



**Synergizing fertilizer micro-dosing and indigenous vegetable production to enhance food and economic security of West African farmers (CIFSRF Phase 2)**

Project Number 107983

Location of Study: Nigeria and Benin Republic

## **Gender Report:**

**Gender Team**

**MICROVEG PROJECT**

March 28<sup>th</sup>, 2018



**Global Affairs  
Canada**



**IDRC | CRDI**

International Development Research Centre  
Centre de recherches pour le développement international

**Prepared by:**

**ARANSIOLA Joshua Oyeniya *Ph.D,***

**ALAO Oluwagbenga Titus *Ph.D,***

**IKUTEYIJO Lanre Oluwasegun *Ph.D,***

**ADUWO Olufunke Esther,**

**AYINDE Julius Olatunde *Ph.D,***

**BUSARI Ahmed Olugbenga *Ph.D***

**IDRIS-ADENIYI Kaothar Modupe**

**Key Messages:**

- 1.** We carried out the gender analyses at twenty nine (29) communities with forty five (45) farmers groups in seven States of Southwest Nigeria. The total number of farmers involved in the study was 699 (368 males and 331 females). Group discussions were made with the farmers during training sessions while individual interactions took place on the farmers' plots.
- 2.** The farmers were disaggregated into younger (247) and older farmers (452). The younger farmers were between the age of 18 and 35 years while the older farmers were between the age of 36 and above years. We also took care of the singles, married, widowed and divorcee, and other vulnerable groups such as prisoners and unemployed youths.
- 3.** On the average across the project locations, the distribution of farmers according to gender was almost equal, being 51% male and 49% females. However, in Ekiti and Ogun States the farmers were dominated by males (65%) while the population was more evenly spread in the other 5 MicroVeg States.
- 4.** Across all the communities selected for this study, it was rare to meet youths 24 years or below (except in Ado-Odo where two of the vegetable farmers are 18 years old) among the vegetable farmers because majority of them are either in school or are away in town seeking greener pastures. Majority of those who were regarded by the farmers as youths/young are between age 26 and 35 years. Hence, for our convenience categorized 18 – 35 years as younger farmers

5. About 32% of the vegetable farmers attained tertiary education while about 1 out of every five of them had no formal education (21%), another 24% and 23.8% had primary and secondary education, respectively. Further investigation however revealed that those with tertiary education had formally retired from civil service and were only engaged in vegetable farming as post retirement income generating activity.
6. There were differential access to hired labourers by men and women. More women than men use hired labourers and more men than women clear the land by themselves. This was explained in terms of the care (e.g. feeding and being more considerate) that women farmers gave to labourers than their male counterparts. Farmers also reported that women vegetable farmers made use of hired labourers than male vegetable farmers. The cost of labourers varied from between ₦30, 000 to ₦100, 000 per acre, depending on the location.
7. MicroVeg farmers now engage in seed production as an important aspect of vegetable farming for sustainability round the year. They have adequate understanding of the seed production techniques and the right fertilizer to use for the three vegetables involved in MicroVeg project. It is interesting to also note that quite a lot of the farmers produce the seeds they plants and sell to other farmers to make additional money. Most of the farmers explained that they micro-dose NPK fertilizers to aid good seed production.
8. For transplanting, both men and women reported that the planter supplied by MICROVEG was gender friendly as it was easy to use for both men and women including pregnant women and nursing mothers.
9. Implementation of agricultural innovations must be context-specific in terms of community and cultural environment for optimum adoption. This is evident in this study as adoption of the different technology varies across different communities selected for this study. While bed preparation was adopted in places like Osun LASU, Lagos and Ekiti, it was not adopted in Badagry, Lagos. Also harvesting method and seed production technology was not adopted in Lagos state but was adopted in Ondo and Kwara States.
10. Vulnerability conditions of the farmers such as widowhood and aging have negative influence on the adoption of microveg innovations. For instance, our data revealed that the aged have challenges in land preparation and other important farm activities as they rely on hired labourers who may not conform to microveg specifications.
11. The vulnerability of the farmers also affects their access to important inputs such as land, fertilizers and labour for vegetable production. For example it was found that vulnerable groups such as female widowed and divorcees had smaller farms than their female counterparts due to limited access to fund to lease land.

12. Interestingly, in Lagos State, farmers in Badagry reported that they mostly got the land from the Government at ₦1 million (US\$3000) for 8 hectares of land for one year. But farmers in Alimosho also within Lagos State, also reported that they got their land from a private individual and the price range from ₦3, 000 to ₦12,000 per plot for one year. Access to land could be through lease, purchase or inheritance at several other locations but culture forbids women from claiming title to land in parts of Kwara State.
13. Gender roles have negative influence on irrigation and water management technology. For Instance, women often stop vegetable production during dry season in Ogun State due to lack of water so as to have enough time to get water to irrigate their husband's farms.
14. Seed production technology was not adopted at most Lagos locations where the focus is only on sales of fresh vegetables for quick money. The vegetable marketers do the harvesting instead of the producers since vegetables are sold per bed. Therefore there is no consideration for seed production.
15. The market is a key driver of the types of vegetable produced by the farmers across the different communities selected for this study. We need some data or info here. For example, in Lagos majority of respondents grow do not grow *Solanum macrocarpon* (Igbagba) but *Amaranthus* and *Telfeiria occidentalis* (Ugu) because of the huge market demand, even supply could not meet demand. Whereas in Ekiti State the society accepts igbagba as well as the other vegetables and thus production is in favour of the three vegetables.
16. Availability of the inputs for an innovation in a local environment will affect its adoption by the farmers. Thus scarcity of woods and bamboo for staking prevents the adoption of staking technology in Lagos. The farmers in a location like Lagos therefore need to be supported on sourcing for woods for staking based on materials available in their location.

## **Background**

This study was conducted as a strategy for mainstreaming gender into all the phases of MicroVeg project. The report essentially focused on gender issues in the intervention stage of MicroVeg project across some selected communities in seven States covered by the project. The primary aim of this study was to understand the gender dynamics that may influence the adoption of MicroVeg innovations across gender lines. Thus, efforts were made to focus on the MicroVeg farmers training sessions as well as interaction and observations of the farms. The indigenous vegetables involved in this project are *Amaranthus viridis* (Tete adayeba), *Solanum macrocarpon* (Igbagba) and *Telfeiria occidentalis* (Ugu). The innovations include water management, fertiliser micro-dosing, Staking and seed production among others. To date, 10,

701 farmers comprising of 6, 505 males and 4, 196 females have been directly trained on the different innovations across the seven states.

It is important to note that both males and females farmers do some other farming activities in addition to vegetable farming. Majority of the male farmers plant cash crops such as cocoa, kolanuts and palm trees; and other food crops including yam, cassava and maize. In addition, men in Ekiti and Kwara also planting rice while majority of female farmers plant pepper, tomatoes, okro and other leafy vegetables. The specific objectives of this study are to:

- i. Examine the process of mainstreaming gender into the farmers training on micro-dosing technology
- ii. Assess the understanding of the training by gender
- iii. Examine challenges confronting the farmers (across gender) in adopting the microveg technology

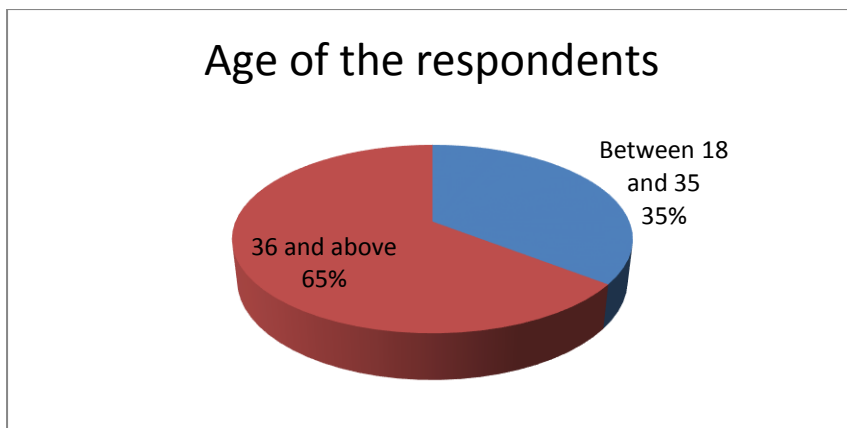
## **Methods**

We carried out the gender analyses at twenty nine (29) communities with forty five (45) farmers groups in seven States of Southwest Nigeria. The total number of farmers involved in the study was 699 (368 males and 331 females). Group discussions were made with the farmers during training sessions while individual interactions took place on the farmers' plots. The farmers were disaggregated into younger (247) and older farmers (452). The younger farmers were between the age of 18 and 35 years while the older farmers were between the age of 36 and above years), single, married, widowed and divorce, and other vulnerable groups such as prisoners and unemployed youths. The data collected were analysed thematically based on the different MicroVeg innovations.

