



BLDE (Deemed to be University)

Statement showing Grant Received from Emory University Research Project

Project Title: Food Choices in Indian Households during the Nutrition Transition

Sl No	Date	USD \$	Rate (USD to INR Rupees)	Amount in Rs	Financial Year
1	13-02-19	15,132.87	70.20	1,062,327.00	2018-19
2	04-04-19	13,246.63	68.30	904,745.00	2019-20
3	18-07-19	22,844.25	68.46	1,563,917.00	2019-20
4	29-07-19	19,107.91	68.54	1,309,656.00	2019-20
5	21-10-19	17,595.69	70.75	1,244,895.00	2019-20
6	04-03-20	9,075.85	72.55	658,453.00	2019-20
Total Grant Received				6,743,993.00	

Note: Financial Year 2018-19 Grant Received Rs 1,062,327.00

Note: Financial Year 2019-20 Grant Received Rs 5,681,666.00

6,743,993.00

B. S. Patel
FINANCE OFFICER
BLDE (Deemed to be University)
Vijayapura-586103. Karnataka



08 OCT 2020

**SUBAWARD AGREEMENT
BY AND BETWEEN
EMORY UNIVERSITY
AND
BLDE (Deemed to be UNIVERSITY) , INDIA**

This SUBAWARD Agreement, entered into this 4th day of October 2018, by and between Emory University (hereinafter "EMORY") and BLDE (Deemed to be University) , India (hereinafter "SUBRECIPIENT") is for the purpose of conducting work related to the Project defined below for which EMORY has received prime funding by the PRIME AGENCY identified below.

1. **EMORY SUBAWARD/PO NUMBER:** 43339-BLDE
2. **SUBRECIPIENT NAME AND ADDRESS:**
BLDE (Deemed to be University)
Shri B M PMCH&RC, Vijayapura,
Smt. Bangaramma Sajjan Campus, Solapur Road,
Vijayapura, Karnataka,
INDIA 586103
3. **SUBRECIPIENT DUNS NUMBER:** N/A
4. **SUBRECIPIENT ADMINISTRATIVE CONTACT:**
Dr. Shailaja S. Patil,
shailaja.dr@gmail.com, 08352262770 extn2111
91-9448820464
5. **PRIME AGENCY:**
University of South Carolina (under a grant from
Bill & Melinda Gates Foundation)
6. **PRIME AWARD NUMBER:** 18-3594 (OP1110043)
7. **PRIME AWARD DATE** January 1, 2018
8. **PROJECT TITLE:**
Food choices in Indian households during the
Nutrition Transition
9. **A. EMORY PRINCIPAL INVESTIGATOR:** Argeseanu,Solveig
B. SUBRECIPIENT PRINCIPAL INVESTIGATOR: Patil, Shailaja S.
10. **EMORY ADMINISTRATIVE CONTACT:**
Maggie Hassan
Office of Sponsored
Programs Emory University
1599 Clifton Road NE, 4th Floor
1599-001-1BA
Atlanta, GA 30322

11. EMORY INVOICE CONTACT (NAME; PHONE; E-MAIL): Katherine Carey
katherine.carey@emory.edu, (470)259-0297
12. SUBAWARD PERIOD OF PERFORMANCE: From January 1, 2018
Through December 31, 2018
13. SUBAWARD AMOUNT (FUNDS OBLIGATED THIS ACTION):
14. AGREEMENT TYPE: Cost-reimbursement Fixed Fee
15. RESEARCH & DEVELOPMENT SUBAWARD? Yes No

16. **SUBAWARD PURPOSE AND PROJECT PERSONNEL:** The purpose of this Agreement is to support SUBRECIPIENTS's participation in the Project identified in Article 8, above. A description of the Project is attached as Exhibit A, "Statement of Work," and incorporated herein by reference. The SUBRECIPIENT shall supply all the necessary personnel, equipment, and materials (except as otherwise may be provided herein) and shall use all reasonable effort to perform the research tasks set forth in the Statement of Work described in Appendix A, which is attached and made a part hereof, which is an integral part of the PRIME AWARD attached in APPENDIX D hereto.

SUBRECIPIENT has been selected to participate in this Project at EMORY'S discretion. SUBRECIPIENT may not make any statement or otherwise imply to donors, investors, media or the general public that it is a direct grantee of the Bill & Melinda Gates Foundation ("Foundation") or the Department for International Development of the United Kingdom of Great Britain and Northern Ireland ("DFID") (Funders). SUBRECIPIENT may state that University of South Carolina is the Foundation and DFID's grantee and that SUBRECIPIENT IS a sub grantee, subcontractor or subawardee of EMORY for the Project.

The EMORY Principal Investigator ("PRINCIPAL INVESTIGATOR"), who is the technical representative of EMORY, is identified in Article 9A above. PRINCIPAL INVESTIGATOR shall retain the responsibility for supervision of this Project. PRINCIPAL INVESTIGATOR must approve any change in the Statement of Work, in writing.

The scientific and technical direction of SUBRECIPIENT's portion of the Project as set forth in the Statement of Work shall be under the direction of SUBRECIPIENT Principal Investigator ("SUBRECIPIENT INVESTIGATOR") as identified in Article 9B above.

SUBRECIPIENT INVESTIGATOR is considered to be essential to the work performed hereunder. In the event this person leaves SUBRECIPIENT or is reassigned to another program, SUBRECIPIENT shall notify EMORY immediately in writing. In addition, any individual(s) appointed to replace SUBRECIPIENT INVESTIGATOR must have the prior written approval of EMORY. If any individual(s) is/are not acceptable to EMORY, EMORY shall issue a modification terminating this Agreement. SUBRECIPIENT will be reimbursed for its costs properly incurred through such termination date.

17. **TERM:** The term of this Agreement is as specified in Article 12, SUBAWARD Period of Performance, above. Any change of the SUBAWARD Period of Performance, including extensions, requires written modification to this Agreement, signed by both parties. No expenses that are incurred prior to the effective date or subsequent to the termination date of the SUBAWARD Period of Performance will be reimbursed.
18. **AWARD AMOUNT, INVOICING AND PAYMENT:** Funds provided for SUBRECIPIENT's involvement in this Agreement shall not exceed the amount specified in Article 13 above. All award funds specified are in U.S. dollars. A line item budget for these funds is attached as Appendix B, which is attached and made a part hereof.

Invoices submitted under this Agreement must be accompanied by copies of general ledger printouts, labor distribution and/or payroll reports, as applicable, for expenses requested for reimbursement. Failure to submit such supporting documentation will delay payment. Emory reserves the right to request further detailed expenditure documentation in its sole discretion.

SUBRECIPIENT shall invoice EMORY quarterly. All invoices must be in U.S. dollars. When converting local currency to U.S. dollars for submission of an invoice, SUBRECIPIENT shall use the currency exchange rate in effect on the last date of the invoicing period. EMORY reserves the right to request detailed expenditure documentation from SUBRECIPIENT. A sample invoice is attached as Appendix C, which is attached and made a part hereof. All invoices must reference the EMORY SUBAWARD/PO Number specified in Article 1. Invoices that do not reference this number may be returned to SUBRECIPIENT for correction prior to payment.

Invoices must also include the following certification: "By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I further certify that payment made by EMORY under this Agreement shall not duplicate reimbursement of costs and services which are received from other sources. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise.

Invoices for payment shall be sent via e-mail as a PDF attachment to the EMORY Invoice Contact identified in Article 11, above. The final invoice of expenditures, clearly marked as "FINAL," shall be sent no later than sixty (60) days after the SUBAWARD Period of Performance end date as specified in Article 12 above. Final invoices received after sixty (60) days following the termination date of this Agreement shall be honored for payment at the discretion of EMORY unless another date for submission is agreed upon in advance by EMORY and SUBRECIPIENT.

Final payment under this Agreement shall be predicated upon receipt and acceptance by EMORY of all services, reports, and/or supplies called for hereunder. EMORY reserves the right to withhold final payment until receipt and acceptance of all services, reports, and/or supplies called for hereunder. All services, reports, and/or supplies called for hereunder must meet all specifications as set forth herein and be to EMORY's reasonable satisfaction.

Questions regarding invoices and payment should be directed to the EMORY Invoice Contact identified in Article 11, above.

19. **REBUDGETING OF FUNDS:** It is understood that SUBRECIPIENT's budget as set forth in Appendix B is an estimate and there may be need to depart from it to meet certain unanticipated requirements of the Project. Any Budget cost category change of more than 10% must be approved in writing by EMORY in advance. SUBRECIPIENT must submit a request for the Rebudgeting of funds that require prior approval to EMORY for forwarding to PRIME AGENCY for approval. SUBRECIPIENT may not use the funds to reimburse any expenses incurred prior to the Start Date.
20. **EQUIPMENT:** Title to real property, equipment, and supplies acquired under this Agreement shall vest upon acquisition, in SUBRECIPIENT. EMORY reserves the right to require transfer of items of equipment (including title) having a unit acquisition cost of \$ 5,000 or more if the Project for which the SUBRECIPIENT acquires the equipment is acquired is transferred to another subrecipient.
21. **AUDIT AND RECORD RETENTION:** The accounting for funds provided under this Agreement shall be in accordance with generally accepted accounting principles consistently applied. SUBRECIPIENT shall maintain records to support identifiable charges to this Agreement. All costs reimbursed for the performance of this Agreement will be subject to audit by either EMORY or the PRIME AGENCY, and SUBRECIPIENT agrees to allow auditors access to its records pertinent to this Agreement during normal business hours. SUBRECIPIENT's financial records for this Agreement shall be retained for a period of three (3) years, beginning from the date of the receipt of payment of the final invoice.

SUBRECIPIENT assumes sole responsibility for reimbursement to EMORY of a sum of money equivalent to the amount of any expenditure disallowed, should EMORY, the PRIME AGENCY or any authorized agency rule through audit exception, or some other appropriate means, that expenditures from funds allocated to SUBRECIPIENT through EMORY for direct and/or indirect costs were not made in compliance with the terms of this Agreement or the regulations of the Prime Agency of this Agreement. In addition, SUBRECIPIENT is responsible for repayment of any monies required to be returned to Prime Agency as a result of SUBRECIPIENT breach of this Agreement.
22. **TECHNICAL REPORTING PROCEDURES:** SUBRECIPIENT will be required to keep clear and accurate records of the procedures conducted and data collected through the SUBAWARD Period of Performance so that the progress of the study may be readily evaluated at any time by the EMORY PRINCIPAL INVESTIGATOR designated in Article 9A above. In addition, SUBRECIPIENT shall submit a final technical report within sixty (60) days of expiration or termination of this Agreement.
23. **PUBLICATIONS:** All research reports and other publications relating to the work under this Agreement shall be prepared in consultation with the EMORY PRINCIPAL INVESTIGATOR designated in Article 9A above. At a minimum, for any publication or press release describing research that has been funded in whole or in part by the Drivers of Food Choice Competitive Grants Program, under this Agreement shall:
 - A. Bear proper acknowledgement as follows:
 - i) Publication: This research has been funded by the Drivers of Food Choice (DFC) Competitive Grants Programs, 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.

- ii) Press release: This research has been funded by the Drivers of Food Choice (DFC) Competitive Grants Programs, 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.

- B. Be submitted to the EMORY PRINCIPAL INVESTIGATOR designated in Article 9A above in the form of advance copies for review and comment prior to publication to ensure appropriate coordination of research results.

SUBRECIPIENT further grants to EMORY an irrevocable, royalty-free, non-transferable, non-exclusive right and license to use, reproduce, make derivative works, display, and perform publicly any copyrights or copyrighted materials (including any computer software and its documentation and/or databases) first developed and delivered under this Agreement for the purpose of and to the extent required to meet EMORY's obligations under its PRIME AWARD.

