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## Young drawers of water: The burden on children in rural South Africa

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Children collecting water are a common sight in South Africa's rural areas. There are many photographs in government brochures and popular literature of smiling girls with plastic 25 litre containers on their heads walking along a path against a landscape of grassy hills and groupings of traditional huts; a scene of seemingly idyllic rural life with children making an essential contribution to their households. This paper attempts to get behind the attractive photographs to understand the contribution these children are making to their households and the impact of this practice. The implicit understanding underlying the research is that collecting water shares similar features to child labour which may impede child development; the research interest was in the type and forms of these impediments. An important consideration flowing from this hypothesis was the possibility of applying the research conclusions to the future planning and prioritization of water projects where large numbers of children still collect water. Is collecting water a short-term essential chore or is this a practice which, in deep rural areas, is hampering the social and educational development of these children?

These are basic questions which the author attempts to answer a study of children collecting water in four deep rural communities in South Africa. Large numbers of children are involved in the practice as rural communities are also likely to have the greatest number of children (Woolard, 2002). The research arises from a project which aims to prioritise delivery to households in deep rural areas which are furthest away from safe sources of water.

### ***The context***

There is increasing concern internationally, reflected in current policy debates, in the International Labour Organization and among non-governmental agencies and campaigning groups that the practice of child labour, particularly in developing countries remains a feature of the lives of poor families and often blights the future of the child. Under conditions of globalisation the phenomenon is related to the poverty of these countries. South Africa has endorsed Article 32 of the Convention on the Rights of the Child adopted internationally in 1989 the child to be protected from "any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development" (UN, 1989).

In South Africa attention has focussed on children collecting water as the most common form of child work, rather than as the worst form of child labour. Although the practice is highly visible, a scan of international and local literature finds, unfortunately, that there is



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surprisingly little published on children collecting water *per se* or on easing this burden on children.

The main source of information nationally on child work comes from official surveys, in particular the Survey of Activities of Young People, SAYP (STATSSA, 1999). Among all the work-related activities undertaken by children, the activity which places demands on the greatest number is that of collecting wood and water. An analysis of this data conducted by the author found a considerable proportion of the children of South Africa are involved in this activity.

From the author's analysis of the SAYP data there is a surprisingly high proportion of children collecting water<sup>1</sup>: 4,3 million of the 13,4m children (32.0% of the total) are involved for an hour or longer a week and of these 80.2% live in the 'other rural' area which includes the former homelands and other areas not including commercial farming. Altogether 20 million hours a week are taken up in this activity, of which 86.4% is undertaken in 'other rural' areas.

It is found that although collecting wood generally takes more time than collecting water, there are fewer involved in this activity. Those children who are involved spend on average 9 hours 18 minutes a week undertaking both activities. Within this group more than half of those collecting water are girls, with girls spending on average 55 minutes a day compared to 49 minutes spent by boys. If the same activity is undertaken daily, this would amount to 6 hours 25 minutes a week for girls and 5 hours 43 minutes for boys (Poswell and Oosthuizen, 2003). These are considerable times for this demanding activity..

### ***Issues at stake***

From one perspective collecting water is part of household chores in rural areas and is often viewed as a way in which the child is socialised by contributing to the essential needs of their families. In this view collection of water is an essential activity for those households which do not have taps on hand, and any negative effects are outweighed by the practice forming part of the social development of a child and providing for the basic needs of the household. A contrary view is that the hours spent collecting water are long and children are deprived of their freedom, childhood, education, fun and play, and natural social and physical development. From this view childhood should be a period of learning, recreation, and physical, mental and social development and collecting water cuts down on the time available for these.

If this second view is correct, an identified negative effect would be, for instance, on schooling such as late entry into the system, daily problems of arriving at school late, exposure to punishment, difficulty in undertaking homework, and little or no time for reading. This view sees long hours collecting water as undermining a society's investment in human capital formation. There would also be symptoms of excessive fatigue and possible greater vulnerability to a range of diseases. Since collecting water is a demanding physical activity

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<sup>1</sup> Unfortunately the SAYP itself does not distinguish between children collecting wood and water, an important distinction as will be developed below.

which draws heavily on the physique and energy (a full container of 25 litres weighs 25 kg), there could also be some effect in later life.

