Plan Overview

A Data Management Plan created using DMPonline

Title: Nutrition guidelines and standards for school meals

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Template: Data Management Plan | Wageningen University and Research

Project abstract:

Setting nutrition standards and guidelines (NGS) for school meals has been recommended globally to improve schoolchildren's diets and nutrition. However, no clear process exists that has been globally validated to set context-specific and feasible nutrition standards for school meals in particular. At the same time, there are no widespread guidance, methods and validated indicators to measure the implementation, adherence to and effects of such standards in schoolchildren's diet quality.

In the framework of an ongoing FAO and WFP project, a research component has been embedded with the following objectives: a) to assess the effects of school meals compliant with NGS (designed using a new global methodology being developed by FAO and WFP), when compared with regular school meals on diet outcomes of schoolchildren in selected schools in Ghana and Cambodia; and b) to determine the barriers and enablers of implementing the NGS in selected schools in Ghana and Cambodia.

A cluster randomized controlled trial and a deductive qualitative study in selected regions in Ghana and Cambodia will be conducted to address the aforementioned objectives. The first study will measure the diet effects of applying NGS developed by national stakeholders, using the new global methodology, in a sample of 40 schools that operate within a national school meals programme in each country. The meals compliant with the standards will be provided as substitutes for regular school meals for 3-6 months in 20 randomly selected intervention schools and 20 control schools will remain with their usual meals. The second study will apply a qualitative methodology to identify key enablers and barriers of NGS implementation in the interventions schools from study 1.

Findings from the studies will be documented and reported in four manuscripts as follows: a) protocol for the randomized controlled trial, b) effects of school meal NGS in selected schools in Ghana, c) effects of school meal NGS in selected schools in Cambodia, and d) implementation enablers and barriers of school meal NGS in Ghana and Cambodia.

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Start date: 31-01-2022

End date: 01-02-2026

Last modified: 19-12-2022

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Nutrition guidelines and standards for school meals

A. Describe the research project

1. Describe the organisational context of your research project.

Name researcher	Melissa Vargas Araya
DMP version (or date last modified)	14 November 2022
Chair group/Business unit	Global Nutrition
Graduate school (WU only)	VLAG
Supervisor/(co-)promotor(s)	Inge D. Brouwer, Edith JM Feskens, Fatima Hachem
Start date of project	31 January 2022
End date of project	1 February 2026
Project number	
Funding body	German Federal Ministry of Food and Agriculture, Food and Agriculture Organization of the United Nations

2. Give a short description of your research project.

Title	Nutrition Guidelines and Standards for School Meals
Summary	Setting nutrition standards and guidelines (NGS) for school meals has been recommended globally to improve schoolchildren's diets and nutrition. However, no clear process exists that has been globally validated to set context-specific and feasible nutrition standards for school meals in particular. At the same time, there are no widespread guidance, methods and validated indicators to measure the implementation, adherence to and effects of such standards in schoolchildren's diet quality. In the framework of an ongoing FAO and WFP project, a research component has been embedded with the following objectives: a) to assess the effects of school meals compliant with NGS (designed using a new global methodology being developed by FAO and WFP), when compared with regular school meals on diet outcomes of schoolchildren in selected schools in Ghana and Cambodia; and b) to determine the barriers and enablers of implementing the NGS in selected schools in Ghana and Cambodia. A cluster randomized controlled trial and a deductive qualitative study in selected regions in Ghana and Cambodia will be conducted to address the aforementioned objectives. The first study will measure the diet effects of applying NGS developed by national stakeholders, using the new global methodology, in a sample of 40 schools that operate within a national school meals programme in each country. The meals compliant with the standards will be provided as substitutes for regular school meals for 3-6 months in 20 randomly selected intervention schools and 20 control schools will remain with their usual meals. The second study will apply a qualitative methodology to identify key enablers and barriers of NGS implementation in the interventions schools from study 1. Findings from the studies will be documented and reported in four manuscripts as follows: a) protocol for the randomized controlled trial, b) effects of school meal NGS in selected schools in Ghana, c) effects of school meal NGS in selected schools in Cambodia, and d) implementation enablers and barriers of school meal NGS in Ghana and Cambodia.

3. List the individual(s) responsible for the following data management tasks.

Data collection	Melissa Vargas, Gloria Otoo, Hou Kroeun (TBC)
Data quality	Melissa Vargas, Gloria Otoo, Mai Hoang (TBC)
Storage and backup	Melissa Vargas, Boateng Bannerman (TBC)
Data archiving/publishing	Melissa Vargas, Inge D. Brouwer, Fatima Hachem
Data stewardship/support	Joeri Kalter
Any other role [...]	

4. Name of data management support staff consulted during the preparation of this plan and date of consultation.

To be consulted when needed: Joeri Kalter

B. Describe the data to be collected, software used, file formats and data size

5. Will you reuse existing data for this project?

- No. Please, describe below any constraints to re-using existing data.

6. Will new data be produced?

- Yes

24 hour recalls will be collected from 800 schoolchildren (with a second non-consecutive recall in a subsample of 30%) from selected schools in Ghana and Cambodia

Weighed food records will be collected from the same 800 children during school meal time in Ghana and Cambodia

Demographic data will be collected from the same children

7. When producing new data, describe the data you expect in terms of type, software and format.

Data type (e.g. numerical, video, etc.)	Software (e.g. Excel)	(Open) file format (e.g. csv)
Numerical (24 hour recalls)	Excel	csv
Numerical (24 hour recalls) Ghana	SPSS	sav
Numerical (weights of foods)	Excel	csv
Images (of meals)		jpeg

8. Estimate how much data storage you require in total.

- 100-1000 GB

C. Storage of data and data documentation during research

9. Where will the data and accompanying documentation/metadata be stored and backed up during the research project?

- Database (internal organisation)
- Other. Please specify location and back-up frequency below.