- 24. **DATA RIGHTS:** Subject to its legal ability to do so, the SUBRECIPIENT shall grant to EMORY the right to use data created in the performance of this Agreement for the purpose of education and research or to the extent required to meet EMORY's obligations under its PRIME AWARD.
- 25. **TERMINATION:** Either SUBRECIPIENT or EMORY may terminate this Agreement for any reason upon thirty (30) days prior written notice to the other party. EMORY reserves the right to terminate this Agreement within five (5) days written notice if EMORY determines SUBRECIPIENT to be in significant breach of this Agreement. If at any time EMORY's PRIME AWARD is terminated by PRIME AGENCY, this Agreement shall also be terminated immediately upon receipt by SUBRECIPIENT of written notice to that effect from EMORY. SUBRECIPIENT shall be reimbursed for all allowable costs and any non-cancelable obligations properly incurred prior to the date of termination, provided that such costs shall not exceed the amount allowed under this Agreement and that a report of progress to date of termination has been submitted to EMORY. Nothing in this article is intended to abrogate the Parties' right to mutually terminate this Agreement on such other terms as may be agreed upon.
- 26. **REGULATORY DATA:** All administrative and regulatory data required by PRIME AGENCY shall be applicable to this Agreement as appropriate. All conditions referenced in the PRIME AWARD to EMORY by PRIME AGENCY shall become binding upon SUBRECIPIENT. A copy of the award terms and conditions, and any applicable regulatory requirements, are included in Appendix D, which is attached and made a part hereof.
- 27. **INDEMNIFICATION:** SUBAWARDEE agrees to indemnify, defend and hold harmless EMORY and the FOUNDATION from and against any and all liability, loss, expense (including reasonable attorney's fees) or claims for injury or damages arising out of or resulting from, or alleged to arise out of or result from, the actions or omissions by SUBAWARDEE or by any of SUBAWARDEE's officers, agents, employees, subgrantees, contractors or subcontractors with respect to this Agreement or the PROJECT. SUBAWARDEE also agrees to assume responsibility for all liability for damages and injuries (including reasonable attorney's fees) which may arise or result from the actions or

omissions of SUBAWARDEE's lower-tier subawardees and contractors or any of their officers, agents or employees.

SUBAWARDEE acknowledges and agrees that any activities by EMORY or the FOUNDATION in association with this Agreement or the PROJECT, such as the review or proposal of suggestions to the PROJECT, or any other activity in association with this Agreement or the PROJECT, will not modify, or constitute the basis for any claim of waiver by SUBAWARDEE of, Emory's or the FOUNDATION's rights under this paragraph.

28. HUMAN SUBJECTS: If human subjects are used in the conduct of the work supported by this Agreement, SUBAWARDEE warrants by the execution of this Agreement that SUBAWARDEE is in compliance with the applicable laws, regulations, and policies applicable to research involving human subjects. EMORY and SUBAWARDEE agree that both the Institutional Review Board (IRB) for EMORY and the IRB and/or Ethics Committee (EC) for SUBAWARDEE will review and have continuing oversight for the PROJECT. This review and continuing oversight will meet the human subjects' protection requirements of any and all applicable laws governing the IRB of EMORY and IRB/EC of SUBAWARDEE. Such review and continuing oversight also shall satisfy the requirements of the IRB of EMORY and the IRB/EC of SUBAWARDEE. SUBAWARDEE agrees to provide annual certification to EMORY that an institutional committee has reviewed and approved the procedures that involve human subjects. SUBAWARDEE further agrees to provide notification to EMORY if the procedures that involve human subjects have been amended or modified, as well as when adverse events are reported. SUBAWARDEE shall bear full responsibility for the proper and safe performance of all work and services involving the use of human subjects under this Agreement.

28.1 EMORY and SUBAWARDEE agree that Emory's IRB and SUBAWARDEE IRB/EC will review and have continuing oversight over the PROJECT. This review and continuing oversight will meet the human subjects' protection requirements of all applicable laws. In addition, the review and continuing oversight will meet any requirements of EMORY or SUBAWARDEE'S Human Research Protections Program. At a minimum, this review and continuing oversight shall ensure compliance with the following requirements for any research conducted pursuant to this Agreement: 28.1.1 Determining that protections for human research subjects are adequate.

28.1.2 Ensuring that legally effective informed consent is obtained. Such consent shall include information on what care and/or referrals will be available through participation in the PROJECT.

28.1.3 Ensuring that, when identifiable protected health information (PHI) is used, proper means, including subject authorization, are in place for gaining access to, using and/or disclosing the information under the U.S. Health Insurance Portability and Accountability Act (HIPAA) regulations (45 CFR Part 164) if the PHI is used or disclosed in the United States at an Emory unit or other entity that is a covered entity under applicable HIPAA regulations.

28.1.4 Ensuring that changes to the PROJECT are reviewed and approved, modified or disapproved, by Emory's and SUBAWARDEE'S pertinent IRBs as appropriate.

28.1.5 Ensuring that adequate documentation of IRB review activities, including minutes of meetings at which any pertinent protocols are discussed, are maintained at Emory's

IRB and SUBAWARDEE'S IRB, as applicable, with copies of relevant portions of such documentation being provided upon request by SUBAWARDEE to Emory, or vice-versa.

- 28.1.6 Ensuring that each reviewing IRB, in accordance with its procedures, reports its findings and actions regarding the PROJECT to the Administrative Contact officials for both Emory and SUBAWARDEE.
- 28.1.7 Reporting the following items to the Administrative Contact officials for EMORY and SUBAWARDEE:
 - 28.1.7.1 Any serious or continuing non-compliance by persons involved in the PROJECT at EMORY's or SUBAWARDEE's facilities;
 - 28.1.7.2 Any suspension or termination of IRB approval of the PROJECT;
 - 28.1.7.3 Any injuries to human subjects caused by the PROJECT.
 - 28.1.7.4 Any unanticipated problems involving risks to subjects or others from the PROJECT.
 - 28.1.7.5 Any IRB-reviewed and approved changes in the PROJECT.
- 28.2 SUBAWARDEE acknowledges and agrees that funds from the Award have not been set aside to provide care and/or referrals to any human subject participants or employees of SUBAWARDEE who are injured as a result of participation in this PROJECT.

- 29. SUBJECT CONFIDENTIALITY (HIPAA):** EMORY and SUBRECIPIENT agree to comply with the restrictions in any subject Authorization (as defined below) regarding the use, disclosure and confidentiality of any individually identifiable health information and further agree to comply with all applicable federal and state laws and regulations governing the security and privacy of the individually identifiable health information, including HIPAA, to the extent required by such federal and state laws and regulations, including HIPAA. .

Prior to participation of any human subject in the Project, SUBRECIPIENT will ensure that a properly executed written consent and authorization approved by its IRB or other designated IRB/Privacy Board (the "Authorization") is obtained from each human subject or the subject's authorized representative to document the subject's express written Authorization for the use by SUBRECIPIENT, and the disclosure to and use by EMORY, when applicable, of protected health information when required under HIPAA. SUBRECIPIENT and EMORY will cooperate in the amendment of the Authorization or other documents as may be necessary from time to time, to comply with HIPAA to the extent HIPAA applies to SUBRECIPIENT or EMORY to ensure the Project data may be used by SUBRECIPIENT or EMORY for the purposes specifically identified in this Agreement and the Authorization.

- 30. ANIMAL SUBJECTS RESEARCH:** No live vertebrate animals are used in the conduct of the work supported by this Agreement.
- 31. RECOMBINANT DNA RESEARCH OUTSIDE OF THE U.S:** Recombinant DNA research must be in compliance with the U.S. guidelines and laws, unless the country in which such research is being carried out has adopted guidelines comparable to those of the U.S. and EMORY has approved such guidelines.

32. **ASSIGNMENT AND SUBCONTRACTING:** SUBRECIPIENT shall not assign, transfer or subcontract its interests or obligations hereunder without the written consent of EMORY. Any such assignment, transfer, or subcontract shall be null and void automatically. In the case that the SUBRECIPIENT is approved to subcontract, the SUBRECIPIENT is responsible for flowing down the terms of this agreement to lower tier subcontractors. Any agreements with lower tier subcontractors SUBRECIPIENT engages to assist with the Project must include the following language: "Your organization has been selected to participate in this Project at the discretion of the University of South Carolina, and Emory University. You may not make any statement or otherwise imply to donors, investors, media or the general public that you are a direct grantee of the Bill & Melinda Gates Foundation ("Foundation") or the Department for International Development of the United Kingdom of Great Britain and Northern Ireland ("DFID")."
33. **INSURANCE:** Each Party certifies that it has and shall maintain sufficient insurance or a program of self-insurance at levels sufficient to support its obligations assumed under this Agreement. Each Party agrees to provide the other Party written certification of such insurance or self-insurance coverage upon written request.
34. **TRADE CONTROL LAWS:** SUBRECIPIENT acknowledges that this Agreement and the performance thereof are subject to compliance with any and all applicable U.S. and non-U.S. trade control laws, regulations, or orders, including but not limited to the economic sanctions programs administered by the United States Department of Treasury Office of Foreign Assets Control and the export control regulations administered by the U.S. Office of the Directorate of Defense Trade Controls and/or the U.S. Bureau of Industry and Security. SUBRECIPIENT acknowledges that the export, re-export or transfer of certain commodities, software, source code, technical data or services may require a license from the relevant regulating agency of the U.S. or other government. In particular, SUBRECIPIENT agrees it will not disclose, transfer, export or re-export any commodities, software, source code, technical data or services received under this Agreement to any countries for which the United States government requires an export license or other supporting documentation at the time of export or transfer, unless SUBRECIPIENT has obtained the required license or other prior written authorization from the appropriate U.S. authority responsible for such matters. While EMORY agrees to cooperate in securing any license that the regulating agency deems necessary in connection with this Agreement, EMORY cannot guarantee that such licenses will be granted.

The parties represent, warrant, and agree that they have not taken, and will not take, any action related to or arising out of this Agreement, which in any way violates, or aids or abets any violation of, the United Kingdom Bribery Act, the United States Foreign Corrupt Practices Act, or the applicable anti-corruption laws of any country. Specifically, and not in limitation of the foregoing, the parties represent, warrant, and agree that they have not, and will not, in connection with this Agreement, directly or indirectly request, give, pay, offer or promise to give or pay, or authorize another party to give or pay any money or anything of value to any person (whether or not such person is a government official), for the purpose of influencing any act or decision of such entity or person or inducing such person to take or omit to take any action in order to secure a business advantage or any improper advantage.

SUBRECIPIENT will promptly notify Emory of any event which interferes or threatens to materially interfere with the successful implementation of the Project, including credible suspicion of or actual, fraud, corruption or any other financial irregularity or impropriety related to the Project (collectively,

"Fraud"). In such event, SUBRECIPIENT will notify EMORY. SUBRECIPIENT will take timely and appropriate action to investigate credible allegations of Fraud, and cooperate fully with investigations into such matters, whether led by Emory, PRIME AGENCY, DFID or the Bill and Melinda Gated Foundation.

In the event of any credible indications that SUBAWARD funds may have been subject to Fraud, the Emory may, at any time during the Grant Period and for a period of up to five (5) years thereafter, arrange for additional Fraud investigations, on-the-spot checks and/or inspections of Project records to be carried out. If Fraud is established by such investigations, SUBRECIPIENT agrees to work with Emory and use its reasonable best efforts to recover the amount of funds subject to Fraud and restore them to the Project account or, at the direction of Emory, directly to them. During such period(s) of investigation,

SUBRECIPIENT acknowledges and accepts the right of Emory to suspend, withhold or terminate funding in accordance with the terms and conditions of this Grant Agreement.

