The making of *hardiness* in women's experience of health impacts of wood collection and use in Cuntwini, rural South Africa

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Resilience receives increasing attention in poverty research as a characteristic that allows poor households and communities to bounce back in the face of adversity. However, not all poor that are coping with adversity 'bounce back.' In some cases, the poor develop hardiness towards the adversity that they face. This paper explores the construction of hardiness and discusses why it is different from resilience. It is based on a qualitative study of wood collection and use in Cuntwini village, South Africa. Unlike resilience, hardiness has two dimensions. A supportive dimension that allows those facing adversity to cope with it and another dimension that may restrict the overcoming of the adversity by making it an acceptable part of life. The factors that contribute to hardiness in the face of a particular adversity include lack of choice, values and meanings that are attached to adversity or related issues, position and gender roles of those affected as well as number and perceived impacts of other adversities affecting the individuals or households.

[hardiness, resilience, health, wood collection, wood use, smoke, women, South Africa]

The study of the resilience of poor communities in the face of adversity has gained popularity in recent years. Defined as the ability of systems to bounce back (Scoones 1998: 7), the concept of resilience has understandably generated much enthusiasm. However, the view that it is wholly positive and desirable to maintain equilibrium in the face of adversity considers only one dimension of coping. A study of wood collectors and users in Cuntwini, South Africa, yielded a different but related concept of how poor persons may deal with adversity: hardiness. In contrast to resilience, hardiness is not wholly advantageous. Rather it is a complex, multi-dimensional coping mechanism that may be considered positive in as far as, it enables affected persons to cope with adversity. On the other hand, it can allow affected persons to find the adverse situation acceptable and may therefore impede the adoption of corrective actions. Drawing from a study of the experiences and responses to health impacts of wood collection and use, this paper discusses the construction of hardiness and its implications for taking action in the face of adversity. The investigation shows that

hardiness is constructed from a number of socio-economic factors including lack of choice, meanings and values attached to behaviours and artefacts, gender, and other lived experiences.

Energy and health impacts

Without access to basic infrastructure and services, the poor often undertake arduous daily activities that affect their health. Where traditional firewood is the predominant household fuel, it is women who are its main procurers and users. Consequently, it is women who experience the negative health impacts that occur through wood collection, transportation, transformation or processing, and end use.

With regard to wood collection there are reports of incidences of degenerative spine changes, prolapsed and herniated discs among fuelwood carriers (Echarri & Forriol 2002: 142, 2005: 293-95), pregnancy complications such as miscarriages (Bryceson & Howe 1993: 7-8, Haile 1989: 4) and post-partum complications (Odimegwu et al. 2005: 61). In addition, women frequently experience injuries such as cuts, broken bones, skin irritations, infections and snakebites (Wickramasinghe 2003: 8) as well as threats of physical and sexual assault including rape (Abebe et al. 2003: 2, Haile 1989: 4, MSF 2005: 4, Wickramasinghe 2003: 8-9).

Research has found that the domestic burning of wood contributes to health impacts such as respiratory infections, eye diseases and low birth weight (Anonymous 1992: 397, Boy et al. 2002: 111-112, Reddy et al. 2004: 87-88, Rumchev et al. 2007: 471, Smith-Sivertsen et al. 2004a: S78, 2004b: S86, Smith 1993, Smith et al. 2000: 518-20). The World Health Organisation (WHO) estimates that around 1.6 million deaths a year are related to indoor air pollution from biomass combustion for cooking and space heating (WHO 2006: 12). Given that about two billion people depend on mostly self-collected firewood for fuel, it is important to understand how those affected deal with the associated health impacts.

