

**Baseline assessments and action research:
Understanding potential sweetpotato markets in Nigeria**

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- 1. Sweetpotato hectares by states**
- 2. Sweetpotato in local diet**
- 3. Sweetpotato in fast-food industry (fry, boil, roast, crisps, flour, cakes, juice, thickener, pound-in-mix, sweetener)**
- 4. Sweetpotato farming systems**
- 5. Who is who in sweetpotato research and development**
- 6. POGPMAN, SPG-UI, NRCRI-Umudike+Nyanya+Kuru, RTEEP-NASC, ADPs, Chief Okafor-FCT**
- 7. Sweetpotato in urban markets (volume, processing, packaging, transportation, distribution, and price)**
- 8. Alternative food and feedstuffs and their Economics**

West Africa sweetpotato production statistics, 2005-2006 (FAOSTAT)

Country	2006 humanland population (million)	National areatuberper (million)hectares)	National areatuberper (million)hectares)	Fresh Usage harvested	Usage harvested	Tuber to the crop	Total
	(million)	(million hectares)	(million hectares)	(t/ha)	(t/ha)	(t/ha)	(t/ha)
Cape Verde	0.5	4	4,000	8.00	5.556	720	
Senegal	12.0	197	27,000	2.25	24.281	1,112	
Mauritania	3.1	1031	2,000	0.65	1.000	2,000	
Gambia	1.5	11	-	-	-	-	
Guinea Bissau	1.4	38	-	-	-	-	
Guinea	9.8	246	60,000	6.12	6.000	10,000	
Sierra Leone	5.7	72	26,000	4.56	2.476	10,500	
Liberia	3.4	111	-	0.00	-	1,900	
Cote d'Ivoire	19.7	322	43,000	2.18	2.150	20,000	
Mali	13.9	1240	50,000	3.60	16.667	3,000	
Ghana	22.6	239	90,000	3.98	1.385	65,000	
Burkina Faso	13.6	274	40,864	3.00	6.917	5,908	
Togo	6.3	57	3,500	0.56	1.167	3,000	
Benin	8.7	113	50,018	5.75	4.477	11,171	
Niger	14.4	1267	30,000	2.08	14.286	2,100	
Nigeria	140.0	924	2,516,000	17.97	4.876	516,000	
Total	273.5	5115	2,942,382	10.76	7.018	652,411	

70 major cultivated food crops of Nigeria

Cereal crops: sorghum, maize, millet [finger+pearl], rice, wheat, acha (hungry rice, *Digitaria exilis*),

Starchy crops: cassava, yam (6 species), cocoyam (2 species), sweetpotato, plantain, potato, hausa potato

Oil seeds crops: groundnut, sesame (beniseed), soyabean, oil palm, sunflower, egusi melon,

Pulse crops: cowpea, pigeon pea (*Cajanus cajan*), bambara nut,

Other crops: Sugarcane

Fruits: citrus (5 species), pawpaw, banana, pineapple, guava, mango, avocado

Trees: oil palm, coconut, shea butter tree, star apple (*Chrysophilum albidum*), Ogbono (*Irvingia gabonensis*), African pear (*Dacryodes edulis*), pepper fruit, raphia palm, sour-sop, breadfruit

Vegetables: amaranth, telfairia, bitter leaf, celosia, corchorus, tomato, pepper, onion, garlic, roselle, cabbage, green beans, okra, watermelon, carrot, pumpkin, ginger, eggplants

Sweetpotato in **urban markets** (volume, processing, packaging, transportation, distribution, and price)

How big is the potential market in Nigeria?

In 2010, Nigeria has 154 million people. About 50 percent are children who prefer sweet foods like sweetpotato. Most are school aged and should be targeted.

Nigeria: 77million people prefer sweetpotato

Zone	Major production States
South South	Cross River, Delta, Akwa Ibom, Rivers, Bayelsa
South East	Imo, Enugu, Anambra, Ebonyi
South West	Osun, Oyo, Ekiti, Lagos
North Central	Kaduna, Benue, Kwara, Niger, Plateau,
North East	Taraba, Adamawa, Bauchi, Yobe, Borno
North West	Sokoto, Kebbi, Katsina, Zamfara,
	Source: Tewe et al. (2001)

Sweetpotato in local diets

- 1. Boil and eat as snack food**
- 2. Fry and sell by road side along with yam and plantain**
- 3. Demand for hard, dry, starchy types that are poundable**
- 4. Orange-flesh types as garnish in rice dishes**

Sweetpotato farming systems

- 1.Small number of plants in a mixed crop farm**
- 2.Sole crop in small plots**
- 3.Gardens of sweetpotato**
- 4.Specialised farmers who get their roots to periodic markets**