35. ANTI-TERRORIST COMPLIANCE: SUBRECIPIENT hereby agrees that all funds, including SUBAWARDS to subrecipients, will be used in compliance with all applicable U.S. anti-terrorist financing and asset control laws, regulations, rules, and executive orders. SUBRECIPIENT will use reasonable efforts to ensure that it does not support or promote terrorist activity or related training, or money laundering. Further, SUBRECIPIENT will assure itself that the SUBAWARD funds will not be made available, either directly or indirectly, to or for the benefit of, persons, groups or entities listed in European Council Regulation EC/2580/2001 (as amended) and/or the Terrorism (United Nations Measures) Orders 2009 of the United Kingdom, or contravene the provisions of those and that of any subsequent applicable anti-terrorism legislation.

36. LOCAL LAWS AND REGULATIONS: SUBRECIPIENT hereby represents and warrants that it is duly organized and appropriately registered in INDIA to fulfill its responsibilities and conduct all activities under the Agreement.

SUBAWARDEE further represents and warrants that all activities conducted under this Agreement shall be conducted in compliance with all local, regional and national laws, as applicable, including, but not limited to laws related to research involving human subjects and the transport of specimens and/or other data under this Agreement.

37. DISSEMINATION, DATA SHARING AND INTELLECTUAL PROPERTY: Information about research funded through the Drivers for Food Choice (DFC) Competitive Grants Program will be made available on the public DFC website (<http://www.driversoffoodchoice.org>). SUBRECIPIENT will be asked to collaborate with the DFC team on research uptake and dissemination activities, which may include, among others, presentations at seminars and conferences, blogs, interviews and opinion pieces. SUBRECIPIENT will be expected to disseminate the results of their research as widely as possible, based on the premise that publicly-funded research data are a public good, produced in the public interest, and should be made openly available to other researchers in a timely manner to the maximum extent possible. As well as scientific communication, emphasis is placed by the funder on engagement with potential users and beneficiaries of research, and the route to

application of its outcomes. Consideration of possible pathways to impact will form an important element of the assessment of proposals.

The DFC Competitive Grants Program will utilize the free Dataverse Network project to facilitate public access to datasets. The "Dataverse Network project develops software, protocols, and community connections for creating research data repositories that automate professional archival practices, guarantee long-term preservation, and enable researchers to share, retain control of, and receive web visibility and formal academic citations for their data contributions." Further information about this service can be found here: <http://thedata.org/home>. Datasets will be finalized for public access within six months after the end of each grant funding period. Datasets will not be made available for public access until 12 months after the end of each grant funding period. During this 12-month period, the SUBRECIPIENT will have exclusive use of the data for publications and reports. After 12 months, the data will be available for public access. Extensions up to 18 months may be requested by the SUBRECIPIENT and must be authorized by the DFC

Competitive Grants Program. Users must be requested by the SUBRECIPIENT and must be authorized by the DFC Competitive Grants Program. Users must have extensive previous experience in making data-use agreements and have a template to use to initiate agreements. In cases where grantees have pre-existing agreements or legal constraints that preclude providing full access to data, they will be required to identify these limitations in the Data Access Plan.

Consultation with the DFC Competitive Grants Program staff and the Bill & Melinda Gates Foundation will be necessary to come to agreement on what data will and will not be made publicly available and how these limited data are to be shared prior to receipt of funding. SUBRECIPIENT must contact EMORY prior to any contact with the DFC Competitive Grants Program staff or the Bill & Melinda Gates Foundation.

All intellectual property rights for all material (including but not limited to reports, data, designs, whether or not electronically stored, and technologies) produced by the investigator(s) or the investigators' personnel, and arising from research funded through this Subaward Agreement will be the property of the investigators' institution(s). The investigators' institution(s) will grant to the funders of the program, if requested, a world-wide, non-exclusive, irrevocable, royalty-free license to use all such material. If investigator(s) wish to apply for a patent for a particular application arising out of the information, however, they may request that publication of data is withheld until the patent application has been made. After that time, the data must be made freely available. The funders should be consulted about any request of this kind at an early stage, and any license(s) granted must be managed in a way that is consistent with the core principles of Global Access, i.e., that the findings of the research would be disseminated promptly and broadly, and that products and technologies arising from the knowledge gained would be made available and accessible at reasonable cost to people most in need in developing countries.

Notwithstanding the foregoing, The SUBRECIPIENT grants to EMORY an irrevocable, world-wide, royalty-free, non-transferable, non-exclusive right and license to use any copyrights or copyrighted material (including any computer software and its documentation and/or databases) delivered or

developed under this Agreement for the purpose of its own education and research and for meeting EMORY's obligation under its PRIME AWARD.

38. **PRIVACY AND NON-CONFIDENTIALITY NOTICE:** The Bill & Melinda Gates Foundation is required by the U.S. Internal Revenue Service to publish a list of its grants. The Bill & Melinda Gates Foundation also provides a general description of the grants it awards on their web sites, in press releases, and in other marketing materials. Subject to the Bill & Melinda Gates Foundation's Privacy Policy, the foundation may also share SUBRECIPIENT's proposal, reports, and related materials with third parties, including external reviewers, key partners and co funders. This document is subject to the foundation's Terms of Use.

39. **DISPUTES:** Resolution of disputes of a technical nature shall be resolved through good faith negotiations to the greatest possible extent. Any dispute arising under or related to this Agreement shall be resolved, to the maximum possible extent, through good faith negotiations and settlement. Failing settlement, despite reasonable efforts by both parties, any such unresolved issues shall be presented to EMORY whose decision will be reduced to writing with a copy furnished to the SUBRECIPIENT. Within 30 days after the date of receipt of such copy, the SUBRECIPIENT may notify EMORY in writing of its appeal of the decision, and, in the absence of such notice, EMORY's decision shall be final. In the event of notice from the

SUBRECIPIENT of its appeal, the SUBRECIPIENT may pursue any right or remedy it may have at law or in equity in any court of competent jurisdiction. Pending such appeal, the SUBRECIPIENT shall proceed diligently with the performance of this Agreement and in accordance with EMORY's decision. All disputes under this Agreement shall be resolved and conducted, regardless of the means or authority, in the English language.

40. **GOVERNING LAW AND JURISDICTION:** This Agreement shall be governed, construed and enforced for all purposes in accordance with the laws of the State of Georgia, United States, without regard to principles of conflicts of law, provided that, insofar as the terms of this Agreement (including without limitation any specific U.S. or international regulatory or professional standards adopted by or incorporated into this Agreement) may contradict or be inconsistent with such law, then the terms of this Agreement shall prevail and be enforced. In addition, matters arising out of or concerning this Agreement or SUBRECIPIENT relationship with EMORY, SUBRECIPIENT hereby consents to jurisdiction and venue in DeKalb County, Georgia, U.S.A. and agrees to submit itself to the jurisdiction of the appropriate state, federal, and local courts therein.

41. **NOTICES:** Any notices to be given under this Agreement shall be submitted to the SUBRECIPIENT Administrative Contact, identified in Article 4 above, or the EMORY Administrative Contact, identified in Article 10 above, as appropriate.

42. **WAIVER AND SEVERABILITY:** No delay, failure or waiver of either Party's exercise or partial exercise of any right or remedy under this Agreement will operate to limit, impair, preclude, cancel, waive or otherwise affect such right or remedy. No waiver of any provision of this Agreement will constitute a waiver of any other provision or of the same provision on another occasion. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or

unenforceable, the remaining provisions will remain in full force and effect, provided that the surviving portion materially comports with the original intent of the Parties.

43. **INDEPENDENT CONTRACTOR:** In the performance of this Agreement, SUBRECIPIENT shall be deemed to be an independent contractor and, as such, no employee or staff of SUBRECIPIENT shall be entitled to any benefits applicable to employees of EMORY
44. **USE OF NAME:** Neither party shall use the name of the other party, nor the name of any faculty member, employee, or student of the other party, in connection with any product, service, promotion, news release, or other publicity without the prior written permission of the other party and, if an individual's name is used, of that individual.
45. **GOVERNING LANGUAGE:** In the event that a translation of this Agreement is prepared and signed by the parties, and a conflict arises between the English version and other language version, this English language version shall be the official version and shall govern and control.
46. **MODIFICATION OF CONTRACT:** This Agreement may only be changed or modified by mutual written agreement, signed by both parties. No modifications or addition will be binding until signed by both parties.
47. **FORCE MAJEURE:** Neither party shall be in violation of this Agreement, and neither party shall be liable to the other for damages in the event either is prevented from performing any of the obligations hereunder for a reason beyond its reasonable control, including without limitation, natural disaster, epidemic, act of God, declared war, strike, governmental restrictions and controls or production or maintenance delays.
48. **ENTIRE AGREEMENT:** This Agreement constitutes the entire understanding and agreement between the parties with regard to SUBRECIPIENT'S participation in the Project. SUBRECIPIENT acknowledges and agrees that participation in the Project shall be governed by this Agreement, unless mutually agreed by the parties in writing.
49. **HEADINGS:** The headings to the various sections of this Agreement have been inserted for convenience of reference only and shall not modify, define, limit or expand the express provisions of this Agreement. No provision of this Agreement is to be interpreted for or against either party because that party or that party's legal representative drafted such provision.
50. **COUNTERPARTS:** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which counterparts together shall constitute but one and the same instrument.

IN WITNESS WHEREOF the respective Parties have executed this Agreement effective as of the date of last signature below. By signing below, in addition to executing this Agreement on behalf of the SUBRECIPIENT, SUBRECIPIENT's authorized representative also individually and personally makes the certifications, representations and assurances contained herein and as shown in Appendix D.

Emory University

Signature:



Name: Maggie Hassan

Title: Associate Director, OSP

Date: 10/04/2018

BLDE (Deemed to be University)

Signature:



Name: Dr. S P Guggarigoudar

Title: Dean, Faculty of Medicine and Principal,
BLDE (Deemed to be University), Shri B M
Patil Medical College, Hospital & Research
Center, Vijayapura

PRINCIPAL
Date: BLDE (Deemed to be University)
Shri B. M. Patil Medical College
Hospital & Research Centre,
VIJAYAPUR-586103

06-10-2018

APPENDIX A
STATEMENT OF WORK/PROJECT DESCRIPTION

BLDE (Deemed to be University) Subcontract Scope of Work

Dr. Shailaja S. Patil, MD will be responsible for scientific leadership, adherence to program vision, coordination of the study at the site, quality control, and financial accountability. She will work with her PI and Co-PIs in developing proposal lead the survey implementation and participate in presentation and writing manuscripts

Project Coordinators, Research Assistants at BLDE (Deemed to be University) will assist Dr. Patil in coordinating all aspects of the project, including, hiring, training and coordination of field staff, execution and monitoring of field work, human subjects approval and adherence, and monitoring of data entry and coordinate financial transactions and maintain timeline of progress of the project .the salary is calculated on the basis of assumptions made referring the salaries of similar positions in other external funded projects in the local institute. Designated computer and data entry personnel will be responsible for data entry and data management, extracted from each study form, along with checking for accuracy and security of study data at all times. The field staff/interview team at BLDE (Deemed to be University) will be responsible for conducting interviews, obtaining prior consents, and coordination of study participant appointments.

