Cashew and Honey make Good Money
A summary of the integration of beekeeping in cashew farms in Ghana and Benin

The integration of beekeeping on cashew farms has great potential of increasing cashew nut yields and improving farmer incomes through the sale of hive products such as honey, bee wax and propolis.

Already in 2011, ACi trained two women groups in Tuna and Bole, Ghana on the integration of beekeeping. The women placed their hives on surrounding cashew farms as they do not own land for cultivation themselves. In 2012, the women's group in Tuna harvested 360 liters of honey worth US$ 2,800.

In 2011, a private-public partnership was formed between ACi, le Centre International d’Apiculture Tropicale et Ecotourism (CIAT) and 90 farmers in the Tchaourou community in Benin. With the goal to increase farmer income and to ensure a consistent supply of bee-products, notably honey to CIAT, they organized three beekeeper cooperatives, producing 3,370 liters of honey as well as 169 kg of bee wax and propolis worth US$ 20,000. The final products were sold to CIAT, creating a sustainable business linkage between the beekeepers and the CIAT center.

Despite these successes, facts and figures on the integration of beekeeping were not yet available in cashew producing countries. For this reason, the African Cashew initiative (ACi) conducted a study, showing the benefits and profitability of integrating bees on cashew farms with a special focus on Ghana and Benin.

The study was conducted...

... in the cashew growing areas of Ghana and Benin;

... in October 2012, when cashew trees in both countries start flowering, to June 2013 (to capture yields throughout the season);

... on 8 experimental farms in 4 communities in Ghana and Benin respectively;

... on farms that are more than 2 km apart, with trees of similar age and good agricultural practices applied;

... with 2 bee hives being placed close to farm 1, and no bee colonies placed next to farm 2 (control group);

... with 70 cashew trees (7 rows, 10 trees on each row) on each farm marked with red oil paint to record raw cashew nut production throughout the season.
The data of this study were retrieved from weekly accounts on bee colony weight and cashew nut yields per experimental farm, 200 sampled cashew nuts as well as quantities of honey, bee wax and propolis harvested.

**Findings of the study**

The integration of beekeeping had significant impacts on raw cashew nut yield and farmer income, but not notably on Raw Cashew Nut (RCN) quality.

The study established the following:

- RCN yields increased by 116.7 % in Ghana and 212.5 % in Benin, as a result of pollination by honeybees. Average RCN yield per tree per season increased from 4.2 kg to 9.1 kg in Ghana and 2.16 kg to 6.75 kg in Benin.

- A 1 hectare cashew farm with 2 honeybee colonies produced an average of 41.4 kg of honey, 2.8 kg of bee wax and 0.74 kg of propolis in one season with a total value of US$ 208.53 in Ghana; In Benin, and average of 27.48 kg of honey, 1.84 kg bee wax and 0.5 kg propolis worth US$ 138.40 were harvested.

- A total annual income of a cashew farmer with honey bees was found out to be US$ 591.74 per ha in Ghana and US$ 575.96 per ha in Benin.

**Recommendations**

Despite the great impact of beekeeping on cashew farming, more can be done to improve it. Some recommendations of the study are:

- Cashew farmers should receive further technical training on beekeeping and management of beehives.
- Appropriate beekeeping equipment as well as protective clothing is necessary to boost quantity and quality of beehive products and to ensure effective protection.
- Implementation of management systems of honeybee colonies in cashew orchards such as ‘the Master Beekeeper Model’ is recommended. (For information on Master Beekeeper Model see full study)

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