



**Ag2Nut Nigeria/ANH Academy
Webinar:
The role of Vegetables
during COVID-19**



World Vegetable Center: Olanipekun Caleb



Outline

1. Some Background of WorldVeg (AVRDC)
2. Nigeria in view of COVID-19 impacts
3. Malnutrition: a triple burden
4. Growing importance of urban and peri-urban production/marketing systems in SSA
5. Importance of Dietary diversification with vegetables towards progress in Food Security
6. Recognized Possible Roles of Vegetables in COVID-19:
7. Improving Vegetables Accessibility and Availability in COVID-19
8. Conclusion



1. Some Background of WORLDVEG

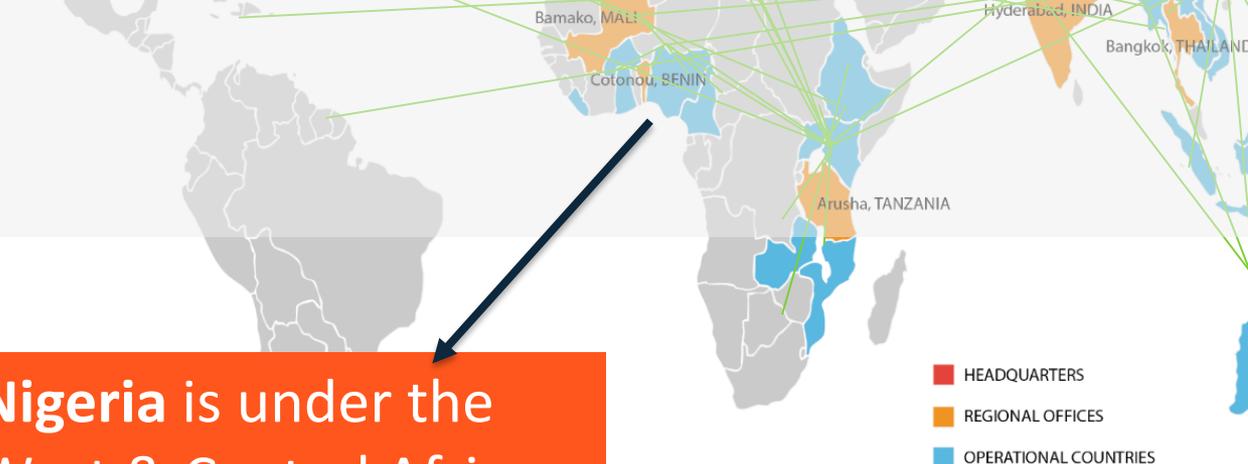
- Founded in 1971 as the Asian Vegetable Research and Development Center (AVRDC);
- Nonprofit;
- Our research outputs are global public goods;

■ More info available on www.avrdc.org

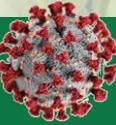


MISSION

Research and development to realize the potential of vegetables for healthier lives and more resilient livelihoods



Nigeria is under the West & Central Africa – CH Region



2. Nigeria in view of COVID-19 impacts

- **38% drop in GDP** during the 5-week total lockdown (March to April ending).
- **Inflation Rate, 2-Year High; 12.86% July, 12.56% in June, 12.40% in May, 2020.**
- **Malnutrition** level expected to increase accordingly due to **reduced household** income earning, **food market** disruptions etc.
- Disruptions in **Supply Chains.**
- Disruptions in **Intl. Trade**
- Increase **Health Burdens**
- etc.

Nigeria's inflation rate jumps to 12.82%, highest in 27 months



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By Samuel Oyekanmi



Source: NBS

3. Malnutrition : a triple burden

1
HUNGER



Lack of calories
& protein

≥ 462 million
underweight

2
**MICRONUTRIENT
DEFICIENCY**



Lack of sufficient
vitamins & minerals

2 billion
malnourished

3
**OVER
CONSUMPTION**



Excess
calories

≥ 1.9 billion
overweight

Child **undernutrition** very high nationwide, 36.8% of children ≤5 yrs estimated to be stunted in 2018, just slightly down from 40.8% in 2008.

