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Exploring Environmental Perceptions, Behaviors and Awareness: Water and Water Pollution in South Africa

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rural Africans, to clear waterways of after vegetation. diriting water sometimes or always and whether household members are water pollution as a community problem, whether the household treats and water pollution. Specifically we look at factors related to the perception of Understanding the factors related to environmental perceptions and behaviors aware of the Work for Waler Initiative, a program to employ the poor, mainly ernironmental initiatives. We investigate thas e issues in the area of water and social scients is. But there is limited consensus about the reasons for environmentally-related attitudes and behaviors and in their awareness of differences and similarities among estinic and socio-economic groups in their and awareness of environmental critiatives is important for both policy makers

iving will be more concerned about the environment than those who struggle as having higher educational attainment and those with a higher standard of perspective expects that those with higher socioeconomic status (SES), such maintains that concern with the environment is a post-materialist view Hypothesis: Based on Maskow's hierarchy of needs, Inglehart (1995) basak, needs, puch as for food and sheller, have been salisfied. This Locarding to Bis, people are only concerned about the environment after

are more likely to be concerned with the anvironment who five in worse environmental conditions and who have relatively low SES Alternative Hypothesis: Hurch (1971) and Hohm (1976) found that those

non-African households are much more similar to each other than to African 55% are White, 33% are Coloured and 12% are Asian. All of the groups of comprise 23% of South African households. Among non-African households 6.264 households headed by a non-African. Non-African households Data from the 2004 South Africa General Household Survey are analyzed households (Table 1). This is a national survey with 19,950 households headed by an Alrican and

Characteristics of Population Groups in South Africa and of non-African Households as a Which: 2004

	7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	% with Clean Drinking Water	X with Household Head 5+ Years of Education	% with a Flash or Charrical Tollet
drican .	105	5.28	458	45%
Multi-	101	Xee	1486	100%
olounud	¥33	440	4.18	67%
lalan	97%	106%	428	ş
Paighted Average of Ion-African Greeps	5	1686	3,14	16%

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Univariate Analysis

- water pollution as a problem.
- Work for Water Intelletive (Table 2) Hembers of non-Airloan households are much more owere than members of non-African households of the

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28.5%	70%	12.0%	Awars of Work for Water Inflative
.0.	5.8%	5.4%	Trent Orbital Pitaler
Xer	13.4%	10.4%	Wester Postados Perceivad as a Problem
Households	Abican House holds	All Howes holds	
fouseholds as	non-African F and Awarens	E 2 seholds and I s, Behaviors	TABLE 2 Percent of All Households, African Households and non-African Households with Water-Related Perceptions, Behaviors and Awareness

Multivariate Analysis

Results from a logistic regression analysis expear in Table 3.

Perception of Water Pollution as a Problem: Nembers of African trous sholds and members of households perceive water postulion as a problem. Education of the household head is not important for this perception. waith lower SES (uniclean water, no flush or chemical toilet, not living in formal housing) are more lively to

household head with 5+ years of education all combitute to a household treating drinking water. Affician

members of man-African households Water Intifative. Members of African households are much less likely to be aware of the intilative than housing and with a household head who has 5+ years of education are more likely to be aware of the Work for

28145 F1495		1199 1013	oneland -1,546 -1,546	troum Household 340 -382	eter Polkullen = Problem - 464	Г	32 355 121 Housing	Orleichag Weber	ush or Chemical Tollet -313 -274	bas 114 114	Wither Transf Patherien Drinkling Problem Water	A II Households	Logistic Regisssion of Factors Related to Perception of Water Pollution as a Problem. Transment of Drinking Water, and Awareness of Work for Water initiative
FIER	+		2,572	軟	ı	*	æ	N.	H	-112	Awar d Hork for Mate Mate In Bardes		ors Relate Water, a
DSDEC			-1.001	1	_	676	-546	1111	RIF	2	Personal Problem	145	d to Percep nd Awaren
19902		11	.20	,	<u>H</u>	i i	Ē	1.279	王	- 38	Treat Drinkleg Water	Atrican Households	Alon of No
1400	5	1	-3.784	-	ı	161	H	齿	101	.044	Author of Work for Works	old	fater Pollutio
S	6	E	-200	J	ı	i i		-317	-400	125	Holer Pollution » Problem	попай	in as a Problemiterities
11.21	-	1011	2	,	2382	211	ā	Ë	Ė	.000	Drinking Water	non-kiricas Kousshokis	,
					Ī						Hard Hard	holds	

- Members of African households are much more likely tran members of non-African households to penceive
- There is no difference between African and non-African households in the tendency to treat drinking water.

households are less Blaty than members of non-African households to treat drinking water Treatment of Drinking Water: Perception that water politrion is a problem, heving unclean water and having

Awareness of Work for Water Initiative: Members of households with a flush or chamical balet, in formal

eritand co**ordinates significant** of p < .96 ^홅^훏^홓뒫함켘쾗</sup>릐릐,







Conclusions

Perception of Water Pollution as a Problem

- Those more likely to be adversely affected by water pollution Africans, those are more likely to perceive water pollution as a community problem with unclean diriting water, and those with otherwise poor living conditions -
- These results contradict ingleher's expectations. They indicate that concern with the environment is not only a post-moterialist concern