Although this type of child work is not often considered harmful for children, it may delay the possibility of schooling or affect educational performance. Unfortunately little attention has been paid to date to any possible long-term physiological damage which may be associated with carrying water.<sup>2</sup> Research into the effect of water contact on the health of children has, however, drawn a clear link between water contact (as involved in gathering water from rivers and streams) and parasitic infections such as bilharzia (Kvalsvig, 1991).<sup>3</sup> These issues have generally not been given sufficient attention in the health and schooling of children, as parasitic infections can have an effect on social and cognitive development.

### **Method**

These issues are examined at the four selected sites through a combination of quantitative and qualitative measures. These sites were selected to represent communities *in which there is no piped water source* and where there are large numbers of children collecting water. The sites selected for the surveys have very different geographical and political settings. The two Limpopo sites, Thoto and Malokela, are comparatively dry, in KwaZulu-Natal, Sunduza is very hilly and has a number of water sources in the form of springs, streams and rivers, while Ngolotshe to the north is situated in a scrubland which is rocky and very dry. The conditions at these sites can be considered typical of remote rural settlements in South Africa.

The research methods included participatory observation by researchers who lived in these communities during the research, close measurement of time and distances by fieldworkers, focus group discussions with children and adults, and interviews with educators.

Within the 366 households surveyed, 1052 children within the age range from 5 to 17 were interviewed and data entered on a questionnaire. There were roughly the same number of boys and girls interviewed. No refusals were encountered (although a number of respondents declined to give information on household income).

### **Predominance of water collecting**

Analysis of the results showed that while children make a contribution in supporting the family through economic activities, it is in the performance of household chores that there is the greatest contribution in terms of time and numbers involved. In the table below the mean hours undertaken per week are presented for household chores. Taking all the sites

<sup>2</sup> The methodology for such a study would involve long-term monitoring of the physiology of females in rural areas and has not been undertaken; discussions with doctors at the Valley Trust and in various rural communities do indicate that some women who have previously been engaged in collecting water have major neck and back problems. The extent of the problem has yet to be measured.

<sup>3</sup> There has not been significant research following on that of Kvalsvig, although there is some interest currently in new tools to calculate infection among children.

together, children spend an average of 19 and a half hours in domestic activities with collection of water taking up the largest share followed by collecting firewood and housekeeping, which refers to all other household activities apart from collecting water and firewood, such as cooking, washing, cleaning, and ironing.

Hours spent in household chores per week

	All Areas	Thoto	Malokela	Sunduza	Ngolotshe
<b>Water</b>	15hrs: 58m	10hrs: 31m	27hrs: 41m	11hrs: 22m	18hrs: 33m
<b>Firewood</b>	3hrs: 37m	2hrs: 13m	3hrs: 49m	4hrs: 46m	3hrs: 27m
<b>Housekeeping</b>	1hrs: 56m	1hrs: 23m	1hrs: 59m	2hrs: 30m	1hrs: 29m
<b>Total Time</b>	19hrs: 31m	12hrs: 56m	30hrs: 53m	16hrs: 26m	21hrs: 17m

There are, however, considerable variations between sites. While the mean total hours per week is fairly similar in Sunduza and Ngolotshe (between 16 and 22 hours), in Malokela children spend considerably more time on household chores. This difference may be explained by the great distance to water sources, and hence high number of hours spent collecting water (between 27- 28 hours) in Malokela. In Thoto on the other hand children tend to spend considerably fewer hours in household activities (13 hours). Although Thoto is similar to other sites in not having access to piped water, it is unusual in every aspect measured, having fewer hours in collecting water, in housekeeping and in gathering firewood. This is possibly (if ironically) related to having been a 'betterment' area in the past with a number of improved water sources close to homesteads.

***The burden of collecting water***

This is the toughest of the household chores, it takes most of our time and is very tiring (Learner Malokela).

Although 847 children responded that they had collected water in the past seven days, virtually all children in the survey had collected water in the past. Collecting water is *the* dominant domestic activity with 81% of all children reporting involvement in this activity during the past seven days. Although participation in other forms of household chores such as housekeeping is equally high (730 children out of a potential 1052), considerably less time is spent on this activity than on collecting water. A smaller, but nonetheless high proportion of children also engaged in collecting firewood (710 children).