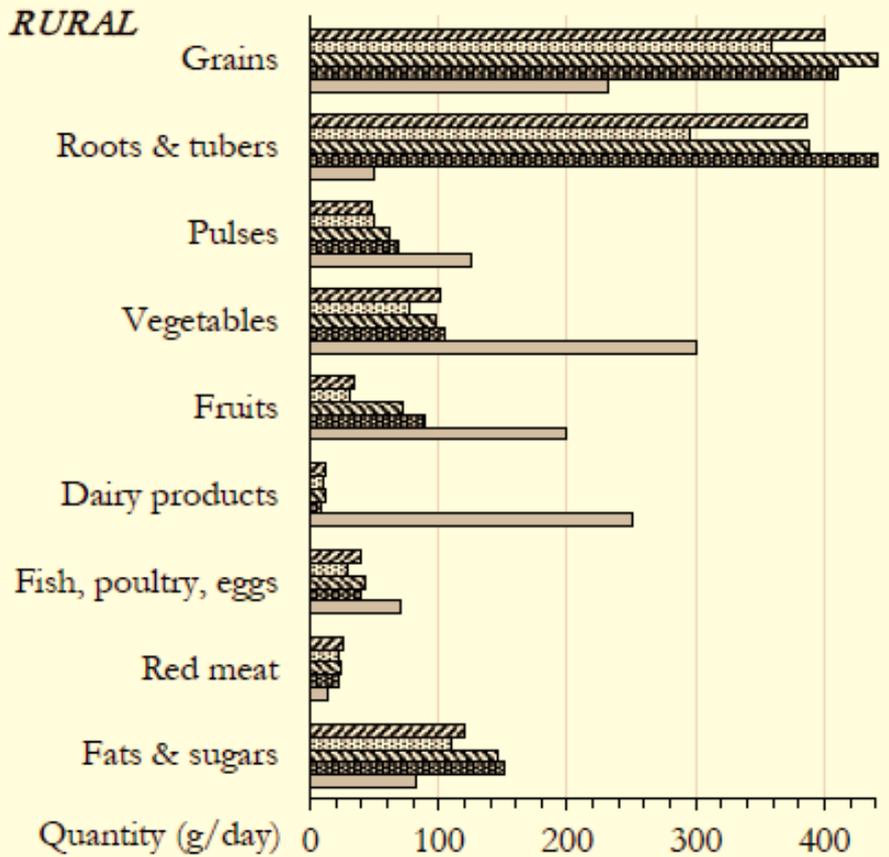
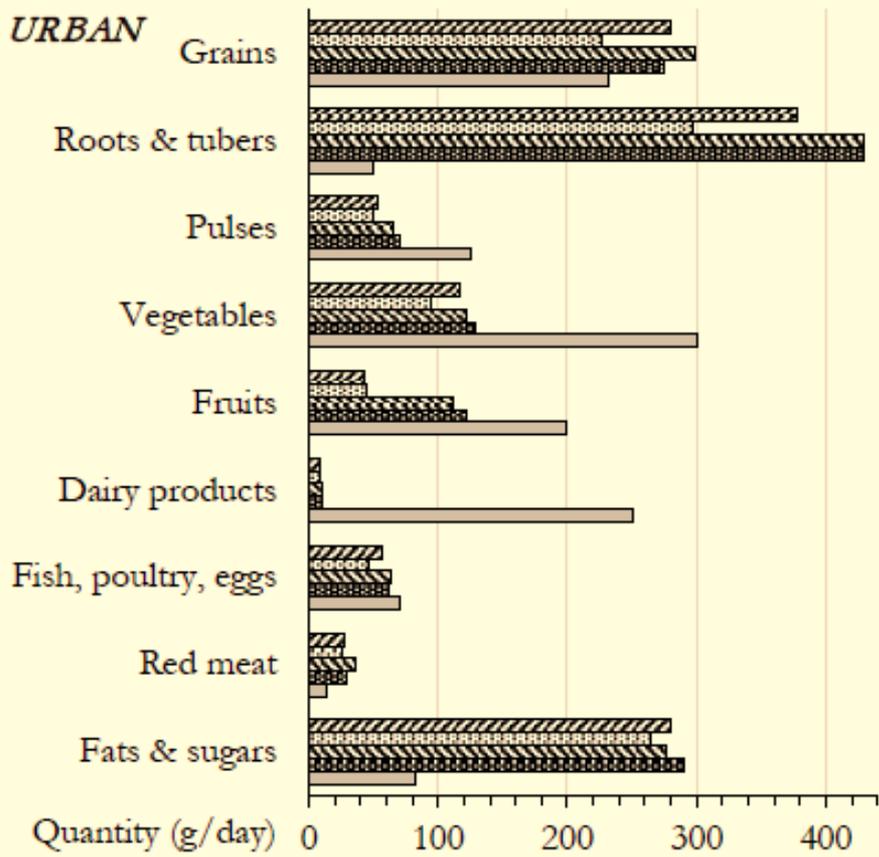
Micronutrient deficiency extremely widespread among children & women of reproductive age. **Anemia** among children <5 years slightly **declined in rural areas** between 2010 and 2018, substantially **increased in urban areas**.

