

VEGNEWS

A Quarterly Newsletter of Ni-Can-Veg Project 106511

Issue No.2, March, 2012

IN THIS ISSUE

Page

- Editorial ----- 1
- Underutilized vegetables: Gatherers, Marketers and Consumers speak-----1
- Woorowo and Ugu: The most expensive vegetables in Southwest Nigeria-----3
- High premium species: Still not cultivated-----3
- Under-utilized vegetables hub: Women dominate in Osun-----5
- Postharvest problems: Washing, cooling, market condition and wilting of high premium vegetables..... 6
- Field work in progress-----7

This Edition of VegNews is specially produced to present some interesting field experiences during the baseline study and commencement of field work on Project 106511. The purpose of baseline study phase is to compile baseline information that will be used for gender analyses and provide input into other phases of the study. In addition, the baseline information will form the basis against which we can compare information gathered at the end of the study to assess the impacts of the study.

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EDITORIAL

Poor quality nutrition, hunger and diseases are triple problems facing substantial proportions of humans in developing countries. Already, over 70% of Nigerians live below poverty line, on less than one dollar (\$1) per day and are classified as poor, with 35% living in absolute poverty. In the next ten (10) years, the poverty level will deteriorate if “food and economic issues” are not addressed. As a way of addressing the “food and economic issues”, this project is studying 10 Nigerian under-utilized and under-exploited vegetables to assess their potential to enhance food security, value-addition, economic growth, and conservation of high premium species. The research is using a participatory approach involving rural women farmers and scientists to conduct the ecological impact assessments of crop

diversification, economic and financial analyses, conventional propagation studies using stem cuttings and seeds as planting materials, product processing and preservation and value addition studies. A major focus of the research is training of poor rural women on production, processing, utilization and marketing of underutilized vegetables for food security and financial empowerment. The overall goals of the research are:

- Raise awareness on the nutritional values and utilitarian potential of under-utilized vegetables.
- Diversify and increase income opportunities of the poor rural women population through improved production and marketing opportunities.
- Foster resources conservation and environmental sustainability through better soil and water management.
- Reinforce capacity by training of selected women farmers and training of extension agents, students, research personnel and all other stakeholders in skill acquisition on vegetable production, processing and marketing.
- Create a community-run monitoring system to assess the impact of crop diversification on resource use and the environment.

Under-utilized vegetables: Gatherers, Marketers and Consumers speak.

The under-utilized vegetables project (106511) being jointly funded by IDRC and CIDA under the Canadian International Food Security Research Fund (CIFSRF) took off in March 2011. The baseline survey aspect of the project is taking place in 72 selected locations in Osun, Oyo, Ondo and Ekiti States of Nigeria. Each State is divided into forest zone and derived savanna zone. Oral, as well as questionnaire-guided interviews were conducted in each of the 72 location on 25 gatherers, 15 marketers and 20 consumers. In all we have 14,600 gatherers, 8760 marketers and 1168 consumers, as respondents. The direct interaction during the baseline survey provided the research team with the opportunity of having a fair assessment of the social and economic conditions of the gatherers, marketers and consumers. Gatherers are mostly women and few men, and even children,

VEGNEWS

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while the marketers are predominantly women who also engage their children (8-15 years old) in street hawking of bunched vegetables (see *pictures 1, 2 and 3*). At all the sites visited, vegetable gatherers and marketers proudly claimed, “Vegetable business is woman's business and our children also assist us”



Woman bunching vegetable after harvest

“The children must hawk the vegetables, as far as possible, so that we can have money for family survival and also enough for their school fees” claimed a 36 year old woman vegetable seller in Ibadan. “The hawking may take the children as far as 5 km. They just have to sell the vegetables in their own interest” said a woman, aged 45 in Ondo. A 54 year old woman in Ile-Ife affirmed, “We spend the money from our vegetable business to take care of our spouse and also we cook the vegetables to provide good nutrition for the family.”

The women marketers also display their products for



Women vegetable sellers at market in Ile-Ife



Children hawking vegetables in Southwest Nigeria

sale in the market, in front of their houses and on the road-side; local roads and highways. Since vegetables are cooked together with other ingredients such as peppers, tomato and onions, women vegetable sellers also combine the sale of these materials (see *pictures 4 and 5*). We often sell all the materials to reduce the stress on the buyers. “When consumers come to the market they buy the vegetables and ingredients from me. They don't have to merry-go-round in the market, wasting precious time and energy”, said a 44 year old woman vegetable seller at Okitipupa.