Marketing of sweetpotato in Offa LGA, Kwara State, Nigeria

<i>Variables</i>	<i>Categories</i>	<i>Frequency (%)</i>
Packaging	Basket	55.5
	Sack	44.8
Market	Market-place	82.2
	Farm gate	17.8
Annual profit margin	N1000 –10,000	88.8
	N11,000 +	15.5
	N20,000	11.1
	Above N20,000	4.4
Union membership	No	63.3
	Yes	36.7
Unit price	Basket 25-35kg	N150-300
	Sack 70-90 kg	N500-1,000

Exchange: N135 = \$1. Source: Fawole (2007)

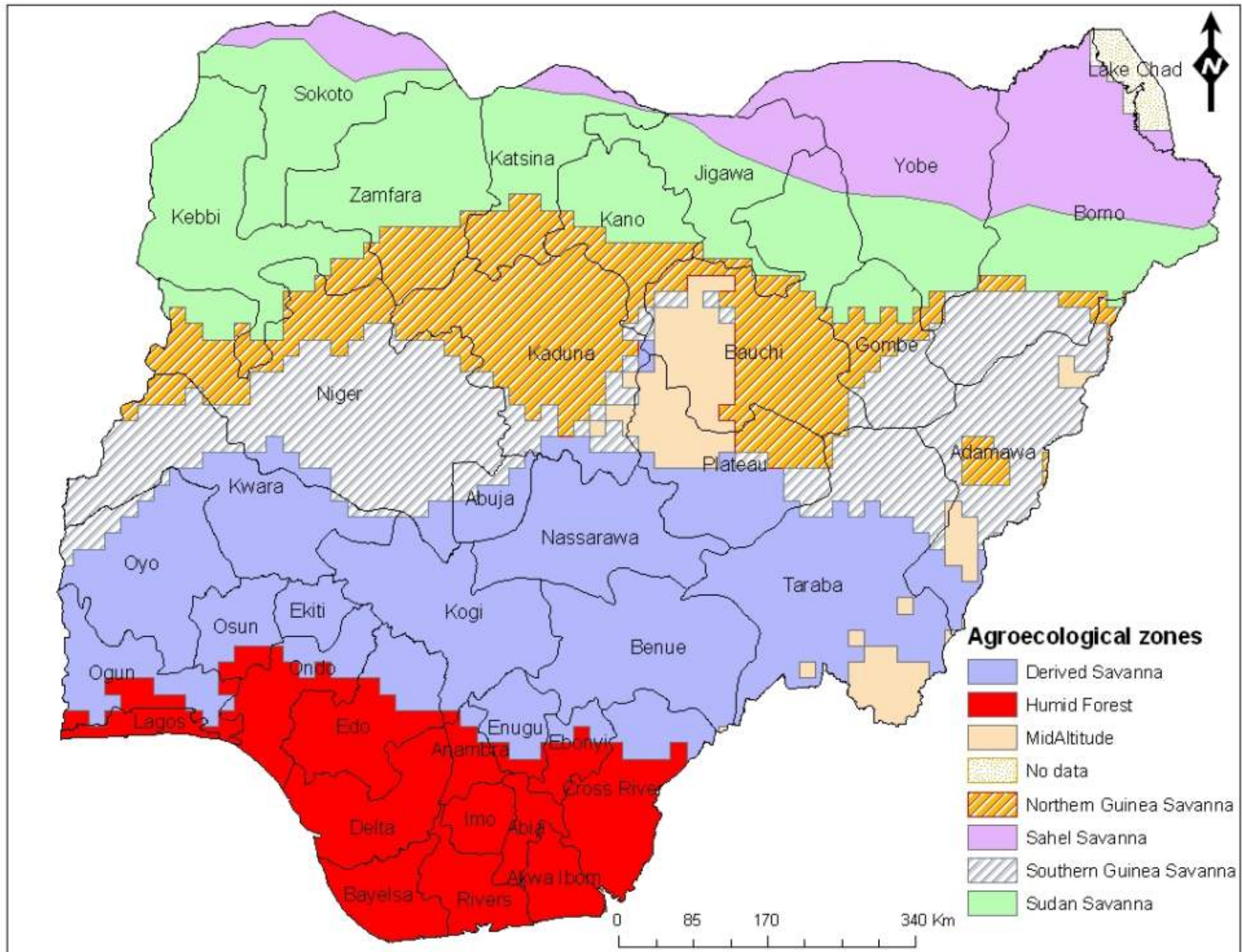
Production and Processing of Sweetpotato Offa LGA