## **Results**

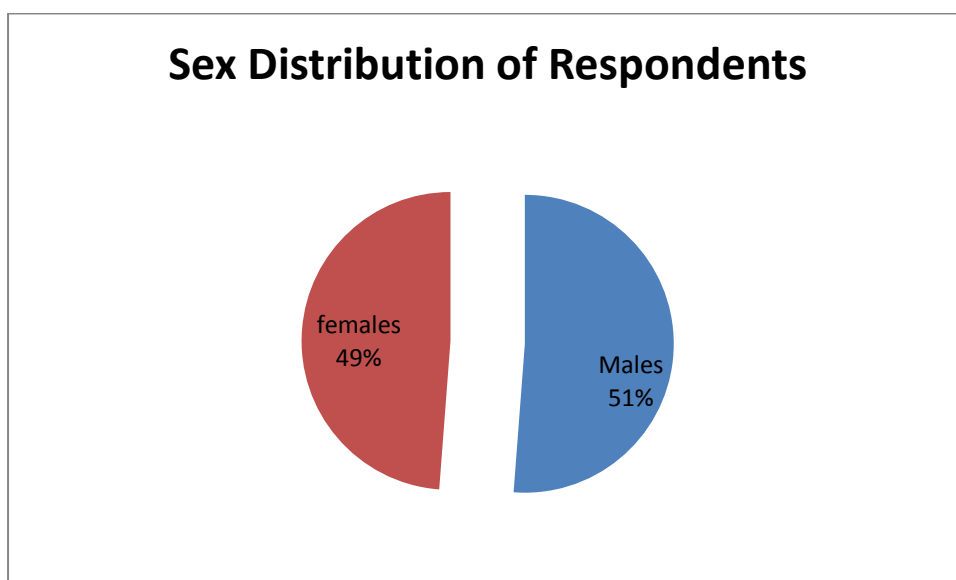
### **Socio-Demographic characteristics of the Farmers**

Figure 1 shows that 35 % of the vegetable farmers were younger (between 18 and 35 years) while 65% were older farmers (36 and above years). It is important to note that the age categorization of the farmers as younger or older was based on the subjective belief of the farmers included in this study. Across all the communities selected for this study, it was rare to meet youths 24 years or below (except in Ado-Odo where two of the vegetable farmers are 18 years) among the vegetable farmers because majority of them are either in school or are away in town seeking greener pastures. Majority of those who were regarded by the farmers as youths/young are between age 26 and 35 years. Hence, the use of 18 – 35 years as younger farmers



**Fig.1: Age of the respondents**

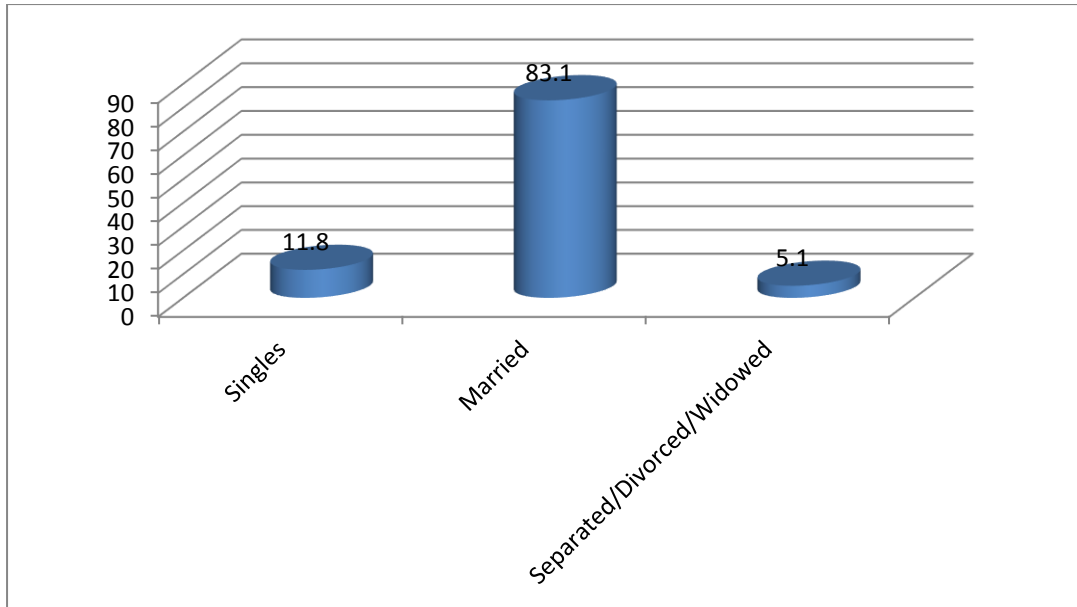
The distribution of the MicroVeg farmers involved in this study is presented in Figure 2. It is clear from that the distribution according to sex was almost equal with male being 51% and females 49%. The farmers in Ekiti and Ogun States were however dominated by males while the population was more evenly spread in the other 5 MicroVeg States.



**Fig. 2: Sex of the respondents**

**Marital status:**

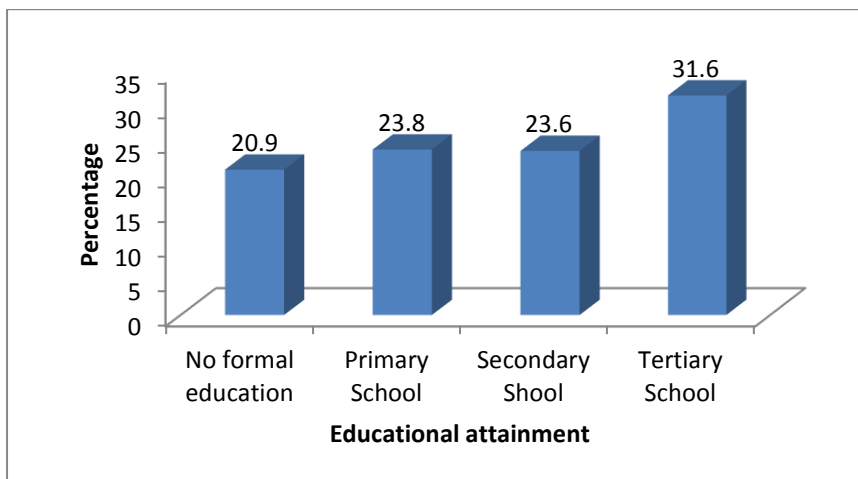
Majority of the farmers (83.1%) were married. Close to 12% were single while 5% were separated/widowed/divorced. This shows that most vegetable farmers were married.



**Fig. 3: Marital status of the respondents**

**Educational attainment:**

Fig. 4 show that 31.6% of the UIV farmers attained tertiary education while about 1 out of every five of them had no formal education (20.9%), another 23.6% and 23.8% had primary and secondary education respectively. Further investigation however revealed that those with tertiary education had formally retired from civil service and were only engaged in vegetable farming as post retirement income generating activity. See table 1 for more detailed socio-demographic characteristics of respondents.



