Governmental Discrimination against Religious Minorities in Sub-Saharan Africa, 1990-2023

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Data Collection Methodology and Reliability

The RASM4 dataset, as part of the larger RAS dataset, uses the events data collection methodology developed by Gurr (1993; 2000). RAS4 collects data on a country-by-country basis. Each country is assigned to a research assistant who prepares a detailed report on the country. As this is the fourth round, there are four reports for each country covering 1990-2002 (RAS1), 2003-2008 (RAS2), 2003-2014 (RAS3) and 2015-2023 (RAS4). Each round followed the same methodology, and the data is based on over one hundred hours of research per country over the lifetime of the RAS project. These reports cover the details of government religion policy and societal actions taken against religious minorities or by religious minorities. RAS covers all countries with a population of at least 250,000 across the world.

Each report is based on multiple sources. These sources include six types: (1) Academic sources--any relevant academic books or articles, (2) government or multi-government organization reports such as the U.S. State Department International Religious Freedom Reports as well as reports from the UN and the EU, among others, (3) news sources, primarily taken form the Lexis/Nexis database, (4) reports by NGOs and human rights advocacy organizations such as Human Rights

Watch, and Amnesty International, (5) government documents and laws from the country in question's government, and (6) Internet sources (Fox, et. al., 2018: 8). It has been our experience that even in less developed countries when GRD, GRS, and SRD are present, they tend to be covered by multiple sources. Different sources often have different details (eg. they may focus on different incidents of violence between groups) but rarely conflict with each other. When events are reported by a single source only, it is evaluated for reliability based on many factors including reputation, previous experience with the source, if any, and consistency with other information available. In the rare cases where sources conflict we engage in a comparative reliability analysis of the sources based on similar methodology.

Minorities are included for separate coding if they constitute at least 0.2% of the country's population as well as some smaller minorities, particularly Muslim, Christian, and Jewish minorities. There is also a general country-level GRD coding for all countries (which is not used on this study which focuses on the minority-specific data) which includes treatment of all minorities, even those too small to be included in the minority-specific data.

RAS considers a broad range of actions by governments when coding government religion policy (in this study this includes the GRS and GRD variables). These include constitutions, laws, court decisions, and actions taken by government officials. In cases where government actions clearly contradict laws or constitutions the actions determine the codings. For example, if a constitution promises religious freedom but the government prevents places of worship form being built, the latter determines the codings.

More specifically, the coding rules for nonlaw-based policy are as follows: (1) If there is clear evidence a law is not enforced, it is not coded. (2) If the law is enforced sporadically, this reduces the severity of the coding (e.g. a 1 instead of a 2). (3) Consistent government actions are coded. One example is cases where there is no law against proselytizing, but proselytizers are consistently arrested and harassed. (4) Regional and local government actions and laws are coded even in the absence of a national policy if they exist in a sufficient number of localities, but that these actions are

local reduces the severity of the codings. (5) Courts with effective judicial review influence policy. Thus, laws or policies overturned by courts, as well as policies mandated by courts which result in changes on the ground, influence the codings.

All of this is effectively policy. Accordingly, the reasoning behind these rules is that government policy can come from multiple sources and branches of government including laws, constitutions, bureaucratic regulations, courts, and decisions made by law enforcement on the ground. In the context of this study, all of these sources of practical policy can result in GRD. For example, if a government arrests or deports foreign missionaries, the restriction on religious freedom is much the same whether this is based on a law or simply what local law enforcement officials consistently do. As all actions measured by these variables are public, they tend to be reported in the above sources. For SRD and all other societal-based variables, we measure public actions taken by members of society who are not government representatives.