<i>Variables</i>	<i>Categories</i>	<i>Percentages</i>
Processing techniques	Traditional	83.3
	Improved	16.7
Product form	Flour	72.2
	Boiled	17.8
	Chip	10.0
Land tenure system	Inherited land	67.8
	Lease	27.8
	Purchase	4.4
SP variety grown	Improved	63.3
	Local	36.7
Cropping pattern	Mixed	91.1
	Sole	8.9
Source of planting vines	Purchase	54.4
	Friends	31.1
	Extension service	14.4
Labour source	Family labour	52.2
	Hired labour	43.3
	Others: Mates, friends	4.4

Source: Fawole (2007)

Major characteristics for **selecting sweetpotato genotypes**

1. Fresh and dry shoots yield at harvest
2. Fresh and dry tuber yield (formed within seedbeds)
3. Tubers qualities (culinary, sensory= texture, **taste**, smell)
4. Number of tubers per stand
5. **Tuber shape and size distribution**
6. Tuber flesh colour
7. Tubers nutrients composition at optimum harvest date
8. Tolerance to pest and disease (e.g. weevil, virus complex)
9. Tuber storability in **usual** conditions
10. Days to maturity for **optimum** tubers yield within **cgp**
11. Depth of mature tubers affect harvest => weevil damage



Fresh root yields vary by genotype and environment

**Root yields: 3.5t/ha = northern states
7.8t/ha = southern states**

**Estimates of yields vary widely between
the different areas of production/ field
environment during crop growth.**

Source: Tewe et al. 2001

Recent multi-site trials show **yields are much higher
in the north than in the southern parts** (*NRCRI 2007*).

Yields reach 30t/ha in research fields

Sweetpotato tuberous roots are the target of all program interventions

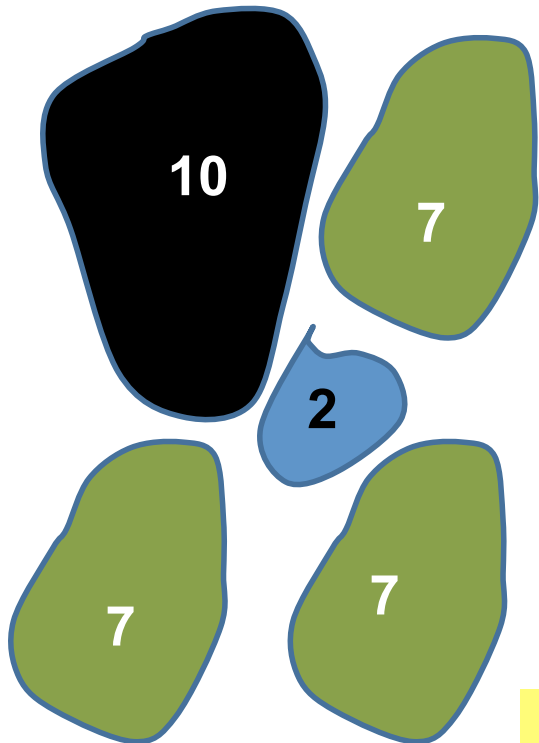
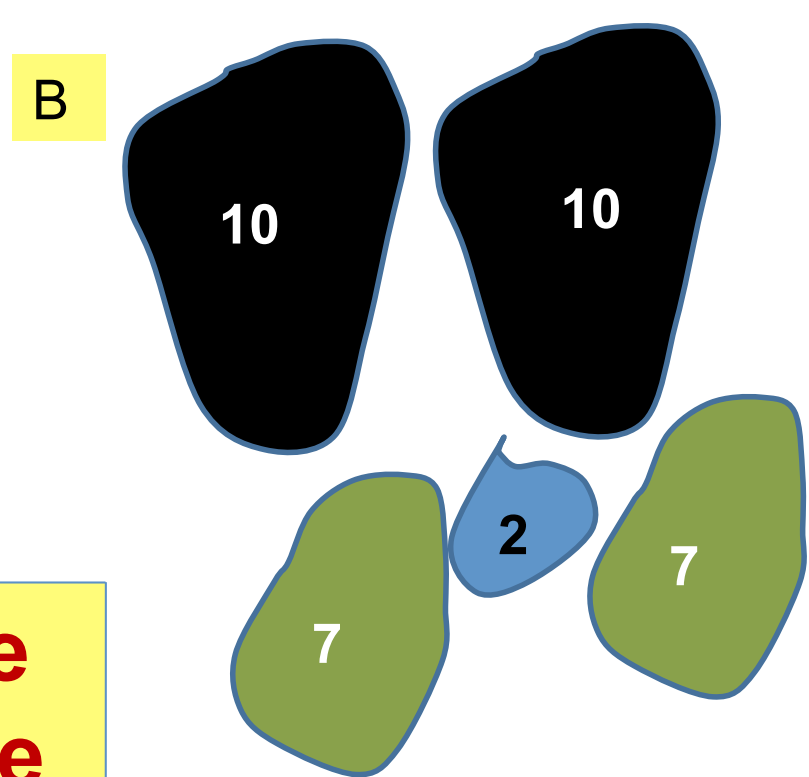
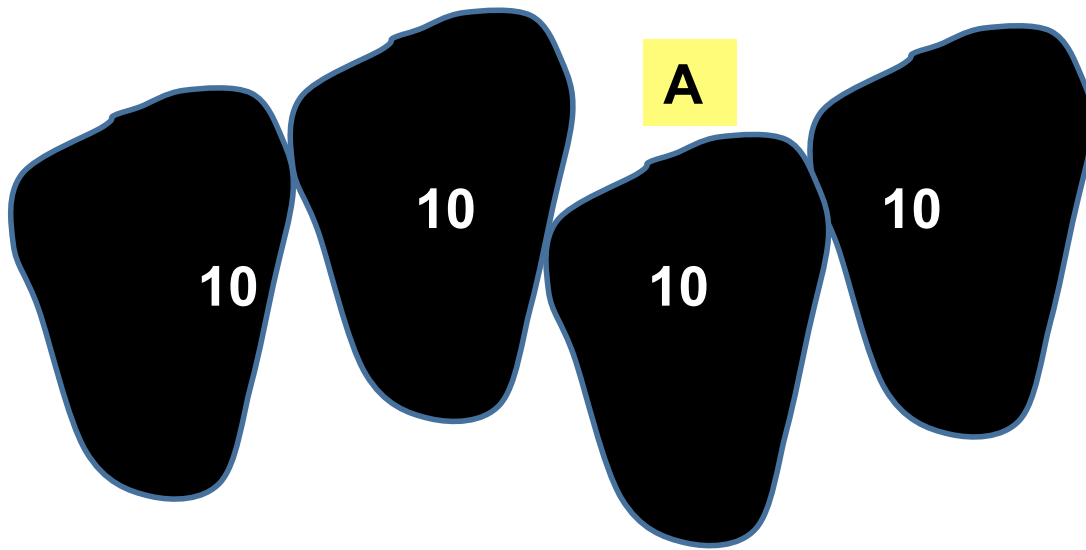


