SDI Education datasets: Anonymization Protocol

Objectives

In order to release the SDI Education dataset as a Public Use File, it is necessary to ensure the privacy of its participants. To this end, and with the intention of avoiding the re-identification of the schools, teachers and pupils, the following measures are taken:

- 1. Deletion of variables that contain confidential information or lead to re-identification.
- 2. Deletion of value labels that contain confidential information or lead to re-identification.
- 3. Recoding of variables that could lead to re-identification of the observations into broader group categories.
- 4. Trimming and/or censoring of specific unique values and outliers that might allow re-identification.

Results

The resulting datasets keep the usefulness of the data intact while greatly protecting the privacy of the respondents and reducing the identification risk. Most harmonized variables (>80 %) are unaffected by the anonymization process. In very few instances, some variables are relabeled to avoid the publication of the exact questions/answers of confidential assessment instruments.

All identifiers are being cleaned (deletion of value labels). Some variables are being recoded into categorical variables to ensure confidentiality.

1. Disclosure risk and confidentiality protection

Microdata often contain confidential or sensitive information, which makes release of these datasets in their original form impossible. Release of the data could reveal this confidential information and lead to a breach of privacy of the respondents. This has ethical and, in many cases, legal objections. Furthermore, when confidentiality in not guaranteed, current and potential future respondents are less likely to be willing to respond in future surveys.

The aim of this process is to create a Public Use File (PUF), which is a dataset that is freely accessible to the greater public taking in consideration the identified issue. This PUF must also minimize as much as possible unnecessary disturbances to the original to preserve the usability and quality as much as possible when possible.

Risk in the Statistical Disclosure Control context is the probability or likelihood that disclosure by an (hypothetical) intruder of a record occurs. Disclosure can be **identity disclosure**, when the identity of an individual or entity in the dataset is correctly revealed, or **attribute disclosure**, when the intruder gains new (confidential) information from the dataset. Identity disclosure can imply attribute disclosure. The risk is dependent on several factors, amongst others the frequency of **keys** (i.e. combinations of values of key variables), sample size and sampling weights as well as the availability of external information to intruders to use for re-identification. The disclosure scenarios for a particular dataset describe these parameters and the way an intruder can use a dataset to gain new information.

The acceptable level of risk depends on the release type, e.g. scientific use file, public use file, or other ways of release and the sensitivity of the data. This dataset was prepared to be released as **PUF and hence needs a higher level of protection**. Also, the potential harm caused by disclosure should be considered when determining the acceptable risk level.

In similar microdata releases with, for instance, business survey data, the geographical level is highly reduced, large companies are suppressed and the level of detail in the data is reduced to protect the records. Generally, the period between the survey and data release is also specified, e.g. 1 year. In case of the SDI education survey, the period between the survey and the data release introduces already uncertainty into several variables, such as number of pupils. It should be noted that a complete elimination of disclosure risk is not possible.

2. SDI Education data set

The SDI Education dataset consist of a series of country-year surveys, each containing information of schools, teachers and pupils. The main concern for re-identification and confidentiality are the teachers and pupils. However, since the data are hierarchical, i.e. teachers and pupils belong to schools, the re-identification of a school might lead to the re-identification of a teacher or pupil too.

The datasets consist of the following:

- Set 1: School level data
 - Set 1a: School management/finances (Module 3)¹
- Set 2: Teacher level
- Set 3: Child level
- Set 4: Time on task

These datasets contain sensitive and confidential variables, especially on the level of the teacher but also on the school level.

3. Actions taken

The Anonymization process is done with the aid of the statistical software Stata. All anonymization steps are reproducible with the Stata script for each of the detailed datasets. The process starts from the harmonized dataset: before the start of the anonymization process, any final data quality corrections are made.

Each anonymization script covers the following steps:

- 1. Identification of ready-to-release variables.
- 2. Identification and removal/anonymization of variables due to the sensitivity of its data. Identification and removal/anonymization of variables due to the distribution of the data that could lead to high risks of re-identification.
- 3. Identification and recoding of variables into categories to deal with outliers (top recoding), sample unique and continuous variables whose values represent high risk of reidentification (special unique).

3.1 Ready to release variables.

There is a subset of variables that do not imply considerable risks of disclosure. These variables were identified and revised. We proceeded to select them considering:

- General information: Country, survey year, urban, etc. This information is preserved and there is no risk associated with the release.
- Randomized id/keys: region, district, province, etc. This information is shared considering it doesn't contain descriptive information. In general terms, it preserves the variability of the data but doesn't provide an associated value label.