In the table below the various domestic activities are compared. Although there are a large number of children active in collecting firewood, housekeeping and collecting water, the hours spent in the first two activities are relatively small in comparison with the hours spent collecting water.

Time spent in household chores per week

Time bands	Firewood collecting	Housekeeping	Water collecting
0 - 7hrs:59m	684	728	259
8 - 13hrs:59m	21	1	172
14 - 20hrs:59m	0	0	192
21- 27hrs:59m	5	0	114
28hrs and more	0	0	110
<b>Total</b>	<b>710</b>	<b>729</b>	<b>847</b>

Most of the water collected in rural areas is carried and stored in plastic screw top containers (*s'gubu*) as these are easy to transport and can be rolled on the ground by children who are not strong enough to carry them. Whatever the form of container, it is no easy task carrying a 25 kg container home from the water source. The usual practice is for girls to carry containers on their heads, often with a more confident girl helping to lift and balance the container on to her friend's head. Carrying 25 kg a considerable distance is very physically demanding and there are attempts to ease this burden in a variety of ways.

Collecting water is reported to be by far the most demanding in time and energy and children also report that they feel this is the most hazardous activity they undertake.

There is evidence from focus group discussions that the collection of water is largely an activity of children rather than of mothers, although there are various combinations of women, mothers and children in carrying out the task. In addition to asking a direct question as to who collects water and the points from discussions, another method was devised to work out the children's role in the activity. The children's contribution is calculated in terms of their contribution towards total water consumption.

From this method it is calculated that children contribute 80% of the total volume of water consumed in the household and mothers and other people 20%. This proportion does appear to give a particularly high proportion to the children's contribution, and there is the possibility that there could be some exaggeration by children stating that they undertook more trips a week than they actually did. The consumption of water has been established through two approaches (a questionnaire and observation) but the children's contribution to the household could be too large. On the other hand the observation of water collection shows intensive activity among children particularly after school but also early in the morning.

***The impact on schooling***

We will be happy if water is brought closer to our home, in that way we will do well at school – and would pass with distinction (LearnThoto).

We hate the task of fetching water because it is taking lot of time and in that way we can't study or do our homework properly (Learners Malokela).

There is a very high proportion of children attending school at the four sites. However, given the long hours involved in collecting water, we need to ask what the effect is on the children's participation on education. When questioned about possible problems at school, of the 730 who responded that they did experience problems, 424 stated arriving late is the most important problem they faced.

A series of questions in the survey probe a potential tension between collecting water and attending school and direct questions asking about any problems arising from collecting water.

Of those children to whom the question was relevant, i.e. those both attending school and collecting water, 59% felt that collecting water caused problems in their schooling and the remainder felt that it did not affect their schooling.

The two main problems mentioned are being later or missing school. On closer examination it appears that lateness is not associated with collecting water in itself but with the extended hours undertaken by those undertaking more than one trip a day.

Missing school by number of trips per day

Number of trips a day	Yes	No	Total
Once a day	44%	56%	100%
More than once a day	62%	38%	100%

N=850

Of the schoolchildren reporting making one trip in a day, the majority (56%) reported *not* missing any day at school, while a majority (62%) of those making more than one trip a day reported that they *did* miss a day or more at school. Evidently those most vulnerable to missing are those who are giving this essential domestic task more of their time and effort.

Those who responded to questions probing problems directly related to collecting water tended to cite other problems than missing school entirely.

The most frequent response was not having sufficient time to study (mentioned by 73%), then arriving late (65%), being tired in class (60%) and having poor morale (46%). Each problem issue was reported much more frequently (in each case more than twice as frequently) by those involved in more than one trip than by those making a single trip. In focus group discussions children associated poor morale with the shame of arriving at school unwashed, unkempt, and untidy.

Sometimes you are so late that you find yourself coming to school without washing. We girls are not comfortable at all coming to school without washing (Learners Malokela).

This is an important concern for the children and linked to time taken in collecting water.

The responses to the issues showed gendered variations. More girls than boys respond that they were experiencing problems in schooling (53% of all cases). Girls feel concerned about being late for school (a point less mentioned by boys), followed by being tired in class and having no time to study.

