

DEVELOPMENT OF THE HONEY VALUE CHAIN AS A CLIMATE SMART SOLUTION TO CONSERVE KILUM-IJIM FOREST

APICULTURE = JOBS = HONEY = MONEY

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INTRODUCTION

CAMEROON GENDER AND ENVIRONMENT WATCH (CAMGEW): CAMGEW is a not-for-profit organization created in October 2007 with authorization number N° 000998/RDA/JO6/BAPP to look for a solution to environmental and women's issues in Cameroon. CAMGEW works locally and thinks globally, integrating gender in solving environmental problems in Cameroon.

KILUM-IJIM FOREST: Kilum-Ijim forest is in North West Region –Cameroon. It is part of montane in Bamenda Highland Forest and produces Oku White Honey- certified as Geographic Indication Product. It covers 20.000 hectares with peak at 3011m and Crater lake called Lake Oku. Kilum Mountain is the second highest mountain in central and west Africa. It has rich ecosystem with non timber forest products like Oku White honey, mushrooms, medicinal plants, spices, etc. Oku White Honey produced by trees like *Nuxia congesta, Prunus africana, Schefflera abyssinica,* Carapas, Pittosporum veridiflorum, *Schefflera manni*. Only 2 of these products are certified in Cameroon with the other being the Penja White pepper.

FACTS ABOUT CAMGEW IN KILUM-IJIM FOREST

CAMGEW from 2012 to 2018 planted 75.000 bee loving trees in the Kilum-Ijim forest and trained 1.018 bee farmers in honey production, honey and its product quality control and bees wax extraction. She has also distributed above 895 beehives to trained bee farmers and organized above 1000 bee farmers into 5 Oku White Honey cooperatives located around this forest. She created a CAMGEW-HONEYSHOP in Bamenda to convert bee farmers honey to money. 18 youths were trained in 2018 on entrepreneurship in honey value chain development for 3 weeks

and are now active in the honey value chain. CAMGEW has succeeded to create a Forest multistakeholder plateform to exchange ideas on forest issues and assist in decision making to conserve the forest. 7 Forest Management Institutions (FMIs) in Kilum forest that manages community forest have been reorganized by CAMGEW with local authorities after more than 10 years that their terms of offices ended. 772 farmers have also been trained on agroforestry techniques. As of December 2018 about 1580 women had been trained on business skills and 1325 women received financial assistance in form of loans about US\$ 5500 monthly as alternative sources of livelihood to the forest. 24 teenage boys and girls had been trained on dress making, shoe making and hair dressing. She has also developed 3 tree nurseries with 100.000 trees. She is working hard now to develop the honey value chain in and around Kilum-Ijim forest.

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CAMGEW discovered that apiculture could solve the problem of bush fire, create jobs and increase income.

CAMGEW in 2012 while starting work in the 20.000 hectare Kilum-Ijim forests discovered that there were many bushfires occurring in the forest that destroyed huge portions of the forest yearly. In 2012, there were more than 7 bushfires that destroyed large portions of the forest above 2.000 hectares with little concern from local people. In 2014, one bushfire alone destroyed more than 1000 hectares of the forest. CAMGEW since 2012 started tackling this bushfire. CAMGEW used apiculture to tackle bushfire. CAMGEW discovered that apiculture could create jobs and raise income for forest people while protecting the forest. She discovered that when forest people own beehives in the forest they will no longer burn the forest and if bushfire should occur in the forest they will rush to put it off and this helps keep the forest. CAMGEW then engaged in training community members on apiculture in Kilum-Ijim forest and provided them with beehives to get started. As they started bee farming many of them found it lucrative and increased their beehives. Many other community members joined. When honey production increased there was need for a steady market. This could not be found locally. CAMGEW discovered the honey produced had poor quality because of lack production and processing equipment. Marketing was also difficult because bee farmers were not organised as they produced individually in small quantities. Honey quality and quantity determines the market for honey. The bee farmers from Kilum-Ijim forest are poor and unemployed and apiculture now became source of hope. CAMGEW now found a way to protect the forest through community engagement. She needed then to secure the market for their products to safe the forest and improve community livelihoods. Conservation without community livelihood improvement is a sham. There was need to balance the marketing and conservation equation to promote sustainability. CAMGEW then organized the bee farmers to cooperatives. The cooperatives

received material, technical and financial support. The cooperative leaders were trained on cooperative management, governance and leadership. The cooperatives received various materials and equipment needed in honey production and transformation to improve on quality and quantity. Organisation of bee farmers who are community members to cooperatives have increase community solidarity and peace. CAMGEW then created the CAMGEW-Honeyshop to help in marketing their products and also serve as a resource centre. The Honeyshop has continuously bought honey since 2016. Bushfires have reduced to zero in 2018. In 2017, there was one bushfire in Nchiiy forest of Kilum and before CAMGEW arrived the scene many bee farmers were in the forest and worked as a team to put off the fire before it caused destruction. More than 70 bee farmers were engaged and less than 4 hectares of forest was destroyed. Bee farmers value the forest now because forest equals honey/products and honey/products equals' money. Organisation of bee farmers has built solidarity among bee farmers and increases the force in as a team in bushfire prevention. They also received forest education on the importance of the forest for bee forage and bees for pollination of crops. Forest education for the young and the old is done in schools, rural radios, social media, social gatherings, events, etc to change negative behaviour and build future nature lovers. Quantity of honey increase from (our estimate) 30 tons in 2012 to about 60 tons in 2018.