¹The publication of new (or updated) PUF datasets includes the Education SDI's module 3 which compiles information of the school's management and financial activities (e.g. budget, expenditure, fundraising, monitoring and evaluation, etc.). This module has been published separately from the school level dataset as it was not harmonized to a common standard. Given distinct educational (and administrative) structures, module 3 is uniquely designed according to the country's interests and context, creating constraints for a harmonization process across SDIs. It is important to note that, despite this dataset not being harmonized, it is still subject to a thorough anonymization process like the rest of PUF datasets.

- Specific information: a subset of infrastructure variables, a subset of assessment variables, other school and teacher characteristics, etc. These variables gathered through SDI survey represent a high risk of breach of confidentiality. We analyze each of these and their distributions to check if unique values allow for reidentification.

3.2 Identification of variables to delete

- Sensitive information

The SDI surveys gather data that includes sensitive information: names, financial information and specific descriptions, among others, that should not be available to public.

To avoid its disclosure, some of them are directly removed from the database and others are just transformed to a "Confidential" or ".c" value, allowing only the knowledge of their existence (to be considered its release upon request under strict protocols) and the identification of missing values.

There are other variables that do not represent a risk of disclosure but include important information that could damage future waves of surveys. These variables contain detailed descriptions of the assessments and their correct answers. All of them are being removed, keeping only general information on the type of question, its result/score and the label associated to interpret the latter.

- Variables with distributions that represent risks of reidentification

We identify variables with distributions that represent high risks of reidentification and for which recoding and other perturbative methods cannot account for the mentioned risks. These variables contain sample unique (a unique combination of values for the selected categorical key variables in the dataset and is at high risk of re-identification) and are represented mainly by descriptions/details of "Other" categories. It is not possible to share the information contained in any of the respective variables due to the specificity of the answers.

Table A and B shows the deleted and anonymized variables.

Table A. Overview of removed variables by dataset

Deleted Variable	Description
School level dataset	
<pre>gps_lat, gps_lon, gps_miss_ind, gps_lat2, gps_lon2</pre>	GPS variables
hfid, _GIS_merge	Variables that come from internal analysis and checks done by SDI team
Teacher level dataset All variables ending in "_mark" All variables ending in "_correction"	Information on teacher's specific answer Information on correct answer

 lit_4_denom
 Variables that come from internal analysis of SDI team

 Child level dataset
 Variables that come from internal analysis and checks done by SDI team

Note: a. Additional variables deleted for the 2014 Mozambique's Education SDI.

Table B. Overview of anonymized variables

Anonymized Variable	Description
School level database	
refusal_reason1	If refused, reason for refusal (1)
fv_enum_name1	First Visit Enumerator (s) 1 Name
sv_enum_name1	Second Visit Enumerator (s) 1 Name
region_name	Region Name
district_name	District name
province_code ^b	Province code
ward_code	Ward
ward_name	Ward name
village_street_code	Village/street
village_street_name	Village/street name
school_name	School Name
school_code	School Code (Other ID)
emis_code	EMIS Code
fv_date_day	Date of 1st Visit (day)
fv_date_month	Date of 1st visit (month)
fv_date_year	Date of 1st visit (year)
sv_date_day	Date of 2nd Visit (day)
sv_date_month	Date of 2nd visit (month)
sv_date_year	Date of 2nd visit (year)
team_lead_date_day	Team leader date (day)
team_lead_date_month	Team leader date (month)
team_lead_date_year	Team leader date (year)
super_date_day	Supervisor date (day)
super_date_month	Supervisor date (month)
super_date_year	Supervisor date (year)
fv_arrival_time_hr	At what time did you arrive at the school? (hour)
fv_arrival_time_min	At what time did you arrive at the school? (min)
fv_end_time_hr	At what time did you leave at the school? (hour)
fv_end_time_min	At what time did you leave at the school? (min)
sv_arrival_time_hr	At what time did you arrive at the school? (hour) (second visit)
sv_arrival_time_min	At what time did you arrive at the school? (min) (second visit)

sv end time hr At what time did you leave at the school? (hour) (second

visit)

sv_end_time_min At what time did you leave at the school? (min) (second

visit)