The RAS project performs several reliability checks. First, the PIs supervise and review all country reports written by the research assistants checking for completeness and accuracy. Second, during the coding process, the research assistants write an explanation for each positive coding (there is no need to justify coding a policy is absent as the reason is always there is no evidence of such a policy). This allows a check for conformity between the reports and the codings. Third, RAS performs inter-coder reliability tests—a sampling of countries are coded by a second research assistant based on the reports, and the results are compared to those of the original codings. Fourth, statistical tests are performed comparing codings across RAS rounds. After these tests, the codings can be adjusted based on an evaluation of the totality of this information. Finally, for each round the project performs a series of statistical tents to ensure that combining the large number of individual variables in each index is appropriate. For details on these tests as well as a broader discussion of the data collection procedures, see Fox (2011) and Fox et. al. (2018).

A final issue is the "dog that didn't bark"—what happens when important events occur that are not reported in the sources used to collect the data? While this almost certainly occurs, the basic

assumption is that if there is no evidence something occurred, it cannot be coded, especially if multiple sources are consulted that would likely report such an event. In these cases, the missed events are generally low-level and uncommon, so false negatives tend to be close to zero if not actually zero. False positives are rare. We would also argue that no contextual case study ever has all the facts for essentially the same reasons as our study—some of them are simply not present in the information available. Thus, this is an issue common to all academic studies on this topic. The basic assumption of events data, as well as comparative studies, is that the information available is sufficiently close of reality to provide meaningful information that can be analyzed.

Table A1. Descriptive Statistics of Dependent and Independent Variables, 1991-2023

Variable	N	Mean	SD	Min	Max
DV: Minority Level GRD	7893	2.19	5.08	0	33
Minority Level SRD (1 year lag)	7893	0.73	2.15	0	22
Country Level GRS (1 year lag)	7893	7.80	4.56	2	31
Religious Majority Pop %	7893	59.34	20.89	23.12	99.99
Religious Minority Pop %	7893	6.42	10.02	0.01	52.40
Log GDP per Capita	7893	3.06	0.40	2.21	4.15
Log Country Population	7893	6.91	0.62	5.57	8.12
V-Dem Polyarchy Score	7893	0.41	0.20	0.07	0.80
V-Dem Regime Duration	7893	6224.32	5274.56	0	21937
Christian Majority Country	7893	0.63	0.48	0	1
Muslim Majority Country	7893	0.24	0.43	0	1
Christian Minority	7893	0.25	0.43	0	1
Muslim Minority	7893	0.23	0.42	0	1
Animist Minority	7893	0.18	0.38	0	1
Religious Polarization Index	7893	0.68	0.23	0.00	0.98
Year	7893	2007.05	9.49	1991	2023

Table A2. Pearson's R Correlation Coefficients for non-dichtomous variables, Full Sample

	GRD (DV)	SRD	GRS	Maj Rel %	Min Rel %	Log GDP pcap	Log Population	Polyarchy	Regime Duration
SRD	0.471 ***								
GRS	0.475 ***	0.500 ***							
Maj %	0.183 ***	0.243 ***	0.390 ***						
Min %	-0.059 ***	0.003	-0.151 ***	-0.262 ***					
Log GRD pcap	-0.025 *	-0.042 ***	0.005	-0.115 ***	-0.099 ***				
Log Population	0.056 ***	0.118 ***	0.178 ***	-0.136 ***	0.052 ***	-0.231 ***			
V-Dem Polyarchy	-0.279 ***	-0.140 ***	-0.107 ***	0.026 *	-0.036 ***	0.405 ***	-0.017		
Regime Duration	-0.055 ***	-0.081 ***	0.093 ***	-0.117 ***	-0.026 *	0.374 ***	-0.179 ***	0.096 ***	
Polarization	-0.157 ***	-0.254 ***	-0.456 ***	-0.856 ***	0.291 ***	0.066 ***	0.263 ***	0.029 *	0.008

*** *p<0.001, ** p<0.01, * p<0.05*

Table A3. Pearson's R Correlation Coefficients for non-dichtomous variables, Christian Majority Sample