Study setting

The study was undertaken in South Africa in the rural Eastern Cape (formerly Transkei) in Cuntwini village in Pondoland. The Eastern Cape was declared a 'homeland'¹ area by the apartheid government in 1976. In addition, some of the areas surrounding Cuntwini were appropriated for estate farming and as a result many black South Africans were moved from their land and relocated to other villages such as Cuntwini. This has led to a unique governance structure in the village, with four village headmen corresponding to their main areas of origin but not necessarily to tribal or language groups. The apartheid era relocations, combined with recent migration and inter-marriages has led to the village having a mixture of Xhosa speaking groups with the main ones being AmaMpondo, AmaXhosa and AmaBhaca. There are also a smaller number of Zulu households due to the proximity of KwaZulu Natal and a few AmaRozikhrutshi.² The village is 27 km away from the rural town of Lusikisiki which houses the municipal headquarters and is the main port of call for the people of Cuntwini for groceries, medical services and banking services among other things.

At the time of the study, between July and October 2007, the village comprised about 150 households. Cuntwini has neither access to clean pumped water, nor to boreholes and protected wells. Water is collected from about three main streams and seven minor springs spread out through the village, with each household on average no more than ten to fifteen minutes from a water source. Despite this lack of access to clean water, no persons interviewed recalled outbreaks of cholera although they did state that water was a problem in the dry season when some of the springs dry up. Only three households reported that their children sometimes get diarrhoea, particularly during the rainy season. Hadju made a similar observation, noting that only 3% of the households reported that a member of the household often suffers from diarrhoea (Hadju 2006: 128).

In terms of energy access, the village has no electricity and the majority of households use firewood collected in nearby forests. Liquefied Petroleum Gas (LPG) and Paraffin can be bought in Lusikisiki with the latter also available at Spaza (kiosks) shops in the village.

Fieldwork

During my research I lived in the village and was hosted by a family for three months, during which time I used a number of qualitative techniques to collect data. These included in-depth face-to-face household interviews with 73 respondents, eight key informant interviews, and participant observation. As part of the latter, I went on water and fuelwood collection trips, attended funerals and *lobola*³ ceremonies, and helped to cook in different settings, including family and ceremonial cooking and also using different fuels. In addition, I used wealth ranking to categorise the various households according to their socio-economic groups. To do this I asked my (female) research assistant and a (male) key informant to independently group the households in different socio-economic categories. Categories included dependency on social grants, number of person(s) in the household with perennial and/or seasonal incomes, household size and the ratio of income earners to dependants in the household. I also mapped the villages' key natural resources using a transect walk.

I conducted a survey of persons coming from wood collection trips to check wood weights carried and the times taken to collect wood. I interviewed a total of 35 wood collectors, of which two were boys and the rest women and girls. In order to assess the amounts of firewood carried by collectors, I had initially planned to weigh wood bundles over a one-week period. This would allow me to maximize the range of 'wood collector types' that I would encounter since collection frequencies can vary. How-ever, due to bad weather⁴ I only undertook the survey over a period of three and half days. This did not include any Saturday data, with the implication that there is limited data from younger, school going girls in the survey.

I gave compensation of R20 (approx. $\in 2$ in 2007) to the women in recognition of the trouble of taking down bundles, being weighed and having to carry them again (when they were probably very tired). Since the recording period was short and not pre-announced, I do not feel this compensation affected the frequency of collection or weights collected because none of the persons surveyed changed their wood collecting habits (compared for example with their interview responses and observations).

Context of energy acquisition and use

Cuntwini village has no access to electricity and households depend on wood and paraffin for cooking (Table 1) and candles and paraffin for lighting. Few households also use liquefied petroleum gas (LPG). Firewood is the predominant cooking fuel and is collected from the forests that surround the village. Paraffin is a supplementary fuel, and households use it irregularly or for quick cooking tasks such as making tea, cooking vegetables or warming food.

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Fuel used	Households reporting
Paraffin and wood	56
Paraffin, wood and gas	8
Wood only	3
Paraffin and occasional wood5	3
Wood and gas	2
Paraffin and gas	2
Gas only	1
Total	75

Table 1 Energy for cooking in Cuntwini

Of the 72 households that used wood, 53 collected it, and this was largely the responsibility of women and girls, the ages of females collecting wood varying from five to above seventy. In line with cultural norms the majority of men and boys did not collect firewood. However in four households, boys (often under the age of fifteen) occasionally helped to collect wood.