**Figure 1: Educational Attainment of UIV farmers**

**Table 1: Socio-Demographic Characteristics of Vegetable Farmers**

State	Community	No. of farmers Groups	Names of farmers Groups	Age Range in years		Sex		Education				Marital Status		
				Younger 18 - 35	older 36 and above	M	F	None	Primary	Secondary	Tertiary	*S	*M	*S/W/D
Kwara	Ilorin	5	Ayo-Okin group Unity group Mandate group Osere group Evergreen group	2	26	21	7	1	5	9	13	2	26	0
	Ote	2	Ote Isale Akoojo	6	18	1	23	20	3	1	0	0	16	8
	Lasoju	3	Temidire Ewelere Idi-Emi Ewelere Irewole lasoju	15	41	0	56	40	13	3	0	1	46	9
	Ajase-Ipo	2	Hausa Vegetable Farmers Evergreen Vegetable farmers	25	14	37	2	11	20	5	3	11	28	0
	Olofe	2	Olofe 1 Olofe 2	28	23	0	51	34	17	0	0	0	47	4
Ogun	Iperu	2	Agbajoowo Alasejere	2	15	13	4	1	4	4	8	2	15	0
	Iperu-Remo	3	Success Favour Ore-Ofe saw mill	2	19	11	10	2	2	6	11	0	20	1
	Ikene-Illisan	2	Ileri Oluwa United farmers	4	20	18	6	1	5	11	7	2	22	0
	Ayepe	1	Ayepe farmers group	1	8	4	5	0	8	1	0	0	9	0
	Odoogbolu	1	Asela farmers group	4	10	6	8	2	6	4	2	2	10	2
	Ado-Odo	1	Ado-Odo farmers group	5	7	10	2	1	0	11	0	2	9	1
	Coker	1	Coker farmers group	5	9	13	1	0	0	10	4	0	14	0
Oyo	Muslem Ibadan	1	Agbelagba Veg. Farmers	3	16	9	10	3	5	8	3	1	18	0
	Ibadan	1	Agbeloba	0	8	5	3	0	1	5	2	0	8	0



	Omi-Adio, Ibadan	1	Agbelere	1	12	10	3	4	3	4	2	1	12	0
	Aba-Ibeji Ibadan	1	Olounje-Lagba	3	14	10	7	4	5	8	0	0	17	0
	Monatan Ibadan	1	Agbeloba	0	12	6	6	4	6	2	0	0	12	0
	Ighoho	1	Ighoho farmers group	1	8	5	4	3	5	1	0	0	9	0
Lagos	Mowo Badagry	1	Mowo Veg. group	1	16	6	11	0	2	7	8	0	14	3
	Ajara Badagry	3	Professional Farmers of Nigeria Mosafejo-Ewebe Veg. Farmers group Ajara Amalgamated Farmers	19	26	35	10	5	10	17	13	12	31	2
	Alimosho, Lagos	1	Oko Oba Agege Vegetable farmers	3	13	3	13		6	7	3	1	13	2
	Lasu, Lagos	1	Lasu campus Vegetable Farmers	0	6	3	3	2		4		1	5	0
Osun	Unemployed youth	1	Osun State Youth Empowerment Scheme (OYES)	95	25	65	55	0	0	0	120	35	85	0
	Prisoners	1	Prisoners (Ilesa Prison)	0	47	45	2	5	20	21	1	-	-	-
Ekiti	Ogotun,	6	Idagbasoke Kajola Agbedewa Irepodun Progressive	7	18	20	5	0	1	12	12	1	24	
Ondo	Araromi, Ondo State	3	Ifelere Agbelere Temidire	15	21	12	24		16	18	2	1	35	0
	<b>Total</b>	<b>42</b>		<b>247</b>	<b>452</b>	<b>368</b>	<b>331</b>	<b>143</b>	<b>163</b>	<b>179</b>	<b>214</b>	<b>122</b>	<b>545</b>	<b>32</b>

\*S=Single, \*M=Married, \*S/W/D=Separated/Widowed/Divorced

## Identification of Fertile Land and Access to Land by Gender

The identification of fertile land for farming is essential to the success of farming activities, hence one of the core areas of competence taught farmers was the identification of fertile land for farming. The in-training and post-training evaluation showed that across the communities visited both males and females, younger and older farmers as well as other vulnerable categories demonstrated very good knowledge of fertile land with characteristics such as well-drained and rich in organic matter, earthworm caste, green vegetation and close to perennial source of water e.g. river for dry season vegetable production. Some excerpts from the farmers below supports their good understanding of suitable fertile land for vegetable cultivation.

The land will look dark and have earthworm caste. The type of vegetation on the land will show if it is fertile or not **(Mr Atere Tajye, 65 years Old vegetable farmer in Igboho, Oyo State).**

We shall see the plants that are growing in the land. **(Mrs Rosemary Lasarus, a 40 year old farmer from Odoogbolu, Ogun State)**

The soil will be black; the available plants will be green and the shape of the land **(Mrs Adeniyi Abike , a 43 year farmer from Ayepe, Ogun state)**

Accessibility to land varies across the different communities included in this study. While access to land was largely determined by availability of funds in some communities especially in the urban centres like Lagos, there were express restrictions of access to land especially for women in some rural communities. In other communities, women even had better access because of the opportunities of being able to access land from their own families as well as the husbands' families. In the urban areas, most of the farmers noted that there was no discrimination on gender basis in terms of access to land. A farmer in Lagos noted as below;

We all have equal access to land here; it all depends on how much money you have **(Mr Oyalekan Mufutau, a 59 year vegetable farmer from Ajara-Badagry, Lagos).**

In spite of this, it was found that vulnerable groups such as female widowed and divorcees had smaller farms than their female counterparts due to limited access to fund to lease land. In Lagos State, farmers in Badagry reported that they mostly got the land from the Lagos State Ministry of Land and Agricultural Resources and it went for ₦1 million for 8 hectares of land for one year. Farmers in Alimosho also reported that they got their land from a private individual and the price range from ₦3, 000.00 to ₦12,000.00 per plot for one year. The variations in the price of land across the locations are presented in table 2.

Table 2: Prices of Land by Locations

State	Community	Price per 100m <sup>2</sup>
Kwara	Ilorin	2000-3000
	Ote	Free from husband
	Lasoju	Free from husband
	Ajase-Ipo	3000-5000
	Olofe	Free from husband
Ogun	Iperu	N10,000.00 per Hectare
	Iperu-Remo	N20,000.00 per Hectare
	Ikene-Illisan	N15,000.00 per plot
	Ayepe	N10,000.00 per plot
	Odoogbolu	N30,000.00 per Hectare
	Ado-Odo	Free from Government
	Coker	Free from Government
Oyo	Muslem Ibadan	N10,000.00 for 8 plots
	Ibadan	N5,000.00 per acres
	Omi-Adio, Ibadan	N5,000.00 per acres
	Aba-Ibeji Ibadan	N5,000.00 per acres
	Monatan Ibadan	N2,000.00 per acrs
	Igboho	Free from Government
Lagos	Mowo Badagry	N5, 000
	Ajara Badagry	N1, 000,000.00 for 8 hectares
	Alimosho, Lagos	3, 000 - N12,000.00
	Lasu, Lagos	N8,000.00 per Plot
Osun	Unemployed youth	Free from government
	Prisoners	Free (Prison land)
Ekiti	Ogotun,	Free
Ondo	Araromi, Ondo State	Free

In the rural

communities like Ado-Odo and Coker in Ogun State, Ote, in Kwara State and Ogotun in Ekiti State however, there were no equal access to land as men had better access to fertile land due largely to cultural factors of male land inheritance.