fv_date_combDate of First Visit (combined)sv_date_combDate of Second Visit (combined)team_lead_date_combTeam leader date (combined)super_date_combSupervisor date (combined)

fv_arrival_time At what time did you arrive at the school: First Visit fv_end_time At what time did you leave the school: First Visit sv_arrival_time At what time did you arrive at the school: Second Visit sv_end_time At what time did you leave the school: Second Visit

county_nameCounty namecontroller_nameController Namevillage_nameVillage namecontrol_dateControl Datetown_nameTown namefokontany_nameFokontany name

pedag_admin_zone_n
fv_enum_name2
sv_enum_name2
refusal_reason2
subcounty_name

Pedagogical Adminstration Zone Name
First Visit Enumerator (s) 2 Name
Second Visit Enumerator (s) 2 Name
If refused, reason for refusal (2)
Sub-County/Division/Town Council

parish_name Parish Code

operator_id Data entry operator ID
state_school_code State School Code
private_school_code Private School Code
knec_code_new School KNEC Code (new)
knec_code_old School KNEC Code (old)
tsc_code_public School TSC Code (public)

moe_codeSchool MoE Codedivision_nameDivision nameIDEN_nameIDEN name

m1_resp_name M1 What is your name?

m1_resp_phone M1 Please can we have your Mobile Phone number

m1_sc_ownership M1 What's this school's ownership type

m1_satelite_num

M1 If your school is a central or community school, how

many satellites does it

M1 If it is a satellite school, enter the identifier of its central

school

m1_toilet_type5 M1 Toilet covered pit m1_toilet_type6 M1 Toilet uncovered pit

m1 satelite id

m1_water_type_other M1 Other Source of water

m1 road type other M1 Other types of road M1 For satellite schools, how far is the school from Central m1_satelite_dist and satellite? (km) m1 comments1 M1 Comments 1 m1 qao feed discuss M1 If Yes, did you discuss the information with: m1_school_type_other M1 What's the school type (Other) M1 When was the last visit of the official government m1 qao last visit dayb quality assurance officer (day) M1 When was the last visit of the official government m1_qao_last_visit_monb quality assurance officer (month) M1 When was the last visit of the official government m1_qao_last_visit_year^b quality assurance officer (year) M1 For each term n last year, when did the school open m1 school open[n] day^b (day) M1 For each term n last year, when did the school open m1 school open[n] monb (month) M1 For each term n last year, when did the school open m1 school open[n] year^b (vear) M1 For each term *n* last year, when did the school close m1 school close[n] day^b M1 For each term *n* last year, when did the school close m1_school_close[n]_monb (month) M1 For each term *n* last year, when did the school close m1_school_close[n]_year^b (year) m2 comments1 M2A Comments 1 m2 comments2 M2B Comments 1 m2 comments3 M2B Comments 2 m2 n comp rooms M2 How many computer rooms? M4 How many minutes late were you? (If not late, write 0). m4 late enum m4 teachername M4 Teacher name m4 comments1 M4 Comments: 1 M4 Comments: 2 m4 comments2 m4 comments3 M4 Comments: 3 m4 comments4 M4 Comments: 4 m4c_teach_callname M4 Did the teacher call pupils by name while teaching? M4 How many pupils did the teacher call by name? m4c teach callname n m4c teach projector M4 Did the teacher use a video projector? M4 Did the teacher use a projector screen? m4c_teach_screen m4c teach ed software M4 Did the teacher use an educational software or CD? M4 Did the teacher use a video game? m4c teach videogame m4c_teach_video M4 Did the teacher use a video? m4d start teach M4 What year did you begin teaching? M4 Other Position Specify m4d post other M4 What year did respondent begin teaching at this m4d_start_teach_thisb school?