Internal FAO OneDrive

C:\Users\VargasM\OneDrive - Food and Agriculture Organization\Desktop

D. Structuring your data and information

10. Give a representation of the folder structure you intend to use, or the link.

FAO_school_meal_NGS_study
>1. Admin
  >>data_mangement_plan
  >>contracts_data_collection
>2. Protocols
  >>Ghana
  >>Cambodia
>3. Raw_data
   >>3.1. Demographics
   >>3.2. Weighed_food_record
      >>>3.2.1. Ghana
      >>>3.2.2. Cambodia
  >>3.4. 24_hour_recalls
     >>>3.4.1. Ghana
     >>>3.4.2. Cambodia
>>4. Clean_data
   >>4.1. Demographics
   >>4.2. Weighed_food_record
      >>>4.2.1. Ghana
      >>>4.2.2. Cambodia
  >>4.4. 24_hour_recalls
     >>>4.4.1. Ghana
     >>>4.4.2. Cambodia
>>5. Analyses
>>6. Manuscripts
   >>>6.1. Drafts
   >>>6.2. Revisions
   >>>6.3. Submitted

11. Describe the file naming conventions you intend to use.

For datasets:
YYY-MM-DD_description of data_country_version

For images:
YYY-MM-DD_school meal_ID child_country_version

12. Describe the file versioning system you intend to use.

v01, v02, v03....

E. Data documentation and data quality

13. Describe below what data documentation and metadata will accompany the data.

Details of the study and of the methodology (including objective, study population and sampling process, data collection tools, outcome measures) will be included.

At the data level: geographic scope and coverage, timeline of data collection, description of codes and tags, number of variables, keywords, owner and contributors.

14. Describe what data quality controls will be used.

A system has been put in place for the 24 hr diet recall and weighed food records data quality control in Ghana and Cambodia.

This system consists of three levels of quality checks: a first level performed the same day that the data is collected to look for inconsistencies, missing values, and overall completeness of the data. A second level by team coordinators will be conducted weekly and finally a third level by the principal investigator will happen as spot checks. When issues are identified, they will be documented and addressed with the field worker responsible.

F. Working with sensitive data (personal data, ethics), data ownership, sharing and access

15. Are there reasons (privacy, ethics, contractual agreement, commercial interests, public security, IP rights) to restrict access to the data or limit which data will be made publicly available?

- Yes, please describe the reasons below.

Yes as the data is solely owned by the FAO, the Organization's data sharing policy will need to be followed.

16. Will you process and/or store personal data during your research project?

- Yes. Please, specify below which measures you will take to ensure data protection and safeguard the privacy of the participants in your project.

Data obtained will be coded to avoid any potential loss of confidentiality. All potentially sensitive findings will be reported in a way that they cannot be traced to any individual.

The names and potential identifiers of all participants will be separated from their data to protect their privacy and confidentiality.

17. Is this project registered in SmartPIA?

- No

18. Are there other ethical issues that need to be taken into account?

- No

19. Who has ownership and controls access over the data?

FAO has full ownership of the data.

20. Will there be any intellectual property (IP) rights associated with the data?

- No

G. Data archiving and publishing

21. Do you have selection criteria, which allow you to determine which part of the data should be preserved once the project has ended?

- Yes. Please, elaborate below.

All source data will be preserved for potential further analyses, pending approval by the FAO, which will have the sole ownership of the data.

Potential re-use of some of the data by the local data collection institutions in Ghana and Cambodia will be considered before the project is finalized, pending approval by the FAO.

22. What data will be archived internally (e.g. WUR network drive) for a minimum of 10 years?

- Other. Please specify below.

All raw and processed data will be archived in FAO one drive, as the main owner.

23. What data will be published and made available for reuse via a data repository?

- Other. Please, specify below.

Potentially, the 24hr recall data will be made available in the FAO/WHO GIFT platform (which collects data sets on individual food consumption).

24. When will the data be available for reuse, and for how long will the data be available?

- Data available upon completion of the project.

Guidelines of the FAO as the owner of the data will be followed regarding the duration of data availability.

25. Which data repository do you intend to use to make the data findable and accessible?

As stated above, the 24 hour recall data will be available in the FAO/WHO GIFT platform. \
(TBC) Metadata in 4TU.ResearchData

26. Which metadata standard will be used to describe the data during archiving / depositing in a data repository?

DataCite metadata scheme 4.3 as described in: https://schema.datacite.org/meta/kernel-4.3/
GIFT platform metadata for 24 hr recalls, as described in: https://www.fao.org/gift-individual-food-consumption/en/

27. Which licence/terms of use will be applied to the data?

TBC: CC-BY license

28. If analysis software is generated in this project, describe your publishing strategy below.

N/A

H. Data management costs

29. What resources (in time and/or money) will be dedicated to data management and ensuring that data is reusable?

A data manager has been recruited for each country of study, plus the PhD candidate will dedicate 10% of her time for data management

30. If there are additional costs related to preparing the data for reuse, how will these costs be covered?

TBD