CAMGEW-HONEYSHOP AS A CLIMATE SMART SHOP

The creation of CAMGEW-HONEYSHOP serves as opportunity cost to bushfires in the forest as bee farmers now protect the forest since honey equals money and jobs. The profit from shop goes back for forest regeneration. The bee farmers are sure of a market for their honey and we are sure bushfire in the forest is managed with community engagement. Presently the Honeyshop just break even in January 2019. It sales up to 8 tons of various honey, honey and bee hives finished products, apiculture equipment and materials, beehives, consultancy services about 1 ton of bees wax as of 2018. Whether the Honeyshop makes financial profit or not we need to keep it because it a climate smart social enterprise with social and ecological benefits that ensures the protection of existing carbon sink, promote forest regeneration, create jobs for local people and forest people's income. CAMGEW is also facilitating the development of the honey value chain to promote liberalization of the sector and sustainability. Organisation of bee farmers has built solidarity among bee farmers and increases the force in as a team in bushfire prevention

BEE FARMERS IN TEARS WITH CLIMATE CHANGE

Due to the irregular arrival of annual rainfall around Kilum-Ijim forest bees are confused. This affects honey production. In 2018, rains came early and trees developed vegetation instead of flowers as expected. There was 40% honey reduction. The period of honey harvesting could not be determined because as more as farmers waited for flowers to be produced more vegetation was produced instead of flowers. Bee farmers who harvested earlier as ending April were better

off though in tears than those who harvested at the end of April and in May which is the usual right time. This has been occurring over the years too. Bee farmers needed alternative actions to adapt and/or mitigate climate change. Bee farmers have been trained agroforestry, organic coffee as alternatives. Prunus africana (economic) trees has been planted in forest.

As of 2018, 1580 women had been trained on business skills and 1325 women received financial assistance (loans) about US\$ 5500 monthly as alternative sources of livelihood. These are women who own farms around forest periphery where slash-and-burn occurs and cause bushfire in the forest. These women are poor and need additional income from other businesses or improve sustainable agricultural inputs for their farms. CAMGEW provide training and financial assistance to improve on their livelihood. Other sources of bushfires resulted from poor honey harvesting and burning of vegetation to get new vegetation for animals. These 2 are not so common as those from slash-and-burn.

FACTS ABOUT OKU WHITE HONEY: The species of bees available in Kilum-IJim forest that produce this honey is called *Apis midlifera* adansoni . Oku White Honey colour content is 9-17mm. Taste quality is flavoured flowery. Texture content is creamy white and lightly granular. Moisture content is between 18% and 20%. All these qualities make Oku White Honey unique. The originality of Oku White Honey depends on the unique ecosystem of the forest in which it is produce. In general, there are two ways in which honey is procured: harvesting it from wild bees or using the science of domesticating bees, which is known as apiculture (according to the Food and Agriculture Organization). Oku White Honey prices have been increasing after certification as Geographical Indication Product in 2013 for the good of forest people. In 2012 the price per Kilogram was 2500FCFA, 2013 - 3500FCFA, 2014 to 2016 - 4000FCFA, 2017 to 2018 4500FCFA and from 2019 the price is 5000FCFA. Other types of honey produced are Stingless bee honey produced by Apidae meliponina and this is gotten from the ground. Brown honey still produce by Apis midlifera but out after May to February. It could be white but lack the taste, flavor and texture of Oku White Honey.

REPLICATION AND SCALIBILITY

CAMGEW has been sharing her knowledge/experience with bee farmers and cooperatives in Kilum-Ijim forest locally. She promotes this among bee farmers, between honey cooperatives and with other institutions. The trained community members serve as trainers-of-trainers in the community on apiculture and forest regeneration. CAMGEW use local consultants in training and coaching on apiculture and forest regeneration. These consultants are locally accessible and available to work closely with bee farmers in the community. There are exchange visits between honey cooperatives, bee farmers and bee farmer groups. CAMGEW has a field base office with staff who live and work with these forest communities. The CAMGEW team is available for them and participate in their periods of joy, sadness and happiness. This has gain community acceptance for CAMGEW and the impact is seen in her achievements. Many documents are

produced and shared to actors in the honey value chain.

CAMGEW is linking actors in the honey value chain to promote sustainable development. The Honeyshop becomes a demonstration centre for research, learning and marketing(honey, beesuits. smokers. beehives). bees wax. CAMGEW has been sharing her knowledge/experience with bee farmers nationally with organisations (like African Marine Mammals Organisation to help them train fishermen on apiculture as alternative to fishing that is diminishing) and internationally through experience sharing with Ghanians civil society organizations with assistance from Man and Nature - France working on apiculture. Through South Korea -APIMONDIA 2015. CAMGEW has trained Cameroonians on Entrepreneurship in Honey Value Chain Development who now share knowledge to other members of their various communities. Learning-by-doing approach is used.CAMGEW is member of National Apiculture Plateform. She shares success story, challenges and the way forward on apiculture.

The creation of CAMGEW-HONEYSHOP is innovative for other organisations to emulate that need to raise their own funds and reduce external dependency. Profit from shop goes back to conservation. Many organisations are coming to learn from us. CAMGEW use social media to share experience and knowledge.

THE WAY FORWARD

CAMGEW need to have a rolling fund to buy the honey and honey products from the bee farmers cooperatives

There is need for continuous training of actors in the honey value chain

There is need to promote networking and sharing of knowledge and experience between actors There is need for institutional capacity building for apiculture related institutions like

CAMGEW, Honeyshop, cooperatives, etc

There is need for fund raising to promote the development of honey value chain

There is need to improve on product quality and marketing

There is need to promote forest regeneration and protection

There is need for forest education as source of bee forage and pollinators

CHALLENGES CAMGEW FACES IN APICULTURE

- The socio-political situation in the North West Region of Cameroon caused by the Anglophone crisis
- The need for mentors and coach in Honeyshop business plan development
- CAMGEW institutional capacity partner
- Lack of funds to keep work and expand to other area
- Need for human resource development in the honey sector

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