School management/finances (M3)b m3sbq2 M3 respondent's name m3sbq3 M3 respondent's telephone number AY 2013: Date (day) of ADE transfer [n] m3scq4ad [n] m3scq4am [n] AY 2013: Date (month) of ADE transfer [n] AY 2013: Date (year) of ADE transfer [n] m3scq4ay [n] AY 2014: Date (day) of ADE transfer [n] m3scq6ad_[n] m3scq6am [n] AY 2014: Date (month) of ADE transfer [n] m3scq6ay [n] AY 2014: Date (year) of ADE transfer [n] What is your gross base monthly salary as Director of this m3sdq7 school? What is the total amount of monthly allowances you m3sdq8 receive as Director of this school? AY 2013: Number of official visits from entity [x]m3sgq3[x] Teacher level dataset M2a First and last names m2a name M2a Specify - Position in the school m2a post other m2a_comments M2a Module comments M2b First and last names m2b name M2b Were you born in this [geographical area]? m2b born here m2b unpaid claims 1 M2b Do you have any other unpaid claims? (1) m2b unpaid claims 2 M2b Do you have any other unpaid claims? (2) m2b_unpaid_claims_3 M2b Do you have any other unpaid claims? (3) m2b unpaid claims 4 M2b Do you have any other unpaid claims? (4) m2b_unpaid_claims_other M2b Other unpaid claims? M2b Module 2B Comments: 1 m2b_comment1 m2b civil status M2b What is your civil status? m2b spouse employment M2b What is the employment status of your spouse? m2b_comment2 M2b Module 2B Comments: 2 m6 date day M6 Date (day) M6 Teacher name (Official first, middle and last names) m6 name M6 Date (Day/Month/Year) m6_date m6 post other M6 Specify - What is your position at this school M6 Enumerator(s) name m6 enum name m6_comments M6 Comments teach a1 3a) Tell the pupils what the aims of the lesson teach_a2 3a) Tell the pupils what the aims of the lesson 3b) What specific learning outcomes do you want the teach b1 pupils to achieve? (list 2 l 3b) What specific learning outcomes do you want the teach b2 pupils to achieve? (list 2 l 3c) Write out two questions that you will ask to pupils to

show that they have (...)

teach_c1

teach_c2	3c) Write out two questions that you will ask to pupils to
	show that they have ()
teach_d1	3d) Write out a question that you will ask pupils to show
	that they can apply () 3e) What can or should the government do about road
teach_e_i	accidents?
	3e) What can or should the government do about road
teach_e_ii	accidents?
	3e) What can or should the government do about road
teach_e_iii	accidents?
teach_f_i	3f) Why is it difficult?
teach_f_ii	3f) Why is it difficult?
teach_f_iii	3f) Why is it difficult?
teach_d2	3d) Write out a question that you will ask pupils to show
teach_uz	that they can apply wh
swot_as1	4a. Strength1. short assessment of XXX's letter
swot_as2	4a. Strength2. Short assessment of XXX's letter
swot_as3	4a. Strength3. Short assessment of XXX's letter
swot_aw1	4a. Weakness 1. Short assessment of XXX's letter
swot_aw2	4a. Weakness 2. Short assessment of XXX's letter
swot_aw3	4a. Weakness 3. Short assessment of XXX's letter
swot_bs1	4b. Strength 1. Short assessment of YYY's letter
swot_bs2	4b. Strength 2. Short assessment of YYY's letter
swot_bs3	4b. Strength 3. Short assessment of YYY's letter
swot_bw1	4b. Weakness 1. Short assessment of YYY's letter
swot_bw2	4b. Weakness 2. Short assessment of YYY's letter
swot_bw3	4b. Weakness 3. Short assessment of YYY's letter
swot_as4	4a. Strength4. Short assessment of XXX's letter
swot_aw4	4a. Weakness 3. Short assessment of XXX's letter
swot_bs4	4b. Strength 4. Short assessment of YYY's letter
swot_bw4	4b. Weakness 4. Short assessment of YYY's letter
eval_a	5a) What is the class average for English?
eval_c1	5c) Comment on these three learners (1)
eval_c2	5c) Comment on these three learners (2)
eval_c3	5c) Comment on these three learners (3)
c_name	Name (Consolidated)
c_age	Age (Consolidated)
c_gender	Gender (Consolidated)
c_post	Position (Consolidated)
c_contract	Contract (Consolidated)
c_fulltime	Full-time/Part-time (Consolidated)
c_educ_level	Education Level (Consolidated)
c_educ_training	Education Training (Consolidated)
Id	ID IRT

