The last three decades have brought about globalized systems of food production and trade along with rapid urbanization and the expansion of retail markets. Together, these changes contribute to the ongoing modification and displacement of food environments in low- and middle-income countries. Individuals are now faced with complex decisions about what, where, how, when, and for whom to produce, obtain, prepare, distribute, and consume food, but decision-making is poorly understood in the context of the rapidly changing food environment. A holistic understanding of decision-making around food choice is needed to facilitate actions that will lead to improved diets for optimal health and well-being at the individual, household, community, and population levels.

The purpose of the Drivers of Food Choice (DFC) Competitive Grants Program is to facilitate, synthesize, and disseminate research to provide a deep understanding of the drivers of food choice among the poor in developing countries in South Asia and Sub-Saharan Africa that account for 90% of the global burden of undernutrition. We also aim to strengthen country-level leadership in nutrition and foster a global community of food choice researchers.

The 15 DFC research projects in Sub-Saharan Africa and South/Southeast Asia will attempt to provide understanding of what, how, and why people eat as they do in rapidly transforming food environments. All 15 projects include emphases on potential drivers of food choice categorized along three cross-cutting themes: 1) sociocultural drivers; 2) food systems and food environment drivers; and 3) policy, program, and intervention drivers. All 15 projects include measurement of food choice behaviors at the individual and household levels in order to better understand decision-making processes. Addressing "how and why" people eat what they do involves examination of food choices within the context of their immediate food environment. Emphasizing decision-making rather than availability or consumption only implies an examination of the processes that link an individual’s food choices to their environment. As such, most DFC projects feature multi-level designs.