Men have better access to land. They are the owners of the land by our culture Women can own or inherit land only when there is no male in the family (**Mrs. Adigun Isilat, 50 years Old female vegetable farmer in Ado-Odo, Ogun State**)

The men access land more than the women and the men also make selection of the land before the women. (**Mr Sikiru Kokoagide, a 37 year farmer from Ogun State**)

There is restriction on land here, we depend on our husband for farm land and most of the time they (husband) take fertile land before we (wives) have access, *bi a ba fun were loko odo ara re ni you ko oko si* (literarily means give hoe to a mad man he will make heap under his foot i.e anybody that found himself in a position of opportunity will always make use of it before thinking of other people) (**Mrs Limota Abdullai, a 32 year farmer from Olofe, Kwara State**)

On the other hand, another group of farmers in Badagry, Ayepe, Illisan, Idagbasoke, Kajola, Olorunsogo and Agbedewa explained that women had more access to land than the men because women purchase land and had rights to own land from their families (parents) and from their husbands' families.

Women have opportunities more than men because they can access land from their own fathers' families as well as their husbands' families. They can also rent or even buy land if they have money but in our community here we access through our fathers' family and our husbands' family apart from our access to government land. (**Mrs Alidu Aminat, 52 year old female farmer in Ighoho, Oyo State**)

We as young farmers we depend on our parent, mostly father, for our farm land. We don't have one million for farm land rentage from government, hence our access depend on our father's benevolence (**Miss Ogungebe Adebisi a 19 year farmer from Ajara-Badagry, Lagos**)

I inherited my farm land from my father; I also got some land to be used free from an old man. (**Mr Jimoh Abudu, a 74 year farmer from Illisan, Ogun State**)

The variation in access to land by location and gender are presented in table 3.

Table 3: Access to Land by Location and Gender

State	Community	Access to land by purchase		Access to land by inheritance		Access to land through spouse		Access to land by rent		Land gotten by lease from government		
		M	F	M	F	M	F	M	F	M	F	
	Ilorin	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	Ote	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	Lasoju	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	Ajase-Ipo	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
	Olofe	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No
Ogun	Iperu	No	No	Yes	yes	No	No	yes	yes	No	No	
	Iperu-Remo	No	No	No	No	No	No	yes	Yes	No	No	
	Ikene-Illisan	No	No	No	No	No	No	yes	Yes	No	No	
	Ayepe	No	No	No	No	No	No	yes	yes	No	No	
	Odoogbolu	No	No	yes	yes	No	No	No	No	No	No	
	Ado Odo	No	No	No	No	No	No	No	No	yes	yes	
	Coker	No	No	No	No	No	No	yes	No	No	No	
Oyo	Muslem Ibadan	No	No	No	No	No	No	yes	yes	No	No	
	Ibadan	No	No	No	No	No	No	No	No	No	No	
	Omi-Adio, Ibadan	No	No	No	No	No	No	yes	yes	No	No	
	Aba-Ibeji Ibadan	No	No	No	No	No	No	yes	yes	No	No	
	Monatan Ibadan	No	No	No	No	No	No	No	No	yes	yes	
	Igboho	No	No	yes	yes	No	yes	No	No	yes	yes	
Lagos	Mowo Badagry	No	No	No	No	No	No	No	No	No	No	
	Ajara Badagry	No	No	No	No	No	No	yes	yes	No	No	
	Alimosho, Lagos	No	No	No	No	No	No	No	No	No	No	
	Lasu, Lagos	No	No	No	No	No	No	yes	yes	yes	yes	
Osun	Unemployed youth	No	No	No	No	No	No	No	No	No	No	
	Prisoners	No	No	No	No	No	No	No	No	No	No	
Ekiti	Ogotun,	No	yes	yes	yes	No	yes	No	No	No	No	
Ondo	Araromi, Ondo State	yes	yes	yes	no	no	yes	No	No	No	No	

## **Land Preparation and Planting**

In terms of land preparation for farming, the use of hired labourers was common across the communities. This is especially so when the land is expanse and difficult for an individual farmer and his household members alone to clear. Interestingly, some farmers in the urban centres such as Lagos State reported that most of their children did not help in clearing land for farming since they were often in school. However, there were differential access to hired labourers by men and women. More women than men use labourers and more men than women clear the land by themselves. This was explained in terms of the care (e.g. feeding and being more considerate) that women farmers gave to labourers than their male counterparts. Farmers also reported that women vegetable farmers made use of labourers than male vegetable farmers. The cost of labourers varied from between ₦30, 000.00 to ₦100, 000.00 per acre. The only

Access to labourers depends on availability of fund. Women however use more of labourers than men because they don't have much strength to do the work. For men, the use of labourers depends on the type of land. If it is tick forest, we always use manual labour because tractors cannot work there. If it is an open land we can do it ourselves or use tractors. For women, whether tick forest or open land they use more of manual labour. **(Mr Salako Bidemi, 39 year old farmer in Coker, Ogun State).**

Some women has the strength to do the clearing but most women cannot do it, they have to employ labourers but men have more strength than the women **(Mrs. Muri, 56 years Old female vegetable farmer in Ighoho, Oyo State).**

Women have more access to hired labours than men because we care for them by feeding them while they are working. **(Mrs Adeniyi Abike, a 43 year farmer from Ayepe, Ogun State)**

In a similar way other farmers in Lagos expressed that women had better access to labour than men.

I get the labourers before the men because we take care of the labourers by giving them food while men only give them their wages. **(Mrs Vera Godson Samuel, a 50 year farmer from Badagry, Lagos)**

While the situation was different in some other locations as some farmers expressed otherwise:

In our culture, it is the men that clear the land **(Mrs Omowumi Oluyole, a 36 years farmer from Ogun State)**

Men have more access to their children labour than the women; we only make use of them when they (children) finish their fathers work **(Mrs Patience Edward, a 51 year farmer from Lagos)**

Some farmers noted that it is only in the case of widowed that women easily have access to their children labour for farm work.

Some of the female farmers however expressed that men have more access to hire labourer than women because women tend to negotiate lower prices than men.

Men have more access to labourers than women because women negotiate low prices than the men. **(Mrs Doris Routa, a 42 years farmer from Ogun State)**

Both older men and women farmers however have challenges in land preparation than the younger farmers because majority of the farmers do not use tractor to plough the land and the younger farmers had more energy than the older farmers. It was therefore not surprising that younger farmers generally had bigger farms than their older counterparts across the different communities selected for this study.

We that are old need help for many activities on our farm because the strength is no more like before. So we spend more money on labour input than others **(Mr Ajibawo Aliu, 74 years old farmer in Coker, Ogun State)**

On the other hand, younger male farmers had this to say about land preparation

We prepare the beds by ourselves and sometimes hire male labourers. Women cannot be a labourer because women do not have strength for labour work. **(Mr Moses Izeala, a 32 year farmer from Ogun State)**

Considering the amount involved in hiring labourers, vulnerable women such as older widows and divorcees, whose children are no longer available as they have migrated in search of greener pasture, often have challenges paying for the services of labourers. This had direct implication on the size of the farm of such women as they have smaller farms even than their other female counterparts across the communities selected for this study.

I pay about 30-50 thousand Naira for both clearing and tilling the land but depending on the type of the land. Money and negotiation are the limitations in access to labourers, **(Mrs Onuoha Bushman 58 year old female farmer and Widow, Badagry, Lagos State).**

Another widow female farmer from Ilorin had this to say on the problem of finance in caring out their farm activity.

To hire labourer for farm work is money for hand back for ground, they will not come without money. As an old widow I do not have enough money to compete for labourer with young farmers **(Mrs Muminatu Saliu, a 59 year farmer from Lasoju, Ilorin)**

In the preparation of nursery beds, more men demonstrated better understanding across the communities than women. Most of the farmers reported that the intervention by MICROVEG on how to measure beds in 1x 6 or 2 x 3 metres was far better than their previous methods.

