The True Cost of Food in Georgia

Science Facts and Analysis from Science for Georgia

Metrics across the whole supply chain, beyond production and process

Food insecurity affects 1 in 8 Georgians, meaning that about 13% of Georgia's population does not have consistent access to enough nutritious food. Insufficient food resources can be attributed to numerous factors, and until we measure the true cost of food, some of those factors will be overlooked. Currently, the cost of food is typically measured by retail prices, which accounts for food production and processing. This figure does not include the impact of the food supply chain on other parts of our economy and environment such as, health costs associated with diet, water supply for crops, transportation of foods from farms to markets, and food disposal costs. Determining the true cost of food requires metrics to be identified that can uncover those hidden costs and show the actual value of nutritious vs non-nutritious food. This, in turn, can highlight parts of the system that are most expensive and inform where to direct resources toward improving those aspects of food insecurity. To reframe how the food system is viewed in Georgia, herein we break down cost categories into supply, access, and utilization – looking at specific, evidence-based metrics that measure if there is enough food being produced, if a person can purchase that food, and finally, if a person is eating that food.

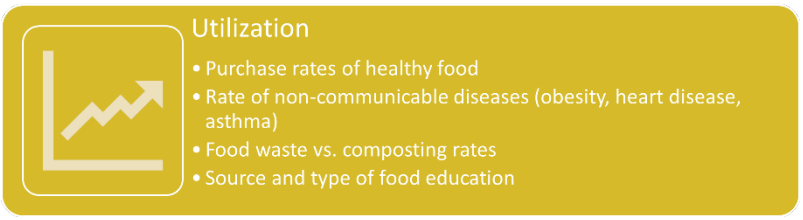
Supply measures the cost of producing food, which is impacted by factors such as water use, air pollution, and land use. Georgia currently has data available on water usage throughout the state, but, currently, there is no specific data on water used for crops. Wi According to the Georgia Water Planning website, they may begin to publish forecasts for agricultural water use. Similarly, air pollution is measured through the Air Quality Index. Air pollution has been shown to affect food production, which, in turn, can have a large impact on food insecurity. Land use and condition are currently measured by the United States Department of Agriculture (USDA). Not currently tracked, but recommended to be tracked, is land ownership by Black, Indigenous, and people of color (BIPOC) groups, which is a measure of diversity, equity, and local economic impact. An increase in BIPOC land ownership can create a more equitable food system of locally grown produce that can increase food security, which can be more resilient during future disasters. In addition. The increase of female owned land can decrease poverty rates and increase sustainability; however this link is mainly in developing countries due to women and men making different land-use choices. Thus, diversifying land ownership diversifies stewardship practices. Further study is needed to gauge the impact of female land ownership on Georgia's food security.

Access refers to the cost of finding and obtaining food, including price, location, and transportation. The price of access can include the relative cost of nutritious versus non-nutritious foods and the proportion of a household budget that is spent on food. The government assumes that 30% of income is spent on food, 30% on housing, and 30% on healthcare. According to Herbert, Hermann, and McCue (2018) the 30% rule is outdated and based on typical household spending from the 1800s, which does not account for dual income households and childcare associated with that situation (in reality there is an additional 30% of income that typically goes towards childcare). It is possible to track income levels, and amount spent on food, housing, healthcare, and childcare. This allows the opportunity to evaluate if an appropriate portion of income is being put towards housing, healthcare, food, and childcare, and where those costs are overwhelming. To ensure maximal access to aid, it is critical to measure the number of people who qualify for food assistance programs vs. the number of people signing up for them. According to The Center on Budget and Policy Priorities, about 86% of Georgia residents eligible for food assistance claimed those benefits. Thus, many Georgians are leaving aid on the table. Identifying those who are not utilizing aid enables the identification and removal to of barriers to accessing aid. Location metrics, which calculate distance to a grocery store

and walkability of area are currently used by the USDA to identify areas that are typically termed "food deserts". Transportation metrics measure the availability of public transit that can be used to obtain healthy food options and the distance food travels to market. Currently there is data on public transportation through the American Public Transportation Association but there is limited data on how far crops travel to markets. The cost of transporting locally grown produce can be lower than importing food from outside of the state or even country, especially when considering factors such as fuel and CO_2 emissions. While that may not be the case with all produce, having more measurements in order to determine which produce are more cost-effective can focus efforts on lowering the transportation costs of bringing those crops to market.