APPENDIX B
BUDGET (COST-REIMBURSEMENT)

Budget justification, BLDE (Deemed to be University) (Sub Contract) Personnel:

- **Shailaja S. Patil, MD, Co- Principle Investigator** (4.20 calendar-months in year 1 & 4.20 in year 2), is Professor, Department of Community Medicine, Sri. B. M. Patil Medical College, BLDE (Deemed to be University). She will be responsible for scientific leadership, adherence to program vision, coordination of the study at the site, quality control, and financial accountability. She will work with her PI and Co-PIs in developing proposal lead the survey implementation and participate in presentation and writing manuscripts. Total salary is calculated considering she will work 35% of her time @ unit cost rate for each month based on the base salary of the investigator at her working institution.
- **(TBH) Project Coordinator** (24 .00 calendar-months), will be a MSc graduate / PhD trainee will assist Dr. Patil in coordinating all aspects of the project, including, hiring, training and coordination of field staff, execution and monitoring of field work, human subjects approval and adherence, and monitoring of data entry and coordinate financial transactions and maintain timeline of progress of the project .the salary is calculated on the basis of assumptions made referring the salaries of similar positions in other external funded projects in the local institute.**Project Coordinator** will be full time (100% time) for this project.
- **(TBN) Research Assistant** (7.20 calendar-months), A junior faculty / a Ph.D trainee who will be helping in all aspects of the project to Dr.Patil , the consolidated salary is calculated on the basis of assumptions made referring the salaries of similar positions in the local institute.
- **(TBH) Budget Coordinator:** (24.00 calendar-months) It will be a person from finance section of the university who will be arranging the salary payments of all project staff at BLDE (Deemed to be University) including the tax deduction, maintaining receipts and financial transactions related papers. Getting the audit done for the project amount utilization at the end of first year and after completion of the project and maintaining and filing all the finance related documents. The salary is estimated based on the salaries of similar positions in other external funded projects carried out in the local institute depending on part time involvement.
- **(TBH) Computer assistant/data entry personnel:** (6.00 calendar months in 1st and 6.00 calendar months in 2nd year) the person will be a graduate or diploma in computer application, trained in data entry and data management. Will input data from interview forms, check data entered for accuracy, clean data, ensure that data is secure, and produce status reports as needed he will also maintain the error log book. The salary is estimated based on the payments made to similar position in the previous projects.
- **(TBH) Field Supervisor 1(FS)** (9.00 calendar months in 1st and 6.00 calendar months in 2nd year) she/he will be responsible for day to day monitoring of field

work, can also participate as field interviewer when required along with other field staff. She/he will monitor the interviewers to ensure that study protocol and human subjects' guidelines are being adhered to, check data for completeness and accuracy, and collect data sheets for delivery to the study coordination office. **FS** will arrange for day to day logistics needed for field work, plan and coordinate the travel for each day during data collection and ensure the availability of all the materials required for the data collection with the checklist, and has alternative plan for multiple visits if required and check all the survey instruments at the end of day and informs the project coordinator on daily basis. Salary is calculated based on the payments made to similar position in our previous projects.

- **(TBH) Field staff / interviewers (4)** (9.00 calendar months in 1st and 6.00 calendar months in 2nd year) (2 teams of 2 each). They will be graduates or Medico-Social Workers. They will be responsible for conducting the interviews, taking prior consents and appointments of the study participants by phone and planning the day to day visits and re-visits in close coordination with field supervisor and project coordinator. They will adhere to human subject protocols during interview. Salary is estimated based on the previous payments made to similar positions made in our projects.

Supplies:

- *Printing modules for data collection:* 80000 printed sheets are required for collection of data from approximately 1600 study participants including the consent forms. Cost is generated by calculating @ 2 INR (**Indian Rupee**) for printing of single sheet.
- *Field works supplies:* It's a kit that contains Bag, Identity card/badge laminated for each interviewer and project staff and stationery required for field work. Cost is generated by calculating each field kit @ 500 INR approximately.
- *Recurring stationery expenditure:* Includes materials required for office use and field work like pen, pencil, paper etc. Totaling @ 2000 INR per month approximately.
- *Phone charge/ sim card:* All the 4 interviewers and 1 supervisor, 1 Project coordinator will be provided with a Sim card in the beginning of the study and every month it will be recharged with top-up for the period of data collection, for communication with the project coordinator and for contacting the study participants etc., totaling @ 1800 INR per month approximately.
- *Flash cards and health education materials:* Approximately 250, they will be color printed and laminated. Cost is generated at @70 INR per card including lamination.
- *Monthly Internet WIFI rental charges:* Includes WIFI recharge at the project office for communication /Skype calls etc. with Emory University and elsewhere. It is calculated considering @ 1500 INR per month total for 24

months.

- *Computer:* it will be based at the project office to be used for data entry, data management, and analysis. BLDE (**Deemed to be University**) does not provide a restricted access computer for entering and storing data. **The computer** will be used for the sole purpose of this project, password protected, and stored in a secure cabinet. Cost is calculated based on the present rate of the standard company desktop sets available at the market.
- *Printer/copier/fax:*Used for printing and copying of questionnaires, information sheets, consent forms, training manuals, and other project related materials. Cost is calculated based on the present rate of the standard company printer/copier/fax sets available at the market.
- *Antivirus:*Used for protection of compiled and analyzed data entered in the desktop. Cost is calculated based on the present rate of the standard company antivirus available at the market for two years.

Travel:

- *Local travel and field work:*It includes van rental including fuel charges accommodating minimum 6-7 people excluding the driver for travel of field teams, project staff for 9 months in 1st year and 6 months in 2nd year. Calculated @ 1520 INR per day (Hiring charges and Fuel) approximately.

Other expenses:

- *Translation/back translation of the survey instrument:* Translation of study forms and documents into Kannada (local language) and back-translation into English to ensure accuracy of translation. It is calculated @ 30 INR per module of approximately.
- *Incentives for the participants:* Incentives will be given to all the study participants @ 500 INR per participants/ approximately for 2-3 visits in 2 years.

APPENDIX C
SAMPLE INVOICE

**APPENDIX C
SAMPLE INVOICE**

YOUR INSTITUTION
ADDRESS
TELEPHONE/FAX

TO: EMORY UNIVERSITY
Via E-mail: invoices@emory.edu
ATLANTA, GA 30322

INVOICE DATE:
(YOUR ACCOUNT IDENTIFIER):
INVOICE#:

CONTACT/AWARD NO: _____ 38963NIH-Armenia/R01 TW010664

REIMBURSABLE EXPENSES FROM: _____ THRU _____

AMOUNT FOR THE CURRENT PERIOD \$ _____

EXPENSES	CURRENT EXPENSES	CUMULATIVE
SALARY/WAGES		
FRINGE BENEFITS (Rate: %)		
CONSULTANTS		
COMMUNICATIONS		
SUPPLIES		
TRAVEL		
EQUIPMENT		
PATIENT CARE		
OTHER	_____	_____
 TOTAL DIRECT COSTS		
INDIRECT COST (Rate: %)	_____	_____
 TOTAL EXPENSES	=====	=====

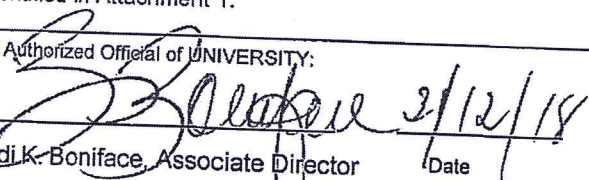
By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I further certify that payment made by EMORY under this Agreement shall not duplicate reimbursement of costs and services which are received from other sources. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

CERTIFIED CORRECT BY:

NAME
TITLE

APPENDIX D
PRIME AWARD

Subaward Agreement – Non-Federal

Prime Awardee		Subawardee	
Institution/Organization ("UNIVERSITY") Name: University of South Carolina Address: Sponsored Awards Management 1600 Hampton Street, Suite 414 Columbia, SC 29208 Principal Investigator: Dr. Christine Blake		Institution/Organization ("COLLABORATOR") Name: Emory University Address: 1599 Clifton Road Atlanta, Georgia 30322 Principal Investigator: Dr. Solveig Argeseanu Cunningham	
Prime Award No. OPP1110043		Subaward No. 18-3594	Purchase Order No. 2000038671
Sponsor University of South Carolina			
Subaward Period of Performance: January 1, 2018 to December 31, 2018		Amount Funded this Action 140,292	Est. Total (# incrementally funded) 129,708
Project Title: "Food Choice in Indian Households in the Context of the Nutrition Transition"			
Reporting Requirements [Check here if applicable: <input checked="" type="checkbox"/> See Attachment 1]			
Terms and Conditions			
1) University hereby awards a cost reimbursable subaward, as described above, to Collaborator. The statement of work and budget for this subaward are shown in Attachment 4. In its performance of subaward work, Collaborator shall be an independent entity and not an employee or agent of University. 2) University shall reimburse Collaborator not more often than monthly for allowable costs. All invoices shall be submitted using Collaborator's standard invoice, but at a minimum shall include current and cumulative costs (including cost sharing), subaward number, purchase order number and certification as to truth and accuracy of invoice. <i>Invoices that do not reference University's subaward and purchase order numbers shall be returned to Collaborator.</i> Invoices and questions concerning invoice receipt or payments should be sent to the appropriate party's Principal Investigator, as shown in Attachment 2. 3) A final statement of cumulative costs incurred, including cost sharing, marked "FINAL," must be submitted to University's Principal Investigator NOT LATER THAN forty-five (45) days after subaward end date. The final statement of costs shall constitute Collaborator's final financial report. 4) All payments shall be considered provisional and subject to adjustment within the total estimated cost in the event such adjustment is necessary as a result of an adverse audit finding against the Collaborator. 5) Matters concerning the technical performance of this subaward should be directed to the appropriate party's Principal Investigator, as shown in Attachment 2. Technical reports are required as shown above, "Reporting Requirements." 6) Matters concerning the request or negotiation of any changes in the terms, conditions, or amounts cited in this subaward agreement should be directed to the appropriate party's Administrative Contact, as shown in Attachment 2. Any such changes made to this subaward agreement require the written approval of each party's Authorized Official, as shown in Attachment 2. 7) Each party shall be responsible for its negligent acts or omissions and the negligent acts or omissions of its employees, officers, or directors, to the extent allowed by law. 8) Either party may terminate this agreement with thirty days written notice to the appropriate party's Administrative Contact, as shown in Attachment 2. University shall pay Collaborator for all allowable, noncancellable obligations in the event of termination. 9) No-cost extensions require the approval of the University. Any requests for a no-cost extension should be addressed to and received by the Administrative Contact, as shown in Attachment 2, not less than thirty days prior to the desired effective date of the requested change. 10) The Subaward is subject to the terms and conditions of the Prime Award and other special terms and conditions, as identified in Attachment 1.			
By an Authorized Official of UNIVERSITY:  Brandi K. Boniface, Associate Director Sponsored Awards Management		By an Authorized Official of COLLABORATOR: Digitally signed by Viraj Parmar DN: cn=Viraj Parmar, o=ou, email=Viraj.Parmar@emory.edu, c=US Date: 2018.03.19 14:44:03 -0400 Viraj Parmar _____ Date	

**Attachment 1
Research Subaward Agreement
Terms and Conditions**

Special terms and conditions:

1. *This project is incrementally funded contingent upon USC receiving payment from Funder and there is automatic carry forward.*
2. *All term and conditions indicated in the RFA are applicable.*
3. *Human Subjects
If human subjects are used in the conduct of research the protocol must be approved annually by the appropriate Institutional Review Boards. Subrecipient may not conduct research on humans unless there is evidence of an approved assurance of regulatory compliance and evidence of the annual review of the of the human subjects protocol.*
4. *Continuation of Terms and Condition is attached.*

Continuation of Attachment 1

Terms and Conditions to be applied as applicable.