### **Microveg Farmers preparing land for planting at Araromi, Osun State**

In spite of this, not all the farmers across the communities have adopted the methods of bed preparation for easy management and optimum yield of vegetables.. For instance, while farmers in Ekiti, Osun and some part of Lagos State, particularly LASU have adopted the bed preparation methods introduced by MicroVeg , farmers in Badagry were yet to adopt the method. Further investigation reveals particularly that the size of the bed had become the measurement for sales with a standard price of ₦500 per bed in LASU. This allows for a more reliable precision believed by the farmers to be closer to ideal, on the quantity and price of vegetable sold whereas sales of vegetables were still measured in bunches without any accurate measurement of the bunches in some other locations since the use of scale is not generally practice in vegetable marketing in Nigeria.

We discovered that MICROVEG method is better than what we do before. It is easier to manage the farm and easier to quantify your input against output. **(Mr Okoye Benjamin, 46 years, male vegetable farmer in LASU, Lagos State).**

It is however important to note that farmers in some parts of Oyo and Ogun States were recently trained and were yet to start the adoption of the micro-dosing innovations. Such locations include Iperu, Iperu-Remo, Ikenne-Ilisa, Ayepe and Odogbolu in Ogun State and Ibadan, Omi-Adio, Aba-Ibeji and Monatan in Oyo State. Table 4 gives a detail description of locations where MicroVeg bed preparation method and fertilizer micro-doing method have been adopted by the farmers and by locations



Table 4: Adoption of Bed Preparation and Fertilizer Micro-dozing by Location and Gender

State	Community	Adoption of Bed Preparation		Adoption of Fertilizer Micro-dozing	
		M	F	M	F
Kwara	Ilorin	Yes	Yes	Yes	Yes
	Ote	No	No	No	Yes
	Lasoju	No	Yes	No	Yes
	Ajase-Ipo	Yes	Yes	Yes	Yes
	Olofe	No	Yes	No	Yes
Ogun	Iperu	No	No	No	No
	Iperu-Remo	No	No	No	No
	Ikene-Illisan	No	No	No	No
	Ayepe	No	No	No	No
	Odoogbolu	No	No	No	No
	Ado Odo	Yes	Yes	Yes	Yes
	Coker	Yes	Yes	Yes	Yes
Oyo	Ibadan	No	No	No	No
	Omi-Adio, Ibadan	No	No	No	No
	Aba-Ibeji Ibadan	No	No	No	No
	Monatan Ibadan	No	No	No	No
	Igboho	Yes	Yes	Yes	Yes
Lagos	Mowo Badagry	No	No	Yes	Yes
	Ajara Badagry	No	No	Yes	Yes
	Alimosho, Lagos	Yes	Yes	Yes	Yes
	Lasu, Lagos	Yes	Yes	Yes	Yes
Osun	Unemployed youth	Yes	Yes	Yes	Yes
	Prisoners	Yes	Yes	Yes	Yes
Ekiti	Ogotun,	Yes	Yes	No	No
Ondo	Araromi, Ondo State	Yes	Yes	No	No

### **A female farmer planting vegetable using fertilizer microdosing innovation**

For transplanting, both men and women reported that the planter supplied by MICROVEG was gender friendly as it was easy to use for both men and women including pregnant women and nursing mothers.

### **Osun State Youth Empowerment Scheme Brigades using transplanter for transplanting**

#### **Access to Fertilizer and Fertilizer Microdosing Innovation**

The farmers depended on organic and inorganic fertilizers for their vegetable farms. Across the communities, both genders have better access to organic fertilizer than inorganic fertilizer but the price of manure varies from one community to the other. For instance, in LASU, Lagos State both males and females have equal access to poultry manure. A 100kg bag sells for ₦700 and it was often used for 10 beds. In Ogun state, farmers also expressed equal access to poultry manure but this is often not sufficient for the farmers and they had to supplement the manure with organic fertilizer. Mrs Taibatu Abudu, a 55 year farmer from Ogun State expressed thus:

We use poultry manure, goat faeces and fish dispose (sludge). We rear the goats while we pay ₦300 for 25kg of poultry manure.

In the same vein, Mrs Patrick Ojimadu, 50 years old female farmer in Badagry, Lagos stated as below:

We obtained poultry manure at the rate of ₦500 per 100kg and cow dung at ₦40 per 50kg with both genders having same access provided there is money.

Access to inorganic fertilizer however varies from one location to the other and by gender. Apart from the fact that it is more costly than organic fertilizer, it is not readily available as farmers had to travel some distance in order to get it. Since women farmers had limited time to travel due to other domestic responsibilities, they often rely on their husbands to access organic fertilizer. For instance, in Ogotun, Ekiti State, the women depended on their husbands to access fertilisers and they reported that the women had to rely on left overs by men before they could use fertilisers. Also, access to fertilisers was limited in some of the communities as there were few suppliers. In the whole of Ondo State, there was only one supplier (Shola Farms) and this affected the access of farmers to inorganic fertilizers. Accessing inorganic fertilizer was even more difficult for vulnerable women such as widows due to cost of the fertilizer. It was therefore not surprising that most of such women across the communities only rely on organic fertilizer and where they could not get enough; it often resulted into poor yield of their vegetables.

Fertiliser micro-dosing technology is feeding the vegetable plants with appropriate quantity of fertiliser needed by the plant. It was interesting to find that all the farmers across location and gender had very good knowledge of microdosing innovation for vegetable farming. A female farmer described the application of microdosing fertilizer thus:

I applied just a cover of bottled water to ten (10) vegetable stands, unlike before when I used one kongo per bed, I just need 60 covers of bottled water for a bed of 600plants instead. ( **Mrs Justina Agbonifo, a 57 year farmer from Lagos**)

Although, this technique has been scientifically proved to be effective and confirmed by the farmers, not all the farmers make use of the fertilizer microdosing technique because it is considered to take more time. Added to this is also because some of the farmers made use of the organic fertiliser rather than microdosing inorganic fertiliser. An elderly woman had this to say:

I buy already made organic fertilizers from Alaba Market, Lagos. I do not use the inorganic fertilizer microdosing technology because it takes more time in application. (Mrs Patricia Emeh 52 yesr old female farmer and widow, LASU, Lagos)

Table 5: Prices of Organic Fertilizer by Locations

State	Community	Price of Organic Fertilizer in ₦ per 100 kg
Kwara	Ilorin	800
	Ote	800
	Lasoju	Free
	Ajase-Ipo	800-1000
	Olofe	500
Ogun	Iperu	400 also free
	Iperu-Remo	400 also free
	Ikene-Illisan	400 for 100kg
	Ayepe	N500 for 50kg
	Odoogbolu	N300 for 25kg/ also free
	Ado Odo	Free
	Coker	Free
Oyo	Muslem Ibadan	400
	Ibadan	400
	Omi-Adio, Ibadan	400
	Aba-Ibeji Ibadan	400
	Monatan Ibadan	400
	Igboho	Free
Lagos	Mowo Badagry	500
	Ajara Badagry	700
	Alimosho, Lagos	700
	Lasu, Lagos	700
Osun	Unemployed youth	Free
	Prisoners	Free
Ekiti	Ogotun,	Free
Ondo	Araromi, Ondo State	Free

## **Female farmer microdosing fertilizer at LASU, Lagos**

### **Irrigation**

Irrigation is often used to compliment the supply of water to farms, especially in dry season. In most of the communities especially where there is scarcity of water during dry season, irrigation was always a challenge for the farmers in so many ways. One is the challenge of getting water. Both gender in Kwara and Ogun states particularly suffer a lot to get water for irrigation during the dry season. Most of the female farmers spend a lot of time and money looking for water as it is one of their core duties to fetching water for themselves as well as their husbands even when the husband provides money. They often travel long distance to get water for wetting their farms. This often results into most women abandoning vegetable farming during dry season to concentrate on providing water for their husbands' farms. Coincidentally, dry season farming is often more profitable as there is always short supply of vegetables leading to higher prices. Some female farmers expressed thus:

The distance from the source of water to the farm is very far. I fetch water from borehole in a bowl and carry to wet the farm. I sometimes use transport (hire a bike) to carry the water from about 7 miles to the farm (**Mrs Janet Thomas, a 39 year farmer from Ogun State**)

