What type of land has been targeted for jatropha cultivation in the Philippines?

By Denyse Snelder

Quote: *"The company claimed to have access to millions of hectares of land for potential jatropha cultivation in Africa and Asia. However, the remote locations of these marginal lands made the company's claims difficult to verify."*

Governments in industrialized and developing countries alike have set targets for biofuel production to meet the ever-increasing demand for renewable energy sources. The targets set have, however, raised concerns among scientists, civil-society organizations and the like abou vt the (projected) negative impacts in terms of the large-scale acquisition of land and changes in land use associated with the cultivation of biofuel crops like jatropha (*1*, *2*). Commercial investors and agricultural companies are actively targeting developing countries like the Philippines, so as to capitalize on their vast tracts of land, often referred to as "idle" or "marginal," for biofuel crop cultivation. But what defines lands as "idle and marginal"? How much land is actually available for biofuel production and, when cultivated, not competing with food crops or (protected) forest? It is disputed in international debates that the idle lands targeted are not occupied by people who subsist on these lands for their daily survival. Likewise, critics have long argued against idle or marginal lands being of sufficient quality to produce adequate yields for biofuel crops like jatropha, without demanding high external inputs.

These questions will be addressed below using the Philippines as a case study country, but first some context for biofuel policies and jatropha production in the Philippines will be presented.

In 2007 the Philippine government launched the National Biofuels Program (NBP), aiming to spur the development of idle or marginal lands, produce sufficient amounts of feedstock, augment farmers' income and generate rural employment (*3*). The program thereby maintains higher-level policy objectives outlined in the Philippine Biofuels Act of 2006, such as mitigating greenhouse gas (GSG) emissions and making alternative and renewable clean-energy sources available without detriment to the country's natural ecosystems and food reserves.

To realize the NBP objectives, the country accelerated the commercialization of biofuels, thereby prioritizing *Jatropha curcas* (local name: *tuba tuba*) as biodiesel feedstock. The NBP's Research & Development (R&D) component has two sub-programs, with one fully devoted to jatropha (the other to sweet sorghum for bioethanol), managed under the Department of Science and Technology's Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD-DoST) and implemented in collaboration with the Los Baños University in the Philippines.

The Department of Environment and Natural Resources (DENR), responsible for public-domain lands categorized as "forest lands," also has "idle lands" under its jurisdiction targeted for biofuels. Idle lands are a subcategory of forest lands and are described as being "untenured," i.e. not covered by any tenure instrument or forest land-use arrangement, but nevertheless often occupied by people and not necessarily covered by forest (*4*).

There are a number of partly overlapping policies referring to idle and marginal lands from different perspectives. A general description of what constitutes idle or abandoned lands is given in the Comprehensive Agrarian Reform (CAR) Law of 1988, referring to lands not used for economic or agricultural purposes for at least three years prior to acquisition (*5*).

More specific policies for the identification of lands for biofuel feedstock production have been formulated by the Department of Agriculture (DA) through its Joint Administrative Order 2008-1 (JAO No. 2008-1 Series of 2008, Section 4.1). Based on the criteria of this JAO, we may assume that the lands (to be) used for biofuel production are not acquired from areas set aside for community food production, irrigated crop (rice, corn and other) cultivation, certified or programmed irrigation projects, or ecologically fragile areas.

The priority areas targeted by PCARDD for the NBP's jatropha sub-program are characterized by the council as follows (*6*):

"the marginal areas where food crops (including sweet sorghum) are not cultivated or cannot be cultivated, which include degraded grasslands, denuded uplands, lahar-affected areas, and mined waste areas. Areas for production systems that integrate Jatropha in agroforestry and agricultural systems such as in coconut and hilly lands are also being explored."

In summary, with reference to the CAR, DA, and PCARRD-NBP policies, the lands earmarked for potential jatropha cultivation should not be ecologically fragile, or irrigated and/or cultivated to produce any food crop, nor should they have been devoted to economic and/or non-agricultural purposes for a period of three years immediately prior to acquisition. Yet, while officially the lands should exclude idle land "previously used for agricultural or other economic purposes" that has become "unproductive by reason of force majeure or any other fortuitous event" (*5*), exceptions are made for lands that have become unproductive due to volcanic events (lahar-affected areas) and mining (mined waste areas). Likewise, lands with agroforestry and agricultural systems suitable for jatropha integration are considered as well.

Having characterized the type of lands targeted for jatropha cultivation, the questions remain of what land and how much of it has been used for this purpose. The Medium-Term Philippine Development Plan 2004-2010 defines one of its goals as "to develop at least 2 million hectares of new land for agribusiness in order to contribute to 2 million jobs out of the 10 million jobs target in 2010." Among the agribusiness endeavors considered was the development of biofuels under RA 9367. The plan led to the compilation of a Soil Suitability Atlas for Biofuels Areas, with the latter comprising those idle lands prioritized under the national government policy of non-encroachment of biofuel crops to existing food production areas (however, the areas are also considered for other agribusiness development programs and comprise not the only areas suitable for biofuels) (*7*).

The total area suitable for "jatropha only" amounts to just over 2.1 million hectares. In addition, there are another 3.8 million hectares of land suited to jatropha together with various other biodiesel (coconut, oil palm) and/or bioethanol (sugarcane, sweet sorghum and cassava) crops. Table 1 gives more specific information on the distribution and size of the idle-land areas used or targeted for jatropha feedstock production, by type of company and region, as recorded by the Philippine Agricultural Development and Commercial Corporation (PADCC).