### ***The Impact on health and well being***

One of the key questions in assessing the economic activities of children internationally is the relationship between work and disease. A study of household chores and child health in six countries (Guatemala, Zambia, Peru, Guinea, Brazil and Kazakhstan) found no relationship between longer hours in chores and health, indeed those working at least four hours daily are reported to have a better health status than those who worked shorter hours. The study concluded that the measures of child health, reported illness and the Body Mass Index failed to account for the dynamic relationship between time involved in chores and health (Francavilla and Lyon, 2003).

This study gives particular attention to those children working considerable hours, termed "full-time" by the authors of the article mentioned (i.e., at least 28 hours per week). The question was raised about the impact of household chores, performed above which time thresholds, should be considered as harmful to the child.

The survey posed questions in relation to symptoms experienced by the children and the following diseases to provide some general view of the perceived state of health of the children. Children were requested to make an assessment of the diseases they had experienced recently and the table below presents these multi-mentions. The self-reporting of disease is not unproblematic; more severe diseases tend to be remembered and less severe forgotten, memory lapses over time, and there can be under-reporting of diseases which carry stigma.

Of the total number of children in the survey, 856 responded that they had experienced one or more disease from 'beginning of the year' (i.e. in the first quarter of 2005). The right hand column provides the percentage of children reporting symptoms in each category as a percentage of all the diseases reported. The ranking of diseases and conditions shows that children report they are most commonly affected by fevers (commonly influenza), persistent coughs, and fatigue followed by the water related diseases such as diarrhoea, worms, and (a disease of water contact) bilharzia.

The diseases and conditions mentioned here are likely to be more seriously regarded by children and parents. The ranking of importance of disease changes with 'persistent cough' taking first place followed by worms, fever and diarrhoea. The difference in ranking can be explained in terms of which diseases are regarded as tolerable and those for which treatment is regarded as readily available or necessary. Worm infections, which are ranked low previously, are here ranked second and may well have been under-reported because of the social stigma attached to very unpleasant symptoms. As a child mentions:

Very few of us want to admit that we have worm infection and bilharzia (Learners Malokela).



In discussions the children and parents show a keen awareness of water related diseases, possibly because of the heightened attention caused by the cholera epidemic of 2000/01 four or more years previous.

Most of us suffer from diarrhoeal diseases such as cholera (Learners Malokela).

There are incidences of cholera, bilharzia and dysentery. Even now I have children at home who are seriously sick with diarrhoea and vomiting. Children get dysentery from swimming in these streams (Sunduza Parent).

They are, however, also aware (although with different degrees of acknowledgment) of the chronic conditions of bilharzia and worms.

What is significant in the table above is that conditions such as worms which have a very low ranking are placed significantly higher in these responses when related to medical attention.

It is also clear that, while children regard fatigue as having a health dimension, it is not a condition for which they or their parents seek medical attention although it may be having an important effect on their health and well-being. The 'other' illnesses not tabulated here include measles, dental problems, and eye infections.

**Health and time collecting water**

	<b>Has Improved</b>	<b>The same</b>	<b>Got worse</b>	<b>Total</b>
0 - 13hrs: 59m	42%	53%	5%	100%
14 hrs & more	37%	45%	19%	100%

In the table above there is a significant difference between those children spending less than 14 hours a week collecting water and those taking 14 hours or more. Of those children reporting working 14 hours or more fewer felt their health had improved, a similar proportion felt their health was 'the same', and a much larger proportion of those involved in the longer hours felt their health had 'got worse' (19% compared to 5%). The evidence seems to point to a proportion of children whose health is suffering.

**Health status and trips collecting water per day**

	<b>Once a day</b>	<b>More than once a day</b>	
Has improved	44%	56%	100%
The same	44%	56%	100%
Got worse	18%	82%	100%
	41%	59%	100%

N=831

The trend is confirmed in comparing the health status of children with the number of trips per day. Although a greater percentage reported their health had improved, of those



reporting that their health had worsened, 82% had undertaken more than one trip a day, a much higher proportion than those whose health remained the same or worsened. This analysis points to the uneven effects of collecting water. While the health of many children is unaffected by collecting water, or collecting water for longer than average hours, for a proportion of the children the activity seems to be having a negative impact. The characteristics of those children mentioning their health 'is worse' is reported below.

