

A close-up photograph of a large pile of food waste. The waste includes various fruits such as blueberries, a whole red apple, a peach, and slices of green and yellow fruits. There are also vegetable scraps, including green leafy herbs, and other organic debris. The colors are vibrant, with the dark blue of the berries, the red and yellow of the fruits, and the green of the vegetables.

FIELD REPORT

‘THINKEATS,SAVE’ PROJECT:
WHAT IS BEING DONE IN CAMEROON?

“THINK.EAT.SAVE” PROJECT: WHAT IS BEING DONE IN CAMEROON?

UN APPROFONDIMENTO SULLA ZOOTECNIA DEL MALI PER UN INTERVENTO SOSTENIBILE PER LA PRODUZIONE PRIMARIA DI LATTE FRESCO

Il presente lavoro ha esaminato il sistema di allevamento di bestiame in Mali. A tale proposito, sono state esaminate le questioni cruciali relative al settore dell'allevamento e della produzione lattiera, con una particolare attenzione alla produzione di latte fresco. E' stato inoltre esaminato il sistema di controllo della filiera alimentare in Mali e, allo stesso tempo, è stata analizzata la Sicurezza Alimentare (intesa come Food Security), relativa alla produzione animale, nelle sue quattro dimensioni: disponibilità alimentare, accesso al cibo, stabilità produttiva e utilizzo del cibo. Sono stati quindi identificati i diversi scenari della filiera del latte ed è stato utilizzato l'approccio HACCP per identificare le potenziali fonti di contaminazione da sostanze tossiche. L'obiettivo finale è stato l'individuazione degli aspetti rilevanti per l'empowerment della sicurezza alimentare, dalla produzione primaria al consumatore finale.



FIELD REPORT
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INTRODUCTION

Activities to celebrate the world environment day are celebrated each in year in June 5th since 1972. This single day has become a suitable moment to stimulate at international level actions to protect and preserve our environment. The theme of the 2013 celebration was formulated by the United Nation Program for Environment (PNUE) to engage citizens into actions: "Think about the environment before food consumption" (Thing.Eat.Save).

Food losses is defined as the decrease in edible food mass throughout the part of the supply chain (edible food for human consumption). Food losses take place at production, postharvest and processing stages in the food supply chain.

In 2013, Cameroon joined the international community to celebrate this day. Celebration activities were organized in each 10 regions of the countries. They mainly focus on sensitization campaigns done by the services of the Ministry of Environment, Protection Nature and Sustainable Development (MINEPDED), associate in some regions with United Nations Environment Programme (UNEP) and The Ministry of Agriculture and Rural Development (MINADER). Civil organizations involved in the protection of the environment were part of the manifestation through various activities at community level during that week, and exposition during the special showcase events.

During its official speech, the Minister of Environment and Sustainable Development (MINEPDED) call on producers and consumers to be more conscious on food acquire for consumption but that end up been throw into dustbin. In addition, he recalls that about 1/3 of food produced in Africa do not reach consumers. This being not only an important factor in the actual food insecurity situation on the continent, but also have a negative impact on the environment, agricultural land and water to be produced these foods. On the same notes, he revealed that food losses and waste in Cameroon estimated to 34 tons of cultural land per hectare. Some identify reasons include: poor quality of agricultural products, improper agricultural techniques, production zones, lack of transformation technology and equipment, deficiency of storage facilities, inadequate market organization for these food sectors, deficiency of local transformation capacities to semi- finish products to cite but few. Food losses represent a waste of resources used in production (land, water, energy and inputs). Producing food that end up not being consumed leads to unnecessary carbon dioxide emissions in addition to loss of economic value of the food produced.

As the end notes of his speech, the Minister encourage all parties to engage in the reduction of food losses. Integrated actions are needed at all levels: household, farm, industries, transportation equipment, packaging, storage facilities for the development of traditional and more efficient food conservation and transportation techniques (Cameroon Tribune newspaper, June 05th 2013).

WHAT IS BEING DONE TO TACKLE FOOD LOSSES AND WASTE IN CAMEROON?

AWARENESS CREATION

It is only recently that the food waste and losses were considered as serious factors of food insecurity in Cameroon. Actions taken so far mainly by civil organization focus on sensitization campaign. COMINSUD (Community Initiative for Sustainable Development) a local N.G.O working in the North-west region organized sensitization campaign to inform population of Bamenda town and surroundings on the need to reduce food losses. Eating locally produce food more often, and not relying all the times on imported foods were promoted as a first response. 2000 flyers carrying information to stimulate discussion on people feeding habits were distributed. The caravan drives throughout Bamenda town, under the media coverage of the National Television station (The Cameroon Radio Television) (COMINSUD, 2013).

Food types MOST CONCERN

It is well known that food waste and loss are crucial food security determinants. In Cameroon, tubers and legumes have been found to be the most vulnerable speculations among the commonly consumed foods. Cereals, groundnuts, legumes, fruits and fish are others important food items. In an attempt to bring some solutions for selected foot items (cassava, potato, fish and tomatoes) are actually amongst foodstuffs included in some government projects. The Ministry of Agriculture and Rural Development (MINADER) with the support of the FAO country office since 2013 have jointly launched studies on three principal cultures; namely cassava, potato and tomatoes. The objective of the project is to assess critical control points of losses/wastes in these three production chains; and therefore prescribe adequate actions for control. These three food items were selected because of their importance in people died across the different eating habits in the ten regions of the country. The study is at its final stage, but first results indicate that the average percentage of lost for cassava is 45%, among which 25 to 30% during harvesting (peeling and grating) and in markets (packaging and storage) (Open markets Agency, 2013). A first attempt of response to this is the creation of a national observatory of cassava sector to address this situation. The observatory mandate is to improve the quantity of cassava production, in collaboration with other stakeholders, by following and assessing the production constraints and report for proper actions.