Most women collected wood two to three times per week but a few collected it everyday. These were women who either had the opportunity to collect (on the way back from work) or who collect wood for income generation (selling to other households in the village). School-going girls often collect wood once a week, on Saturdays, when they were not in school.

From observations and discussions with wood collectors, women carry wood on their heads, a practice called head-loading (Bembridge & Tarlton 1990: 88, Biran et al. 2004: 9). A cushion ring protects their head against bruising and acts as a shock absorber, especially when descending rough, steep slopes. It also helps to stabilize the

load on the head. Notably, a few women who worked at a nearby tea factory used their protective work garments such as gumboots and overalls to protect themselves from injury during wood collection.

Women were responsible for processing the wood, by chopping where necessary, and also for cooking. Cooking takes place indoors in round huts most of which were poorly ventilated, having either very small or no windows at all. There were no efficient wood stoves or chimneys in Cuntwini and so the occurrence of indoor air pollution was high. Observable signs of indoor air pollution were smoky kitchens⁶ where, for example, 'soot strings' hung from kitchen rafters.

Experiences of wood collecting and cooking

During the household interviews I asked the participants to relate their wood collection and cooking experiences with reference to their health. I did not give participants a list of impacts to choose from but rather allowed them to create their own categories and explain their experiences. In cases where respondents were vague or indicated that they did not fully understand the questions I used probes to allow them to relate the 'body' and the collecting or cooking process. Of the 74 persons asked about their wood collecting experiences, 19 did not collect wood. Of these, three said they did not collect wood because they were men.

Reasons for not collecting wood	Number of respondents*
Because I am a man	3
I stopped because of injury	2
I stopped because of illness	2
I stopped because I am too old	4
I don't collect because our household buys wood	13
I stopped because I got tired and stressed of collecting wood	1
I stopped because my husband died.	1
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Table 2 Reasons given for not collecting wood

* Multiple answers possible

It is important to note that the woman who stopped collecting wood after her husband died did so because she was "*done with collecting wood*". Additionally, she had a steady and relatively high income.

In order to get the wood some women use a panga-like knife, called *Bushu* in Cuntwini, to chop off branches while others simply pick twigs from the forest floor and break off dead branches. As shown in Table 3, some women suffer injuries from the *bushu*. Once the wood collectors have an 'adequate' amount of wood, they tie it up in bundle and head load their bundles to carry them home. Respondents cited a number of health impacts and hazards that they experience as a result of collecting wood, most of which are musculoskeletal as shown in Table 3.

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Reported impact	Total number of persons reporting*
Upper back pain	24
Back pain	19
Whole body pain	16
Waist pain	12
Accidents	12
Cuts and bruises	10
Neck pain	6
Midback pain	6

Table 3 Health impacts of wood collection

* Multiple answers possible

Of the twelve accidents reported, one required surgery and hospitalization, while four resulted in women being unable to work for periods of more than one week and also left huge scars. In addition to the health impacts, 31 of the 55 women collecting wood reported encountering snakes, from which they ran, but none reported being bitten. Most women experienced a combination of the impacts (Table 3), but five women reported that they did not experience any problems, not even cuts or bruises.

I asked women who were pregnant or had recently given birth if they collect wood while pregnant. There were five women in this category of respondents, all of whom collected wood during pregnancy and all reported pain in the lower part of the belly. Only one of these women stopped collecting wood in the fifth month of pregnancy, three collected until the eighth month and one until just before giving birth. The women used different strategies to deal with wood collection tasks during or soon after pregnancy. One reported collecting more frequently during pregnancy so that she would have a stock of wood to use in the first weeks of the baby's life. One other reported that she became 'lazier' as pregnancy progressed and therefore collected less. Two of these women said there was no change in the frequency or load that they carried. After giving birth, the women returned to wood collecting tasks within a period of ten days to one month.

