

## **BIBLIOGRAPHY**

WAIS, RUFERLYN L. APRIL 2010. Perception of the Residents Regarding on the Declaration of Sweetpotato as a One Town One Product of Bokod Benguet. Benguet State University, La Trinidad, Benguet.

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## **ABSTRACT**

The study was conducted to determine the perception of the residents regarding on the declaration of sweetpotato as a one town one product of Bokod, Benguet, to find out the supports given by the local government to the sweetpotato growers to promote its being a one town one product of Bokod, to find out the needs of the farmers to uplift sweetpotato as an OTOP of Bokod, and to come up with the possible recommendations to expand sweetpotato production in Bokod.

There were 100 respondents taken from the 10 barangays of Bokod, Benguet. Ten respondents were taken from each barangay. Of the 100 respondents, 77 were planting sweetpotato while 23 were not planting. A survey questionnaire was used to get the relevant data and information. The data gathered was tabulated and analyzed using the statistical tools such as percentage and frequency counts.

The result of the study shows that out of the one hundred respondents, majority of them were aware that sweetpotato is the one town one product of Bokod and they acquired this information from the local government officials. Majority of them also

agreed that sweetpotato is their one town one product because it is easy to cultivate but their production is low.

The supports that the local government provided to the sweetpotato growers was conducting seminars and trainings about the sweetpotato processing. The identified problems by most of the respondents was the lack of water supply and water works with in their locality. Their needs were capital or financial to cultivate the farm or kaingin for sweetpotato production and new variety of sweetpotato that is high yielding and suited to the climate of the place.

The study recommends that the local government should see the the needs and problems of the sweetpotato growers; the local government should also continue conducting seminars regarding sweetpotato to all the barangay of Bokod so that the others would be encouraged to plant sweetpotato to support the program of the municipality; and the residents of Bokod must also cooperate and be involve in the program of the local government for their own benefits.

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## INTRODUCTION

### Rationale

Sweetpotato (*Ipomea batatas*) is locally known as “camote” which is the most commonly cultivated root crop and being considered as one of the most important root crop in the Northern Philippine highland. It serves as a substitute staple food by many of mountain farmers most especially on the remote areas of Cordillera. The crop is adaptable or easily grown in the backyard gardens, swidden or shifting fields locally known as “uma or kaingin” (slash and burn system) and can be planted in the rice field or in vegetable farms. This crop has low input production requirement and it is considered as an organic root crop especially if it is grown in “uma or kaingin”, because there is no commercial fertilizer applied or used. It can be grown in any type of soil and usually planted throughout the year.

The sweetpotato is also known to be a cheap crop but it has diversified uses. Aside from being a substitute staple food and a subsistence crop, it is also a source of cash income for farmers since it is now commonly sold in the market. It can be for animal feeds. It was found also that sweet potato has a medicinal value which is not yet well known to everyone or by the public. It has a high nutritional value. The tuber is an excellent source of complex carbohydrates, dietary fiber, calcium, phosphorous, iron and vitamin A and C. This crop also has a great potential in the market. It is a source of raw materials for industrial uses and food delicacies which is being processed into flour, feeds, starch, and pectin for local or export markets and it is process as fermented products such as wine and vinegar. In Bokod, some farmers process the roots into flour locally known as “bakkul” (ibaloi and kalanguya dialect). The broth from which roots are



boiled is being made into vinegar which is locally known as “sabeng”. These processed products are mostly for home consumption. The surpluses are sold to other households in the neighborhood.

Sweetpotato is just a secondary crop grown in Bokod next to vegetables. However, due to its potential for processing into industrial products, sweetpotato was chosen by the former mayor Atty. Raymundo S. Celino Sr. as “the one town one product” (OTOP) of the municipality. In addition, sweet potato had been a traditional crop in the place, grown by the forefathers for family consumption and for animal feeds.

Sweetpotato was formally launched on November 2008 at Wangal La Trinidad, Benguet during the Adivay fiesta of Benguet as OTOP of the municipality. To support this program, the Municipal Agricultural Office of Bokod planned to put up processing center for sweetpotato. They started to conduct seminars regarding sweetpotato processing as one of the livelihood program. They are also trying to encourage the residents to plant sweetpotato in their farm.

### Statement of the Problem

The study is to get the perception of the residents regarding on the declaration of sweetpotato as a “one town one product” of Bokod. Specifically, it tries to answer the following questions:

1. What are the perceptions of the respondents regarding on the choice of sweetpotato as OTOP of Bokod?
2. What are the supports given by the local government to sweetpotato growers to promote its being a one town one product of Bokod?
3. What are the needs of farmers to uplift sweetpotato as an OTOP of Bokod?



4. What are the possible recommendations to expand sweetpotato production in Bokod?

#### Objectives of the Study

1. To determine the perception of the respondents regarding on the choice of sweetpotato as an OTOP of Bokod.
2. To find out the supports given by the local government to sweetpotato growers to promote it's being a one town one product of Bokod.
3. To find out the needs of the farmers to uplift sweetpotato as an OTOP of Bokod.
4. To come up with possible recommendations to expand sweetpotato production in Bokod.

#### Importance of the Study

Sweetpotato now a day has a big potential in the market. It has a diversified uses, nutritional value and medicinal value. This crop can augment the income of farmers in Bokod, Benguet and since this crop is the OTOP of Bokod, farmers are encouraged to expand planting area for the crop.

OTOP (One Town One Product) is a priority program of Pres. Gloria M. Arroyo to promote entrepreneurship and create jobs by promoting a specific product or services with competitive advantage in each city or municipality.



### Scope and Delimitation of the Study

The study would find out the perceptions of the people of Bokod on the choice of sweetpotato as one town one product of the municipality; the needs and problems of sweetpotato growers and the plans of the local government to promote sweetpotato production in the area.

