

February 20, 2020

To: AAP African Futures Research Leadership Program

From: Won O. Song, PhD, MPH, RDN, Professor

RE: Potential Research Projects

1. “Stunting begins before birth”

Chikakuda A, Shin DY, Comstock S, Song SJ and **Song WO**. Compliance to prenatal iron and folic acid supplement use in relation to low birth **weight in Lilongwe, Malawi**. *Nutrients* **2018**, *10*(9), 1275; <https://doi.org/10.3390/nu10091275>, registered DOI

Many nutrition and policy interventions for young children in Africa have helped reducing the rates of stunting and growth to a limited degree. The persisting problems with stunting, maternal deaths, and neonatal and infant deaths must begin with mothers in Africa. Having published many research articles in maternal and child health problems in both developed and developing countries, we need to find means to help child-bearing age women with their nutrition knowledge, behaviors, financial independence and influence to the policy makers and agents implementing policies. The focus may include use and storage of iodized salt and IFA supplement use before, during and after pregnancy.

2. “Innovative agriculture to counter nutritional insecurity”

Kubuga C, Dillon A, **Song W**. Container gardening to combat micronutrients deficiencies in mothers and young children during dry/lean season in **northern Ghana**. *J Hunger and Environmental Nutrition*. *14*(6) 850-863, <https://doi.org/10.1080/19320248.2018.1512922>

Kubuga C, Hong G, **Song, WO**. *Hibiscus Sabdariffa* meal improves iron status of childbearing age women and prevents stunting in their toddlers in **northern Ghana**. *Nutrients*. *Nutrients* **2019**, *11*, 198; doi:10.3390/nu11010198

Climate changes make the food production much more difficult in African countries than other parts of the world. Most international aids to developing countries have promoted quick fixes with sprinkles, fortifications and pills, etc, to overcome nutritional insecurity that impact work productivity and cognitive learning abilities in children. However, many native cultural foods and food sources have filled the gap historically and acceptable culturally. Several innovative and creative agricultural approaches can become sustainable solutions while empowering the people affected.

3. “Some nutrients matter more than others”

Kubuga C, Abizari, AR, Song WO. Iodine status of reproductive age women and their toddlers in **northern Ghana** improved through household supply of iodized salt and weekly indigenous

meal consumption. PLOS ONE. 2019 May 31;14(5):e0216931. doi: 10.1371/journal.pone.0216931. eCollection.2019

Kubuga C, Kennedy G, Song WO. Food-based indicators are related to iron and iodine deficiencies of mother-toddler dyads during lean season **in northern Ghana**. *British J of Nutrition*, BJN-RA-19-0910.R2. Accepted Feb 2020

For still growing teenage mothers and fetus, pregnant and lactating mothers are vulnerable to nutritional insecurity that will lead to multigenerational impacts in developing countries. Knowing women's status within household and society, little attention is given to them for their own well-being as well as for their fetus and young nursing children. Children cannot be intervened with out their mothers who should be the mediating agents for their children within household. Knowledge, empowerment and economic means are critically important and work together.

4. "Abundant Sources of Data are Evidences of Problems"

Ba DM, Ssentongo P, Na M, Liu G, Du P, **Song W**, Gao S. Urinary iodine concentration in determining iodine deficiency and its associated factors among childbearing age women 20-49 years in **Tanzania**. Submitted to J of Nutr. MS#, CDN-D-19-00187.110619, 2019

Kubuga C, Shin DY, Song WO. Determinants of dietary patterns of Ghanaian mother-child dyads: The **2008 Ghana Demographic and Health Survey** (submitted to Nutrient 7/19)

Shin DY, **Song WO**. Association of the Adequacy of Prenatal Care Utilization index with small-for-gestational-age and preterm births in the United States. *Journal of Clinical Medicine*, DOI: [10.3390/jcm8060838](https://doi.org/10.3390/jcm8060838). June 12, 2019

Data are evidences that can speak with authority. Lack of data in developing African countries often impedes the progress. However, there are abundant international datasets that researchers and policy makers can utilize to advance social progress while counteracting imminent problems. Researchers from African countries can improve training in research in general, developing research hypotheses and statistics to answer the hypotheses.