Improving conservation of locally produce fish

Another initiative we can cite is the UNEP/Cameroon project to improve access to energy by reducing fish waste, by helping rural communities to improve fish smoke houses. In this case, rural communities are assisted to improve fish smoke houses. Drive by the Cameroon Wildlife Conservation Society (CWCS), the project has led to the installation of 500 improved fish smoked houses in the Douala Edea reserve. These superior smoke houses are built in order to reduce heat and smoke losses. Due to a significant reduction of the smoking time required, this technology not only helped reduce wood consumption, but also led to the recovery of some 25% of the fish catch, which had previously been wasted (Think.Eat.Save project, 2013). Fish smoking can be done by using sun energy, wood fire or hot charcoal.



>>Photo by CORAF/WECARD

• **Wood and Charcoal drying**

Toast and Roasting are common used household and street foods drying techniques. This can be done using local grilling and firewood or alternatively grilling and charcoal. Various improve local materials are used.

>> Wood and charcoal drying apparatus



Local engineering to developed drying technologies

Cereals and others grains, fish, fruits, vegetables can be conserved by traditional technique. Fumigation and chemicals treatment of grains are widely used techniques in rural setting. Foodstuffs are more often treated first before storage in local containers, bags, or in the kitchen garret so that it will remains dry. Different drying techniques and technologies are used, based on particularities of the concerned communities. In cooking, frying is one the most used drying methods.

• **Oven “Djilemo”**

Other improve storage equipment are being developed; below is a “four” invented by a Cameroonain engineer, Mr Louis Djilemo. This oven is intended to help conserve fruits, legumes and tubers by drying them. The “Djilemo” oven is made for communities use has a capacity 600kg and 100kg of products. Aluminum or laterite soil can be used as materials to construct the oven (AJAFE network).

>> Traditional oven (in front of its inventors) to dry and conserve fruits, tubers



• **Solar drier**

A Solar driers, manufactured by the Cameroon Research Institute of Geology and Mining have been developed in Cameroon and is in promotion in different women association to use for drying agricultural products, especially during harvesting seasons where products are abundant. The solar drier is used by women association in rural and urban areas for the drying and the conservation of agricultural products to reduce food lost and waste.

The solar drier as two main components: two wings with role to capture solar energy and transmit the heat into the main chamber. The agricultural products to be dry (fruits, vegetables, cereals, fish, etc...). The solar drier has been bought by some women association living in rural areas. The drier were exposed by the one of these women association during the national scientific showcase organized each two years by the Ministry of Scientific Research and Innovation. Users of the driers reported so far two main drawbacks: i) the difficulty to control the temperature inside the drying chamber and the small size of the chamber which takes only small amount of products per drying session.

>> Solar Drier developed by the IRGM (ministry of scientific research and innovation)



COMMERCIALIZATION OF TRANSFORMED AGRICULTURAL PRODUCT

Agricultural products are characterized by their seasonality. Abundant in the harvesting period where they are abundant and cheap on the market, they became scarce and expensive after their natural season. Some culture are most vulnerable than others. A first transformation of agricultural products can bring important added value and generate higher marketability of the products.

Figure 6 and 7: Transformed agricultural products at sales points in markets (Dry potatoes, fry plantain, dry cassava).



Keeping an efficient cold chain through some food supply chain

In June 2012, a regional workshop was organized in Yaounde by the (international Institute of Refrigeration (<http://www.iifir.org>)) the use of cold chain to reduce food losses, following the “ farm to fork “approach. A major recommendation of this workshop was the development by state involved of effective and continuous cold chain to store locally consumed legumes and fruits were set as a priority by the government. Using cold chain is an alternative to drying technique. Though imaintening a cold chain is costly than drying, products quality and other commercial products attribute enter into consideration on which technology can be suitable. Since then, visible actions still awaited (Cameroon Tribune newspaper, 2012).

CONCLUSIONS

Food losses and wastes remains key factor to address in combating food insecurity also in Cameroon. Tubers, cereals, groundnuts, legumes, fruits and fish are amongst the items of concern. By decreasing the amount of foods items waste and loss by half, a big step in improving food security will be achieved. Governments jointly with international agencies and others local communities are taken initiatives, that however remain insufficient in addressing food and nutrition insecurity. Sensitization campaign, development of local cold chain, use of traditional conservation techniques and local technologies are pieces of responses proposed. Initiatives taken so far by governemetal agencies and civil society organizations, aims at creating more awareness at population level, and attributions of incentives to producers (farmers and industries) to encourage adoption of good practices. The “Think.Eat.Save” project of the UNEP have serve as a good drivers to recognize and encourage more actions. It is now accepted that by controlling factors leading to the loss of energy, loss of time, decreasing, waste of production inputs, loss of money and destruction of agricultural land food and nutrition security will be enhance.