This was conducted from December 2009 to January 2010.





## REVIEW OF LITERATURE

Bayogan *et al.*, (1990) stated that sweet potato (*Ipomea batatas*) has always been a part of the agricultural system of the Philippine highland. The highland agriculture may be divided into permanent or shifting fields. In permanent fields, sweetpotato is grown after rice terraces, in day or in the house garden. In shifting or swidden fields locally known as “uma or kaingin” (slash and burn system), sweet potato is a common feature.

The sweetpotato is remarkable for its easy culture and quick growth. Its advantage lies so much in its potential yield as in its ability to yield under a wide range of natural and agronomic conditions. The crop is known to be a subsidiary addition to staple food or in some cases a complete substitute. Occurrences in the past have not been obscured as to classify the crop an old reliable.

Alfonso and Tandang (2007) stated that in the Northern Philippine highland, sweetpotato is the most commonly cultivated root crop. It grows in small patches in backyard gardens, in rice vegetable field as a rotation crop or in swidden farms. It has various uses such as vegetable or snack items; source of animal feeds and cash income and substitute staple to rice. On the other hand, sweetpotato is one of the root crops that can be converted into different products and can replace various related materials whose supplies are unstable or traditionally imported.

Sweetpotato is considered as one of the principal food for man and feed for animals either in fresh or dry form. It contains carbohydrates, iron, phosphorous and calcium. The stem and leaves also contains vitamins A and B. It is considered as the sixth most imported crops in the world. The fresh roots are eaten boiled, or fried and can even be processed into flour, chips and fermented products. The increasing demand for sweet



potato requires that its production should be improved and expanded to meet this demand.

Backian *et al.*, (2000) stated that being a perennial herb, sweetpotato is cultivated as an annual crop propagated usually through vine or stem cutting. It can be planted anytime of the year and can grow in different types of soil. Having a low input production requirement and considered as a cash crop, it is maintained as a subsistence crop especially in far-flung areas.

Anonymous (2000) stated that sweetpotato is one of the world's most important crops and it is cultivated in more than 100 countries. Sweetpotato is a major source of food, livestock feed and income for millions of small holders, but is only in the last decade that this crop has become the focus of an intensive worldwide effort to realize its full potential.

Anonymous (2008) cited that the Center for Science compared the nutritional value of sweetpotatoes to other vegetables. Considering fiber content, complex carbohydrates, protein, vitamins A and C, iron and calcium, the sweet potato ranked highest in nutritional value. According to these criteria, sweetpotatoes earned 184 points, 100 points over the next on the list, the common potato.

Sweetpotato tops are excellent source of antioxidative compounds, mainly polyphenolics which may protect the human body from oxidative stress associated with many diseases including cancer and cardiovascular diseases. Sweetpotato greens have the highest content of total polyphenolics among other commercial vegetables studied.

According to the anecdotal reports, this can be used in curing dengue fever. Camote tops are boiled in water to extract the juice. The boiling last for five minutes. A



little salt is used to give flavor to it. The patient is made to drink slowly and gradually. The body's immunity system is thus revived, making dengue helpless against the body's natural defenses. Camote enables the body to heal itself. In the past, many were fond of using the derogatory statement "Go home and plant camote". Now, camote is big news. It can save lives. What could be bigger than that?

Anonymous (2008) sweetpotato as a versatile crop has multifarious uses. It is not only grown as a food substitute for rice and corn but also as a potential source of raw materials for industrial uses and food delicacies. Sweetpotato is being processed into flour, feeds, starch and pectin for local and export markets. The flour is further processed into fermented products such as soy sauce and alcohol. When succulent cooked it can be saccharified to produce wine, vinegar and nata. The crop can be grown in a wide range of soils from heavy to sandy. It thrives best in sandy loam soils rich in organic matter and in areas with uniform rainfall and good drainage. The crop can be planted throughout the year but the ideal planting time for best varieties is at the onset of the rainy season or immediately after the rainy season when the soil is still moist.

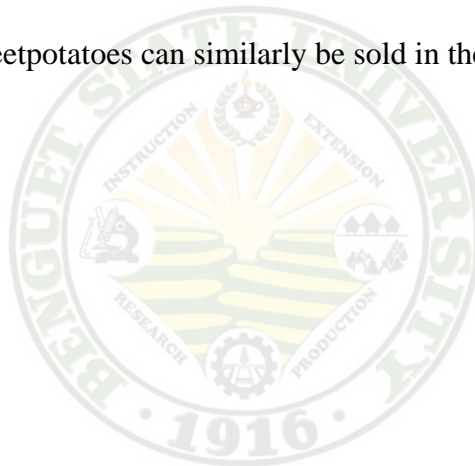
Anonymous (2006) Sweetpotato is considered the most important root crop in the Philippines. Its usefulness for both human and animal consumption, its high nutritive value and use of production are the other reasons why more people prefer to plant this crop. All parts of the sweet potato can be utilized for food, the marketable roots for human food, culled or non-marketable roots are for animal feed, the tender shoots and leaves as green vegetables and the older shoots as roughage for animals. Other than food for human and stock feed for animals, the influence and contribution of sweetpotato to



soil conservation as in erosion control and other possible indirect effect on soils, so this crop is a very valuable one.

Bayogan *et al.*, (1990) stated that sweet potato is an integral part of the Philippine Agricultural system. It is a common crop in home gardens as a substitute staple or as a semi commercial crop to augment income.

Home gardens are common to both rural and urban households where the crop is either allowed to grow or planted primarily as ground cover or vegetable source. Swiddening is typical in highland areas where the crop is cultivated basically as a substitute to rice. Growing the crop in fields is true in areas where rice – sweetpotato cropping is possible. Sweetpotatoes can similarly be sold in the market as well as used for animal feed.