The processing and end use of wood are also phases in which women face a number of problems. In some cases, the branches or logs brought home are too big for the fireplace and women chop these up using axes or by breaking them against the knees or foot. One person reported that she got a splinter in her foot, which was "serious enough to require stitches." Eight respondents also reported axe accidents and four of these were self-rated as serious, causing some kind of deforming or deep/large scarring. All these injuries were to the lower inner part of the legs.

During cooking, women cited experiencing breathlessness and coughing, headaches and eyes problems. Of those that use paraffin, 20 households reported that their stoves exploded and in these cases the stove was "kicked outside" to prevent injury. Only one household reported an accident in which a stove exploded, causing a fire that burned a male household member to the extent that he now has problems moving his neck. Incidences of exploding paraffin stoves are not unusual in South Africa and are said to cause 1,300 deaths (Kenny 2002: 1), as well as 46,000 accidents and 50,000 related burns every year (Lloyd 2002: 1-2). Most of these, however, occur in urban areas where households use paraffin more regularly and for longer periods, and where houses are more crowded and often constructed with flammable materials. Only seven households in Cuntwini reported smoky paraffin stoves that irritated their nose and throat, causing breathing difficulties and stinging their eyes. One respondent did not perceive this as a health problem, although she did talk about how dirty the nose gets because of smoky paraffin stoves that were very smoky to the extent that I could barely breathe, but this was much less of an occurrence than with wood smoke.

Conceptualising hardiness

During interviewing and participant observation, I continually noted 'discrepancies' between my perceptions of the health impacts of the energy provision and use processes, and the responses from participants. During one participant observation, while cooking at a funeral together with a group of other women, I struggled to breathe because of the smoke from a paraffin stove. I asked if there was any one else who felt like this, none of them did. Was their (longer) experience in working in such situation ameliorating the tangible effects of the smoke I felt? In cooking with wood however, I often noted other women experiencing breathing difficulties, runny noses and watering eyes, but unlike me most of them seemed to be ignoring these impacts. I often asked how they coped and the answer was simply: "Ah! Magi, we cook!"

In addressing how they cope with such issues, participants often referred to a sense of strength. I initially coded this as *amandla*, meaning strength or power. Another observation was that some people contradicted themselves. Sometimes in interviews, respondents would start with "I face no problems..." before going on to list and explain a number of health impacts of wood collecting or cooking using fuelwood or paraffin. Sometimes the contradictions would come up after the interviews when we discussed the issues in informal settings such as at a funeral, *lobola* party preparations or trips to the market. Pursuing explanations for these contradictions brought various concepts to light. The first was the constant reference to *ubunzima* (difficulties/burdens). This was with respect to the weight of the wood, *kunzima*, the burden and hardships of the process of collecting wood itself, as well as cooking in smoky environments. Respondents also talked of *ukunyamezela* or *ukunyamezela ubunzima wethu* (to persevere or to tolerate our burdens). Exploring these concepts further brought a new theme closely related to *ubunzima* and *ukunyamezela*. This was *ukuqina* (to make strong or hard). Because the initial code *amandla* corresponds more closely to power

while *ukuqina* corresponds to being hardy, I changed the code *amandla* to *hardiness*. In everyday English, hardy persons are those accustomed to hardships, or capable of withstanding conditions generally considered adverse. In the next section I discuss how hardiness is constructed.