National prevalence rates of **overweight** and **obesity** among nonpregnant women between 15-49 years of age **increased** faster than the rate of child stunting decreased.

Poor dietary quality which is a universal problem in Nigeria is the root cause of all forms of malnutrition.

Observed **dietary diversification** mainly driven by increased consumption of empty, non-staple calories.

Source: WHO; IFAD; WFP, 2017 ; FTF, 2020



▨ 2012/13 Post-planting
 ▩ 2012/13 Post-harvest
 ▧ 2015/16 Post-planting
 ▦ 2015/16 Post-harvest
 ■ EAT diet

Food group consumption per adult equivalent among urban and rural households compared to the optimal calorie intake of the EAT diet

4. Growing importance of urban and peri-urban production/marketing systems in SSA

- Urban Population in Africa is the fastest growing in the world, **56% of the population** expected to be urban-based by 2050.

- UN, 2018.

Nigeria will stand out due to her Rural-Urban Migration rate.

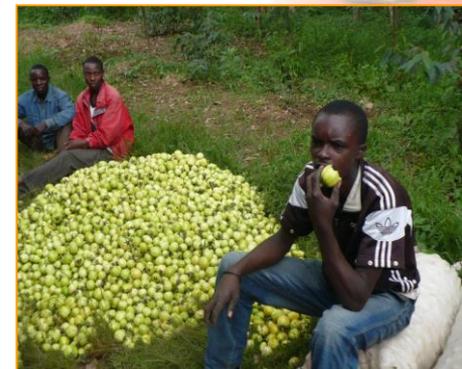
- Urbanization combined with economic & social development, leads to a **change in dietary patterns and nutrient intake**, This contributes to increasing health burdens and NCDs especially in developing countries - Popkin *et al*, 2017.

- **To achieve Food Security, Food Systems need to become more efficient & resilient.**



5. Importance of Dietary diversification with vegetables towards progress in Food Security

- Vegetables are a **key source of essential nutrients**, they play very specific food system characteristics that shape the potential impact of coronavirus. (Harris *et al.* 2020).
- According to NCDC **underlying health issues** (NCDs majorly) contributed to complications in management of COVID-19 patients.
- **Malnutrition** is the leading cause of NCDs in the World, increased consumption of healthy. **Nutrient-dense foods**, such as vegetables, and **reduced intake of unhealthy and processed foods** will improve nutrition.
- Vegetables are among the **most affordable** sources of vitamins, minerals and plant-based proteins, which are essential for good health (Marco, 2020).
- In the short and medium term amidst COVID-19, **accessibility (personal domain)** of vegetables is a more pressing concern than **availability (external domain)**.



