

HONEYBEE KEEPING UNDER COCOA PLANTATION: A STRATEGY TO ARREST ABANDONMENT OF COCOA PLANTATION BY COCOA FARMING HOUSEHOLD IN NIGERIA

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SUMMARY

One of the ways of ensuring sustainability of cocoa production in Nigeria is through engaging the cocoa plantation in other income — generating ventures in order to boost the income base of the cocoa-farming households. One of these productive activities is honeybee keeping under the natural habitat of cocoa plantation. The stay-on-the-farm strategy of raising honeybees under cocoa plantation will draw additional income to the pockets of the farming households from the products of the honeybees besides other benefits. Some of these products of commerce from honeybees are: honey (consumed in preference to sugar all over the world and used in pharmaceutical preparations), bee wax (used in the manufacture of cosmetics, candles, medicines and polishes), propolis (used for therapeutic and antibiotic purposes). These products from honeybees attract marvelous local and international demands that have never been met. The Cocoa Research Institute of Nigeria has developed a model honeybee-keeping project, which is intended to train cocoa farmers on how to raise honeybees under cocoa plantation. This is hoped to go a long way in keeping the cocoa - farming households on their plantations, hence sustaining the existing cocoa populations.

L'APICULTURE DANS UNE PLANTATION CACAOYÈRE: UNE STRATÉGIE VISANT À STOPPER L'ABANDON DES PLANTATIONS CACAOYÈRES PAR LES FAMILLES DE CACAOULTEURS AU NIGERIA

RESUME

L'association d'une plantation cacaoyère avec une autre source de revenus constitue une manière de garantir la durabilité de la production cacaoyère au Nigeria, en lançant des initiatives destinées à stimuler les revenus de base des foyers de cacaoculteurs. L'une de ces activités de production est l'apiculture dans l'habitat naturel fourni par la plantation cacaoyère. La stratégie de maintien dans l'exploitation par l'apiculture apportera des revenus supplémentaires aux familles d'agriculteurs grâce aux produits apicoles, ainsi que d'autres avantages. Parmi les produits apicoles pouvant être commercialisés, on trouve : le miel (consommé de préférence au sucre dans le monde entier et utilisé dans des préparations pharmaceutiques), la cire d'abeille (utilisée dans la fabrication de cosmétiques, bougies, médicaments et cirages et vernis), la propolis (utilisée à des fins thérapeutiques et antibiotiques). Ces produits apicoles suscitent une demande extraordinaire au niveau local et international, qui n'a jamais été satisfaite jusqu'ici. Le *Cocoa Research Institute of Nigeria* a élaboré un modèle de projet d'apiculture destiné à la formation des cacaoculteurs sur la manière de procéder à l'apiculture dans des plantations cacaoyères. Ceci devrait être très utile pour inciter les familles de cacaoculteurs à rester sur leurs plantations, et pour assurer ainsi la durabilité des peuplements de cacaoyers existants.

APICULTURA SOB PLANTAÇÕES DE CACAU: UMA ESTRATÉGIA PARA ESTANCAR O ABANDONO DAS PLANTAÇÕES DE CACAU NA AGRICULTURA FAMILIAR DO CACAU NA NIGÉRIA

SUMÁRIO

Uma das maneiras de assegurar a sustentabilidade da produção de cacau na Nigéria é envolvendo a plantaço de cacau em outros empreendimentos geradores de receitas para aumentar a base de receita da agricultura familiar do cacau. Uma destas actividades produtivas é a apicultura sob o habitat natural da plantaço de cacau. A estratégia de envolver os

habitantes da quinta na criação de abelhas na plantação de cacau atrairá receitas adicionais para os bolsos dos parceiros da agricultura familiar de produtos das abelhas além de outros benefícios. Alguns destes produtos comerciais das abelhas são: mel (consumido de preferência ao açúcar em todo o mundo e usado em preparações farmacêuticas), cera de abelha (usada na manufactura de cosméticos, velas, remédios e vernizes), própole (usado para fins terapêuticos e antibióticos). Estes produtos apícolas atraem uma maravilhosa procura local e internacional que nunca foi satisfeita. O Cocoa Research Institute da Nigéria tem desenvolvido um modelo de projecto apícola que se destina a formar os rendeiros do cacau na criação de abelhas sob as plantações de cacau. Espera-se que isto ajude em muito a manutenção da agricultura familiar nas próprias plantações, conservando assim as populações existentes de cacau.