Hardiness as a lack of choice

Respondents often referred to lack of money, lack of alternatives or poverty as the reasons why they rarely sought assistance with the health impacts of wood collection and use. Many said there was "nothing they can do" about their experience because the poverty makes it difficult (to take action). Others did not go to the clinic because they lacked money for transport. Note here that government hospitals and clinics are free except for a registration card that costs about R20. The inability to seek treatment because of a lack of money for transport was interesting because most of these respondents go every Saturday and some other days to the town centre to shop but not to the clinic. Moreover, a mobile clinic sometimes comes to the village and despite the (transport) cost reduction this provides, respondents very rarely seek medical help for the impacts of wood collection or cooking with wood. There was also a sense of dealing with the reality of the situation where alternative solutions are limited and inaccessible. In this sense, other respondents felt that they could not go to the hospital with the related problems because the issue that causes it, head-loading or smoke, will remain:

I do not do anything about it. Even if I go to the clinic, I still have to collect the wood, so I will still have the pain (Female respondent, age 40+)

A number of respondents were particularly pessimistic about options that would allow them the choice to move to other energy sources. Seeing that this was "how this has been in the past and will be in the future", some respondents felt that they are perpetually trapped in poverty and have no choice but to endure the health impacts:

If we had electricity, it could have been different. We are always last and nothing reaches us, nothing will reach us. We have nothing! Nothing! So you just sit. You cope.

Some respondents asked me if I could help focus my research so that it would reach the *unceba* (ward councillor) or authorities who would then help them. Another pleaded to be taken away because she was tired of the hardships. One woman expressed how life was so hard that she "prayed to God to take her away". Yet, she also recognised that this same lack of choice makes her hardy:

I wish I could go away, to where you are coming from. Here, what can you do? But going to yours, Haibo Magi, that would make me soft."

Values and tradition

In Cuntwini, trees and wood have multiple uses and their value goes beyond the physical provisions of wood as a fuel. The uses and values of trees and wood include use as curative medicines, esoteric uses for warding off evil and bringing success; appeasement and interactions between the living and the dead enabled through various types of *isiko* (customs or rituals). *Isiko* are a variety of rituals often involving the slaughtering of specific animals, cooking and eating with family and friends. Wood use choices are therefore not made based on least cost fuel options only or hardships but are also cultural artefacts that create important connections with the ancestors and are part of what it means to be a Xhosa person. For example, wood is seen as inseparable from the culturally valuable *isiko*:

Wood is all I know. Even if we were to have electricity, I still think I would go and collect wood.... I am not sure whether the ancestors would visit us or accept *isiko* done on *umbane* (electricity). How do you do *isiko* if you only have electricity?"

Wood may also have specific uses, with some wood species being classified as undesirable for the homestead. An example is the belief that trees such as *umrhongo* and *umsenge* should be not be brought home for fire wood because they cause people within the homestead to quarrel.

Furthermore, other respondents felt that despite the effects of wood collection and smoke, it is also "*in the blood*", having been used by their ancestors before them. This connection and acknowledgement that wood and smoke have existed for centuries makes the negative impacts more acceptable. One of the questions raised by respondents was that if the ancestors before us used wood, how can we complain about its impacts? This resonates with Shackleton's findings in Makana District in Eastern Cape, where in the three small electrified towns of Riebeck East, Alicedale and Grahamstown, respectively 7.1%, 16.3% and 9.6% of the households cited traditional reasons as the advantage of using wood for fuel (Shackleton et al. 2007: 6).

Meanings: Igogo and the good makoti: A woman's value in wood

Closely connected to the issue of culture is the value that such culture places on daily activities. When I went for a wood and/or water collection trip, I was often recommended and asked to marry a Xhosa man because I would make a good *makoti* (daughter in law) – sometimes said as a joke and in other cases more seriously. Similarly, in discussions with young women they sometimes expressed their need to collect more firewood or to collect more frequently so that they could get married or get good *lobola*. Older women often expressed the desire for a good *makoti* to help with household work:

...But I wish I had a *makoti* because the boys that I borrowed from my brother cannot collect wood. A *makoti* would have really helped me here...