Your organization has been selected to participate in this Project at our discretion. You may not make any statement or otherwise imply to donors, investors, media or the general public that you are a direct grantee of the Bill & Melinda Gates Foundation ("Foundation") or the Department for International Development of the United Kingdom of Great Britain and Northern Ireland ("DFID") (Funders). You may state that University of South Carolina is the Foundation and DFID's grantee and that you are a subgrantee, subcontractor or subawardee of University of South Carolina for the Project.

Charitable Purpose of the Grant. The charitable purpose of this grant is to gain a deep understanding of the drivers of food choice among the poor in developing countries in South Asia and Sub-Saharan Africa in order to guide on-going and future programs and research activities to improve food and nutrition security in poor countries and to foster a community of practice in food choice research in developing countries, as described in your attached proposal (the "Proposal") and budget.

Use of Grant Funds. Grant funds may only be used for the Project. Any grant funds unexpended or uncommitted at the end of the Grant Period must be promptly returned to the University of South Carolina. Any Budget cost category change of more than 10% must be approved in writing by the University of South Carolina in advance. You may not use the grant funds to reimburse any expenses you chose to incur prior to the Start Date.

Political Campaign/Lobbying Activity. Foundation Funds may not be used to influence the outcome of any election for public office or to carry on any voter registration drive. There is no agreement, oral or written, permitting the Foundation Funds to be directed to or earmarked for lobbying activity or other attempts to influence local, state, federal, or foreign legislation. Subgrantee confirms that the amount of funds received from the Foundation, via a Subgrant from the University of South Carolina, will not exceed the amount budgeted each year for nonlobbying activities. Subgrantee agrees to comply with lobbying, gift and ethics rules applicable to the Project under local, state, federal or foreign law.

Anti-Terrorism. Subgrantee confirms that it is familiar with the U.S. Executive Orders and laws prohibiting the provision of resources and support to individuals and organizations associated with terrorism and the terrorist related lists promulgated by the U.S. Government. Subgrantee will use reasonable efforts to ensure that it does not support or promote terrorist activity or related training, or money laundering. Further, Subgrantee will assure itself that the Grant Funds will not be made available, either directly or indirectly, to or for the benefit of, persons, groups or entities listed in European Council Regulation EC/2580/2001 (as amended) and/or the Terrorism (United Nations Measures) Orders 2009 of the United Kingdom, or contravene the provisions of those and that of any subsequent applicable anti-terrorism legislation.

Fraud and Anti-Corruption. The University of South Carolina, and Subgrantee have a zero tolerance approach towards fraud and fraudulent behavior that may lead to the misuse of Grant Funds. The University of South Carolina, and Subgrantee will promptly inform each other of any event which interferes or threatens to materially interfere with the successful implementation of the Project, whether financed in full or in part by DFID or the Foundation, including credible suspicion of or actual, fraud, corruption or any other financial irregularity or impropriety related to the Project (collectively, "Fraud"). In such event, Subgrantee will notify University of South Carolina. Subgrantee will take timely and appropriate action to investigate credible allegations of Fraud, and cooperate fully with investigations into such matters, whether led by University of South Carolina, DFID or the Foundation.

In the event of any credible indications that Grant Funds may have been subject to Fraud, the University of South Carolina may, at any time during the Grant Period and for a period of up to five (5) years thereafter, arrange for additional Fraud investigations, on-the-spot checks and/or inspections of Project records to be carried out. If Fraud is established by such investigations, Subgrantee agrees to work with the University of South Carolina and use its reasonable best efforts to recover the amount of funds subject to Fraud and restore them to the Project account or, at the direction of University of South Carolina, directly to them. During such period(s) of investigation, Subgrantee acknowledges and accepts the right of University of South Carolina to suspend, withhold or terminate funding in accordance with the terms and conditions of this Grant Agreement.

Subgrants and Subcontracts. Subgrantee is responsible for flowing down the terms of this agreement to lower tier subgrantees and subcontractors. Any agreements with lower tier subgrantees and subcontractors Subgrantee engages to assist with the Project must include the following language: "Your organization has been selected to participate in this Project at the University of South Carolina's discretion. You may not make any statement or otherwise imply to donors, investors, media or the general public that you are a direct grantee of the Bill & Melinda Gates Foundation ("Foundation") or the Department for International Development of the United Kingdom of Great Britain and Northern Ireland ("DFID"). You may state that University of South Carolina is the Foundation and DFID's grantee and that you are a subgrantee or subcontractor of University of South Carolina for the Project."

Due Diligence. In utilizing the Grant Funds, Subgrantee will exercise the same care in the discharge of its functions under this Grant Agreement as it exercises with respect to the administration and management of its own resources and affairs. Subgrantee will cooperate fully to resolve any due diligence issues raised by University of South Carolina or a Funder (or a Funder's delegate(s)) regarding Subgrantees internal controls and systems, and agrees to notify the University of South Carolina of any material changes to Subgrantees procedures, controls or operating environment that are relevant to the Project during the Grant Period. In addition, Subgrantee will assess the internal controls and systems of any lower tier subgrantees or subcontractors of the Project prior to disbursing funds to such entities, and at regular intervals throughout the Grant Period, as appropriate given the amount of the Grant Funds and risks of the Project. Such assessments should address: (1) the reliability and integrity of the organization's financial controls, systems and processes; (2) the effectiveness and efficiency of its Project operations; (3) its procedures for safeguarding Project assets; and (4) its compliance with applicable law. Upon request, Subgrantee will share the results of such assessments with the Funders.

Reporting. Subgrantee is required to submit two reports regarding the expenditure of Grant Funds and its progress on the Project. The first report is due February 15, 2019, which is 45 days after the end of year one. Subgrantee also agrees to submit other reports that University of South Carolina may reasonably request.

Communications. Subgrantee agrees to be in regular communication with the University of South Carolina throughout the Grant Period regarding Subgrantee's progress and to notify the University of South Carolina in writing promptly of any major development that is likely to have a material impact on Subgrantee's ability to achieve the Project objectives.

Record Maintenance and Inspection. The University of South Carolina requires that Subgrantee maintain adequate records for the Project to enable the University of South Carolina to easily determine how the Grant Funds were expended. Subgrantees's books and records must be made available for inspection by University of South Carolina or its designee at reasonable times to permit such Funder to monitor and conduct an evaluation of operations under this grant.

Compliance. If (a) Funder or University of South Carolina is not reasonably satisfied with Subgrantee's progress on the Project; (b) significant leadership or other changes occur that University of South Carolina believes may threaten the Project; or (c) Subgrantee fails to comply with any term or condition of this Grant Agreement, the University of South Carolina will notify Subgrantee of the concerns and provide Subgrantee with a reasonable period of time to address them. If no resolution satisfactory to University of South Carolina is reached within that time period, University of South Carolina may, at its discretion, terminate its support of the Project and/or grant. If University of South Carolina determines that the cause of its concerns cannot be remedied, University of South Carolina may immediately terminate, suspend, or withhold payment of Grant Funds to the grant. On termination, if requested by the University of South Carolina, Subgrantee agrees to promptly return to University of South Carolina any unspent and uncommitted funds (as of the date of termination).

Indemnification. Subgrantee will indemnify, defend, and hold harmless the University of South Carolina and the Funders and their trustees, employees, and agents ("Indemnified Parties") from and against any and all demands, claims, actions, suits, losses, damages (including property damage, bodily injury, and wrongful death), arbitration and legal proceedings, judgments, settlements, or costs or expenses (including reasonable attorneys' fees and expenses) (collectively, "Claims") arising out of or relating to the acts or omissions, actual or alleged, of the Subgrantee or its employees, lower tier subgrantees, lower tier subcontractors, contingent workers, agents, and affiliates with respect to the Project or this Agreement. Subgrantee agrees that any activities by the University of South Carolina in connection with the Project, such as its review or proposal of suggested modifications to the Project, will not modify or waive the University of South Carolina or Funders' rights under this paragraph. An Indemnified Party may, at its own expense, employ separate counsel to monitor and participate in the defense of any Claim. The Subgrantee's indemnification obligations are limited to the extent permitted or precluded under applicable federal, state or local laws, including federal or state tort claims acts, the Federal Anti-Deficiency Act, state governmental immunity acts, or state constitutions. Nothing in this Agreement will constitute an express or implied waiver of your governmental and sovereign immunities.

Dissemination, Data Sharing, and Intellectual Property. Information about research funded through the DFC Competitive Grants Program will be made available on the public DFC website (<http://www.driversoffoodchoice.org>). Subgrantees will be asked to collaborate with the DFC team on research uptake and dissemination activities, which may include, among others, presentations at seminars and conferences, blogs, interviews and opinion pieces. Subgrantees will be expected to disseminate the results of their research as widely as possible, based on the premise that publicly-funded research data are a public good, produced in the public interest, and should be made openly available to other researchers in a timely manner to the maximum extent possible. As well as scientific communication, emphasis is placed by the funder on engagement with potential users and beneficiaries of research, and the route to application of its outcomes. Consideration of possible pathways to impact will form an important element of the assessment of proposals.

The DFC Competitive Grants Program will utilize the free Dataverse Network project to facilitate public access to datasets. The "Dataverse Network project develops software, protocols, and community connections for creating research data repositories that automate professional archival practices, guarantee long-term preservation, and enable researchers to share, retain control of, and receive web visibility and formal academic citations for their data contributions." Further information about this service can be found here: <http://thedata.org/home>. Datasets will be finalized for public access within six months after the end of each grant funding period. Datasets will not be made available for public access until 12 months after the end of each grant funding period.

During this 12 month period, the Subgrantee will have exclusive use of the data for publications and reports. After 12 months the data will be available for public access. Extensions up to 18 months may be requested by the Subgrantee and must be authorized by the DFC Competitive Grants Program. Users ^{28 of 43}

have extensive previous experience in making data-use agreements and have a template to use to initiate agreements. In cases where grantees have pre-existing agreements or legal constraints that preclude providing full access to data, they will be required to identify these limitations in the Data Access Plan. Consultation with the DFC Competitive Grants Program staff and the Bill & Melinda Gates Foundation will be necessary to come to agreement on what data will and will not be made publicly available and how these limited data are to be shared prior to receipt of funding.

All intellectual property rights for all material (including but not limited to reports, data, designs, whether or not electronically stored, and technologies) produced by the investigator(s) or the investigators' personnel, and arising from research funded through the Grant, will be the property of the investigators' institution(s). The investigators' institution(s) will grant to the funders of the program, if requested, a world-wide, non-exclusive, irrevocable, royalty-free license to use all such material. If investigator(s) wish to apply for a patent for a particular application arising out of the information, however, they may request that publication of data is withheld until the patent application has been made. After that time, the data must be made freely available. The funders should be consulted about any request of this kind at an early stage, and any license(s) granted must be managed in a way that is consistent with the core principles of Global Access, i.e., that the findings of the research would be disseminated promptly and broadly, and that products and technologies arising from the knowledge gained would be made available and accessible at reasonable cost to people most in need in developing countries.

Privacy and Non-confidentiality Notice

The Bill & Melinda Gates Foundation is required by the U.S. Internal Revenue Service to publish a list of its grants. We also provide a general description of our grants on our web sites, in press releases, and in other marketing materials. Subject to the foundation's Privacy Policy, the foundation may also share your proposal, reports, and related materials with third parties, including external reviewers, key partners and co funders. This document is subject to the foundation's Terms of Use.