The consumers lament the high prices of vegetables during the dry season (December - April every year) hoping that Government would do something to help the vegetable farmers so that the poor people who could not pay for egg, milk and meat could meet their nutritional needs. “Now (February) you cannot easily find 'woorowo' (*Solanecio bialfrae* (Olive&Herine) C. Jeffery), our most cherished vegetable in the market simply because no farmer plants it. It is gathered only from cacao plantation and when dry season sets in you hardly find it gain. You can now see that a bunch sells



Vegetables and other “things” in the market



Buy everything here! Vegetables + other “things.”

for N70 (US\$0.50) whereas other secondary vegetables sell for N40 (US\$0.29). Government should help us through your research to encourage its cultivation” advised a 65 year old woman consumer in Ado-Ekiti. “My daughter is getting married on Saturday (January 28) and we have come to buy vegetables for soup preparation. Unfortunately, I

cannot buy enough vegetables now because I don't have enough money with me. In November I bought a bunch of 'ugu' (*Telfairia occidentalis* f. Hooke) for N50 (US\$0.36) but now a bunch sells for N100 (US\$0.71). Imagine, if you cook soup without vegetables the guests will abuse you" lamented an Igbo woman consumer (56 years old) at Ibadan.

Follow us on the next issue of VegNews for complete statistical details.

"Woorowo" and "Ugu": The most expensive vegetables in Southwest Nigeria

Vegetable marketing business is indeed a money "spinner" for the resource-poor women marketers in southwest Nigeria. Take for instance, a small bunch (~500 g) of 'ugu' sells for N100 (US\$0.71) during the dry season (November-March) whereas the same bunch size sells for N50 (US\$0.36) during the rainy season (April-October). The marketer sells between 20 and 40 bunches per day while on Fridays and Saturdays, she could sell up to 100 bunches/day mostly due to ceremonies and celebrations that always hold during the weekends in southwest Nigeria. During the dry season therefore, the woman makes between N2000 and N10,000 (US\$15 – US\$71) per day on sales of 'ugu' alone. Also for 'woorowo' a bunch sells for N70(US\$0.5) during the dry season whereas the same bunch sell for N40 (US\$0.29) during the rainy season. A marketer also sell between 20 and 100 bunches per day, depending on the time of the week. This is a good indication that "poverty line" could be broken by selling 'ugu' and 'woorowo'. Indigenous vegetable production is therefore a means of achieving the Millennium Development Goal (MDG) of poverty reduction and sustainable development. "This business (vegetable production and sale) is great. The only thing we need is support so that we can expand production. We need water pump, hose and fertilizer. We also need seeds. Help us to talk to the Government. We can also export these vegetables if they show us the way" said a 35 year old vegetable farmer in Inisha.

'Ugu' is planted throughout the year but the supply declines during the dry season because it requires large amount of water to sustain growth. Therefore, production during the dry season is limited to the Fadama and farmers who don't have access to land in the Fadama will be out of production. This is the reason for the high cost price per bunch during the dry

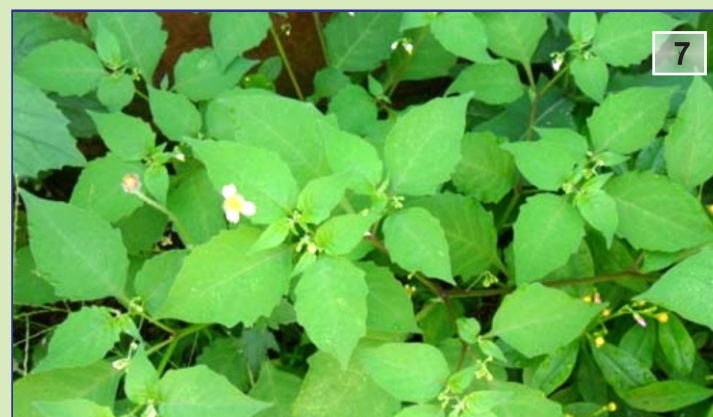
season. 'Woorowo' is mostly gathered from cacao plantation. Therefore as dry season sets in, the vegetation dries up and its supply also nose-dives. Hence, the little quantities often gathered during the dry season are obtained from cacao plantations that are close to water source. This explains the high price during the dry season.