There seems to be a value that is placed on wood collection that is quite unlike that placed on water collection. Part of this may be explained by the fact that streams and rivers are in abundance in this village and therefore easier to collect than firewood. In addition, although water is collected more frequently, it is collected in 20 litre buckets while wood bundles are often heavier, sometimes well over half of the body weight of the carriers. However, other cultural practices suggest that this is not the only reason. As an example, before a woman is married negotiations for *lobola* have to be undertaken and during this period the bride-to-be lives with her prospective parents in-law where she is veiled when guests come (and in some cases always veiled except when she is alone). This period can range from a week to a month or more, depending on how long it takes the families to negotiate and arrange the lobola. During this period the bride-to-be is not allowed to do any work or go out except to collect firewood. This firewood is separated from all other piles of firewood and is called *igogo*. It is used by the bride, after negotiations are completed, to cook food for the groom's family and guests on the 'wedding day'. Thus wood collection is not only seen as a hardship but also defining a woman's desirability as a wife and/or mother, signalling her ability to care for her home. The term *igogo* is also used to denote the pile of wood that a woman keeps outside her hut. A big igogo is desirable as it signifies a woman's ability to adequately provide for her family. A small igogo is often linked to laziness and such a woman is less desirable, while a big *igogo* elicits pride in the woman and her mother. This perception is echoed in a Xhosa wedding song:

Umakoti ngowethu (the bride is ours) usengowethu ngempala bo (she is truly ours) uzosiwashel'asiphekele (she will do washing and cook for us) Sithi helele helele siyavuma (Yes, we cherish we cherish with pride)

The above verse illustrates not only the gender-specific role of a woman but also the value that her abilities add to her desirability as a wife or daughter-in-law. In the song, the fact that the bride will wash and cook for the groom's family is a source of pride. Thus building hardiness with respect to the hardships of wood collection is an asset:

Heke Magi, What could Nm⁷ have done if she did not know how to collect firewood or if she had to collect small bundles?

Cocks also found the special importance placed upon *igoqo* among the Amfengu Xhosas (Cocks 2006: 41). To this extent, even the way the *igoqo* is laid has significance, with the Amafengu preferring to put their *igoqo* vertically while the AmaXhosa place theirs horizontally (Cocks 2006: 58). Such cultural values will affect the way people perceive the impacts of activities, such as collecting wood, which provide positive meanings to other aspects of life.

Positional acceptance – a gendered perspective

As in all cultures, Xhosa culture is held together by a set of norms that prescribe the behaviour of men and women. It is a patriarchal culture in which women and men's socialisation is carefully orchestrated throughout a lifetime. The socialisation of children into specific masculinities and femininities starts at fairly young ages, and is done by a range of community members and the children themselves as they observe the roles of adults. Men are responsible for looking after cattle, building kraals and houses and where possible working outside the home to earn income (including migratory labour to cities such as Durban and Johannesburg). Women may also work outside the home to earn money and in fewer instances, migrate to bigger cities. However, the socialisation of women is very much around the homestead, wood collection and cooking, such that the narrative of "what is your typical day like?" was centred on these domestic activities. As such, women seem to be particularly socialised into accepting their position and the 'hardships' associated with their tasks. Discussions of the hardships of wood collection therefore often included the connections between the notion of being a woman and hardiness:

I am a woman. No matter how hard this is, I have to collect wood. Even if my body is in pain and is refusing, I have to do this because men and boys cannot collect wood. [Female respondent in her late 50s]

Other women referred to the burdens of women as part and parcel of their lives. Most were surprised that I would ask whether the boys or men in the house helped with wood collection or cooking because "it's not a man's task". Asked whether the women would want help from the men, the reply was almost always no. One young woman in her early twenties asked me what she would then be doing if men collected or helped collecting wood. Only in four households did I find some young men that helped to collect wood and in a few more they helped to cook. Single men often cooked for themselves although they did not collect firewood. Similarly, few men helped with water collection and most of these did not use buckets or carry it on their heads. Instead, when young men collect water they fill big jerry cans and use a wheelbarrow to carry the water home. Most of these young men were under fifteen years old and/or had not been circumcised, thus they had not entered ubundoda (manhood). An interesting result of these gender roles and how they make certain things acceptable was where household members have TB. Both men and women with TB often said they feared that smoke would make their illness worse and cause them to cough blood. However, because women still have to cook they continued to be exposed to smoke, while in at least one household a man said he has stopped being in the kitchen to avoid the smoke. The framing women's gender roles as *apheki* (those who cook) create an acceptance of certain hardships.