	GRD (DV)	SRD	GRS	Maj Rel %	Min Rel %	Log GDP pcap	Log Population	Polyarchy	Regime Duration
SRD	0.086 ***								
GRS	-0.004	0.170 ***							
Maj %	0.017	0.032 *	0.103 ***						
Min %	0.007	0.132 ***	-0.044 **	-0.143 ***					
Log GRD pcap	-0.121 ***	-0.009	-0.140 ***	0.005	-0.114 ***				
Log Population	0.000	0.177 ***	0.488 ***	-0.037 **	0.036 *	-0.250 ***			
V-Dem Polyarchy	-0.304 ***	0.015	0.016	0.190 ***	-0.099 ***	0.369 ***	0.038 **		

Regime Duration	0.013	-0.093 ***	0.142 ***	-0.176 ***	-0.019	0.310 ***	-0.053 ***	0.025	
Polarization	0.126 ***	0.024	-0.092 ***	-0.747 ***	0.220 ***	-0.123 ***	0.231 ***	-0.210 ***	0.05 ***

*** *p<0.001, ** p<0.01, * p<0.05*

Table A4. Pearson's R Correlation Coefficients for non-dichtomous variables, Muslim Majority Sample

	GRD (DV)	SRD	GRS	Maj Rel %	Min Rel %	Log GDP pcap	Log Population	Polyarchy	Regime Duration
SRD	0.613 ***								
GRS	0.712 ***	0.538 ***							
Maj %	0.164 ***	0.130 ***	0.333 ***						
Min %	-0.079 ***	0.055 *	-0.184 ***	-0.536 ***					
Log GRD pcap	0.481 ***	0.263 ***	0.668 ***	0.429 ***	-0.186 ***				
Log Population	0.196 ***	0.193 ***	0.128 ***	-0.426 ***	0.304 ***	-0.024			
V-Dem Polyarchy	-0.290 ***	-0.296 ***	-0.320 ***	0.058 *	0.029	-0.041	0.215 ***		
Regime Duration	-0.099 ***	0.020	0.227 ***	0.281 ***	-0.178 ***	0.237 ***	-0.351 ***	-0.096 ***	
Polarization	-0.140 ***	-0.106 ***	-0.346 ***	-0.917 ***	0.530 ***	-0.430 ***	0.536 ***	0.069 **	-0.373 ***

*** *p<0.001, ** p<0.01, * p<0.05*

Table A5. Variable Inflation Factor for Independent Variables

	(1) All Countries		(2) Christian Majority		(3) Muslim Majority	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Societal Religious Discrimination (yr lag)	1.50	0.67	1.19	0.84	2.07	0.48
Governmental Religious Support (yr lag)	2.09	0.48	1.52	0.66	3.35	0.30
Religious Majority Population %	4.15	0.24	2.57	0.39	7.89	0.13
Religious Minority Population %	1.53	0.65	1.45	0.69	2.23	0.45
Log GDP per Capita	1.67	0.60	1.47	0.68	2.36	0.42

Log Population	1.66	0.60	1.67	0.60	2.34	0.43
V-Dem Polyarchy Score	1.47	0.68	1.37	0.73	1.83	0.55
V-Dem Regime Duration	1.43	0.70	1.50	0.66	1.50	0.67
Christian Majority, any type	2.92	0.34				
Muslim Majority, any type	4.06	0.25				
Christian Minority	1.82	0.55	1.54	0.65	2.77	0.36
Muslim Minority	1.49	0.67	1.45	0.69	1.83	0.55
Animist Minority	1.60	0.62	1.45	0.69	2.60	0.38
Polarization	5.32	0.19	2.80	0.36	8.82	0.11