### Definition of Terms

Bakkul. It is the local term of ibaloi and kalanguya to the sweetpotato roots flour or the sundried sweetpotato chips.

Culled. It refers to something picked out from others, especially something rejected because of inferior quality.

Polyphenolics. Refers to any of various alcohols containing two or more benzene rings that each has at least one hydroxyl group (OH) attached. Many polyphenols occur naturally in plants and some kinds, such as the flavonoids and tannins, are believed to be beneficial to health. A kind of chemical that (at least in theory) may protect against some common health problems and possibly certain effects of aging.

Sabeng. The local term refers to the broth of sweetpotato roots which is being made into vinegar.

Saccharified. To convert into a simple soluble fermentable sugar by hydrolyzing a sugar derivative or complex carbohydrates.

Subsistence crop. It is a crop grown by a farmer principally to feed his or her family, with little or nothing left over to sell.

Succulent. Means that full of juice or having fleshy tissues that conserve moisture.

Uma or kaingin. It refers to the cleaning or burning of one side of mountain then it is planted of sweetpotato. This is the oldest system of farming since the time of immemorial.



## **METHODOLOGY**

### Locale and Time of the Study

The study was conducted at Bokod, Benguet, one of the thirteen (13) municipalities of Benguet Province. It is the second (2<sup>nd</sup>) largest municipality of Benguet in terms of land area which is 48, 830 hectares located on the mid-eastern part of the Province. The inhabitants are Ibaloi of Benguet tribes whose chief means of livelihood are rice farming, cattle raising and vegetable gardening. Bokod has 10 barangays namely: Poblacion-Bolo, Ambuclao, Bila, Bobok-Bisal, Daclan, Ekip, Karao, Pito, Nawal, Tikey and the population is around 12,913.

This study was conducted from December to January 2010.

### Respondents of the Study

There were 100 respondents taken from the 10 barangays of Bokod, Benguet. Ten respondents were taken from each barangay. Of the 100 respondents, 77 were planting sweetpotato while 23 were not planting.

### Data Collection

A survey questionnaire was used to get the relevant data and information. Questionnaire was filled-up by the respondents in the presence of the researcher.

### Data Gathered

The data gathered were the perceptions of the respondents regarding on the choice of sweetpotato as an OTOP of Bokod, the needs of the farmers to uplift sweetpotato as



an OTOP of Bokod, the supports given by the local government to sweetpotato growers in order to promote its being a one town one product of Bokod.

### Data Analysis

The data gathered was tabulated and analyzed using statistical tools such as percentage and frequency counts.



## RESULTS AND DISCUSSION

### Respondents Profile

The demographic profile of the respondents is presented in Table 1. These include the age, civil status, household size, educational attainment, occupation, and number of years in planting sweetpotato.

Age. Table 1 shows that out of the one hundred respondents 31% were in the age bracket of 41-50 years old, 21% for 21-30 years old, 19% for 51-60 years old, 17% from ages 31-40 years old and 12% for 61-70 years old and above. This implies that most of the respondents generally in their middle ages.

Civil status. Out of the one hundred respondents, majority (80%) were married, 17% were single and 3% were widow.

Household size. Table 1 shows that 53% of the respondents had a household size of ranging from 1-5 members, 42% were ranging from 6-10 members and 5% were ranging from 11-15 members. This implies that majority of the respondents had a household size of 1-5 members.

Educational attainment. As shown in Table 1, 32% of the respondents were elementary levels, 25% were high school level, 23% were college level, 19% were college graduate and only 1% for vocational. This implies that most respondents were elementary levels because most of them were elders so the level of education is still low.

Occupation. Out of the one hundred respondents, most (49%) of them were farmers, 22% were housekeepers, 12% were government employees, 7% were laborers, 5% were businesswomen and 5% were private employees. Since the study was in line with farming, most of the respondents were farmers.





Table 1. Demographic profile of the respondents

PROFILE	FREQUENCY	PERCENTAGE
Age (yrs)		
21-30	21	21
31-40	17	17
41-50	31	31
51-60	19	19
61-70 and above	12	12
<b>TOTAL</b>	<b>100</b>	<b>100</b>
Civil status		
Single	17	17
Widow	3	3
Married	80	80
<b>TOTAL</b>	<b>100</b>	<b>100</b>
Household size (members)		
1-5 members	53	53
6-10 members	42	42
11-15 members	5	5
<b>TOTAL</b>	<b>100</b>	<b>100</b>
Educational attainment		
Elementary	32	32
High school	25	25
Vocational	1	1
College level	23	23
College graduate	19	19
<b>TOTAL</b>	<b>100</b>	<b>100</b>



Table 1 continued...

PROFILE	FREQUENCY	PERCENTAGE
Occupation		
Farming	49	49
Businessman / woman	5	5
Government employee	12	12
Private employee	5	5
Laborer	7	7
House keeper	22	22
TOTAL	100	100
No. of years in planting sweet potato		
10 and below	28	42
11-20	11	17
21-30	15	23
31-40	6	9
41-50	4	6
51-60	2	3
TOTAL	66	100

Number of years in planting sweetpotato. Most (42%) of the respondents were engaged in the production of sweetpotato for 10 years and below, 23% for 21-30 years, 17% for 11-20 years, 9% for 31-40 years, 6% had been planting for 41-50 years, and only 3% for 51-60 years. The study shows that the respondents had been engaged in the production of sweetpotato for a considerable period of time.



Area Planted With Sweetpotato  
and Volume Harvested

The area planted with sweetpotato and the average volume harvested is presented in Table 2.