The area currently used for jatropha cultivation in the Philippines is far below the targeted 2.3 million hectares: by 2011 a total of 249,000 hectares had been officially secured and partly brought under jatropha cultivation, but a remaining 2 million hectares were still under consideration (Table 1). Lands occupied by people are, however, also targeted, or already taken into cultivation, as is evident from the Lumad ancestral domain being one of the targeted areas (Table 1); field visits (by the author during 2009-2011) to Lamut (Ifugao) confirm the existence of jatropha plantations on hilly, partly ecologically fragile lands (*2*). In 2011 jatropha plantations were undergoing a process of conversion to other plantation crops. Among the various reasons for conversion were the lack of buyers and of jatropha-processing facilities. One of the major setbacks was the diminishing interest, and eventual withdrawal, of the state-owned Philippine National Oil Company Alternative Fuels Corporation (PNOC-AFC) as the main buyer and processor of jatropha seeds. Officially registered since 2006, the PNOC-AFC entered into various agreements with private corporations and local or provincial government units to develop biofuel plantations, securing a continuous supply of feedstock for its planned biodiesel refineries.

In conclusion, prospects about the development of over 2 million hectares of marginal lands into jatropha production areas have been over-optimistic. As in Indonesia, the Philippine government provided much budget support for the establishment of research, nurseries and plantations within the framework of its national biofuel program; however, planned investments in processing facilities and biodiesel refineries were ultimately not made and marketing channels remained virtually absent. Policy decision-making lacked scientific evidence for the marginality status of the targeted land and for the (potential) uptake and upscaling of the jatropha biofuel business.

Table 1: Areas with idle land targeted for jatropha feedstock production by the Philippine Agricultural Development and Commercial Corporation (PADCC)

Feedstock	Targeted area (ha)*	Location**	Company

Jatropha	20,000	Lamut; Ifugao, CAR	Highlands Development Coop
Jatropha	30,000 (+2,000)	Botolan, Iba; Zambales, R-3	PNOC-AFC, LGU Zambales
Jatropha	10,000	Cabangan, Iba; Zambales, R-3	BioEnergy Farms Inc.
Jatropha	10,000	Puerta Princesa; Palawan, R-4	PNOC-AFC
Jatropha	10,000	Duero; Bohol, R-7	PNOC-AFC
Jatropha	10,000	Samar, R-8	Kibio 2007
Jatropha	10,000	Zamboangita, Tamlang Valley; Negros Oriental, R-8	Herminio Teves Group, Spanish Global Tree Trust
Jatropha	10,000	Bukidnon and Misamis Oriental, R-10	PNOC-AFC
Jatropha	100,000	Cagayan de Oro, R-10	Abundant Biofuels Corp
Jatropha	(+750,000)	Lumad Ancestral Land, R-10	Abundant Biofuels
Jatropha	500	Ubay, Bohol, R-10	
Jatropha	32,000	General Santos City; R-12	PNOC-AFC
	(+1,168,000)	General Santos City; R-12	PNOC-AFC
Jatropha	5,000	Provinces of R-12	Eco Global Bio Oil
	(+95,000)	Provinces of R-12	Eco Global Bio Oil

Total	249,000		
	(2,264,000)		

Source: PADCC internal reports (*8*); *: planned expansions are indicated between brackets; **: municipality, province and region (R) number are indicated.

References and notes

1. S. M. Borras Jr., P. McMichael, I. Scoones, The politics of biofuels, land and agrarian change: Editors' introduction. *Journal of Peasant Studies* **37(4)** 575–592 (2010).
2. S. Borras Jr., J. C. Franco, "Political dynamics of land grabbing in Southeast Asia: Understanding Europe's role," discussion paper, Transnational Institute (TNI), Amsterdam, January 2011.
3. USDA Global Agricultural Information Network (GAIN) Report, , Philippine Biofuels Situation and Outlook, Philippines Biofuels Annual 2013. Available at http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biofuels%20Annual_Manila_Philippines_7-10-2013.pdf
4. J. M. Pulhin , M. A. M. Ramirez, National updates on agribusiness large scale land acquisitions in Southeast Asia. Brief #4 of 8: Republic of the Philippines, in Sophie Chao (ed.), *Agribusiness Large-Scale Acquisitions and Human Rights in Southeast Asia: Updates from Indonesia, Thailand, Philippines, Malaysia, Cambodia, Timor-Leste and Burma* (Forest Peoples Programme, August 2013, Moreton-in-Marsh, 2013). http://www.forestpeoples.org/sites/fpp/files/publication/2013/08/briefing-4-8-philippines.pdf (accessed March 13, 2014)
5. For details, see Republic Act No. RA6657.
    1. PCAARDD, Biofuels development: The PCARRD policy stance,
    2. see PCAARRD: http://www.pcaarrd.dost.gov.ph (accessed March 13, 2013)PADCC and BSWM, Soil suitability map for biofuels, Philippines (PADCC-BSWM, Quezon City, 2008).
    3. Asian House, "Food or fuel: A choice of survival. A study of biofuels in the Philippines." Available at https://www.asienhaus.de/public/archiv/4_Food_or_Fuel.pdf (accessed 1 Sept 2014).

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