Utilization is a measure of the amount of healthy food being eaten. In a perfect world we would measure the amount of nutrient dense food people consumed and the number of meals eaten per day. It is tough to determine just how much and what people eat; however, this can be indirectly measured by the amount of food waste, availability of nutrition education, and prevalence of non-communicable diseases. Food waste is important to measure for two reasons. The first being that food wasted is food not consumed, which eats into a food budget. The second is that food waste is a large contributor to greenhouse gas emissions, which, in turn, will affect crop supply and food cost. Better education and composting can combat these costs. This can be measured in three ways, dispersal of educational material, landfill usage, and availability of curbside composting. Healthier food choices and utilization are impacted by nutrition education. This can be measured by the amount of food education provided to communities which could empower people to make more nutritious eating choices. Right now, data are available on non-communicable diseases, such as obesity, heart disease, asthma, and depression, in Georgia. Lower rates of obesity, heart disease, and asthma are indicative of a population that has access to, and is utilizing, more nutritious food options. Mental health days can also be a measurement of access & utilization, as increased mental health issues have been linked to food insecurity, as the associated stress impacts quality of life. A review of research completed by Myers in 2020 shows that there is a direct link between food insecurity and poor mental health, one can cause the other and vice versa. School absenteeism rates are also a measure of both the physical and mental health of school-age children, and studies have shown food insecurity can lead to higher rates of absenteeism.

There are many metrics that contribute to the true cost of food. Breaking it down into access, supply, and utilization sorts these metrics into manageable pieces. This also points to which services can be supported to make an impact. Without these metrics, it is difficult to fully understand what the true cost of food is and how to pinpoint areas in access, supply, and utilization that can be targeted for maximum impact.



Proposed Georgia-Specific Metrics

Herein are proposed metrics to measure the true cost of food. For each we have provided:

1. The main area it measures: Supply, Access, or Utilization
2. The reason to use the metric.
3. The method by which the metric is measured and who measures it.
4. The impact that a change in the metric will have on the true cost of food.
5. The location of the data.

Supply Metrics:

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
Water Use	Measures how much water is being used to yield crops, which is has monetary and environmental costs.	Currently measured through Georgia Water Supply and the USDA. Measured at the state and county level.	There should be an aim to decrease water use. More research needs to be done to quantify cost-saving associated with reduced water usage.	Georgia.gov Water Planning Georgia.gov Ag Use
Air Pollution	Measures the quality of the air. There is a demonstrated link between high air pollution and lowered crop yield which can change food cost.	Currently measured through the Air Quality Index. Measured by location such as cities and states.	Air quality should remain in the "healthy index".	Airnow.gov
Land Use	Measures percentage of land being used to produce food. The impact of land use on crop yield and food cost is important, especially as developed land encroaches on cropland.	Currently measured through the USDA. Measured at the country and state level.	Current data shows land use and distribution. Additional data is needed to determine if land use being utilized efficiently to produce local food and increase local food sources.	USDA NRCS UGA NARSAL – land use trends

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
BIPOC Land Ownership	Measures percentage of farmers that are BIPOC. Research shows that BIPOC land ownership not only increases equity, but also strengthens local food security.	This is not currently measured.	BIPOC land ownership should increase. This shows progress by increasing diversity and equity and improving opportunities among the BIPOC population.	No sources have been located.
Women Land Ownership	Measures the percentage of farmers that are women. Studies have shown that women and men make different land-use choices, so diversifying land ownership diversifies stewardship practices. International relief agencies encourage female land ownership in emerging nations.	Currently measured through the Agricultural Census Measured at State and County levels.	More research is needed to quantify the extent of the benefit of increased female land ownership on Georgia.	USDA National Ag Statistics
Composting	Measures the availability and access to composting within Georgia. Food waste in landfills contributes to greenhouse gasses and an increase in composting (second source) can decrease those gasses.	Data is not currently collected on the number of households that compost.	Composting reduces food waste that ends up in landfills.	None Found

Access Metrics

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
Food Assistance Eligibility vs Claimed Benefits	This measures the estimated number of individuals who are eligible to receive food assistance and the number of people who claim those benefits. This shows if the resources offered are utilized by the intended population.	Currently measured by the USDA and Center on Budget and Policy Priorities. Measured at the state level.	The number of benefits claimed should equal the number of individuals eligible for benefits.	Center on Budget Policy Priorities GeorgiaData.org – SNAP GeorgiaData.org - Income USDA Census Bureau
Income Spent on Food	This measures how much money an average household spends on food as a percentage of their income. The 30% rule is outdated.	This data is an estimate. Measured at the state level.	All components of a family's budget must be measured: food, housing, healthcare, and childcare. The ratios should be considered together to gauge the impact of one part of a budget on another.	Bureau of Labor Statistics USDA
Income Spent on Housing	This measures how much money an average household spends on housing as a percentage of their income. The 30% income rule is outdated.	Measured at city and state levels.		Cost of Living
Income Spent on Childcare	This measures how much money an average household spends on childcare as a percentage of their income.	Data exists on the cost of childcare but not the average amount of income spent on childcare.		Georgia Early Education Alliance for Ready Students