Research through the DFC program will provide valuable insights for policymakers and global health specialists to devise nutrition and health policies that better serve the rapidly changing populations in low- and middle-income countries. This technical brief provides an overview of the 15 DFC projects.
<table>
<thead>
<tr>
<th>MAP #</th>
<th>Project Title, Study Objectives, Study Site, Principal Investigator(s), and Participating Institutions</th>
</tr>
</thead>
</table>
| 1     | **Title:** Understanding the Drivers of Diet Change and Food Choice Among Tanzanian Pastoralists to Inform Policy and Practice  
**Objectives:** To explain how shifting livelihoods strategies among Tanzanian pastoralists influence sociocultural and gender norms, food access and food valuation, and how the intersections of these ultimately influence food choice.  
**Site:** Rural Tanzania  
Dr. Amy Webb-Girard, Emory University |
| 2     | **Title:** Influence of Land Impermanence on Conservation and Utilization of Agrobiodiversity and Subsequent Effect on Food Attitudes and Consumption Patterns  
**Objectives:** To generate evidence if impermanence in relation to land influences agro-biodiversity use/conservation and in turn, influences access to, attitudes towards, and choices about consumption of food.  
**Site:** Rural Uganda  
Mr. Ian Dolan, MDS, Trócaire Uganda  
Dr. Beatrice Ekesa-Onyango, Bioversity International |
| 3     | **Title:** Drivers of Food Choice in the Context of Overweight Among Women and Children in Malawi  
**Objectives:** To identify and explain predictors of dietary intake and food choice among Malawian mother-child dyads containing an overweight mother, child, or both.  
**Site:** Urban and rural Malawi  
Dr. Valerie Flax, RTI International  
Dr. Chrissie Thakwalakwa, University of Malawi |
| 4     | **Title:** Dietary Transitions in Ghanaian Cities: Mapping the Factors in the Social and Physical Food Environments that Drive Consumption of Energy Dense Nutrient-Poor (EDNP) Food and Beverages to Identify Interventions Targeting Women and Adolescent Girls Throughout the Reproductive Life Course  
**Objectives:** To examine factors in social and physical food environments of African cities that drive consumption of EDNP foods and beverages among adolescent girls and women.  
**Site:** Urban Ghana  
Dr. Michelle Holdsworth, University of Sheffield  
Dr. Amos Laar, University of Ghana  
Dr. Francis Zotor, University of Health and Allied Sciences, Ghana |
| 5     | **Title:** Do Agricultural Input Subsidies on Staples Reduce Dietary Diversity?  
**Objectives:** To examine the impact of Malawi’s Agriculture Input Subsidy (AIS) program targeting mostly maize on overall food choices, by examining not just price and consumption of maize but crucially, the effects of the AIS program on consumption of other foods. Additionally, the study will explore the wider context of food preferences and trade-offs, including by gender and socioeconomic status.  
**Site:** Urban and rural Malawi  
Dr. Helen Walls, LSHTM |
| 6     | **Title:** Diet, Environment, and Choices of Positive Living (DECIDE Study): Evaluating Personal and External Food Environment influences on Diets among PLHIV and Families in Dar es Salaam, Tanzania  
**Objectives:** To explore and characterize the drivers of food choice, food environment, and dietary adequacy among people living with HIV (PLHIV) and their families in Dar es Salaam, Tanzania  
**Site:** Urban Tanzania  
Dr. Ramya Ambikapathi, Purdue University |
| 7     | **Title:** Understanding How Dynamic Relationships Among Maternal Agency, Maternal Workload and the Food Environment Affect Food Choices  
**Objectives:** To determine impacts of agricultural workload on maternal food choices, examine factors influencing food choices, and how they interact.  
**Site:** Rural Uganda  
Dr. Kate Wellard, Natural Resources Institute  
Dr. Elaine Ferguson, LSHTM  
Dr. Joweria Nambooze, Africa Innovations Institute |
| 8     | **Title:** Drivers of Demand for Animal-Source Foods in Low-Income Informal Settlements in Nairobi, Kenya  
**Objectives:** To investigate the demand and supply side factors of animal-source foods (ASF) purchase and consumption to understand the source of variability in ASF intake between and within households living in Nairobi informal settlements.  
**Site:** Urban Kenya  
Dr. Paula Dominguez-Salas, LSHTM  
Dr. Aurelia Lepine, LSHTM |
| 9     | **Title:** Prospecting for Nutrition? How Natural Resource Extraction Impacts Food Choices in Marginalized Communities  
**Objectives:** To depict how an artisanal mining livelihood (and the shift to it from an agricultural livelihood) impacts food choices, with a particular focus on the choices women and adolescent girls make for themselves and their young children.  
**Site:** Mining districts in Guinea  
Dr. Rolf Klemm, Johns Hopkins University |
<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Study Objectives</th>
<th>Site</th>
<th>Principal Investigator(s)</th>
<th>Participating Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Behavioral Drivers of Food Choice in Eastern India</td>
<td>To understand the behavioral drivers of food choice as they relate to gender differences in decision-making of a target population of urban and rural households in lower to middle socioeconomic classes in West Bengal and Odisha.</td>
<td>Urban and rural India</td>
<td>Dr. Matty Demont, International Rice Research Institute</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>From Growing Food to Growing Cash: Understanding the Drivers of Food Choice in the Context of Rapid Agrarian Change in Indonesia</td>
<td>To understand how changes from traditional to commercial agriculture are affecting the food choices of farmers in rural Indonesia.</td>
<td>Rural Indonesia</td>
<td>Dr. Amy Ickowitz, Center for International Forestry Research</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Retail Diversity for Dietary Diversity: Preventing Nutrition Deserts for the Urban Poor Within the Transforming Food Environment in Vietnam</td>
<td>To understand in what way progressing retail modernization and restructuration policies impact the dietary diversity and quality of the urban poor who purchase foods on a day-to-day basis.</td>
<td>Urban Vietnam</td>
<td>Dr. Sigrid Wertheim-Heck, Dr. Gina Kennedy, Dr. Peter Oosterveer,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wageningen University/Fresh Studio Asia, Bioversity International, Wageningen University</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Food Choice in Indian Households in the Context of the Nutrition Transition</td>
<td>To quantify the importance of factors including price, satiety, taste, reputation, and subsidies as proximate drivers of food choice in the context of globalizing food markets. Additionally, the study will identify conditions under which women and men select global vs. traditional foods, and how variations in these conditions can alter selections. The role of the public distribution system (PDS) as a driver of food choice and its implications for intake and for advancing nutrition transition will be assessed.</td>
<td>Urban and rural India</td>
<td>Dr. Solveig Cunningham, Emory University</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Incentivizing Fruit and Vegetable Consumption in Urbanizing India</td>
<td>To examine whether incentivizing fruit and vegetable consumption can improve food choice in urbanizing India by developing a financial incentives scheme for rural India based on an existing model and evaluate its feasibility for a long-term clinical study.</td>
<td>Peri-urban India</td>
<td>Dr. Sanjay Kinra, LSHTM</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Nudging Children Toward Healthier Food Choices: An experiment Combining School and Home Gardens</td>
<td>To test the hypothesis that school garden programs can nudge children aged 8-12 toward healthier diets if known constraints (e.g., poor availability of healthy food and influence of caregivers on children’s diets) are addressed explicitly.</td>
<td>Rural and peri-urban Nepal</td>
<td>Dr. Pepijn Schreinemachers, World Vegetable Center</td>
<td></td>
</tr>
</tbody>
</table>
Themes of the DFC Competitive Grants Program