Multiple and bigger adversities: A focus on TB and HIV

In Cuntwini there are numerous issues that impact health in addition to wood collection and use, and these issues exist alongside and within various other health issues, such as HIV/AIDS and ill health attributed to witchcraft. South Africa is one of the hardest hit areas when it comes to HIV/AIDS with a national prevalence of about 19% (UNAIDS 2007: 11). Within South Africa, Eastern Cape has one of the highest prevalence rates at between 27% and 30% (Department of Health 2007: 7). During the research period I talked with various people about HIV/AIDS but a high level of stigma caused underreporting of HIV/AIDS-positive persons in the sample. In a discussion about a thirteen-year old girl who had become a household head before she was ten, one key informant continually referred to the corroding effect of HIV/AIDS and how it hardens people:

This disease corrodes the family. You see M, at [the age of] thirteen, has been doing everything for her mother... since she was ten. She has to collect much more wood because there is no one else to collect wood now that her mother is ill. And then she needs to be warm, to be washed, her mother. Haibo! She has burdens that child! She is hard[ened] by it!

As a critical adversity, her mother's illness had increased M's hardiness. The very gravity of her mother's illness seemed to relegate her other problems, health and otherwise, to 'non-problems'. A month or so later when M's mother died, one key informant and I agreed that she will cope with the loss relatively well because the experience of her mother's long illness had made her stronger.

Nx, a 24-year old HIV-positive woman, acknowledged how her long term illness is a loss of one more head to carry and one more person to cook. She nevertheless contends that her family is not any worse as a result of this labour loss. They have to *ukuthunez'ubhutyo;* to do as much as their can with whatever they have, literally meaning 'to gently coax along the most emaciated ox in order to eke out the last reserve from it' (Kirsch et al. 2004). During my various visits to Nx's home her discussions often veer to her illness and the multiple, poverty related problems that she negotiates daily. Her lack of 'papers' to access anti-retroviral therapy (ARVs), her problems in getting transport to the clinic, the clinic's response that her CD4⁸ count is not yet at a level for her to access social grants, her inability to eat and if she does, to keep the food down. These become her bigger adversities and make other problems much easier in comparison.

Three HIV-positive women also talked about hardiness and the experiencing HIV/ AIDS in terms of the body's acceptance or refusal:

There was a time when I was really ill. I have learnt to obey my body. When it says no, I sit down. I have to protect *amajoni* (CD4 count). *Ndixhala gqitha*! (I am extremely anxious.

Strikingly, in terms of smoke inhalation, most respondents did not worry about its impacts except when they had TB:

I have TB so I stopped going in the kitchen because I don't want to start coughing. You know...with this HIV and my TB. I am afraid of coughing blood." [HIV-positive male respondent]

But the choice to 'stay out of the kitchen' is rarely an option for women with TB:

I have TB and when there is so much smoke, I am worried. I am always worried that the smoke will make me cough... That I will start coughing blood. [HIV+ 51 year old woman, on ARVs since 2004, also on counselling and group support]

Hardiness or resilience?

Hardiness is a concept more common in health literature particularly relating to stress than in social science. Kobassa (1979) introduced the concept in her study of highly stressed executives and used it to describe individuals who experience high stress levels but remain healthy. She argued that people with hardiness use their ego resources to appraise, interpret and respond to health stressors in a way that benefits their psychological and physical health (Bissonnette 1998: 5, Kobasa 1979: 3). Like resilience, Kobasa's hardiness maintains a sense of equilibrium in the face of adversity but it also has a lot to do with cognitive functioning.