Treatment of Drinking Wale

- Perception of weber pollution as a problem and fiving in poor environmental conditions are important in the decision to treat drinking water. These results somewhat contradict inglehan's way.
- In the presence of poor environmental conditions, having a relatively wellthis result supports inglehands expectations. educated household head is important in the decision to treat driving water
- Education could increase the household's efficacy in dealing with a variety to counter the effects of weiter pollution. of problems. It could enable the housefold to locus its energies on action

Awareness of Work for Water Initiality

- Having relatively high SES plays a strong role in whether household enembers are aware of the Work for Water Initiative. This result is consistent with Prose who have aircady satisfied their besit needs. inglehert's expectations. Awareness of this installive is virtually restricted to
- Possibly the connection behaven clearing waterways of alen regelation and combating water pollution is too indirect for many people to appreciate
- Africans, who were a target of this initiative, are much less likely than non-Africars to be aware of it

Awareness of Work for Water Initiative Among Relatively High SES

In Table 4, we look at the percent of African and of non-African households who chemical looiet, whose household head has five or more years of education and SES households - those that almultaneously have dean water, have a flush or are aware of the Work for Water hillselve, restricting attention a relatively high

initiativa than members of African households non-African households are almost 3 times more likely to be exerc of this Even when households have a relatively high standard of living, members of

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on-Albitras Households	frican Mouseholds	Percent of African and non-Aldran Households Awars of the Work of Wister Inligibrs, Among those Households which Steathneouss I nee Clean Water, a Flauke or Chemical Toled, a Hoesehold Hased with Five or Nore Years of Education and Live in Formal Househog
100	11%	esholds Awara of the Wort holds which Simutaneous I Tollet, a Household Head nd Live in Formal Housing

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Forthcoming in Population and Environment

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Murch, A. W. 1971. "Public concern for environmental poliution." Public Opinion Quarterly, 35: 100-108

Mastow, A. 1964. Motherion and personally. New York: Harper and Row.

inglehart R. 1995. Public support for environmental protection. Objective problems and subjective values in 43 societies." PS: Potitical Science and Publics, 28: 57-72 Hohm, C. 1976. A human ecological approach to the resity and perception of air polyation: The Los Angeles case," Pacific Sociological Review, 19: 21-44

Urban Residence and Education of Head of Household in the Analysis of Perception of Water Pollution as a Community Problem Among African Households

puzzling. In a difference of means test (Table 5), urban residence is significantly negatively related to perceiving water pollution as a community problem. The finding for Africans in Table 3 in the logit regression analysis that urban residence is positively related to perception of water pollution as a problem is

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community architect Consequence of 100 of bouleable without a flux or abonical tailet page in a larger political	The entries show the proportion of households with the given characteristic who perceive water pollution as a	Household Head 5+ Yrs Education	Formal Housing	Clean Water	Flush or Chemical Toilet	Urban		Pollution as a Community Problem, African Households, 2004	Table 5. Results of Difference of Means Tests for Factors Related to Perception of Water
id a fluight or ah	haracteristic w	.127	.096	.106	.105	.124	Yes	, African H	r Factors R
omical tailet nar	no perceive wate	.137	.178	.239	.151	136	No	ouseholds, 2	elated to Per
wise unler pollution	er pollution as a	.036	.000	.000	.000	.015	Sig.	004	ception of Water

as a community problem. The significance column shows the p value for the difference of means between the two community problem. For example, 15.1% of households without a flush or chemical toilet perceive water political categories (Yes and No) for each variable. The higher value is underlined and holded if p < .05.

chemical toilet, to have clean drinking water and to live in formal housing. Urban Africans have a substantially higher standard of living than rural Africans (Table 6). Urban Africans are more likely than rural Africans to have a flush or

Table 6. Percent of African Households with Various	ouseholds	with Various
Facilities by Urban/Rural Residence, 2004	al Residen⊧	се, 2004
	Ürban	Rurai
% with Flush or Chemical Toilet	79%	12%
% with Clean Water	99%	65%
% in Formal Housing	64%	53%

same sanitation category. water pollution as a problem, Table 7 shows that in a multivariate analysis urban residence is positively related to perceiving water pollution as a problem. because urban residents within a given category of type of sanitation are more likely to perceive water pollution as a problem than are rural residents within the means test (Table 5) than in the multivariate logistic regression analysis (in Table 3). Although by itself urban residence is negatively related to perceiving Table 7 shows why the relation between urban residence and perception of water pollution as a community problem is different in the univariate difference of

Table 7. Percent of African Households who Perceive Water Pollution as a Community Problem by Urban/Rural Residence and by Whether the Household has a Flush or Chemical Toilet, 2004 Urban Rural	<u> </u>
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water pollution as a community problem. The significance of education of head of household disappears in the multivariate analysis in Table 3 because of the perceive water pollution as a problem, in the univariate analysis in Table 5, education of head of household is significantly negatively related to perception of relation of education of head of household to other household characteristics, such as type of sariltation and whether the household has clean drinking water, Also note that although in the multivariate analysis (Table 3), education of head of households not significantly related to whether African households that are more strongly related to perception of water pollution as a community problem