Area planted with sweet potato. As shown in Table 2, 71% had a farm area of 100 sq.m. and below, 14% had 1001-5000 sq.m., 12% had 101-500sq.m., 1% had a farm area of 600-1000 sq.m. and 1% had a farm area ranging from 6,000-10000 sq.m. and above.

Average volume harvested. The average volume harvested for the 100 sq.m and

Table 2. Area planted with sweetpotato and volume harvested

Area planted with sweetpotato (sq.m)	FREQUENCY	PERCENTAGE
100 and below	55	71
101-500	9	12
600-1000	1	1
1001-5000	11	14
6000-10000 and above	1	1
<b>Total</b>	<b>77</b>	<b>100</b>

Volume harvested (kg) / sq.m	Average volume harvested
100 and below	53.75
101-500	400
600-1000	500
1001-5000	781.8
6000-10000 and above	3000



below was 53.75 kg. For the 101-500 sq.m., the average volume harvested was 400 kg, 500kg for the 600-1000 sq.m., 781.8 kg for the 1001-5000 sq.m., and the average volume harvested as to the 6000- 10000 sq.m. and above was 3000 kg. This implies that most of the respondents had a low production volume of sweetpotato because they had a limited farm area for sweetpotato production and only few had a harvest of 3000 kg.

Landscape of the Production  
Area and Purpose of Production

Table 3 presents the landscape of the production area of the sweetpotato growers and the purposes of production.

Landscape of the production area. Majority (66%) of the sweetpotato growers were planting in uma or kaingin, 42% were planting in their backyard or home garden, 7% were planting in field and 7% also were planting in vegetable garden. The study shows that majority of the respondents still prefer to plant in kaingin than in the field.

Purpose of production. Table 3 presents that majority (79%) of the sweetpotato growers mentioned that they plant sweetpotato as a substitute food for rice during calamities or rice shortage. 46% mentioned that for animal feed, 38% also mentioned that used as snacks during occasions with in the locality, 31% mentioned that for the additional income for the family, 30% said that as snacks during break (merienda) time, 16% said that for additional food for the family, 10% mentioned that as a subsistence crop in the area, 7% said that as a source of main food for the family consumptions and only 4% said that as a major source of income. This implies that majority of the sweetpotato growers plant sweetpotato purposely as a substitute food for rice during calamities or rice shortage.



Table 3. Landscape of the production area and purposes of the production

PARTICULAR	FREQUENCY	PERCENTAGE
Landscape of the production area		
Backyard / home garden	32	42
Kaingin / uma	51	66
Field	5	7
Vegetable garden	5	7
Purposes of the production		
For subsistence crop	8	10
As a substitute food for rice during calamities or shortage of rice	61	79
A major source of income	3	4
An additional source of income	24	31
For animal feed	35	46
As a source of main food for family consumption	5	7
Used as snacks during the occasions in the locality	29	38
Serve as snacks during break (merienda) time	23	30
Additional food for the family	12	16

\*multiple response

#### Marketable Parts of Sweetpotato

Table 4 presents the marketable parts of the sweetpotato that the sweetpotato growers had been selling and its average price.



Table 4. Fresh sweetpotato products it's sold **Error! Not a valid link.**\* multiple response

Most (30%) of the sweetpotato growers were selling the sweet potato roots and the average price is 20.4/kg. 12% were selling the sweetpotato tops with the average price of 11.5/ bundle. 8% were selling the sweetpotato stems or cuttings for planting with the average price of 17.5 / bundle, 4% were selling the peelings of sweetpotato for animal feeds with the average price of 150/ sack and only 3% were selling the vine cuttings for roughage with the average price of 100 / sack. The study shows that all the parts of the sweetpotato could be marketed.

Market Outlet of Sweetpotato  
Growers as to the Marketable Parts

Table 5 presents that 9 of the respondents sold the sweet potato roots to their neighbors, 8 were selling it to the Baguio City Hanger Market, 7 were selling it to the stores, 3 were selling it to Bokod Central Public Market during the market day, only 1 was selling it to Bambang Nueva Vizcaya and also 1 respondent selling it to BSU Bokod, Campus. As to the sweet potato tops, most (8) was selling it to the stores and only 1 was selling it to Bokod, Central Public Market. The peelings of sweet potato are only 3 of the sweetpotato growers selling it to their neighbors. As to the sweet potato cuttings, 4 were selling it to their neighbors and 2 respondents sold it by orders. For the vine cuttings of sweetpotato, 1 sweetpotato grower sold it to her neighbors and also 1 sold it by orders. The finding shows that most of sweetpotato growers sold it to their neighbors, to the stores and by orders because the production is low so they cannot market it to a far place.

Table 5. Market outlets of sweetpotato growers as to the marketable parts



Market Outlet	A		B		C		D		E	
	F	P	F	P	F	P	F	P	F	P
Bambang Nueva Vizcaya	1	4								
Baguio city	8	35								
Stores	7	30	8	89						
Neighbors	9	39			3	100	4	66.7	1	50
By orders							2	33.3	1	50
BSU Bokod Campus	1	4								
Bokod Central Public Market	3	13	1	11						
Total			9	100	3	100	6	100	2	100

\*multiple response

Legend: A - Sweetpotato roots      D - Cuttings  
 B - Tops                                      E - Vine cuttings  
 C - Peelings

### Regarding the Sweetpotato Processing

Table 6 presents the respondents who were processing sweetpotato and the reasons for not processing sweetpotato by those who do not process.

Sweetpotato processing. Most (57%) of the sweetpotato growers said that they processed the sweet potato and 43 % were not processing it.