ABEJAS MELÍFERAS MANTENIDAS BAJO PLANTACIONES DE CACAO: UNA ESTRATEGIA PARA DETENER EL ABANDONO DE PLANTACIONES DE CACAO POR PARTE DE PEQUEÑAS FINCAS EN NIGERIA

RESUMEN

Una de las formas de asegurar la sustentabilidad de la producción de cacao en Nigeria es vinculando la plantación de cacao a otras actividades generadores de ingresos para impulsar la base de ingresos de las fincas de cacao. Una de estas actividades productivas es la cría de abejas melíferas mantenidas bajo el hábitat natural de la plantación de cacao. La estrategia para mantener las fincas a través de la cría de abejas bajo la plantación de cacao conducirá a la obtención de un ingreso adicional para los bolsillos de las pequeñas fincas, relacionado con las abejas, además de proporcionar otros beneficios. Algunos de los productos del comercio con abejas son: miel (consumida preferencialmente al azúcar en todo el mundo y utilizada para preparaciones medicinales), cera de abeja (usada en la industria de cosméticos, velas, medicinas y ceras), própolis (usado con propósitos terapéuticos y antibióticos). Estos productos de las abejas atraen una estupenda demanda local e internacional antes desconocida. El Cocoa Research Institute of Nigeria ha desarrollado un proyecto de cría de abejas melíferas que pretende capacitar a agricultores para criar abejas bajo una plantación de cacao. Se espera que esto llegue lejos como una forma de mantener a las pequeñas fincas de cacao, sustentando así las poblaciones de cacao existentes.

INTRODUCTION

Honey, a very valuable product from the Honeybee (*Apis mellifera adansonii*) has been well known from time immemorial for its benefits. It is the only energy source from animal origin. The products of the beehive, which include honey, beeswax, propolis, pollen grains and bee venom, serve financial, medicinal and nutritional purposes. The inherent chemical values of honey are presented (Table 1). Despite this, there is paucity of information to develop the art in Nigeria. Honey produced for domestic or industrial use is expected to meet certain standards in terms of purity, shelf life, moisture content and nutrient composition. But most of the honey being produced in Nigeria come from crude sources such as honey hunters and untrained traditional practitioners. This age-long practice of honey hunting and colony destruction is severely detrimental to environmental protection, besides production of poor quality honey and the wastage of valuable resources (Olagunju, 2000). The need to conserve the honeybee becomes a necessity owing to the increasing demand for honey in industries and health institutions. The continuous increase in population, gives rise to industrialization and urbanization which eventually result in acute deforestation and hence habitat for apiculture (beekeeping) are depleted. There is, therefore, the need to encourage honey production in conserved environment such as tree-crop plantations like cocoa plantation. This can be achieved by adopting environment- friendly farming practices, hence conserving both the fauna and flora.

Cocoa (*Theobroma cacao*) has been known in Nigeria as an important cash crop before the oil boom. Today, the cocoa industry is facing the problem of poor financing, inadequate modern knowledge and decreasing production. It has been observed that most farmlands available for farming today are abandoned cocoa and kola plantations. Most farmers are abandoning their plantations because of frustrations resulting from inability to control disease and a general reduction in fruiting.

The siting of beehives and production of honey in cocoa farms would go a long way in solving the problem of pollination, increasing yield and raising the income of the farmer considerably. Using honeybees in crop pollination will involve location of the beehives in such plantations. The raising of honeybees under cocoa plantations will encourage farmers to return to their abandoned cocoa plantations. Beekeeping under cocoa plantations may also help to secure the plantation from thieves and monkeys. Honey produced solely from cocoa nectar usually precipitate out into crystals, which settle at the bottom of the container. This is due to the presence of glucose, which precipitates at low temperatures. It is expected that the bees would seek for nectars (food sources) from many other sources apart from the cocoa plantation, but may produce monoflora cocoa honey during flowering of cocoa. Producing honey under cocoa plantation is also one effective and efficient way of converting and utilizing cocoa products with minimal wastes. For example, during cocoa fermentation and drying processes most sugars,