6. Recognized Possible Roles of Vegetables in COVID-19:

▪ Address undernutrition, especially micronutrient deficiencies:

- ✓ Vegetables are rich in micronutrients and other health promoting phytochemicals; they can complement staple foods and improve nutritional quality of diets.

▪ Overnutrition – obesity the growing problem in urban areas

- ✓ Inadequate consumption of F&V is associated with NCDs (i.e., diabetes and heart disease). Increasing consumption of F&V instead of staples will ensure balanced diets & reduce NCDs.

▪ Health benefits:

- ✓ Vegetables consumption (esp. TVs) improves body immune system through supply of Vitamins such as Vit. C, Zinc, Iron etc. e.g. African eggplant was found to possess protective properties against ulcers; (Chioma et al., 2011).

▪ Income generation & Employment:

- ✓ Vegetables production provides income opportunities for households by creating employment & empowerment most esp. for women & youths who can leverage on the demand in urban & peri-urban markets



Traditional treasures: examples TVs rich in micro nutrients

Percentage of recommended nutrition intake (RNI) supplied by 100 g of selected commodities, including global (cabbage, tomato) and traditional vegetables for pregnant women*

	Protein (g)	Vitamin A (µg RE)	Iron (mg)	Folate (µg)	Zink (mg)	Calcium (mg)	Vitamin E (mg α-TE)
RNI for pregnant women (1 st trimester)	60	800	30	600	11	1000	7,5
Percentage (%) of RNI							
Rice	12	0	1	2	4	0	0
Cassava (root)	2	0	1	5	3	2	0
Millet	6	0	2	14	8	0	0
Meat (chicken)	37	0	3	1	14	2	3
Mungbean	40	2	22	104	24	13	7
Vegetable soybean	18	2	13	28	13	4	78
Cabbage	3	1	1	10	2	4	2
Tomato	2	18	1	3	2	1	7
Slippery cabbage	6	106	5	30-177	11	18	58
Moringa leaves	7	146	11	49	5	10	65
Amaranth leaves	9	160	6	31	6	32	17
Jute mallow	10	188	12	21	0	36	36
Nightshade	8	101	13	10	9	21	28
Vegetable cowpea leaves	8	198	6	27	3	54	101

*red numbers indicate high levels of nutrients; RE = Retinol Equivalent; α-TE = α-Tocopherol

Source: RNI – FAO/WHO 2004; nutrient data – USDA Nutrient Database, WorldVeg.



Moringa Water Leaf

7. Improving Vegetables Accessibility and Availability in COVID-19

1. SeedKits:

Seed interventions have been an important component of emergency response programs. **Vegetable SeedKits** is justified as a way to quickly improve diets and provide fast income to farmers & households in stress situations.

WorldVeg seed kits benefit Benin

In Grand Popo, 420 farmers and their families from 27 municipalities now have vegetable seed to help rebuild their livelihoods and health in the wake of the COVID-19 pandemic.



2. Home Grown Food

Home garden programs is an effective method of raising income within households. **WorldVeg** found that most SHs sell the excess produce from their home gardens (*Keatinge et al., 2012*) to generate income esp. for women who play significant role in food provision for household.

Vegetable seed kits link World Vegetable Center, World Vision, and people in southern Taiwan

Vegetable seed kits help vulnerable families grow nutrient-rich food for healthier diets and more resilient livelihoods.



- Home garden programs have successfully increased maternal and child consumption of micronutrient rich foods, (*Girard et al., 2012; Olney et al., 2015; Schreinemachers et al., 2016*).

Conclusion

- **COVID-19** began as health concerns that quickly escalated into **global economic challenge**, in **building resilience** against this shock and as a pathway towards recovery, **food system interventions** should give priority to **nutrition-sensitive programs**. **Vegetables** has potential to **generate income** and **reduce malnutrition**.

- Promoting integrated **homestead food production systems**, **small-scale livestock production**, **aquaculture** and **biofortification** of staple crops and legumes are particular in urban centres to address increasing NCDs.



THANK YOU!



#Eat more vegetables