The reasons mentioned by the 33 respondents for not processing sweetpotato were as follows. Thirty-nine (39) of the respondents reasoned that sweetpotato is just for family consumption, 6 reasoned out that the production is very small, 6 said that lack of appropriate technologies or machines for sweetpotatao processing, 3 mentioned that they have no knowledge in processing sweetpotato and 2 said that they sell it as fresh. The

Table 6. Regarding the sweetpotato processing

PARTICULAR	FREQUENCY	PERCENTAGE
Do you process sweet potato?		
Processing sweetpotato	43	57
Not processing sweetpotato	33	43
<b>TOTAL</b>	<b>76</b>	<b>100</b>
Reasons for not processing sweet potato		
I have no knowledge in processing	3	9
The production is very small	6	18
Just for family consumption	39	118
I sell it as fresh	2	6
Lack of appropriate technologies or machines for sweet potato processing	6	18

\*multiple response

study implies that majority of the respondents do not processed sweetpotatao because it is just for their family consumption and only few sell it as fresh.





### Prices of Sweetpotato Processed Products

Table 7 presents the sweet potato products with its average price. Fourteen (14) of the respondents processing bakkul with the average price of 35.36/ kg, 15 was processing sweet potato vinegar and sold it with the average price of 29.33/ bottle, 10 was processing camote cue with the average price of 4.8/ tudok and only 1 processed camote chips with the price of 2.00 per piece. This implies that most of the sweetpotato growers processed sweet potato vinegar because it was the easiest to do and only one who processed camote chips because according to them it consume so much lard.

### The Market Outlets of Processed Sweet Potato Products

Table 8 shows that majority (6) of the sweetpotato growers sold the bakkul by orders, the camote chip was sold by 1 sweetpotato growers during occasions within the Barangay or school. Sweet potato vinegar was sold by the 9 sweetpotato growers to the

Table 7. Sweetpotato processed product and the average price

PRODUCT LINES	FREQUENCY	PERCENTAGE	AVE. PRICE (Php)
Bakkul	14	33	35.36
Camote chips	1	2	2
Sabeng or sweetpotato vinegar	15	35	29.33
Camote cue	10	23	4.8

\* multiple response



Table 8. Marketing outlet of processed sweet potato products lines

Market outlet	A		B		C		D	
	F	P	F	P	F	P	F	P
Baguio City	1	7						
Stores	2	14			9	60	2	20
Neighbors	5	36			2	13	3	30
By orders	6	43			1	7		
Km.40, Atok, Beng.					1	7		
During occasions within the barangay or school			1	100			5	50
Bokod Central Public Market					2	13		
<b>Total</b>	<b>14</b>	<b>100</b>	<b>1</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>10</b>	<b>100</b>

Legend: A - Bakkul

B - Sweetpotato chips

C - Sweetpotato vinegar

D - Camote cue

stores and for the camote cue, 5 of the respondents sold it during occasions within the Barangay or school.

#### Awareness of the Respondents on Sweetpotato as OTOP

Table 9 presents the respondents awareness, source of information regarding sweetpotato as an OTOP of Bokod, and the reasons of the respondents why they are not aware.



Respondents awareness. Out of the one hundred respondents majority (69%) were aware that sweetpotato is the OTOP (One Town One Product) of Bokod and 31% were not aware of it.

Table 9. Awareness of the respondents

PARTICULAR	FREQUENCY	PERCENTAGE
Respondents awareness		
Aware that sweetpotato is an OTOP	69	69
Not aware that sweetpotato is an OTOP	31	31
TOTAL	100	100
Source of information		
Members of the family, peers and friends	30	44
Print media	4	6
Aired programs	5	7
Academics	2	3
Municipal officials or barangay officials of Bokod	41	59
Barangay or municipal seminars or trainings	9	13
Reasons why they are not aware		
Because I don't care about this matter	24	77
Because I was not informed by any one	4	13
I'm not attending meeting, trainings or seminars	5	16

\* multiple response



Source of information. As shown in table 9, most (59%) of the respondents acquired the information regarding sweet potato as an OTOP of Bokod from the municipal or Barangay officials of Bokod, 44% acquired the information from their family, peers/ friends, 13% acquired it from attending seminars, trainings about the sweet potato processing, 7% for the print media, 6% from aired programs and 3% from academics. The study shows that majority of the respondents who were aware acquired the information from the local government officials.

Reasons why they are not aware. Table 9 shows that 77% of the respondents who were not aware mentioned that they were not informed by anyone, 16 % said that they were not attending any seminars or trainings with in their locality or barangay so they were not aware of it and 13% said that they don't care about this matter. The findings shows that majority of the respondents who were not aware mentioned that they were not informed by any one because this respondents were elders, some of them were at their middle age and some of them give more importance to their work than attending seminars.

### Perception of the Respondents

Table 10 presents the perception of the respondents whether they agree or not regarding sweetpotato as an OTOP of Bokod, respondent's reasons for agreeing, reasons of the respondents who do not agree, plan to expand sweetpotato production, respondents reasons for expanding sweetpotato production, respondents opinion regarding the advantageous of sweetpotato as an OTOP and the perceived advantageous of sweet potato as an OTOP.



Table 10. Perception of the respondents on sweetpotato as an OTOP of Bokod

PARTICULARS	FREQUENCY	PERCENTAGE
Agreement to sweetpotato as an OTOP		
Agree	90	90
Do not agree	10	10
TOTAL	100	100
Reasons for agreeing		
Main crop grown in Bokod	25	28
There is wide area devoted for planting sweet potato	27	30
The local government supports it	13	14
It is easy to cultivate	59	66
Sweetpotato is their hereditary plants or it is part of their traditions	15	17
Reasons for not agreeing		
Not a major crop grown of Bokod	7	70
Few residents are planting sweetpotato	2	20
Low production	8	80
It has a low market demand	5	50
Low price	6	60
Plan to expand sweetpotato production		
Plan to expand	45	59
No plan to expand	31	41
TOTAL	76	100



Table 10 continued...