Women hardly have access to water during dry season; all our rivers do dry off. Thus, we don't grow vegetables during the dry season (**Mrs Yamotu Jimoh, a 46 year farmer from Olofe, Kwara State**)

When the female farmers had to farm at all, their farms were extremely smaller than that of their male counterparts especially during dry season. There was consensus among the farmers that money played a major role in facilitating irrigation on the farms even where there is water and pumping machine for irrigation. For instance, In Lagos State, most of the farmers used pumping machine in wetting their vegetables and this was capital intensive. In addition to this, female farmers often rely on hired labour for wetting their vegetable farms because the irrigation hose is often too heavy for them to carry unlike their male counterparts. The situation is more difficult for older female farmers than the younger female farmers as they completely rely on hired labour which may not be available even when they have money to pay because of high competition for labourers for irrigation during the dry season. An older female farmer stated thus:

During the dry season, we have the challenge of using the pumping machine, we do not have the strength to carry it and sometimes we carry it on our heads. The hose is too heavy for us to carry (**Mrs Felicia David 50 year Old female farmer, LASU, Lagos**)

In addition, while younger and older male farmers wet their farms by themselves, most women relied on hired labourers to irrigate their farms and this adds to the production cost for women even when they were able to farm in the dry season.

Water is always a challenge especially during dry season. I have to hire labourers to fetch water but when there is no money, there is nothing I can do ” (Mrs. **Abigeal Ogunyanju 35 year old female vegetable farmer in Ado-Odo, Ogun State**).

Both gender utilise bore holes, rivers and wells dug on our farm in the dry season but the hose is usually too heavy for us to carry unlike men, so we depend on hired labour (Mrs **Agnes Bassey 47 year Old female, Badagry, Lagos**)

Another challenge associated with irrigation for female farmers is the challenge of caring for the husband and children. In Oba Ile, Ondo State, Olofe, Ote and Ajase-Ipo in Kwara State, Illisan, Remo, Ayepe and Odoogbo in Ogun State it was more difficult for women to wet their farms in the morning as they were often engaged in domestic chores. This problem was more acute for younger female farmers who have little children to care for in addition to their husbands. The respondents expressed that younger female farmers have to do household chores before going to the farm which may not likely be the same for older women with older children.

Younger Women farmers have many responsibilities in the morning. She will care for the children and the husband and make sure children get to school before any other thing (Mrs. **Onakinoe Mariam 32 year old female farmer in Coker, Ogun State**)

For the older female farmers, they were usually assisted by their children in the evenings when they would have returned from school. Likewise, for farms that were far from homes and required early morning visits, more women were unable to meet with this obligation for security reasons while men often go to such farms before the day breaks.

## **Pest Control**

There were two methods employed by the vegetable farmers to control pest. These include the use of chemical and biological pest control. The biological pest control has been proved to be effective and cheaper for the farmers and all the farmers showed good understanding of the technique. The farmers had been trained on the use of Neem plant (Dongoyaro) extract in the preventing and control of pests. Neem plants are available in all the communities visited. In spite of this, not all the farmers make use of biological pest control. In Oba Ile, Ondo State, the farmers claimed that more men had better access to the Neem plant and were able to use it more than the females because most neem trees in the area are far away in the forest and men can easily go into the forest to get the leaves but it's more difficult for the women to enter the forest. Apart from this, most farmers irrespective of gender and vulnerability status make use of biological pest control as they claimed it is effective and cheap. For instance, in Omi-Adio, Ibadan in Oyo state and Mowo, Badagry in Lagos State both male and female gender made use of Neem extract to prevent and control pest in their vegetable farms.

Few older male farmers however expressed preference for chemical control because they observed that the biological pest control does not kill the insect but often scare them away from eating the vegetables and they prefer to eradicate the pests. One of the farmers has this to say:

I observed that Neem extract don't actually kill the pests, it will only scare them away but it is better to kill them (**Mr. Joseph Karia, 57 year old with Primary Education in Ilisan-Remo, Ogun State**)

### **Staking**

Staking is an important agronomic practice for *Telfeiria occidentalis* (Ugu). Majority of the farmers younger and older as well as males and females carried out this practices in Osun, Ekiti, Ogun, Oyo and Ondo state while the technique was not adopted in Lagos and Kwara States due to scarcity of trees and bamboo poles. One of the farmers had this to say:

Using staking will increase my production cost. Look around there is no trees. If I get trees I do not have the strength to do the staking. (**Mrs Dike Felicitas, a 42 year farmer from Ajara-Badagry, Lagos State**)

### **Unstaked Ugu Farm in Ajara, Badagry**

### **Staked Ugu Farm in Osun**

#### **Harvesting and Seed production**

In most of the communities all the farmers have good understanding of harvesting technique for optimum yield of the vegetables. They explained that they harvests their vegetables twice a month and stop cutting after two months in case of *Amaranthus Viridis* (Tete atetedaye), 8 months of consistence cutting for *Solanum marcrocapon* (Igbagba) and immediate the female *Telfeiria occidentalis* (Ugu) is sighted producing flower in order to produce seeds. Majority of the women follow the rules of washing and cleaning of knife after harvesting a bed to avoid spreading of diseases, only few of the men did. Both men and women, younger and older farmers understand the cutting of the vegetable in slant way to avoid disease attack.

I have a special knife for harvesting my vegetable and I keep it permanently on the farm so that I will not forget it at home or use it for house chores. (**Mrs Bodi Serah, a 50 year old farmer from Ilorin, Kwara State**)

Seed production is an important aspect of vegetable farming for sustainability round the year. The vegetable farmers were then taught the techniques for seed production and there was adequate understanding of the seed production techniques and the right fertilizer to use for the three

vegetables involved in MicroVeg project. It was interesting to also note that quite a lot of the farmers produce the seed they plants and sell to other farmers to make additional money. Most of the farmers expressed that they micro dose NPK fertilisers to aid good seed production.

I produce all my seeds from my farm. I made cool money selling to co-farmers. As I am talking to you I have reservation for dry season planting **(Mr Okere Basil, a 59 year old farmer from Ilorin, Kwara State)**

For me, I produce my seed but when in shortage I buy from IAR&T which is about five (5) kilometres from here (Omi-Adio). **(Mr Oke Yinka Gbadebo, a 65 year farmer from Omi-Adio in Ibadan, Oyo State)**

I got my seeds from miroveg facilitators, since then I have been multiplying having sufficient and selling to other co-farmer **(Mr Oyekan Odewale, a 18 year farmer from Illisan, Ogun State)**

It was however important to note that there were cases of some farmers who prefer to buy seed from other farmers who specialised in seed production. In LASU, Lagos for instance most of the vegetable farmers expressed that they could not produce the seeds of *Amaranthus Viridis in particular* due to some reasons. One, the harvesting is usually done by the marketer as they often sell the vegetables by beds and in most cases the marketers would not have the patient to cut as it takes more time and has no benefit to them (marketers). There was also the belief that fresh planting grows faster than cutting among the vegetable farmers in Lagos. Since the cost of leasing land is high, they therefore prefer to uproot and replant to make judicious use of the land thereby maximizing the money they paid for the land. These practices therefore hampered seed production among vegetable farmers in Lagos except in Badagry.

## **Marketing**

Marketing is very central to vegetable production. At present, farmers across the communities complained of market glutting during the raining season leading to fall in price, post-harvest loss and loss of profit. In terms of marketing, although women dominate the marketing of vegetable, most farmers irrespective of gender have access to the market. In Lagos, vegetables are sold per bed at ₦ 500 during the rainy season when there is low sale and between ₦750 and ₦1000 during the dry season.