Sociocultural Drivers
Sociocultural drivers of food choice encompass processes or conditions within the social and cultural environment. Investigating sociocultural drivers can provide insight into barriers and incentives for adoption of different interventions, inform development of gender-aware or gender-transformative agricultural programs, and provide insight for tailoring nutrition and agricultural programs and messages. Some sociocultural drivers include:

- Cultural, regional, and ethnic identities, with particular emphasis on expectations related to class, gender, age, and/or household dynamics
- Cognitive factors that drive food choice behaviors
- Food choice behaviors that highlight linkages in various agriculture-income-nutrition pathways

Food Environment and Food Systems Drivers
Food environments and food systems drivers include the processes, factors, or conditions that shape what, when, where, how, why, and to whom foods are available, accessible, affordable, and acceptable. Investigating the drivers within food environments and food systems enables a holistic understanding of the processes that link an individual to their food environment through the food choices they ultimately make. Some food environments and food systems drivers include:

- Consumption of processed and ready-to-eat items in specific contexts, e.g., rapidly urbanizing areas, fragile or post-conflict settings, and impermanent or informal settlements
- Impacts of food packaging, labeling, and marketing on food choices
- Impact of changes in markets and value chains as incomes grow and demand increases in rural areas
- Impact of prices and changes in fiscal or monetary policies

Program, Policy, and Intervention Drivers
Program, policy and intervention drivers originate in sectors or disciplines that are both directly and indirectly concerned with shaping food environments and food systems and ultimately, food choice behaviors. Research on the effects of program, policy, and intervention drivers on food choices will provide decision-makers with much-needed evidence concerning the intended and unintended effects of these instruments, which will promote more effective and nuanced design and targeting. Some program, policy, and intervention drivers include:

- Effect of specific agricultural, market or financial policies on food choice behaviors
- Influence of agricultural productivity, distribution of labor, and agricultural income on individual household members
- Food choice decision-making when extra income is available (tradeoffs such as giving cash vs. food)

Credits
The research described in this brief has been funded by the Drivers of Food Choice (DFC) Competitive Grants Program, which is funded by the UK Government’s Department for International Development and the Bill & Melinda Gates Foundation, and managed by the University of South Carolina, Arnold School of Public Health, USA; however, the views expressed do not necessarily reflect the UK Government’s official policies. This technical brief was written by Krystal Rampalli, MPH, and Andrea Warren, Ph.D., with format by Sydney Hankinson.