**Attachment 2
Subaward Agreement**

University Contacts	Collaborator Contacts
<p>Administrative Contact</p> <p>Name: Natasha Dozier Sponsored Program Administrator Address: Office of Sponsored Awards Management 1600 Hampton Street, Suite 414 Columbia, SC 29208</p> <p>Telephone: 803-777-5370 Email: ndozier@mailbox.sc.edu</p>	<p>Administrative Contact</p> <p>Name: Viraj Parmar Address: 1599 Clifton Road 4th Floor Atlanta, GA 30322</p> <p>Telephone: 404-727-2503 Email: osp@emory.edu</p>
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ABSTRACT

The goal of this project is to quantify aspects of women's and men's food choices relevant for addressing the dual burden of malnutrition in India through data collection and analysis based in Vijayapura, a remote district in Southern India that globalization is just reaching. The objectives are to: 1) 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; 2) Identify the conditions under which women and men select global vs. traditional foods and how variations in these conditions can alter selections; 3) Assess the role of the public distribution system (PDS) as a driver of food choices and its implications for intake and for advancing nutrition transition. In a representative sample of 324 urban and rural households, we will conduct interviews with women, men, and youths. Data instruments will include experimental methods to elicit drivers of food choice in different scenarios and to value PDS bundles and a food frequency questionnaire to measure intake and nutrition transition. We will use quantitative and qualitative methods to explore gender differences and communication relating to food choices and food intake.

NARRATIVE

a. Background and Rationale

India continues to experience high levels of under-nutrition, together with increasing levels of overweight and obesity. In nationally representative estimates, underweight was higher than 10% across all age groups and sexes; overweight was above 10% for those above age 30.¹ Gender differences in the prevalence of unhealthy weight suggest complex patterns of access to food and food choice, as boys were more often underweight than girls, and adult women were more often overweight or obese than men.¹ This dual burden of malnutrition is contributing to sustained levels of infectious and chronic disease in India and worldwide.²⁻⁷ The emergence of obesity alongside underweight has been attributed to the 'nutrition transition', specifically changes in food availability, food choice, and food intake occurring with urbanization and economic growth.⁸⁻¹⁰ Understanding food choice and availability in this context of India's dual burden of underweight and overweight is a priority with relevance for the health of nearly one fifth of the world's population.

Globalization of food supplies is reaching even remote parts of the Global South, introducing new goods in places that have largely relied on locally-grown foods until recently. These new items may increase the stability of food supplies and increase diversity of foods, but there is concern that many of the newly introduced goods are non-perishable, pre-prepared foods, with low nutritional quality and high caloric, fat, and sugar content.¹¹ These foods may enter food choice through increasing availability and prominence in global media. They may be inadvertently promoted through programs aimed at preventing hunger, such as India's Public Distribution System (PDS), which provide rice, wheat, oil, and sugar to the poor.

We propose a project in Vijayapura, a remote, under-developed district in Southern India that globalization is just reaching, to measure aspects of women's and men's food choices and inform programs to reduce the dual burden of malnutrition; specifically: 1) Quantify the importance of possible drivers of food choice in women's and men's food selection in the context of nutrition transition; 2) Identify the conditions under which women and men select global vs. traditional foods and how variations in these conditions and intra-household discussions shape selections; and 3) Assess the role of the PDS as a driver of food choice and its implications for women and men's dietary intake and for advancing the nutrition transition.

Through collaborative projects since 2012, we have shown that, in this population, underweight affects 40% of adolescents ages 13-16 years, while obesity affects 40% of their mothers.¹² We have shown that processed and packaged foods are increasingly available, but

that consumption is still low;¹³ we have documented the sources of non-local, energy-dense foods in youths' diets and the ways in which youths conceptualize of global and local food items. The proposed project builds on this previous work, in which we demonstrated the feasibility of data collection and provided actionable information about the nutrition transition in an urbanizing population. Having met the proposed objectives, in consultation with experts and officials in India, we will propose low-cost approaches to increasing women and men's consumption of health-promoting diverse diets; provide recommendations for the food bundles available through public food distribution to support nutritional status and local food markets; and identify how gendered decision-making and roles in food selection and preparation can be involved or transformed to improve household food intake.

Study Setting

Vijayapura district, located in Karnataka State, has a population of over 2 million people, having seen large increases over the past several decades. Farming and other agriculture-related businesses are the main occupations in the district; even so, only 17 % of the net cultivable area is irrigated and 83% of the area depends on the monsoon. Vijayapura City is the administrative headquarters of Vijayapura district and is a mid-size city, categorized as economically underdeveloped, but urbanizing as a result of the major economic growth of small-scale industries, including agriculture and large-scale industries, e.g. sugar and textiles.¹⁴

Food environment

Food availability is shaped by the presence of food outlets and the variety of items they provide, determining what families are able to consume.¹⁵⁻¹⁷ Local 'kiraana' (small size convenience) stores, supermarkets, street food eateries and bakeries are increasingly common in India and provide access to new foods and beverages. In Vijayapura City, supermarkets and street food eateries are appearing alongside kiraana stores.¹⁸⁻²⁰ The new supermarkets are self-service stores that bring together traditional, local, national, and global foods and beverages. Here, packaged, refined non-local grains and pulses are emerging as a cleaner, faster, yet more expensive alternative to goods sold at fresh markets and bulk stores. Bakeries sell fresh bread, cakes, and biscuits; some also sell candy, sandwiches, pizzas, burgers, and carbonated beverages. There are no fast food chains and the primary sources of non-local foods are small street vendors;^{21,22} the foods they offer, such as pizza, are viewed as desirable by youths and are eaten out, especially by men and boys, or brought home for family meals.^{21,23}

Many food outlets increasingly stock processed and packaged foods and beverages, which are shelf-stable and ready-to-eat. These are often high in calories, fat, sugar, and salt but nutrient-poor. They cater to local tastes and, for people on limited budgets, unbranded varieties are available.^{22,24} The presence of and access to these new, global foods and beverages may have implications for people's food choices. Adolescents can identify foods and beverages newly available in their city and the stores that stock different types of these.¹³

Current patterns of consumption

Our research on dietary patterns of adolescents in Vijayapura showed diets and eating preferences are centered around foods traditional to this region, but also include goods that are "non-local", from other regions of India that would have not been available here in the past, and "global foods", which are from other countries and would have been unknown until recently.¹³ Their level of exposure to global, non-local, and traditional foods resembled patterns reported in other urban Indian areas²⁵⁻²⁸ and demonstrated multiple patterns of globalizing diets.²⁹

Compared with dietary recommendations, adolescents consumed fruit, green leafy vegetables, other vegetables and dairy less frequently than recommended, and consumed energy-dense foods more frequently than recommended.³⁰ Still, dietary quality was better than reported in Indian metropolises, with moderate intake of green leafy vegetables, fruits, and dairy (~3.5-4 d/week) and low intake of homemade sweets (~0.6-2 d/w).²⁶⁻²⁸ Youths from wealthier families consumed traditional and more expensive foods more frequently, such as fruits, dairy, homemade sweets, and fats added at the table, while those from poorer families more

frequently consumed both traditional items, such as tea, coffee, and eggs, and newer foods, such as ready-made snacks and street foods.

Gender-specific patterns of weight and consumption

In analyses of nationally representative data, we found gender differences in the prevalence of unhealthy weight, both underweight and overweight, which suggest complex patterns of access to food and food choice: Boys were more often underweight than girls and adult women were more often overweight or obese than men.¹ Underweight prevalence was highest among young women and men 19-29 years (38.3% and 34% respectively); overweight and obesity were highest among women and men in their 40's and early 50's (30% and 18.7%).

In previous research on weight patterns within and across families in Vijayapura city, among adolescents, underweight was the primary type of unhealthy weight: almost one third of boys and one fifth of girls were underweight; when brothers and sisters differed in weight status, it was most commonly due to an underweight brother and a normal weight sister. The higher prevalence of underweight among adolescent boys compared with girls is consistent with national and sub-national estimates¹ and may be linked with boys' higher energy expenditure and susceptibility to infections.³¹ Similar to national estimates, we did not find gender differences in the prevalence of overweight among children.¹ We did find high prevalence of overweight and obesity among mothers of adolescents at 66%, consistent with evidence for the emergence of overweight even in less developed Indian states.³² Our estimates of overweight and obesity were especially high because they were for mothers of adolescents, who are at the point in the lifespan when weight tends to peak;⁹ the findings highlight the importance of understanding patterns of energy consumption within households.

We found gender-specific patterns of food consumption among adolescents in Vijayapura^{13,23}. Girls reported more frequent consumption of global/non-local packaged and ready-to-eat foods, non-green leafy vegetables, and fat added at the table compared to boys, who reported more frequent consumption of eggs and street foods. These patterns may result from cultural norms that allow boys more than girls to have foods believed to build strength, like eggs and meat, and to be away from home or outdoors. The cultural norms and religious restrictions around eating eggs and meat may be more stringently applied to girls than to boys; more frequently adding fat to food among girls than boys could be explained by the belief that consuming ghee will help girls build strength to sustain future childbirth. There may also be gender differences in reporting food consumption because cultural norms engage women and girls in preparing and serving food, thus heightening their awareness of food contents.

The Public Distribution System (PDS)

The PDS is a food security system that provides food and non-food items (i.e. wheat, rice, sugar, and kerosene) at subsidized prices for families and households that are below or near the poverty line. The foundations of the PDS are in the rationing systems put in place during and immediately after World War II and subsequently adapted to address food insecurity nationally. The PDS is run in collaboration between the national and state-level governments. The national government is responsible for procurement, storage, and transportation of materials, while the state government is responsible for distribution. The food and materials are distributed through Fair Price Shops, run by the government-owned Food Corporation of India, where families can purchase grain and other materials at a price that is subsidized according to their income. Families that are well below the poverty line are able to purchase food at heavily subsidized prices, while families that are closer to the poverty line pay closer to market price.¹²

The main categorizations for the PDS system are Priority and Non-priority. Eligibility is determined at the state level. Priority households are holders of BPL (Below the Poverty Line) and AAY (Antyodaya Anna Yojana) cards. In Karnataka, households are eligible for BPL if they have a yearly household income of less than 1 lakh 20 thousand, living space of less than 1,000 square feet, and no taxpayers. The AAY program is run by the central government and provides additional assistance to the 25 million poorest households among those eligible for BPL cards.

AAY households are eligible for 35 kgs of free rice monthly - the central government provides rice for 2 INR per kg, and, in Karnataka, the state government subsidizes the remaining cost. Both AAY and BPL card-holders can buy 1 kg of pulses at 38 INR per kg. They also receive 1 kg salt for 2 INR. Non-Priority households can express need and register with the PDS to receive APL (Above the Poverty Line) cards, which entitle them to buy 15 kg of rice and 5 Kg of wheat at a reduced price monthly. The PDS bundles vary over time and there are some differences in bundles provided across states and even across districts.

The heavy focus of the PDS on rice, which is a non-local grain in this region, makes sense in the context of preventing hunger, but may be advancing the nutrition transition away from local grains that are higher in protein and fiber and lower in glycemic load (e.g.; sorghum and pearl millet). The occasional provision of oil and sugar to the bundle has similar implications. One of our proposed goals is to understand the ways in which the PDS is itself a driver of food choice and whether those using the PDS have more transitioned diets. There is currently interest in further improving the BPL, including recent shifts in the bundles provided in Karnataka and consideration of moving to an all-cash system; these discussions open up the opportunity to provide empirically-based recommendations.