HIGH PREMIUM SPECIES: STILL NOT CULTIVATED

The baseline survey conducted under the CFSRF Project 106511 is yielding results. Scientists involved in the project have identified 16 indigenous vegetable species; which are eaten by people in different parts of southwest Nigeria. Imagine, some of the plants will be mistaken for ornamentals by those who have never tasted them before. The research team discovered that apart from 'Ugu', "Igbo or Igbagba", "Ooyo" and "Soko" which are consciously cultivated for commercial purpose, the remaining 12 vegetables are under-utilized and are not consciously cultivated. They are often gathered from the wild, abandoned lands and backyard drainage points. Take a look at Pictures 6-21:



"Woorowo": *Solaneio biafrae* : One of the two most expensive vegetables in southwest Nigeria. It is very popular among the people and it grows wild in cacao plantation.



"Odu": *Solanum nigrum var* : This vegetable is highly cherished by only old people in southwest Nigeria. There is a folklore regarding its popularity among the Yorubas.. Watch out for the next issue of VegNews



"Yanrin": *Launea taraxacifolia* : This plant is well known in Yoruba traditional medicine. Its massive consumption in Inisha (Osun State) has a very strong historical basis. Watch out for the next issue of VegNews.



"Igbo or Igbagba": *Solanum macrocarpon* : A broad-leaf ornamental-like vegetable is widely consumed by everybody in Southwest Nigeria. It is the third most expensive vegetable in southwest Nigeria.



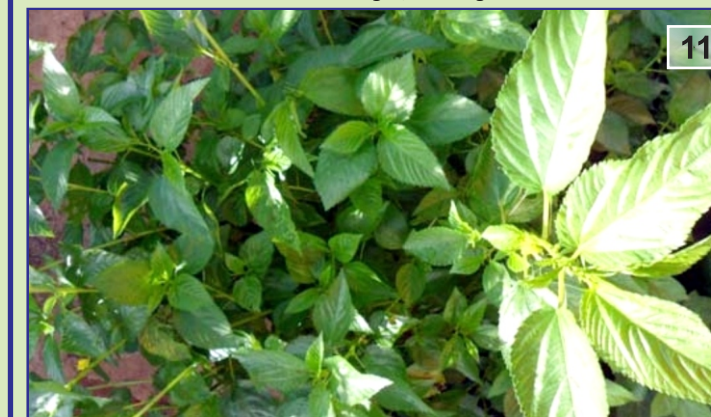
"Marigbo" or "Gbanunu": A highly cherished indigenous vegetable at Okitipupa and major parts of Ondo State in southwest Nigeria. It is highly valued because of its intestine cleansing ability. Used extensively in soups.



"Soko": *Celosia argentea* : An ornamental-like indigenous vegetable. It is well cherished by users but not generally acceptable.



"Gbure": *Talinum triangulare* : This ornamental-like vegetable is widely consumed by everybody in Southwest Nigeria. When other vegetables die out as a result of drought, this vegetable survives.



"Ooyo": *Corchorus olitorius* : A drawing soup is the best for eating starchy foods (eba, fofoh and pounded yam). This vegetable provides the highly cherished drawing soup. It is widely offered for sale in southwest Nigeria.



"Ugu": *Telfairia occidentalis* (fruit in box): The most expensive vegetable in southeast and southwest Nigeria. It is well cherished by both old and young.



"Tete atetedaye": *Amaranthus cruentus* : A well-cherished indigenous vegetable by the old people because it has low water content.



16

"Eku pete": *Ceratotheca triloba* : A vegetable cherished for its drawing quality at 'Omifufun' in Osun State.



18

"Amunututu pupa" or "Safara pupa" or "Eegun ori iganna pupa": *Basella rubra* : This vegetable is not grown on the farm. It grows only in backyard garden at drainage points. It is well cherished in SW Nigeria. It climbs on stake or on the building wall, hence the name, "Eegun ori iganna" in Ondo State.



20

"Ewuro": *Vernonia amygdalina* : This is the bitter-leaf of SW Nigeria. It grows mostly in home garden. It is well cherished, both as vegetable and medicinal plant, in SW Nigeria. It is a woody species.

Under-utilized vegetables hub: Women dominate in Osun State

As part of the baseline study carried out in two agro-ecological zones (rain forest and derived Savannah zones) in Osun State, a total of 208 respondents were interviewed using oral and questionnaire-guided interviews during the pre-test of the baseline instrument. Results show that elderly women (51-60 years old) with average family size of about 6 members are the main marketers of



17

"Tomati elejo": *Trichosanthes cucumerina* : A fruit used by the poor people as cheap replacement for the vine tomato.



19

"Amunututu" or "Safara" or "Eegun ori iganna": *Basella alba* : This vegetable is not grown on the farm. It grows only in backyard garden at drainage points. It is well cherished in SW Nigeria. It climbs on stake or on the building wall, hence the name, "Eegun ori iganna" in Ondo State.