**Characteristics of children whose health had worsened**

	Percentage	N
Size of household > 6	78%	111
Gender, Female	54%	107
Report Fatigue	75%	111
Sought medical attention	57%	111
2 or more trips per day	81%	98
14 hours or more per week collecting water	77%	98
Collecting water is tiring	96%	107
Sore neck or back	96%	106
Health worsened by collecting water	87%	109
Often late at school	41%	111

There are slightly more girls than boys in this vulnerable group which comes largely (78%) from larger households. More than half (57%) have sought medical attention for ailments 'from the beginning of the year' and 75% reported fatigue. Among this group whose health has worsened, 81% are involved in two or more trips a day and 77% involved for 14 hours or more a week. Very large majorities state that collecting water is very tiring, that they have either a sore neck or back, and that their health had been worsened by collecting water. A high proportion (41%) report being often late at school.

In this group those who report worsening health are highly involved in collecting water for long hours and undertake more than the average time in the activity.

**Conclusions**

Children generally are making a considerable contribution to the poor households in rural areas of which they are a part. There is a relatively high proportion of children engaged in economic activities. It appears that in remote villages without access to piped water, children are involved extraordinarily long hours in collecting water; this activity is by far the largest component of domestic economic chores.

A very high proportion of children are involved in collecting water in these communities. This is proven to be the major household chore performed by these children and accounts for more than two-thirds of the time taken in household work. Of the total 19hrs: 31min averaged by children in household chores; 15hrs: 58min were in collecting water compared to 5hrs: 33minutes in other activities.

The surprising conclusion is that that children are apparently involved even to a greater extent in these areas than women. A possible explanation is that children are more available for this activity in rural communities and that adult women may be giving priority to

overall domestic management rather than to carrying out all the activities themselves. The long distances to water sources may be making it difficult for adult women to spend enough time on other essential domestic activities thus requiring increased dependence on children.

It appears that the effects on schooling, health and wellbeing do not impact uniformly on children but are most significant in relation to those who spend the greatest time in collecting water and make most trips. Although the indicators of health and wellbeing do not use direct health measures, the responses to questions asked in the survey provide a considerable range of subjective indicators in relation to experience of fatigue, problems in schooling and assessment of health. All these measures showed considerably greater vulnerability among those children most intensively involved in collecting water.

A considerable proportion of these children involved in collecting water (just under a third) are involved for more than 21 hours a week; it is this group which appears particularly vulnerable to experience of fatigue and poor health.

There are health problems associated with extensive hours in domestic chores in terms of fatigue and with water contact diseases such as bilharzia. Those children complaining of fatigue tend also to be experiencing associated health problems such as fever. The association may also be working in the other direction i.e. children who are not well may be having to collect water. Under the conditions of demanding physical activity on the children collecting water there could be an impact on their physical development as well as their immediate health.

In addition, schooling is affected: there is a relationship between the ability of children to proceed with their age mates through the educational system. In addition the attendance of those most involved in collecting water is problematic, there are complaints from children and from educators of the children most involved in collecting water being late for school. In class it is reported that those who are most involved are not able to perform their best.

The gender inequalities are evident. Girls predominate in collecting water and other household chores, but boys are also involved at a lower level. At times they collect greater volumes such as carrying two containers by using a wheelbarrow; which provides greater volumes while being less demanding.

When asked about their attitude most of the children collecting water state that they do it out of a sense of duty to their families but are not happy to do so.

Both parents and children regard the water they draw from natural sources as unsafe and unacceptable in taste, clarity and smell. In addition to the problem of quality there is also a problem of quantity.

Only 3% the households are able to access as much as 25 litres per person per day which is considered to be the minimum required for direct consumption, for the preparation of food and for personal hygiene but not adequate for a full, healthy and productive life (DWAf, 1994, 15).

In the first water white paper (DWAf, 1994:15) the health implications of poor sanitation were spelt out in diarrhoea, intestinal infections, typhoid and cholera. More than ten years

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later these conditions still are part of the lives of the children of poor households in rural areas. Those collecting water for their families tend to be the most vulnerable.

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