Preliminary work

The proposed project builds on our previous collaborative work, which used multiple quantitative and qualitative methods, including: development of quantitative survey instruments and their use in representative data collection in schools, homes, and food stores; direct anthropometric measurements of children and adults; photovoice methods; the cognitive anthropology methods of free lists, pile sorts, and consensus modeling to understand food choice and perceptions of foods and beverages; semi-structured interviews; and geo-coding. We achieved >90% response rates in longitudinal representative data collection. We conceptualized foods into three categories as modern, mixed and traditional foods,¹³ explored the meanings and prestige that adolescents attribute to traditional, local and non-local foods,²¹ their awareness of healthfulness and modernity of food and beverages, and their aware of availability of these items.¹³ We gathered data from grandmothers about changing dietary patterns and family roles.³³

To understand whether household resources, food-related practices, and gender norms, are associated with gendered patterns of unhealthy weight within and between families, we conducted a study using questionnaires and direct measurements of opposite-gender sibling and their mothers¹² and examined weight patterns of brothers and sisters and of mother-son and mother-daughter pairs. We identified substantial clustering of weight among opposite-gender siblings and mother-child pairs, as well as important patterns of discordance, including 11% of families experiencing a dual burden of underweight and overweight. Household resources and gender norms were salient in explaining patterns of unhealthy weight within and between families. We did not find evidence that the shared family environment differently affected the weight of brothers and sisters.

We have also proposed new methods of understanding food consumption in its social contexts, capturing the changing food environment and conceptualizing foods; these methods can help identify and respond to the drivers of food choices and we are proposing to apply them to the proposed work. Among these are: interviewer-administered Nutrition Transition-Food Frequency Questionnaire (NT-FFQ), Nutrition Transition Diet Score, eating behavior survey^{29,34} and a database of over 1000 foods and beverages.

b. Objectives

We propose to quantify the importance and malleability of food choice to availability, access, price and packaging in the context of changing food environments and food subsidies. Food availability and choices may differ between women and men in India due to gender roles, cultural norms, and financial resources; men and boys have access to and responsibility for purchasing foods outside the home and women have access to and responsibility for preparing

foods at home.³⁵ We will explore differences in access to and preference for non-local and traditional foods among men and women in urban and rural areas through these activities:

1. Quantify the importance of possible drivers of food choice (e.g. price, satiety, taste, reputation, and PDS subsidies) in women's and men's food selection in the context of nutrition transition.
2. Identify the conditions under which women and men select global vs. traditional foods and how variations in these conditions can alter selections.
3. Assess the role of the PDS as a driver of food choice and its implications for dietary intake and furthering nutrition transition.

c. Project Design and Methods

Population

The study will be representative of households in an urban and a rural community in Vijayapura district. Using the expected prevalence of transitioned diets at 0.25, alpha set to 0.05, precision set to 0.07, assuming a design effect of 2, and preparing for a non-response of 0.1, we will select 324 households. To build on the above-described research and analyze the proposed data in the context of 5 years of prospective data on the families, urban participants will be sampled from our standing cohort, representative of households with a school-going adolescent in Vijayapura City in 2012. The rural sample will be drawn from Ukkali, a village with population of 8,059 located 18 km from Vijayapur City, BLDE Institute has a rural training health center in the village and caters to the health needs of the population. In each household, the household head, the wife of the household head, and a youth ages 13-20 years will be invited to participate, if there is one are available.

Data instruments

All instruments will be pre-tested in 10 respondents, including cognitive interviews. We will adapt, based on our previous work, a 10-question Socio-Demographic Module about age, sex and education of family members, and socioeconomic status, including PDS eligibility.

We will also adapt for adults, based on our previous work, a 40-item semi-quantitative NT-FFQ designed to yield food and nutrient intake and a nutrition transition score.

We will use a series of choice experiments designed to resemble real buying situations. These draw on methods from other choice experiments using pictures and descriptions of food items.³⁶⁻³⁸ In previous work, we created a database of over 1000 foods and beverages available in Vijayapura, and we continue to update that database. From this database, we will categorize items into **7 food groups**: 1) fresh items (fruit/veg), 2) local cereals and pulses; 3) non-local Indian cereals and pulses; 3) local ready-made snacks and sweets; 4) Indian (but not local) ready-made snacks and sweets; 5) global ready-made snacks and sweets; 6) animal products and 7) oils, sweeteners, and condiments. From each food group, we will select **12 items** that we found to be common and salient during our previous work. We will create colored laminated picture cards with each of the 84 items.

For Aim 1, we will develop a short "Considerations in Food Choice Questionnaire" to ask each respondent about 2 randomly selected items from each of the 7 groups. For each of the 14 items, the respondent will be asked, a series of yes/no questions to collect information on the person's familiarity with the item and her or his current, past, and preferred frequency of consuming the item; and whether they consider the following **14 factors** in deciding the frequency of consumption of the items: a) advertisement; b) information from other people; c) price; d) place available; e) packaging appearance; f) hygiene; g) freshness; h) convenience and ease of preparation; i) satiety; j) healthfulness; k) taste; l) desirability among family members; m) availability through the PDS or n) other factors (open-ended response).

For Aim 2, we will develop a "Global and Local Options Questionnaire". The 84 food items will be sorted into 5 groups: 1) fruit and vegetables), 2) cereals and pulses; 3) snacks and

sweets; 4) animal products and 5) oils, sweeteners, condiments; and within each group into 3 categories: 1) Modern/global, 2) Mixed, 3) Traditional/local according to our previous work around the perceptions of local youths.¹³ Respondents will be shown 3 items (one local/traditional, one mixed, one modern/global) from each group. For example, these could be 3 fruit/vegetable cards, one showing spinach (traditional/local), one fruit-juice (mixed) and one broccoli (modern/global). The questionnaire will ask participants which of the 3 items in the set they eat most frequently and brief questions posing 6 specific **conditions of purchase**: a) which they would select if they had an additional 250 or 500 rupees to spend; b) which they would select for health reasons; c) if they were very hungry; d) if they had limited time to cook; e) if they were buying for a boy or man; f) if they were buying for a girl or woman.

For Aim 3, we will develop an experimental module, the "PDS Options Questionnaire", to explore ways in which the PDS system could be adapted to improve dietary diversity. Again using food cards, we will elicit respondent's valuation of the current PDS goods and possibilities for trading current goods for smaller but more diverse packets. Respondents in PDS-eligible households will be shown 12 cards, each with a food picture; 3 of the cards will be current PDS foods - rice, red gram lentil, and salt, pictured in the amounts currently offered (as listed above). The other cards will have pictures of foods that are not currently included in the PDS bundles in Karnataka: 1 grain - wheat flour; 2 pulses - chickpeas, green gram; 2 fruits - banana, chikoo (sapota); 2 vegetables - onions, potatoes; 2 condiments - oil, sugar. These items are not rapidly perishable and could be stocked by shops. Without increasing public allocations towards the PDS, the PDS bundles could include such alternative items, though in smaller quantities, at similar value thereby increasing dietary diversity. The instrument will prompt respondents to first show their current PDS bundle and then to build their preferred PDS bundle, indicating what they would prefer to buy at the PDS shop, restricted to fit the price range of the current PDS allocations. The questions will ask, for the items selected in the preferred bundle, the reasons for picking them. The aim is to determine 1) the difference in current vs. preferred PDS bundles and 2) whether alternative PDS bundles, of equal value but better nutritional content and diversity, could be proposed. This is especially important in the context of the revised national food security plan 2013, whereby two-thirds of India's population will be covered by PDS.

Data collection

Prior to data collection, we will train interviewers, as often as possible re-training interviewers who have worked on previous related projects with our team. We will prepare the instrument modules, pre-test, including with cognitive interviews, following methods we used previously. We will pilot all aspects of data collection.

We will take 2 months to do preliminary exploratory work, sample and make initial contact with households. As much as possible, we will request appointments in advance with households to ensure that we contact them at a convenient time. As we are recruiting more than one person in each household, revisits will sometimes be necessary. Our timeline includes additional requirements of data collection, including daily travel time, often by difficult roads.

Upon arrival at each sampled household, interviewers will ask for permission to interview the household head and his wife; where only one is present, the interviews will proceed with that person, and the other will be interviewed subsequently if he/she becomes available; where a youth is present, he or she will be invited to participate. Where respondents are not available, interviewers will attempt to schedule an appointment to return at a more convenient time.

After consent is given, interviews will begin with the "Socio-Demographic Module" (15 minutes). Next, they will ask the "Factors in Food Choice Questionnaire" (30 minutes); "Global and Local Options Questionnaire" (30 minutes); "PDS Options Questionnaire" (10 minutes); and the NT-FFQ (25 minutes). In households where 2 eligible respondents are available, interview teams will alternate between administering questionnaires separately, with each interviewer questioning 1 respondent, or interviewing the two together, inviting them to discuss openly. Where respondents are interviewed individually, they will be asked an additional open-ended

question about the decisions and responsibilities around food within the household. We will create a qualitative data collection guide for systematically tracking field notes on observed and reported interactions between men and women. Marad, our local PhD trainee, will be trained in non-participatory observation methods to observe and record field notes.

Analysis

We will first examine the socio-economic and demographic characteristics of the population and will compute descriptive statistics.

Based on reported food intake in the NT-FFQ, we will calculate for each respondent a transition score (range 0-10), which indicates how traditional or modern a person's diet is. To compute a 'transition score', we will use the pre-defined Nutrition Transition Diet Score developed in our previous work. Using cut-off values, each component of the Nutrition Transition Diet Score has been assigned a score of 1 or 0, indicating presence or absence of the nutrition transition. We will examine differences in transition scores for women and men overall and for women and men in the same household; this will indicate whether there are differences in the extent to which men and women are shifting to global diets, even within the same family. We will calculate the correlation between the transition scores of the two adults within households. We will do cluster analysis to identify families with different profiles in terms of family member diet quality, using the transition score of each of the family members. NT-FFQ data will be analyzed using Nutritionist Pro, the Indian food composition tables, and Statistical Analysis Software (SAS® version 9.4; SAS Institute, Cary, NC).

For Aim 1, we will use descriptive statistics to identify which **factors** –hygiene, freshness, etc.-- were most often and least often identified by participants when considering **food items**, and thus were proximate drivers of food choice. We will identify these proximate drivers of food choice across all items to identify the most salient factors in selecting food and drink items. Then, we will examine differences in listing each factor for each of the **7 food groups**. This will tell us whether some attributes are more important for some types of foods than for others. For example, if taste or packaging is more important for snacks than for produce. Finally, we will look within categories, to see which drivers of food choice are linked with selecting **items** from among foods in each **food group** - for example, given that a respondent is selecting produce, which produce are most often selected, and what are the **factors** for selecting onions than tomatoes.

The next steps will involve regression analysis, to consider the individual and contextual characteristics that may be linked with the proximate drivers of food choice. For the most salient **factors** identified in the previous step, we will set up multivariate logistic models. The outcome variables will be whether specific **factors** (hygiene, price, etc.) were selected; the right-hand side variables (predictors) will be gender, family size and composition, socio-economic status, PDS eligibility and use, rural/urban location and cluster population. These models will show the characteristics associated with drivers of food choice - which individual, family, and community characteristics are associated with drivers of food choice, that is with weighing some factors over others in food selection. We will also include **food group** among the right-hand side variables, to determine which factors are relevant for selections in some food groups vs. others.

We will examine whether men and women identify different **factors** as proximate drivers in their selection of food overall, **across food groups**, and **within food groups**. If the analyses indicate that the determinants of food choice are different for the genders, we will estimate gender-stratified models. After analysis of men and women overall across *households*, we will create models to compare the factors driving food choice among men and women living in the same household: we will estimate household fixed-effects models, with men and women in the same household serving as each other's comparison. This approach will tell us whether men and women have different drivers of food choice even when they are living in the same social, economic, and normative family and community environments (including component of those environments that are unobserved by the researcher).