Both genders are responsible for marketing of vegetables. The major challenge is low prices and shortage of customers during the rainy season as a result of glut of vegetables. **(Mrs Comfort Oduwusi, a 75 year farmer froms Omi Adio- Ibadan, Oyo State)**

Women do not face any challenge in marketing their vegetables. There is ready made market for vegetable here at Olofe, marketer are always coming to buy. **(Mrs Waidi Sadiat, a 47 year farmer from Olofe, Kwara State)**



Some farmers however raised some concerns on the marketing of their vegetables as below:

Marketing is challenging for men but relatively easy for women because women are used to it. Our culture also does not favour men to market their vegetables themselves. If you do that you will be called all sorts of names such as alaroro i.e a stingy person that does not want his wife to know his income (**Mr. Okanlawon, 65 year old male farmer, Ighoho, Oyo State**).

Preservation is our major problem. Once you cannot sell your vegetable early, it lost value and you have to dispose it off anyhow (**Mrs Favour Sunday, 32 year old Female vegetable farmer in Ilisan-Remo, Ogun State**).

## **Conclusion**

It can be concluded from the findings of this study that constraints militating against the adoption of agricultural innovations often go beyond the innovations characteristics themselves to include many other issues and stakeholders. Hence, critical considerations of these issues and different stakeholders are required before any agricultural innovation can yield the desired results. This is exactly the present challenge and conscious efforts that are needed for optimum adoption of MicroVeg innovations in the present study.

## **Recommendations**

Based on the findings of this study, the following recommendations become very important for optimum adoption of microveg innovations among the vegetable farmers:

- i. There is need for a critical analysis of issues militating against the adoption of MicroVeg innovation across the different communities in order to plan for them
- ii. Addressing the issues need to be community focused as there are diverse issues based on the different cultural context of the communities involved in this project. An omnibus approach to addressing the issues may not therefore work for optimum adoption of MicroVeg innovations.
- iii. There is need to strategically target all relevant stakeholders directly or indirectly hindering optimum adoption of MicroVeg innovations as revealed in this study. This may include the marketers, community leaders as well as the farmers' households for proper advocacy to enlighten them of the benefits of the MicroVeg technology for the households as well as the community at large.
- iv. There is also the need to break into the market for vegetable farmers through the value addition product to stimulate market and encourage production of indigenous vegetables for the sustainability of the innovations beyond the project lifetime.

## Benin Republic Report



### Synergizing fertilizer micro-dosing and indigenous vegetable production to enhance food and economic security of West African farmers (CIFSRF Phase 2)

Project Number 107983

Location of Study: Nigeria and Benin Republic

## Gender Report:

Gender Team

MICROVEG PROJECT

September 19<sup>th</sup>, 2017



Global Affairs  
Canada



IDRC | CRDI

International Development Research Centre  
Centre de recherches pour le développement international

**Key Messages**

- Women of the different segments of traditional leafy vegetables value chains are realizing more benefit
- Women allocate, in percentage, more land for microdosing technique than men
- Satellite dissemination of innovations on leafy vegetables is happening more rapidly with men than women.
- In general, the innovation platform approach helps to reach the target group, both male and female, more rapidly than satellite dissemination approaches.
- There is no difference between men and women in the diffusion of innovations by innovation platform.
- The partnership between the actors help to a better dissemination of innovations than to strengthen their capacity. In addition, capacity building increases the diffusion of innovation among men more than women.

## **Introduction**

According to (Bennett, Maton, & Kervin, 2008), “the stereotyping of technological development and its use on the basis of gender often ignores the fact that the majority of scholars concentrate on male participation and achievements in technological developments”. Evidence however abounds in the literature to show that women contribute between 60% to 80% to agricultural labour and productivity (Ahmed, Idirs-Adeniyi, & Oyekale, 2013; Sulo, Koech, Chumo, & Chepng’eno, 2012) and their lack/low level of agricultural technology adoption will have consequences for agricultural output.

In order to address gender differentials in micro-dozing technology adoption among the indigenous vegetable farmers, efforts have been made to mainstream gender into all the phases of this project with specific attention on the technology characteristics and the household dynamics that may affect them. To achieve this, both Gender Analysis Framework/Harvard Analytical Framework and Women Empowerment in Agricultural Index (WEAI) developed by International Food Policy Research Institute’s (IFPRI’s) have been employed in this study. The two approaches have been combined to complement each other. While Harvard Analytical Framework provide better approach for project planning, WEAI approach has provided better indices for measuring project outcomes. Hence, Harvard Analytical Framework have been employed in the project planning across four domains including activity profile, access and control profile, analysis of influencing factors and project cycle analysis. It has helped in making economic case for allocating resources to women as well as men and help in designing more efficient projects. Women Empowerment in Agricultural Index (WEAI) has been employed to measure empowerment across five domains: 1) decisions about agricultural production; 2) access to and decision making power over productive resources; 3) control over use of income; 4) leadership in the community, and; 5) time use.

## **Gender analysis through the traditional leafy vegetable value chain**

The gender analysis (i) examine the gender division of labour within household as well as in agricultural production, distribution of inputs and outputs and consumption, (ii) identify the different components of micro-dozing technology that may impede its adoption by each gender

especially the women, (iii) examine the socio-cultural factors that may hinder the adoption of micro-dozing technology by any of the gender.

One hundred and forty four (144) communities in Nigeria and thirty (30) in Benin were covered for the purpose of data collection. Around 40% of the sample is women. We engaged 40 enumerators to collect the data. One-third of investigators were women (photo).

Gender and baseline surveys were conducted in Nigeria and Benin with 2678 respondents (1198 men and 1480 women) comprising 1357 producers, 583 marketers and 738 consumers. FGD was also conducted at 38 locations with 252 respondents (table).

Table: Socio-demographics characteristics of UIV farmers

Parameters		Gender (%)		Marital status (%)			
Country	Sample size	Male	Female	Never married	Married living together	Widowed	Others
Benin	n =131	60	40	4.60	80.90	0.00	14.50
Nigeria	n =1088	64.52	35.48	6.07	84.59	5.70	0.64

The majority of the UIV farmers are male. Generally, UIV farmers in Nigeria are older than their Benin counterparts with an average age of 42.40 years and 46.65 years for Benin and Nigeria respectively. However, majority of the UIV farmers are middle-aged in both countries, implying that the UIV farmers are in their active and productive years. Majority of the UIV farmers in Nigeria and Benin are married and living with their spouses.

### ***Gender division of labour and distribution of inputs, outputs and consumption***

Availability determines the source of UIV seeds in Benin and Nigeria for both men and women. More women (53.37 %) made use of well in Nigeria while more women (59.6%) made use of borehole in Benin.

UIV farmers in Benin applied fertilizer 1296.8 kg/ha above the recommended rate of 112.5kg/ha, while farmers in Nigeria applied 26 kg/ha below the recommended rate of 80kg/ha.

Marketing is the exclusive occupation of women. More than 93 percent of marketers are female.

The result showed that land devoted for cultivation of UIV was larger in Nigeria than in Benin. Male in both Nigeria and Benin had access to land more than the female. Female in Benin had better access to wetland than male while male had better access to upland than the female.

The difference is that women specialize on planting of vegetables and the likes but men are into yam production, maize, Guinea corn production. *Women do not have the power like men and their*

*vegetable farm is very close to the house, so if they go to their vegetable farm they can easily come back home on time to cater for their children and other domestic work, but men can spend much time in the farm before coming back home, some can stay till afternoon or evening (Farmer)*

### **Different components of micro-dozing technology that may impede its adoption by gender**

Microdosing –is a strategic application of small amount of fertiliser to hills at transplantation. The fertilizer may be mineral (urea, NKP, DAP, ...) or organic (cattle or poultry manure or ;) at 5-10 days after transplantation). For the placement, three people from the beginning (1st-opening hills, 2nd-microfertilizer and 3rd- closing the hills) were required (photo).

Photo: Women applying microdose on *Solanum marocarpum*

Microdose fertilization is very labor intensive, which is not always accessible for women on farms. The project has developed the dissolution of the fertilizer in the water before its application. This technique has the advantage of simplifying the task for women and small producers who do not manage the family labor (Photo).