Tuber Shape and Size Distribution

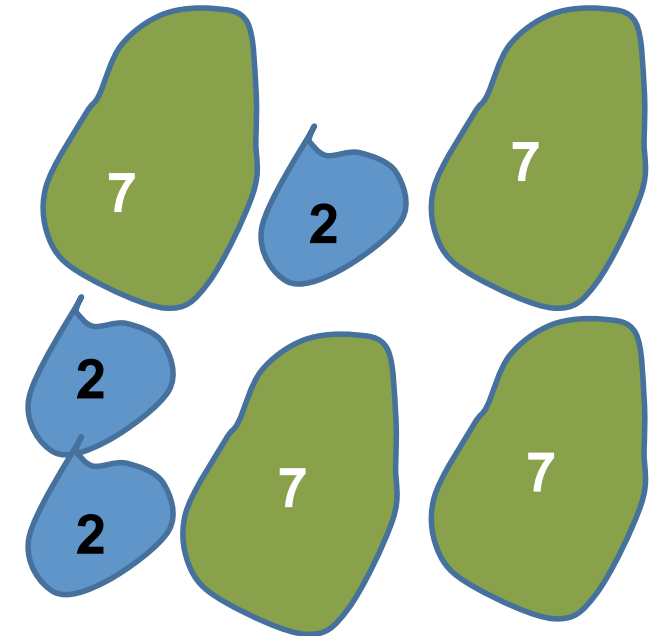
Dual use of field-plots to provide vines and tubers at harvest is common.

Shoot removal reduces tuber yields. Percentage of sellable tuber yield is an essential attribute for selecting varieties. Cultivars with many small un-sellable food tubers are un-adapted to local cultural practices and or agro-ecology. **Tiny un-sellable tubers constitute losses to growers; as they are sold cheaply for use in livestock feeds.**

Low prices make sweetpotato enterprises uncompetitive. So, varieties with more sellable tubers are preferred by growers, if consumers accept their culinary and sensory characteristics.



What size and shape best benefit the sales of sweetpotato farmers?