One of our goals is to understand how drivers of food choice may be related to the changing dietary patterns during the nutrition transition occurring in many parts of the world, including our study site. Having calculated the transition diet scores, we will use the score as a predictor variable in logistic models estimating as outcome variables selection of key **factors groups**. This approach will show whether some drivers of food choice are more salient to driving food selection and in logistic models estimating the selection of items within **food groups**. This approach will show whether some drivers of food choice are more salient to selection of items among individuals with more transitioning diets compared with those with more traditional diets. If this is the case, it would suggest that, as the entire population experiences more nutrition transition, those factors could become more important drivers of food choice in the entire population. Policy and programs could then focus on these specific factors, whether they be taste, price, or ease of preparation, etc., to develop efficient programs to promote healthy diets and preventing malnutrition

For Aim 2, using descriptive statistics, we will calculate the frequency with which the modern, mixed, and traditional foods in the sets are named as frequently eaten and are selected under each of the changing conditions presented: money availability, hunger, health concerns, and time restrictions; these **conditions** align with the **factors** identified in Aim 1. We will then calculate under which conditions people most frequently changed their food item selection. This approach will show whether participants prefer modern/global foods vs. local/traditional foods; in which categories of foods there is preference towards modern, and what types of circumstances or information would nudge people to shift towards or away from more global/modern alternatives. We will examine men's and women's responses separately and assess whether there are systematic differences. We will compare whether men's and women's responses are systematically different in households where they were interviewed individually vs. together.

After descriptive analysis, we will use regression models to also account for potentially relevant individual and contextual factors. We will estimate multivariate ordered logistic models, with the outcomes being whether a participant selected the modern/global, mixed or traditional items from the set; right-hand side predictor variables will be gender; socio-economic characteristics: family size and composition, socio-economic status, PDS eligibility; rural/urban location and cluster population.

Using qualitative text analysis methods, we will describe the reasons given to open-ended questions about item selection. This approach will allow us to capture, in the respondent's own words, their considerations in selecting among comparable foods that are more vs. less modern. We will then examine for themes the field notes designed to record interactions between the woman and man in the subset of households where the decision was taken together. This approach will provide a nuanced interpretation of how men and women in household make decisions around food. This approach has the possibility to be gender-transformative, as it is designed to understand the need for interventions to promote women's empowerment in food choice and to identify how interaction could be structured. For example, if we find that men more often mention price and women more often mention children's needs, or do not talk at all, strategies could be developed to bridge arguments or promote discussion. We will conduct text analysis of the open-ended responses and of field notes on household interactions around food decisions between men and women using Dedoose and word clouds to identify themes.

For Aim 3, our focus is on the PDS as a driver of food choice, dietary intake, and transitioning diets. To understand whether the PDS bundles are associated with patterns of food intake, after taking into account the fact that PDS-eligible households are poorer and thus likely have more limited diets. We will examine whether the PDS bundles, being currently heavily focused on rice, may be replacing other local grains. Within contiguous income brackets, we will explore differences in diet between those who do and do not avail themselves of public distribution goods. Using exploratory factor analysis, we will examine whether diet patterns were different in households that received PDS benefits and those who did not. We will describe

dietary diversity by calculating the total different number of items consumed in the NT-FFQ. When possible, we will identify within our sample households that are otherwise similar but differ in their use of PDS shops, for example due to distance from a shop and intermittent eligibility; this approach will help isolate the PDS from other socio-economic resources and barriers that vary across households. We will estimate relationships between PDS use, food selection criteria, and dietary intake. Among predictor variables, both income and PDS level will be included. After accounting for income, the coefficient estimates on the PDS level will indicate the additional contribution of the program beyond what can be explained by socioeconomic status. This approach will show whether people across the PDS spectrum have different diets and maybe experiencing the nutrition transition differently. We will then examine whether the PDS explains dietary patterns in men and women. Linear regression models will be developed with the outcome being linear transition score, with PDS, together with gender and other socioeconomic variables as predictors, to understand whether the PDS is contributing to the nutrition transition.

We will examine whether men and women in the same households have different transition scores, and whether there are differences among them in households that do and do not receive PDS. For the latter step, the outcome variable in a difference-in-difference model will be the difference between men and women's diet scores in families that receive full PDS bundles subtracted from the differences between them in households that do not. We will also examine in a similar framework whether differences exist when households receive different levels of PDS benefits.

To analyze data from the PDS choice experiment, which is focused on identifying alternatives to the PDS, we will examine the choices made in the preferred PDS bundle. We will calculate and compare the total and average number of items in the current vs. preferred PDS food bundle and the most frequently picked foods, overall and across men and women. We will examine men's and women's responses to determine whether there are systematic differences. We will conduct text analysis of the open-ended response to the reasons provided for selecting the foods in the PDS food basket using Dedoose and word clouds to identify themes.

d. Evaluation

We have prepared the project timeline based on our previous experience with data collection in the region and will monitor that the timeline is adhered to. A progress report will be prepared each quarter and will be reviewed in all-team evaluation meeting focused on progress and priorities. We will hold weekly meetings via Skype to monitor progress. The project coordinator will maintain a weekly log of activities and priorities to be shared with the team; these logs will be used as the basis for our reports. Outputs of the project will be: regular reports to district and state health officials and to colleagues at India's leading health institutions; regular newsletters for the community; a resource guide for families based on our findings; 3 manuscripts to be submitted to peer-reviewed journals; and 3 conference presentations.

e. Development Relevance, Sustainability, and Potential for Scaling Up

This research is timely, addressing what have been described as rapid changes in the food environment. We will consider the dynamic processes involved in food choice in a remote, developing setting. It will assess intended and unintended implications of food subsidies for food choice. Our study design includes men, women and youths in the same household to compare food choice between men and women within and across families for a fuller assessment of the implications of economic, cultural, and normative components of gendered decisions around food choice. This project will generate data on food choices in a remote but urbanizing region in Southern India, on the key drivers of food choices within and across households, and on the implications of the PDS. The research has real-world applications. For example, one goal is to determine whether the current distribution system for preventing under-nutrition could be altered to provide better dietary diversity, so we will explore the possibility of alternative PDS bundles, of equal value but greater variety. Increasing the public allocation towards PDS may not be

feasible, but different allocations could be considered if we find that there is interest in these items in the population and among PDS shopkeepers.

This research is sustainable; we will engage local resources from Vijayapura including expertise from BLDE University, the largest university in Vijayapura district, to carry out the fieldwork and data collection. The experience will develop local capacity in data collection and in the study of nutrition and of gender. The fieldwork team and a PhD student at BLDE will gain training, job skills, and experience. Manjunath Marad, a PhD student at BLDE, will gain experience as fieldwork coordinator and will write his PhD thesis in Community Medicine using data from this project. Fieldwork will be co-led by Dr. Shaikh, nutrition epidemiologist and Registered Dietitian from India who specializes in the development and evaluation of nutrition assessment methodologies. Connections will be further strengthened between BLDE and local administrators and health officials, so dialogs around identifying and addressing community health needs will continue. The cohort of 324 households can be followed at later times to observe changes in food choices, use of PDS, and health and nutritional status.

We have initiated contact with colleagues at the Right to Food Campaign, who have expressed interest in the project; we will continue to strengthen these relationships. In Karnataka, we will discuss our research with officers, including the District collector (DC) who is the officer in charge of PDS at the district level, and consult with state officials. We will review at every step the research plans, the findings implications for preventing malnutrition in the context of nutrition transition, and policy options for types of foods offered under the PDS in the district, for example moving from polished rice to jowar or wheat. Per the National Food Security Action Plan of 2013, 2/3 of India's population shall be offered subsidized food grains; our study is relevant to this action plan, and findings will be shared with researchers at the International Food Policy Research Institute (IFPRI) in New Delhi and with concerned central government officials to inform them about the possibility of including more nutritive-rich foods among the subsidized grains and of focusing subsidies on locally-relevant crops rather than rice for all.

We have established a newsletter for the study population to present our findings in simple language and pictures, called *BE (BLDE-EMORY) Impactful*; we will disseminate new issues throughout the study and will also share with partners and stakeholders at district, state and national levels. We will develop a resource guide for families based on our findings.

This research has the potential to be scaled up into a larger program to understand the proximate drivers of food choice. Findings and instruments from this study could be applied in other studies and settings. The methods and findings could be adapted to study food choice of adults and youth elsewhere and used in other low and middle-income countries in South Asia and beyond. Our team is currently adapting and evaluating the NT-FFQ among adolescents in other regions of India. Our foods database has the potential to be expanded to include foods and beverage available in other regions of the country and to serve as an encyclopedia of raw, cooked, and packaged foods and beverages in the country.

f. Organizational Capacity and Key Personnel

This will be a multi-disciplinary collaboration with expertise and methods from Demography, Sociology, Nutrition, Economics, Community Medicine and Public Health. **Dr. Cunningham** is an Associate Professor of Public Health at Emory University, with appointments in the Graduate Group in Nutrition and in the Department of Sociology. She is a demographer with expertise in chronic disease epidemiology, family and social implications for health, and survey methodology. **Dr. Patil** is a medical doctor with training in Community Medicine and non-communicable disease. She is Professor and Chair of the Department of Community Medicine at BLDE University and has experience conducting community-based data collection in rural and urban areas. **Dr. Datar** is a Senior economist and policy analyst at the Center for Economic and Social Research at the University of Southern California and has experience with research on health and well-being in the U.S and India. Her research has focused on understanding the drivers of obesogenic behaviors using large-scale secondary data and primary data collection.

Dr. Shaikh is a nutrition epidemiologist and Registered Dietitian trained both in India and in the US. Her expertise is in conducting dietary assessments and in developing nutrition assessment instruments. Mr. Marad is a PhD student at BLDE; he holds an MPH and is interested in gender.

BLDE University's Shri B. M. Patil Medical College has 29 departments with state-of-the-art facilities for teaching undergraduate and postgraduate students. It is accredited by the NAAC and is developing as a premiere university in the region. **Emory University** is recognized internationally for its outstanding liberal arts colleges, graduate and professional school, and one of the world's leading health care systems, including the Rollins School of Public Health. **The University of Southern California** is a world-class research university; its Center for Economic and Social Research is a multidisciplinary research center where researchers conduct basic and applied research.

Our team has a record of successful collaborations and of producing policy-relevant research. We have previously collaborated on primary data collection and analysis, including in India. Emory and BLDE collaborators have successfully implemented an NIH-funded study and an NIH training grant focused on nutrition and weigh status, gender, and family environment, achieving >90% response rates in longitudinal representative data collection using mixed methods. Those projects resulted in 5 publications,^{12,13,21,34,35} 3 manuscripts under review, 3 manuscripts in development, and 14 professional conference presentations.

Project Timeline for Activities and Deliverables

	Year1				Year2			
	2-4/ 18	5-7/ 18	8-10/ 18	11/18 -1/19	2-4/ 19	5-7/ 19	8-10/ 19	11/19 -1/20
Activities	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
IRE reviews and HMSC approvals								
Meeting local administrators of city and rural areas, taking formal permissions to conduct study, completing paperwork								
Selecting sampling units								
Development of survey questionnaires								
Testing of instruments								
Recruitment of project field staff								
Training of field staff								
Printing, translation, back translation of instruments								
Pilot testing of questionnaires								
Data collection								
Data entry and management								
Data analysis								
Meetings and conferences								
Deliverables								
Preparation of report and policy recommendations								
Presentation of progress reports								
Presentations to local, state, and national health entities								
Preparation and distribution of healthy eating resource								
Submission of abstracts to scientific meetings								
Preparation of manuscripts for peer review								
Begin data archiving								

Notes

1. HMSC approvals – Applications for research projects involving foreign assistance and/or collaboration in biomedical/ health research are to be submitted by the Indian investigators to ICMR for approval of the Government of India through Health Ministry's Screening Committee (HMSC).