Table A6. Alternative Specifications of Models, with only SRD or GRD

	All Countries		Christian Majority		Muslim Majority	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Societal Religious Discrimination	0.941***		0.231*		0.995***	
1 year lag	(0.234)		(0.098)		(0.243)	
Governmental Religious Support		0.586***		-0.003		0.795***
1 year lag		(0.111)		(0.057)		(0.115)
Religious Majority Population %	0.048**	0.054**	0.055***	0.055***	0.009	0.048
	(0.018)	(0.018)	(0.015)	(0.015)	(0.062)	(0.063)
Religious Minority Population %	-0.039	-0.017	-0.036	-0.032	-0.110	0.042
	(0.025)	(0.024)	(0.035)	(0.034)	(0.153)	(0.135)
Log GDP per Capita	1.630*	1.174	-0.283	-0.213	15.563***	4.465
	(0.704)	(0.652)	(0.670)	(0.663)	(3.607)	(3.023)
Log Population	0.121	-0.998*	-0.542	-0.451	2.123	0.270
	(0.507)	(0.500)	(0.491)	(0.500)	(1.982)	(1.864)
V-Dem Polyarchy Score	-7.554***	-6.455***	-5.917***	-5.959***	-8.656	-4.587
	(1.561)	(1.481)	(1.503)	(1.513)	(4.408)	(3.634)
V-Dem Regime Duration	-0.000	-0.000**	0.000	-0.000	-0.000	-0.000*
(in days)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Christian Majority, any type	-0.389	1.016*				
	(0.375)	(0.483)				
Muslim Majority, any type	0.048	0.507				
	(0.681)	(0.773)				
Christian Minority	0.645	1.512*	0.421	0.392	0.269	2.270
	(0.701)	(0.757)	(0.998)	(1.002)	(1.370)	(1.166)
Muslim Minority	0.731	0.899	0.693	0.862	1.640	1.360
	(0.609)	(0.601)	(0.621)	(0.602)	(1.497)	(1.511)

Animist Minority	0.597	0.358	0.455	0.403	-0.249	-1.029
	(0.653)	(0.720)	(0.905)	(0.904)	(1.501)	(1.567)
Religious Polarization Index	3.401	7.082*	7.309*	7.255*	-0.033	3.807
	(2.831)	(3.055)	(3.093)	(3.017)	(5.305)	(5.490)
Constant	-7.204	-5.816	-1.170	-1.907	-53.142**	-21.918
	(5.477)	(5.098)	(3.465)	(3.564)	(18.617)	(14.309)
Year Effects	Included	Included	Included	Included	Included	Included
Observations	7,893	7,893	4,953	4,953	1,884	1,884
R^2	0.305	0.335	0.175	0.170	0.587	0.627
F-statistic	4.053	6.750	4.866	5.646	111.829	891.194
p-value	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)

Robust standard errors are in parentheses, clustered by country-minority
**** p<0.001, ** p<0.01, * p<0.05*

Table A7. Minimal Models including Alternative Specifications

	All Countries			Christian Majority			Muslim Majority		
	(1c)	(1d)	(1e)	(2c)	(2d)	(2e)	(3c)	(3d)	(3e)
Societal Religious Discrimination	0.723***	1.111***		0.254*	0.234*		0.687**	1.349***	
1 year lag	(0.199)	(0.263)		(0.120)	(0.118)		(0.245)	(0.304)	
Governmental Religious Support	0.371***		0.541***	-0.054		-0.036	0.682***		0.883***
1 year lag	(0.088)		(0.116)	(0.078)		(0.080)	(0.102)		(0.132)
Constant	-1.097*	1.168***	-1.839**	1.480**	1.174***	1.434**	-3.696***	1.496*	-4.437***
	(0.513)	(0.187)	(0.624)	(0.518)	(0.214)	(0.523)	(0.778)	(0.588)	(0.905)
Year Effects	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	7,937	7,937	7,937	4,968	4,968	4,968	1,913	1,913	1,913
R^2	0.299	0.219	0.231	0.026	0.025	0.020	0.579	0.361	0.512
F-statistic	4.882	2.934	6.287	4.505	3.833	3.628	24.562	.	.
p-value	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	(p<0.0001)	.	.

Robust standard errors are in parentheses
**** p<0.001, ** p<0.01, * p<0.05*