PARTICULARS	FREQUENCY	PERCENTAGE
Reasons for expanding		
To supply the demand in the market	11	19
It is saleable in the market	5	9
To increase the demand of the family	31	53
To support the program one town one product of Bokod	28	48
As an additional food for the consumption	4	8
Perceptions as to the advantages		
Advantageous	88	89
Not advantageous	11	11
TOTAL	99	100
Reasons for saying it is advantageous		
Sweetpotato will be promoted as a commercial crop in the area	44	49
Sweetpotato can now be processed into other products	53	60
It will become the main product of the municipality	15	17
May be the of the sweetpotato will increase	5	7

\*multiple response

Agreement to sweetpotato as an OTOP of Bokod. As shown in Table 10, majority (90%) of the respondents agree that sweetpotato is their one town one product and 10% did not agree.



Respondent's reasons for agreeing. Sixty-six percent (66%) mentioned that because it is easy to cultivate sweetpotato, 30 % reasoned out that there is a wide area devoted for planting sweetpotato, 28% said that it is the main crop grown in the area of Bokod, 14% said that it is supported by the local government and 17% mentioned that sweetpotato is their hereditary plants or as the part of their culture.

Reasons of the respondents who do not agree. Table 10 shows that 8 of the respondents out of the respondents said that production is low, 6 also reasoned out that the sweetpotato price is low, 7 said that it is not the major crop of Bokod, 5 mentioned that it has a low market demand and only 2 said that few of the residents of Bokod were planting sweetpotato.

Plan to expand sweetpotato production. 59% said that they had a plan to expand planting sweetpotato and 41% had no plan to expand planting sweetpotato. The findings shows that majority of the respondents have a plan to expand planting sweetpotato.

Respondents reasons for expanding sweetpotato production. Table 10 shows that to increase the source of income of the family is the most (53%) reasons of the respondents, 48% said that to support the program one town one product of Bokod, 9% said that it is saleable in the market, 19% mentioned that to supply the demand in the market, and 8% said that for the additional food for the family.

Respondent's opinion regarding the advantages of sweetpotato as an OTOP. Table 10 shows that out of the one hundred respondents, majority (89%) of the respondents said that it is advantageous and 11% said that it is not advantageous.

The perceived advantageous of sweetpotato as an OTOP. In Table 9, it shows that majority (60%) of the respondents said that sweetpotato can now be further



processed into other products, 49% said that sweetpotato will be promoted as a commercial crop in the area, 17% said that it will become the main product of the municipality and 7% mentioned that may be the price of the sweetpotato will increase.

#### Supports Provided by the Local Government to Sweetpotato Growers

Table 11 presents the supports provided by the local government to sweetpotato growers. 38% of the respondents mentioned that the local government conducted seminars and trainings on how to process sweetpotato, 27% said that the LGU (Local Government Unit) introduced new variety of sweetpotato to be planted, 13% said that they were encouraged by the LGU to plant or expand planting sweetpotato and 6% said that the LGU formed an organization for sweetpotato growers. The organization formed was the INDICAG or Indigent Camote Growers of Barangy Pito, Bokod, Benguet and it was assisted by the Municipal Agricultural Office.

#### Respondents Suggestion to Expand Sweet potato Production

In Table 12, it presents the suggestion of the respondents in order to expand sweetpotato production in Bokod. Majority (62%) suggested that to plant the idle land since there were wide idle lands in Bokod, 30% suggested to expand planting in uma or kaingin and 9% suggested that sweetpotato can be also inter cropped with rice or vegetables.





Table 11. Supports provided by the local government to sweetpotato growers

SUPPORTS PROVIDED	FREQUENCY	PERCENTAGE
They conducted seminars or trainings on how to process sweetpotato	29	38
Introduced new variety of sweet potato to be planted	10	13
Encourage as to plant or expand planting sweetpotato	21	27
They form an organization for sweetpotato growers	4	6

\* multiple response

Table 12. Respondent's suggestion to expand sweetpotato production

RESPONDENT'S SUGGESTION	FREQUENCY	PERCENTAGE
Expand planting sweetpotato in uma or kaingin	23	30
Plant the idle lands with sweetpotato	48	62
Sweetpotato can be also intercropped with rice or vegetables	7	9

\* multiple response

### Needs and Problems of the Respondents

Table 13 presents the identified needs and problems of the respondents regarding the sweetpotato production.

Needs of the respondents for the sweetpotato production. The identified needs by most of the respondents were capital or finances for the cultivation of the farm or kaingin for the sweetpotato production, new variety of sweetpotato that is high yielding and suited to the climate of the place, fertilizers and more information from the local



government regarding the benefits or importance of the sweetpotato as a one town one product (OTOP) of Bokod.

Problems of the respondents. Table 13 shows the identified problems of the respondents regarding the sweetpotato production. Most of their problems were lack of water supply and the water works within their locality most especially in the barangay of Tikey, Cobabeng, some parts of Barangay Wakal Nawal, Daklan, Karao, and Ekip, followed by the presence of rodents with in the area and sweetpotato pests such as the “kulubot” regarding the sweetpotato leaves and the rough skin of sweetpotato roots.