Alternative food and feedstuffs and their Economics

Market potential is dependent on:

1. Relative cost of production of sweetpotato compared to other alternative foods

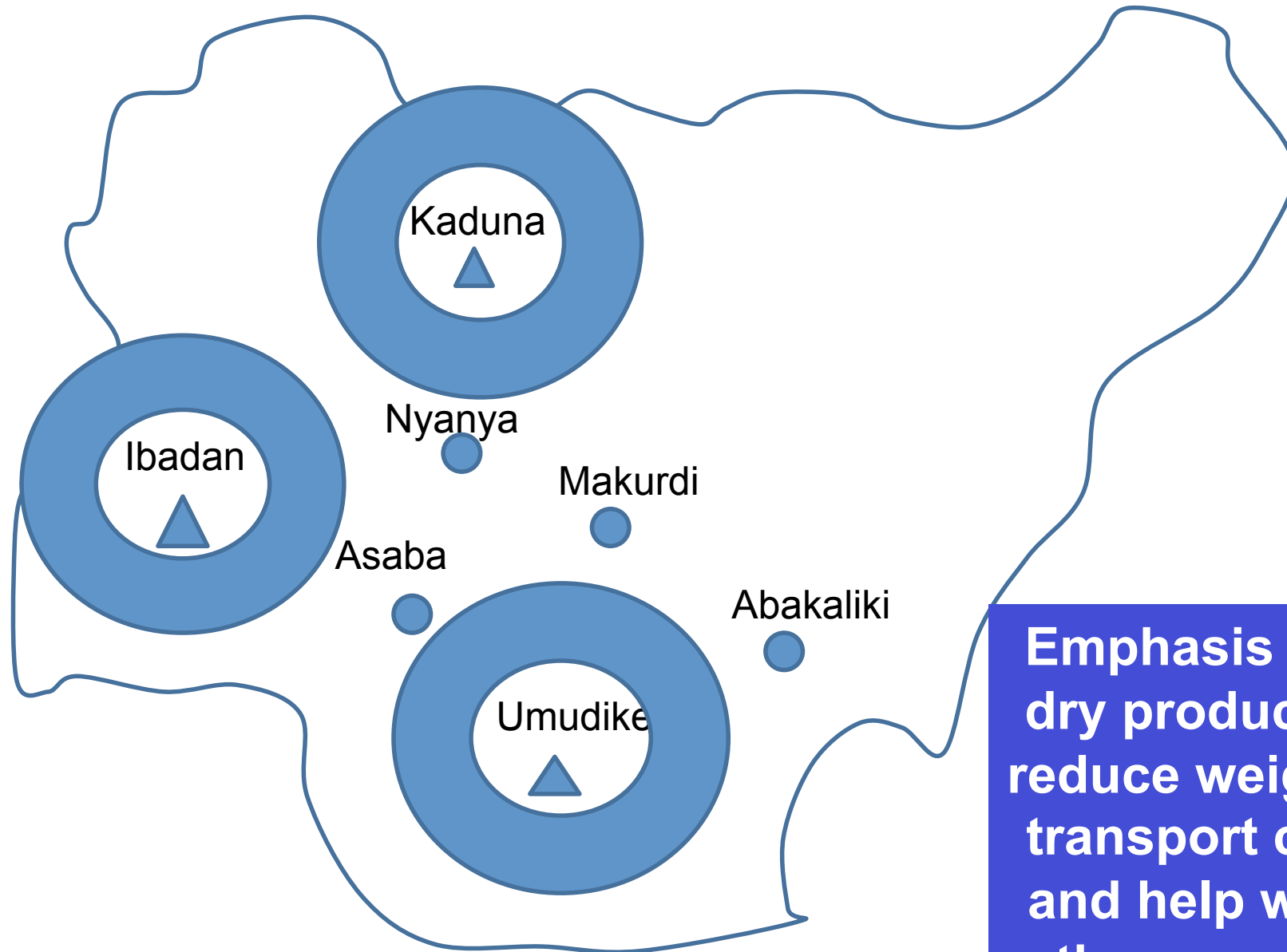
2. Forms in which sweetpotato is offered to the buyers

3. Relative supply volumes and adherence to quality standards

4. Unionism and trade organisation among associations along the sweetpotato value-chain

5. Distribution and promotion of the sweetpotato forms

Marketing hubs for the geo-spatial coverage of the major sweetpotato zones of Nigeria in the 2011-2015 period



Emphasis is on dry products to reduce weight or transport costs and help widen the coverage

**We thank CIP through
SP Support Platform
for inviting us to share
our dreams and hope
for support as big as
our dreams**

**We also thank the
listeners for
their attention**