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Kissinger G, Brasser A, and Gross L. 2013. *Synthesis Report. Reducing Risk: Landscape Approaches to Sustainable Sourcing.* Washington, DC: Landscapes for People, Food and Nature Initiative.

Keywords*: business model, GHG mitigation, landscape approach, sourcing risk*

OP6.6.2. Potential role of exotic poplar in increasing tree cover as an alternative for forest restoration in India

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Forest-based industries in India show significant deficits between wood requirements and supply. Therefore, plantation forestry and imported wood would be the means to fill the gap. Poplar (*Populus deltoides*), a native tree of USA introduced in India around 1950, is widely grown on a rotation of six to eight years all over northern India as an agroforestry tree because of its desirable characters and multiple uses. Commercial scale plantations of poplar have been expanding since the introduction of buy back guarantee schemes in1984. Maximum production potential of poplar plantation is up to 65 m^3/ha/year and average potential is 35-40 m^3/ha/year. The deciduous nature of poplar allows agricultural crops to grow under poplar without adversely affecting crop production much. Poplar-based agroforestry has been very profitable since the beginning. Poplar wood prices were reduced drastically during 2000-2004. Farmers were compelled to cut their young poplar trees because of market insecurity. The poplar plantations are again rising with the increase in the price of poplar wood from 2005. Poplar-based agroforestry plantations are increasing at a very fast rate with an average density of 400-500 trees per ha. Presently, six to eight-year-old poplar trees with girths measuring 1 m at breast height (1.37 m), fetch about INR 4000 per tree and the net income from poplar plantations can be expected to be INR 200 000 per hectare. In this way a poplar plantation is the economically excellent alternative in increasing tree cover. Production potential, market trend and economic return of exotic poplar in India have been reviewed.

Keywords*: poplar, populus deltoides, agroforestry, tree cover, commercial plantation*

OP6.6.3. Oil palm and agroforestry systems: coupling yields with environmental services, an experiment in the Brazilian Amazon

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Over the last few decades, oil palm has been grown commercially throughout the world in monoculture production systems, becoming a main driver of deforestation in the top producing countries—Indonesia and Malaysia. Meanwhile, low carbon and bioagriculture have emerged as promising solutions for tackling climate change stemming from agriculture; however, very little research has been done on oil palm and agroforestry systems. In order to test the feasibility of adopting such intercropped systems, in 2007 a partnership between NATURA, a major Brazilian cosmetics company that relies heavily on palm oil; Embrapa, the national agricultural research agency; and CAMTA, a farmers' cooperative; began experiments on demonstration plots in Tomé Açu, Pará State, and the Brazilian Amazon. Oil palm was

planted in double rows between wider rows of agroforestry systems on three six-hectare plots, using slash and mulch, leguminous species and organic fertilization to build up soil fertility. The goal of this paper is to analyze the effectiveness of these management practices and environmental services provided, including nutrient cycling by specific crops, and soil carbon storage. Overall, these systems have shown high yields of oil palm, surpassing conventional monoculture systems at the same age, as well as high cacao yields in the first harvests, and high nutrient cycling by certain key species most notably *Tithonia Diversifolia*. The spatial variation of C stocks in young (3-yr-old) oil palm-based agroforestry systems was quantified according to different species diversity (high vs. low) and land preparation techniques (manual vs. mechanized) on one of three plots. According to preliminary findings, soil C storage (71 to 76 Mg C ha-1) was significantly higher than on both an adjacent 13-yr-old secondary growth forest (60 Mg C ha-1) and a conventional 9-yr-old agroforestry system (57 Mg C ha-1), thus suggesting the feasibility of these systems as a climate change mitigation strategy.

Keywords*: agroforestry, Brazil, environmental services, oil palm*

OP6.6.4. From a demonstration plot to an integrated resource and agricultural tourism centre: Case of MIFACIG, Belo, Cameroon

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In this paper, we showcase the experience and reveal the key to success of the Twantoh Mixed Farmer Common initiative as a viable Agroforestry Resource Centre, and also as a self-sustaining business in the North West region of Cameroon. The paper begins by narrating the history of the group as an on-farm tree domestication and vegetative propagation demonstration site for the Cercle Internationale pour la Promotion de la Création (CIPCRE) and later the World Agroforestry Centre (ICRAF-WCA). The paper discusses the reasons and strategies for its successes and its frustration of not succeeding to gain direct financial benefits from its research partners and other donors. Key success factors include: members' commitment to take advantage of agroforestry and vegetative propagation knowledge learned from its partners; dedicated leadership; progressive visibility; and increased demand for improved planting materials and their integration into existing and new farms both from small-scale and elite farmers. We further demonstrate how the group has split into more than five satellite branches yet they maintain a strong network which permits them to respond to a huge demand for planting materials that reach 20 000 plants in some cases worth about XAF 25 million a year. From an agroforestry trial plot in the early nineties, we also exemplify how and why MIFACIG has now diversified its activities into animal rearing, bee-keeping, horticulture, organic gardening and agricultural tourism. As farmers we suppose that our model can be replicated by other producer groups around the world.

Keywords*: agroforestry, Cameroon, farmer groups, self-sustaining business*