Table 13. Needs and problems of the respondents

NEEDS	FREQUENCY	PERCENTAGE
Fertilizers	5	5
New variety of sweetpotato.	10	10
capital or finances	14	14
More information about the sweetpotato.	2	2
<b>Problems</b>		
Lack of water supply and the water works	33	33
Sweetpotato competes with vegetable gardening and the area	2	2
Presence of rodents	11	11
Sweetpotato pests ( kulubot, rough skin of sweet potato)	7	7
Limited marketing outlet for sweetpotato	3	3
Limited area	3	3
Soil erosion and soil condition	3	3

\*multiple response



## **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### Summary

This study was conducted to determine the perception of the respondents regarding on the choice of sweetpotato as an OTOP of Bokod, to find out the supports given by the local government to sweetpotato growers to promote its being a one product of Bokod, to find out the needs of the farmers to uplift sweetpotato as an OTOP of Bokod, and to come up with possible recommendations to expand the sweet potato production in Bokod.

The study was conducted from December to January 2010. There were 100 respondents taken from the 10 barangays of Bokod, Benguet. Ten respondents were taken from each barangay. Of the 100 respondents, 77 were planting sweetpotato while 23 were not planting. A survey questionnaire was used to get the relevant data and information. The data gathered was tabulated and analyzed using the statistical tools such as percentage and frequency counts.

The result shows that most of the respondents were of the middle age so most of them were elementary levels. Majority of the respondents were married and most of them had a household size ranging from 1-5 members. Out of the one hundred respondents, majority of them were farmers since the study is in line with farming.

As to the area planted with sweetpotato, most of the sweetpotato growers had a farm area of 100 sq.m. and below and most of the average volume harvested was 53.75 kg and most of the respondents were engaged in the production of sweetpotato for about 10 years and below.



As to the marketable parts of sweetpotato, most of the sweetpotato growers were selling the sweetpotato roots with the average price of 20.4/kg and most of them sold their products to their neighbors. The study shows that all the parts of the sweetpotato could be marketed.

Majority of the sweetpotato growers were processing sweetpotato and most of the product lines they processed was the sweetpotato vinegar and they sold it with the average price of 29.33 / bottle because it is the easiest to do or it is not laborious and they usually sold this to the stores.

Most of the respondents who were not processing sweetpotato reasoned out that the sweetpotato was just for their family consumption because based on the volume they harvested, the production is low.

As to the awareness of the respondents, majority of them were aware that sweet potato is the one town one product of Bokod and most of them acquired the information from the local government officials.

As to the reasons of the respondents who are not aware, majority of them reasoned out that they were not informed by only one because these respondents were elders and some of them were at their middle age.

As to the perception of the respondents, majority of them agree that sweetpotato is the one town one product of Bokod and most of them reasoned out that sweetpotato was easy to cultivate. Most of the reasons of the respondents who did not agree was the production is low.

To increased the source of income of the family was the majority reasoned of the respondents why they had a plan to expand planting sweetpotato. Out of the one hundred



respondents, majority said that sweetpotato as an OTOP of Bokod had an advantageous and most of their reasoned was sweetpotato can now be further processed into other products.

As to the supports given by the local government to sweetpotato growers, most of the respondents said that the local government conducted seminars and trainings on how to process sweet potato.

As to the respondent's suggestion to expand sweetpotato production, most of their suggestions were to plant the idle land since there were wide idle lands in Bokod.

The identified problems of the respondents were lack of water supply and the water works within their locality most especially in the barangay of Tikey, Cobabeng Poblacion, some parts of Barangay Wakal Nawal, Daklan, Karao, and Ekip, followed by the presence of rodents with in the area and sweetpotato pests such as the "kulubot" regarding the leaves of the sweetpotato and the rough skin of sweetpotato roots..

Their identified needs were capital or financial for the cultivation of the farm or kaingin for sweetpotato production, they also need new variety of sweetpotato that is high yielding and suited to the climate of the place, and fertilizers.

### Conclusions

Based on the result of the study, the following conclusions were drawn:

1. Majority of the respondents were in there middle age, married and had a household size ranging from 1-5 members. Most of them reached elementary level and they were farmer. They had been farming for a considerable period of time as their source of income. Most of the respondents had a limited planting area for sweetpotato with a low production.



2. The marketable parts of sweetpotato that usually sold by the sweetpotato growers was the sweetpotato roots and they sold this to their neighbors.

3. Most of the respondents were aware that sweetpotato is the one town one product of Bokod and they acquired this information from the local government officials.

4. Majority of the respondents agreed that sweetpotato is their one town one product because it was easy to cultivate and most of them had a plan to expand planting sweetpotato because they expecting that this would increase the source of income of their family.

5. As to the advantageous of sweetpotato as an OTOP, it would be further processed into other products.

6. The supports that had given by the local government to the sweetpotato growers was conducting seminars and trainings about processing sweetpotato. The barangay of Pito, Bokod was the only one that had an organization for the sweetpotato growers. It was the INDICAG PITO, which means Indigent Camote Growers of Pito, Bokod and it was assisted by the Municipal Agricultural Office.

7. The identified problems of the respondents were the lack of water and the water works with in their locality, presence of rodents with in the area and the sweetpotato pests.

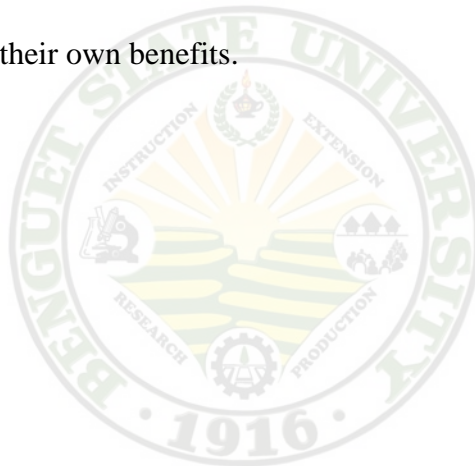
8. Their needs also were capital or financial for the cultivation of the farm or kaingin for sweet potato production, need new variety of sweet potato that is high yielding and suited to the climate of the place and fertilizers.