Child level emis code

<u>Child level</u>	
emis_code	School EMIS Code
m5s0_date_d	M5 Date (day)
m5s0_date_m	M5 Date (month)
m5s0_date_y	M5 Date (year)
m5s0_teacher_n	M5 Teacher name
m5s0_1st_enumerator_n	M5 First Visit Enumerator (name)
m5s0_1st_enumerator_c	M5 First Visit Enumerator (code)
m5s0_2nd_enumerator_n	M5 Second Visit Enumerator (name)
m5s0_2nd_enumerator_c	M5 Second Visit Enumerator (code)
m5s0_region_c	M5 Region Code
m5s0_region_n	M5 Region Name
m5s0_district_c	M5 District code
m5s0_district_n	M5 District name
m5s0_ward_c	M5 Ward code
m5s0_ward_n	M5 Ward name
m5s0_village_c	M5 Village/street code
m5s0_village_n	M5 Village/street name
m5s0_school_n	M5 School name
m5s0_school_c	M5 School code
m5s0_teamleader_result	M5 Team leader result
m5s0_supervisor_result	M5 Supervisor result
m5s0_enumerator_c	M5 Enumerator Name
m5s0_county_n	M5 County name
m5s0_division_n	M5 Division name
m5s0_parish_n	M5 Parish name
m5s0_date_dmy	M5 Date (Day/Month/Year)
m5s0_province_n	M5 Province name
m5s0_IDEN_n	M5 IDEN Name
m5s1_first_name	M5 Pupil's First name
m5s1_age	M5 Age
m5s1_lang1_teacher_thisyr_n	M5 Name of your language 1 teacher this year
m5s1_math_teacher_thisyr_n	M5 Name of your Math teacher this year
m5s1_inschool_lastyr	M5 Were you in this school last year
m5s1_lang1_teacher_lastyr_n	M5 Name of your language 1 teacher last year
m5s1_math_teacher_lastyr_n	M5 Name of your Math teacher last year
m5s1_lang1_teacher_lastyr_c ^b	M5 Code of your language teacher last year
m5s1_math_teacher_lastyr_c	M5 Code of your Math teacher last year
m5s1_agreetoparticipate	M5 Do you agree to participate in this exercise
m5s1_time_starttest_hr	M5 Time started the test (HR)
m5s1_time_starttest_min	M5 Time started the test (MN)
m5s1_time_endtest_hr	M5 Time ended the test (HR)
m5s1_time_endtest_min	M5 Time ended the test (MN)
m5s1_name	M5 Pupil's name (first and last)