Photo: Mixing the fertilizer with water before use

Mixing the fertilizer with water does not completely solve the problem. As on cereals, women advocate for small automatic microdose application equipment.

### **Socio-cultural factors that may hinder the adoption of micro-dozing technology by gender**

There are more literate UIV farmers in Nigeria than in Benin. The men farmer in Benin a more literate than women in Benin. So women need more training in Benin. Majority of male UIV farmers both in Nigeria and Benin obtained their farm through inheritance. While majority of female UIV farmers in Benin got their farm land through gift and female in Nigeria through lease. *“A man has control over land but if a man inherits a land, he can give the woman the chance to farm on that inherited land. A woman will go to her husband house, she can't take her father's land to her husband home, and it's her husband house that can give the woman land”*. (FGD with Male vegetable farmer in Osun State, Nigeria).

Access to land for the production of leafy vegetables is not a constraint for women. However, it should be noted that men have more access to land than women. Men farm more than women; women don't cultivate much because they will still be the one to help their husbands.

### **Impacts of the project on improving the livelihood of women and children in communities across the two countries**

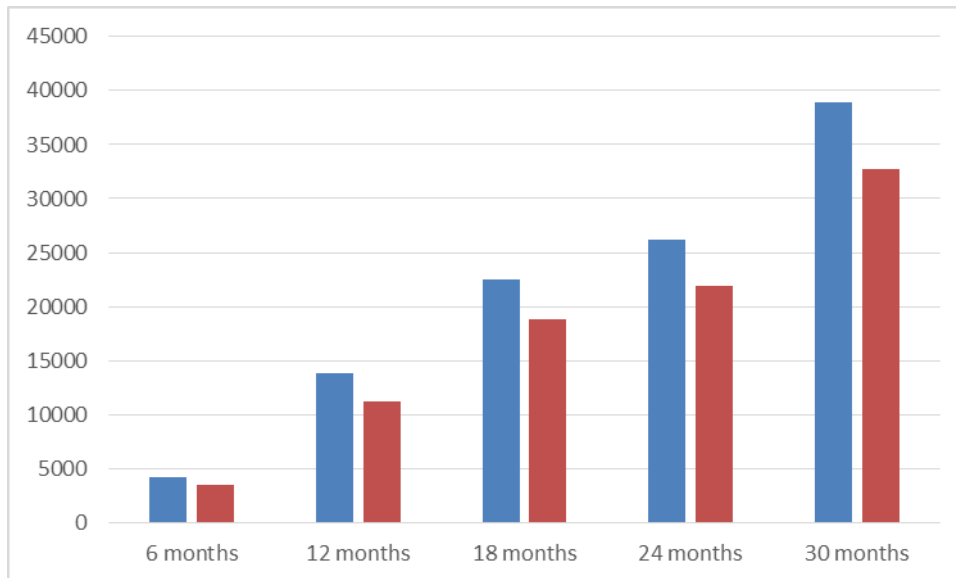
- The consumption of *Occimum gratissimum* (African basil) is getting more and more important in Benin
- Processed or value added vegetables are increasingly available on markets
- Women of the different segments of traditional leafy vegetables value chains are realizing more benefit Women allocate, in percentage, more land for microdosing technique than men

## Integrating gender in project design

Many activities were conducted to strengthen gender integration in microdosing IV project.

After 30 months of implementation nearly 195,000 people were affected across the innovation platforms (figure).

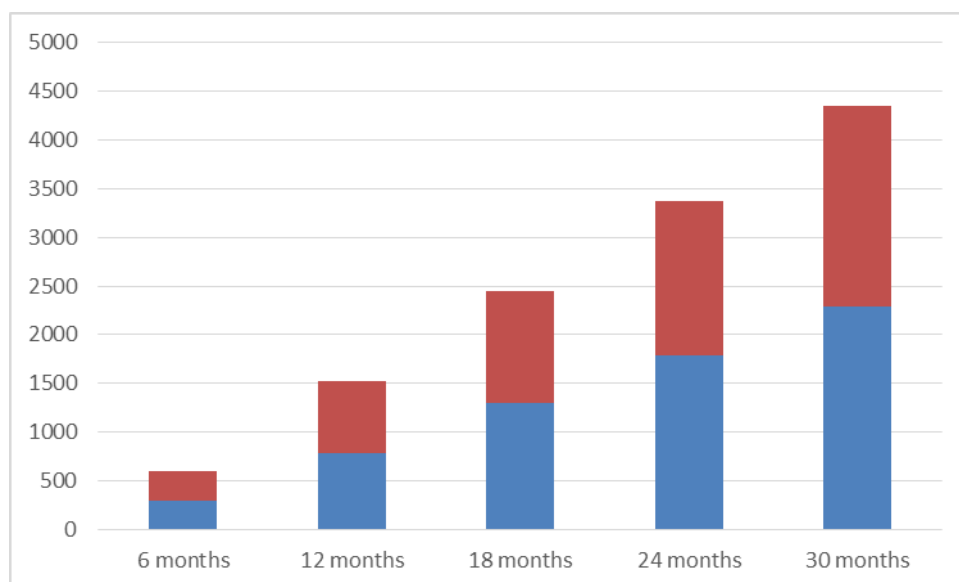
Figure: Number of people reached across platforms by gender, Benin



In 30 months, an increase of 24 times the number of men reached against 25 times among women in spreading innovations on traditional leafy vegetables. This slight difference between increases in men and women is explained by the fact that information flows better between women than men.

After 30 months of implementation nearly 13,000 people were affected across the Satellite dissemination Approach (figure).

Figure: Number of people reached across Satellite dissemination approach by gender, Benin



In 30 months, an increase of 21 times the number of men reached against 18 times among women in spreading innovations on traditional leafy vegetables. This difference between increases in men and women is explained by the fact that information flows better between men than men.

Satellite dissemination of innovations on leafy vegetables is happening more rapidly with men than women. In general, the innovation platform approach helps to reach the target group, both male and female, more rapidly than satellite dissemination approaches.

There is no difference between men and women in the diffusion of innovations by innovation platform. In conclusion, the partnership between the actors help to a better dissemination of innovations than to strengthen their capacity. In addition, capacity building increases the diffusion of innovation among men more than women.

### Management of land by gender

Women own 56% of the total area under microdose. Women apply more microdoses than men. This could be explained by the fact that it is mostly women who have difficulties in obtaining inputs.

Table : Adoption of microdose by gender

Location	Total Land area	Microdose Land area (ha)	Women Microdose Land area (ha)	% de microdose land area for women
Parakou	283	40	24	60
N'Dali - Bembérékè	130	21	9	45
Djougou	106	19	15	79
Boukoubé - Natitingou	140	8	3	33

Bohicon	170	19	10	55
Abomey Calavi	126	16	11	68
Sèmè	397	20	13	66
Cotonou	368	37	13	35
Grand-Popo	26	4	3	85
Tchaourou	37	4	2	65
Ouaké	38	5	2	34
Djidja	44	7	5	74
<b>Total</b>	<b>1 866</b>	<b>199</b>	<b>111</b>	<b>56</b>

### Composition of target actors by gender

Several actors were targeted by this project. For each type of actors, the project ensured working with men and women. Approximately 46% of the actors involved in the project are women (table).

Table: Gender composition of the actors targeted by the project (Benin)

Actors	Male	Female	Total	% of female
Veg producers	41209	34792	76001	46
Processors	180	8916,6	9097	98
Veg marketers	14688	3706,5	18395	20
Veg transporters	18,2	0	18	-00
Extension service	36	11,2	47	24
Seed supplier	78,75	26,4	105	25
Input / fertilizer supplier	81,77	72	154	47
<b>Total</b>	<b>56292</b>	<b>47525</b>	<b>103817</b>	<b>46</b>

Most of the actors involved in processing leafy vegetables are women. At 98% they are women. None of the carriers supported by the project is female. Indeed, this activity is not carried out by women.