both large-scale and small-scale aspirations simultaneously without acknowledging that many of the unique benefits of small-scale production for local use would no longer occur. Fears that the outgrower model would place the risks of experimenting with jatropha on small-scale farmers have been borne out by experience in Zambia (German, Schoneveld, and Gumbo 2011). Promoting outgrowing as an ideal approach blends large- and small-scale discourses in a way that goes beyond the ‘mutually dependent’ position described above. Instead of two coexisting approaches that would each achieve a discrete set of goals, this position merges them into one that could supposedly do the same. Conflating multiple goals in this way makes the spread of jatropha harder to contest.

Synthesis: jatropha

Muys et al. (2014) observe that in sub-Saharan Africa, ‘no viable projects depending solely on jatropha are known’ (170), yet Nielsen et al. (2013) still conclude that despite many caveats and under certain conditions, ‘from a development perspective [jatropha] is great’ (56). Discursive flexibility has helped make the ‘jatropha project’ resilient in the face of failure. Vel (2014) argues that ‘brokers’ who act as mediators between groups of actors (such as investors, scientists and farmers) have played a major role in advancing jatropha projects by selectively communicating incomplete and poorly distributed information between these groups, as well as by ‘translating’ future expectations about jatropha into objects of trade in the present. In this way, jatropha has gained traction as a ‘discursive commodity’ partly based on the idea that potentially attractive improvements – such as high-yielding varieties, seeds with higher oil content, and marketable co-products – already exist (Vel 2014, 2816).

Much of jatropha’s discursive flexibility comes from the idea that it can achieve different sets of goals depending which production model is used. The examples discussed above show actors in Kenya equating large-scale jatropha production with national and international goals, small-scale production for local use with household or community goals, and outgrower systems with ‘the best of both worlds.’ The idea that different outcomes (and benefits for different groups of people) can be achieved by choosing between several possible production models can also be understood as discursive flexibility. Unlike the decision of which product to make, the choice of production model must be made early on and involves considerable lock-in; it is not easy to change between large-scale plantations, small-scale production for local use or nucleus-outgrower arrangements once they are underway. Invoking the flexibility of different production models is therefore a discursive tactic.

In the second example above, discursive flexibility takes the form of promoting jatropha as though it can achieve multiple objectives simultaneously through ‘mutually supporting’ commercial and local production strategies. Producing and marketing

products from several parts of the jatropha plant at once may seem to fit the flex crop ideal of ‘diversification... within a single crop sector’ (Borras et al. 2012, 851). Similarly, bundling together the benefits of mutually dependent small- and large-scale production sounds appealingly as though jatropha activities would be more stable and benefit more people than if a single strategy were pursued alone. But in both cases, the corollary to having two strategies ‘supporting’ each other is that both are threatened if either one experiences problems. If this is the case, then maintaining positive discourses becomes crucially important to those with an interest in promoting jatropha, even if this task becomes detached from delivering the benefits that the discourses promise.

Jatropha’s low material flexibility appears to be a unique feature among agrofuel crops. Because few marketable products can be made from jatropha and markets for these products are not well developed, it is not easy to shift from one value chain to another (e.g. from biodiesel to soap). Producers face greater risks as a result. For crops such as oil palm, energy production adds another layer to a political economy that already includes food, feed, commercial or industrial products.

Paradoxically, jatropha’s low material flexibility helped position it as a ‘sustainable’ energy source. In terms of its ability to attract donor, investor and government support, jatropha’s high discursive flexibility seems to have compensated for its low material flexibility. This is because actors have been able to portray jatropha as capable of simultaneously achieving national or ‘global’ goals related to economic growth and climate change, and ‘community’ goals related to livelihoods and local ecologies. Changing the stated reason for growing jatropha in the absence of a relevant value chain and conflating the expected outcomes of different production models provide examples of discursive flexibility at work.

Concluding thoughts

While materialist explanations of a flex crop’s multiple uses, and the flexing among them, are important to understanding the political economy of agriculture and contemporary agrarian change, they can be further enhanced by adding an analytical layer that probes the co-constitution of concealing, shifting, and interacting discourses. This analysis has also reinforced the political ecology perspective that, since discourses are highly influential in defining human-environment relationships and are never neutral, they and their tangible consequences deserve to be problematized. As Hall et al. argue, ‘struggles over resources are, simultaneously, struggles over meaning’ (2012, 166).

Even though oil palm is more flexible in material terms, similarities in the use of legitimating discourses around jatropha and oil palm are striking. While oil palm’s increasing multiple uses allow for a relatively high material flexibility, this has been underpinned by a strategic decision to discursively resignify the crop as a ‘response-able’

phenomenon in the face of food-, energy/climate- and development-related problems. Therefore, materialist and ideational strategies converge as main reasons for oil palm expansion and growing popularity among corporate investors. For jatropha, proponents have emphasized that the crop cannot be turned into food or livestock feed, along with the perception that it can grow in harsh ecologies, to position it as a solution to the same suite of problems. Jatropha's low material flexibility actually helped propel it by positioning it as a 'sustainable' energy source, while discursive flexibility helped make the 'jatropha project' resilient in the face of failure. Thus discursive flexibility has had a reinforcing effect on both oil palm and jatropha 'projects.'

We argue that discursive flexibility in action, first, generates synergies among legitimating discourses; that is, narratives in one realm (e.g. climate change mitigation) have spill-over effects in other realms (e.g. energy security and rural development). Second, it reconciles, even if temporarily, multiple and even apparently contradictory stakes of different actors within the flex crop value web (e.g. natural resource conservation and capital accumulation projects around natural resource exploitation). We believe this also occurs across geographical scales. Tsing (2005) points out that 'global' projects are most effectively constructed when they roll together objectives at different scales. For jatropha and oil palm, the bundling of 'global' discourses of climate change, national objectives regarding energy security and poverty alleviation, and local interest in value addition and rural economic opportunities has produced 'thick collaboration' between actors and across scales (Hunsberger 2014).

This analysis makes a case for expanding the focus of 'flex crop' research to include attention to discursive flexibility – particularly how strategies to deploy multiple discourses or shift between them are used to justify, compensate for, shield or attack a flex crop (as embedded in a value web with far-reaching implications beyond farming), as well to channel benefits in specific directions. Key questions for further research include who has the power to mold and exercise discursive flexibility, in what ways, and who stands to benefit (and not benefit) from resulting decisions and outcomes. Finally, since the discursive and material co-constitution of the flex crops accumulation project 'occurs in and through struggles conducted by specific agents, typically involves the asymmetrical manipulation of power and knowledge and is liable to contestation and resistance' (Jessop 2005, 146), a field of further inquiry is that of the power dynamics among actors within and around the flex crop's value web, including those excluded and/or affected by its workings.

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