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m5s1_lang2_teacher_lastyr_n
                                          M5 Name of your language 2 teacher last year
                                          M5 Name of your Master last year
  m5s1_master_lastyr_n
                                          M5 Name of your Master this year? (name)
  m5s1 master thisyr n
  m5s1 school n
                                          M5 School name
                                          M5 Name of teacher (CE2)
  m5s1 teacher CE2 n
  m5s1_teacher_CE1_n
                                          M5 Name of teacher (CE1)
                                          M5 District name
  m5q12a
  m5q13a
                                          M5 County name
  agree participate
                                          Do you agree to participate in this exercise
  uniqueid
Time on task
  date_day
                                          Date (Day)
  date_month
                                          Date (Month)
```

comments Module 4a Time on Task comments

Note: b. Additional variables anonymized for the 2014 Mozambique's Education SDI.

3.3 Recoding of variables

date year

date_comb

observation end

Some variables represent a risk of reidentification because of its composition and distribution. In order to share its contents, it is necessary to recode them in categories. The recoded variables cover both continuous (e.g. age, number of employees, etc.) and specific categorical variables in which certain categories are too scarce (e.g. position in the establishment, etc.). A detailed list of the recoded variables and the changes applied is listed in Table C.

Date (Year)

Date (Day/Month/Year)

Time observed (Constructed)

The recoding consists in trimming tails of distribution or top recoding (e.g. year the school opened: every school opened before 1950 is grouped), transforming continuous values into ranges (e.g. using decades instead of years), and/or broadening categories to group possible answers (e.g. "Owner/Director/Head teacher/Principal/Deputy head teacher" into one value). Lastly, rather than grouping the whole distribution of values into categories, few variables' values are censored or anonymized when their specificity/uniqueness (e.g. excessively large values, rare values, etc.) might allow re-identification.

As part of the recoding process, we ensure that all identifiers have no value labels that could contain specific information that leads to the reidentification of schools, teachers or pupils.

Table C. Overview of recoded variables

Recoded Variable	Description	Recode
School level		
m1_resp_post	M1 Which Position do you occupy in this facility?	1-3 Owner/Director/Head teacher/Principal/Deputy head teacher as grouped in one category; others are kept the same
m1_school_type	M1 What's the school type	Suppress 3 schools with different classification to missing
m1_school_year	M1 When did this school begin operating	Years transformed into decades [1950-2010], all years below 1950 are grouped
m1_traveltime_govt	M1 Approximate traveling time from school to local govt education office (in min	Grouped in 30 min intervals, [0-360+], all above 360 are grouped
m1_days_in_session	M1 What was the actual number of days during which school was in session in the	Grouped in 10 days intervals, starting less than [100-250+], all below 100 are grouped and above 250 into another
m1_resp_age	M1 What is your age?	Transformed into decades [30s-60+], all below 30 are grouped and above 60 into another
m1_road_distance	M1 What is the distance between the school and the asphalt road?	Transformed in 3 categories: less than 100, 100-1000, more than 1000. Values like 99, 999, are considered missing values
m1_delegation_dist	M1 What is the distance in kilometers between school and delegation?	Transformed in 2 categories: 10 or less, more than 10
m1_water_time_dist	M1 Avg time to go and come back to main source of water (including avg waiting t	Transformed in 3 categories: less than 15, 16-60, 61+
m1_traveltime_govt_h	M1 Approximate traveling time from school to local govt education office (Hours)	Transformed in 3 categories: 0, 1-3, 4 or more
m1_traveltime_govt_m	M1 Approximate traveling time from school to local govt education office (Minute	Transformed in 4 categories: 0-15,16-30, 31-45, 46-60
m1_days_cancelled	M1 How many school days were cancelled last year?	11 or more days cancelled were grouped together
m1_qao_visit	M1 How many times did the school receive a visit from an official quality assurance officer (2013)?	8 or more visits were grouped together
m1_qao_n_visits	M1 How many times did the school receive a visit from an official quality assurance officer (2014)?	7 or more visits were grouped together
m2_n_teachers	M2 How many teachers work in this school?	Transformed in 5 categories: 0-10, 11-20, 21-30, 31-40, 41+

m2_n_non_teachers	M2 How many non-teaching staff work in this school?	Transformed into a dummy: 0, 1 or more Transformed into decades [30s-60+], all below 30 are
m4d_age	M4 Age	grouped and above 60 into another
School management/finances (M3) ^c		
m3sbq5	M3 Respondent's position at school	1-3 "Director(a)/Chefe de Secretaria/Director(a) Adjunto Pedagógica" are grouped in one category (code = 1); 4-5 teacher's categories are also grouped in one category (code = 2); and "Others" category is maintained untouched (code = 3)
m3sbq6	Number of year that M3 respondent held position in school	Years grouped into 2-years interval categories; all above 10 years are grouped together
Teacher level		
m2a_post	M2a Position in the school	1-3 Owner/Director/Head teacher/Principal/Deputy head teacher as grouped in one category; others are kept the same
m2a_age	M2a Age	Transformed into decades [30s-60+], all below 30 are grouped and above 60 into another
m2a_contract ^c	M2a Contract Status	1 category with only 1 observation was coded as .c
m2b_post	M2b Position in the school	1-3 Owner/Director/Head teacher/Principal/Deputy head teacher as grouped in one category; others are kept the same
m2b_start_teach	M2b Since what year have you been teaching?	Years transformed into decades [1980-2010], all years below 1980 are grouped together
m2b_age	M2b Age	Transformed into decades [30s-60+], all below 30 are grouped and above 60 into another
m2b_start_teach_this	M2b Since what year do you teach in this school?	Transformed into 2 categories: before 2010, 2010-2019
m6_age	M6 Age	Transformed into decades [30s-60+], all below 30 are grouped and above 60 into another

m6_start_teach ^c	M6 Since when have you been teaching
m6_educ_training_yr ^c	M6 When did you complete your highest level of teacher training
m6_years_teach	M6 Number of years teaching
m6_post	M6 What is your position at this school
c_age	Age (Consolidated)
c_post	Position (Consolidated)

Note: c. Additional variables recoded for the 2014 Mozambique's Education SDI.

Years transformed into decades [1980-2010], all years below 1980 are grouped together

Years transformed into decades [1980-2010], all years below 1980 are grouped together less than 10, 10-19,20-29, 30+

- 1-3 Owner/Director/Head teacher/Principal/Deputy head teacher as grouped in one category; others are kept the same Transformed into decades [30s-60+], all below 30 are grouped and above 60 into another
- 1-3 Owner/Director/Head teacher/Principal/Deputy head teacher as grouped in one category; others are kept the same