### Recommendations

Based on the result of the study, the following recommendations were drawn in order to uplift sweetpotato as an OTOP of Bokod:

1. The local government should see the needs and problems of the sweetpotato growers.
2. The local government should also continue conducting seminars regarding sweetpotato to all the barangay of Bokod so that the others would be also encourage to plant sweetpotato to support the program of the municipality.
3. The residents of Bokod must also cooperate and be involve in the program of the local government for their own benefits.



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APPENDIX A

Survey Questionnaire

PERCEPTION OF THE RESIDENTS REGARDING ON THE DECLARATION OF  
SWEET POTATO AS A ONE TOWN ONE PRODUCT OF BOKOD, BENGUET

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Age: \_\_\_\_\_

Civil Status: \_\_\_\_\_ (single) \_\_\_\_\_ (widow) \_\_\_\_\_ (married)

Household size: \_\_\_\_\_ members

Educational Attainment:

Elementary

College level

High school

College graduate

Vocational

Occupation:

farming

laborer

businessman/woman

house keeper

government employee

others, specify \_\_\_\_\_

private employee

1.) Area planted with sweet potato: \_\_\_\_\_ sq.m or ha

\*Volume harvested: \_\_\_\_\_ kg or can

\*Years in sweet potato farming: \_\_\_\_\_

2.) If yes, what is your purpose?

For subsistence crop.

As a substitute food for rice during calamities or shortage of rice.

A major source of income.

An additional source of income.

For animal feed.

As a source of main food for family consumption.

Used as snacks during the occasion in the locality.

Others, (specify) \_\_\_\_\_

3.) Where do you plant camote?

backyard or home garden

kaingin / uma

field

vegetable garden

Others, (specify) \_\_\_\_\_



4.) If for market, what part of the plant sweet potato you sell?

PARTS OF SWEET POTATO	PRICE	MARKET OUTLET
<input type="checkbox"/> sweet potato roots		
<input type="checkbox"/> tender shoots		
<input type="checkbox"/> peelings (for feeds)		
<input type="checkbox"/> stems (for planting)		
<input type="checkbox"/> sweet potato vinegar (sabeng)		
<input type="checkbox"/> sweet potato flour (“bakkul”)		
<input type="checkbox"/> older shoots (for roughage)		
<input type="checkbox"/> others, (specify) _____		

5.) Are you aware that sweet potato is a one town one product of Bokod?

Yes  No

5a.) If yes, where did you acquire the information about the sweet potato is a one town one product of Bokod?

- members of the family, peers and friends  
 print media (news paper)  
 aired Programs (over the radio)  
 academics  
 Municipal officials or barangay officials of Bokod  
 Others, (specify) \_\_\_\_\_

5b.) If no, why you are not aware?

- Because I don't care about this matter.  
 Because I was not informed by anyone.  
 Others, (specify) \_\_\_\_\_

6.) Do you agree that sweetpotato is your one town one product?

Yes  No

6a.) If yes, why?

- Main crop grown in the area of Bokod.  
 There is a wide area devoted for planting sweetpotato.  
 The local government supports it.  
 It is easily to cultivate.  
 High production.  
 Others, (specify) \_\_\_\_\_

6b.) If no, why?

- Not a major crop of Bokod.



- Few residents are planting sweet potato.
- Low production.
- It has a low market demand.
- Others, (specify) \_\_\_\_\_

7.) Now that you know that sweetpotato is a one town one product of Bokod, do you have a plan to expand planting sweetotato?

- Yes
- No

7a.) If yes why?

- To supply the demand in the market.
- It is sellable in the market or demand is high.
- To increase the source of income of the family.
- To support the program one town one product of Bokod.
- Others, (specify) \_\_\_\_\_

8.) Do you process the sweetpotato roots?

- Yes
- No

8a.) If yes, into what product? Do you sell it? If yes, where do you sell it?

PRODUCT LINES	PRICE	MARKET OUTLET
<input type="checkbox"/> "bakkul"		
<input type="checkbox"/> camote flour		
<input type="checkbox"/> camote chips		
<input type="checkbox"/> ferment it into camote wine		
<input type="checkbox"/> sabeng / vinegar		
<input type="checkbox"/> camote cue		
<input type="checkbox"/> Others, (specify) _____		

8b.) If no, why?

- I have no knowledge in processing sweetpotato.
- The production is very small.
- just for family consumption.
- I sell it as fresh.
- Lack of appropriate technologies or machines for sweet potato processing.
- others, specify \_\_\_\_\_

9.) In your opinion, is sweet potato as an OTOP is advantageous?

- Yes
- No

9.a) If yes, why?

- Sweet potato will be promoted as a commercial crop in the area.



- ( ) Sweet potato can now be further processed into other products.
- ( ) It will become the main product of the municipality.
- ( ) others, specify\_\_\_\_\_

10.) What are your problems or needs so that you can expand the production for sweet potato?

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11) What support had been given by the local government to sweet potato growers?

- ( ) They conducted seminars or trainings on how to process sweet potato.
- ( ) Introduced new variety of sweet potato to be planted.
- ( ) They encourage us to plant sweet potato or expand planting sweet potato.
- ( ) They form an organization for camote growers.
- ( ) others, specify\_\_\_\_\_

12.) What can you suggest to expand sweet potato production?

- ( ) Expand planting sweet potato in uma or kaingin.
- ( ) Shift in to sweet potato production.
- ( ) Plant the idle lands with sweet potato.
- ( ) Sweet potato can be also intercrop with rice or vegetables.
- ( ) others, specify\_\_\_\_\_

“In everything you do, put God first and He will crown your effort with success”

**THANK YOU VERY MUCH FOR YOUR COOPERATION!**