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
Income Spent on Healthcare	This measures how much money an average household spends on healthcare as a percentage of their income.	Currently measured by organizations and US Census Bureau	High healthcare costs can be caused by poor diet, which leads to less money for nutritious food and perpetuates a cycle.	CMS.gov Health System Tracker US Census
Food Access by Location	This measures the amount of the population that has limited access to healthy food options. This can show what areas may be more at risk for food insecurity based on proximity to food.	Data exists through the USDA Food Access Research Atlas. This is measured at the state and county levels.	Proximity to healthy food choices can determine if an individual or family is considered food secure.	USDA
Availability of Public Transit	This measures the availability of public transportation. Public transit allows a greater percentage of people to have access to nutritious food.	Georgia Transit Links provides limited data on counties that currently have transit.	Those who live in rural areas may not have personal transportation and could rely on walking and public transportation in order to get groceries.	American Public Transportation Association
Distance Traveled from Source to Market	This measures fuel and CO_2 emissions which can affect the price of food. This shows progress which should lower costs on transportation and the environment.	There is literature on the effects of food transportation. Including a USDA report.	Long distances to transport food to market can create more CO_2 emissions, which can affect crop yield.	USDA

Utilization Metrics

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
Amount of Nutritious Food Consumed	This measures the quality of food being consumed.	This data is difficult to collect – it requires individual consumption surveys.	We want this metric to increase and to collect more quantifiable data. The impact on health is high, and education has shown to have a positive impact on eating habits.	None found.
Food Disposal Rates	Measures how much it may cost to dispose of unused food in grocery stores and from households. Money spent on disposal is an indirect measure of food that is being wasted. Food waste is related to diet quality.	Currently there is data on landfill disposal costs, but this is not focused on food specifically.	We want this number to decrease and to collect more quantifiable data. A decrease in food being disposed of points to a reduction in food waste.	None Found
Organic vs. Inorganic Food Costs	Measures if overall true cost of producing and distributing organic food is more cost effective thnn non-organic food. This accounts for nutritional content and environmental cost.	Organic prices are measured through the USDA. A comprehensive cost index does not exist that shows the true cost of different production methods.	We want to better understand the cost effectiveness of organic vs. inorganic food. The impact of this is largely unknown therefore more data needs to be collected.	USDA
Availability and Dispersal of Educational Material	Measures how much nutritional education is provided to the community. This could have a large impact but only if the material utilized.	Currently there is no data that measures the number and utilization rates of educational materials. Sample material can be found here.	We want availability and dispersal of educational material to increase and to collect more quantifiable data.	None Found

Metric	Reason Chosen	Measurement	Impact of Change	Data Sources
Obesity Rates	Measures the obesity rates within a local population. Obesity rates are linked to food insecurity.	Currently there is data through America Health Ranking, and 2010 CDC records. This is currently measured on the country and state level.	Healthy eating habits and increased food access may correlate with reduced obesity rates.	America's Healthcare Rankings CDC
Heart Disease Rates	Heart Disease is directly correlated to poor nutrition and food insecurity.	Data is collected through America Health Ranking, American Heart Association and CDC. Collected at the country and state level.	Lowered rates of heart disease may indicate an increase in nutritious eating habits.	CDC America's Health Rankings
Asthma Rates	Measures the overall rates of asthma. This shows how many individuals may be living with asthma, which is related to healthy living environments.	Data is currently collected by the CDC and the Georgia Department of Health. Collected at the state level.	This metric is not directly correlated to food security – but may be an indicator of overall healthy living conditions (nutritious food, green spaces, air quality, etc).	CDC Georgia Dept of Public Health
School Absenteeism Rates	This measures the number of children who are absent from school and the number of days missed. School absenteeism is correlated to food insecurity and, in general, unhealthy living conditions.	Minimal data is collected through the Georgia Department of Education. Measured at county/ school district level.	We want this rate to decrease. School absenteeism is part of an unhealthy cycle. As many children only have access to nutritious meals at school, missing school might mean missing a meal and it also leads to decreased educational outcomes.	Get Georgia Reading Campaign Georgia DOE