21

"Ebolo": *Crassocephalum crepidoides* : This vegetable is well cherished by old people in SW Nigeria. Many people detest it because the leaf gives off foul odor both when raw and cooked. This plant is well known in Yoruba traditional medicine.

underutilized vegetable species. The following underutilized species, Worowo (*Solanecio biafrae*), Bitter leaf (*Vernonia amygdalina*) and Ebolo (*Crassocephalum crepidoides*), are marketed using the established vegetable marketing channels. The key stakeholders in the marketing chain of the underutilized vegetable species are: gatherers, sedentary traders and mobile retailer who are mostly (75%) women. On daily basis, thirty (30) bunches each weighing about 500g is sold by each marketer for an average of NGN100 per bunch. Economic analyses

show that during the rainy season, a woman vegetable seller made a profit of NGN390/day on "ebolo", NGN965/day on "woorowo" and NGN212/day on bitter-leaf while during the dry season, the gross margins/day are NGN750, NGN1428 and NGN267, respectively. Most (62%) marketers sustain their family through the income made from the enterprise and use vehicle (motor and motorbikes) to convey their wares to the market. Only 6% of the marketers interviewed got their supply from farmers who plant some of these under-utilized species especially "Worowo" and bitter-leaf. Belief of some of these marketers is that some under-utilized species cannot be cultivated on the farm but can only survive in the wild. They explain further that some of these under-utilized species had gone into extinction as a result of the use of chemicals either for pests control or weeds control. About 67% of the mobile retailers source their supply from the sedentary wholesalers/retailers marketer while 31% source directly from the gatherers and 2% from farmers who plant these indigenous vegetables. The result revealed that the quantity of under-utilized species available for marketing during the rainy season is always higher for all the vegetables than in the dry season although the vegetable are more expensive during the dry season than in the rainy season. The quantity of "ebolo" marketed during the dry season reduced drastically by more than half (56.50%), "Worowo" by 42.46% and bitter-leaf by 36.53%. Follow us on the next edition VegNews for complete information on the baseline findings for all the States covered by the baseline survey.

POSTHARVEST PROBLEMS OF INDIGENOUS VEGETABLES: WASHING, COOLING, WILTING AND HYGIENE

Farmers identified several production problems that militate against the cultivation of several of the indigenous vegetables discussed above. These include lack of planting materials, lack of personal initiative, lack of production package information, lack of government support, the psyche of consumers that discourage promotion of indigenous species, lack of awareness of the food value of the species, difficult production techniques, etc

Project 106511 has discovered through the baseline study that there are several postharvest issues that affect the quality of the harvested vegetables. Immediately after harvesting, the farmer washes the vegetables in the stream/river that supplies water for irrigation (see picture 22). This river/stream is usually not clean. Therefore, vegetables are contaminated directly on the farm. This raises a question on the quality of products that are offered for sale to consumers. The project will conduct microbiological



22

Washing harvested vegetables



23

Overnight cooling of vegetables on roof-top



24



25

Pixes 25 and 26: Vegetables on a dusty highway: Quality issue !

analyses to reveal the spectra of harmful microorganisms that are carried-over to the final consumer.

Unsold vegetables are preserved overnight on rooftops (see picture 23). Secondly, the vegetables are exposed to harsh sunlight which automatically causes

wilting and also are placed directly in contact with filthy and dusty ground, thereby encouraging further contamination of the produce (see pictures 24 and 25). This raises serious questions about the quality of vegetables that consumers buy on the highway. As part of the value chain development in this project, the team will organize training for farmers, gatherers, marketers and consumers on the best practices for handling vegetables from farm to the final consumer.

Follow us on VegNews to read our further findings on this issue.

FIELD WORK IN PROGRESS

The research team noted significant overcrowding of vegetables on farmers farms during the baseline study (see picture 26). It was noted that farmers incur huge loses of both seeds and harvest because thickly populated vegetables are dwarf and growth is therefore poor. Hence, poorly developed vegetables attract low prices in the market. The project team therefore commenced field work at Iwo and Inisha (Osun State) and Akure (Ondo State) to evaluate the effects of population on leaf yield of some selected under-utilized vegetables (Woorowo (only in Osun), Ugu, Igbo, Ooyo and tete atetedaye). See pictures 27 and 28. The team is moving to Ekiti and Oyo States to initiate similar field investigations. Follow us on VegNews to read about our results.



Overcrowded Amaranthus at Akure



Planting underutilized vegetables at Iwo site.



Planting under-utilized vegetables at Inisha site

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All the photographs used in this publication are original documents generated during the course of the baseline study and field work.