Resilience has perhaps a more multidisciplinary reach and with the rise of the livelihoods framework it has enjoyed increasing popularity. Resilience has been defined as the ability to withstand and rebound from crisis and adversity (Walsh 1996). Both hardiness and resilience suggest the notion of overcoming adversity. However resilience, especially in livelihood studies, is often (although not always) used against the backdrop of shocks to a system. This pairing conceptualises resilience with a sense that the stressor was sudden, uncommon and relatively short term or temporary, although its impacts may be long term or even permanent. However, in this context I discuss hardiness as a socially constructed phenomenon that allows individuals to cope with stressful situations, particularly those of a chronic nature.

So why consider a different coping concept separately from resilience? A major concern that I had while looking at concepts and the context in which they are set, was the emphasis on 'bouncing back' that resilience has. Resilience studies are often optimistic and see resilience as a positive asset that should be built up. However, coping can extend beyond building assets, to strategies such as ignoring the problem, normalising a problem without solving it, and attributing (positive) meaning to adverse experiences. This implies that unlike resilience, hardiness as conceptualised in this study has two sides. It allows the enduring of adversity (health impacts in this case) but can also allow persons to live with the adversity and accept it as a normal part of life. In other words, hardiness can mask suffering and block action. It is this lack of

emphasis on 'bouncing back' that creates a departure from resilience. Kobasa's 'hardy individuals' have qualities such as a belief that they can control or influence stressful events, are committed to activities, their interpersonal relationships and to self, and view changes as a challenge rather than a threat (Kobasa 1979). In this study, however, individuals developed hardiness at least in part due to the inability to control the stressful events, and often saw change as both a challenge and a threat. Moreover in most cases, rather than the stressful event being something that came into their lives, it was something that individuals grew up with.

The debate over hardiness demands attention because of its two distinctive dimensions: the aiding or supportive dimension that enables people to cope with their adverse experiences and the passive dimension that allows the acceptance of adverse conditions.

Conclusion

The paper discussed the construction of hardiness as a mechanism for responding to and coping with chronic adversity. As a socially constructed mechanism, hardiness may be influenced by gender, choice, cultural interpretations and values as well as other life experiences. Hardiness in socio-economic adversity differs from resilience in that resilience is about bouncing back while hardiness may include not only a supportive role in coping with adversity but also a passive acceptance or normalisation of adversity. A number of implications therefore emanate from these two dimensions. Firstly, there is need for researchers in poverty related studies to examine coping and adaptation in a broader context. For example, while hardiness may play an important role in helping the poor cope with adversity, the passive acceptance of adverse situations or normalisation of adversity may hinder efforts to address adversity issues. This suggests caution in interpreting how well the poor are doing in the face of adversity. Secondly, the research underscores the importance of understanding meanings and values of daily experiences. For example, positive cultural interpretation of activities that are harmful to health needs to be understood before an intervention can be implemented.

Notes

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- 1 Under the 1971 Black Homeland Citizenship Act, various rural areas were declared homelands as part of the 1958 Promotion of Bantu Self-Governance Act which purported to give black South Africans more political power. The Act however removed all rights and claims to South African citizenship by people from or moved to these rural enclaves.
- 2 Not a tribe but persons said to be descendants of Rosicrucians who intermarried with locals.
- 3 *Lobola* is practiced by some tribes, pre-dominantly in Southern Africa. Before marriage, the groom's family give 'wealth' such as cattle or cash to the bride's family. The term *lobola* refers to both the process which includes intensive discussions between the two families as well as the actual 'wealth' (e.g. cattle), it is sometimes translated as bride-price or bride wealth.
- 4 Bad weather over a total of three days in that week meant people did not go to collect firewood for this period.
- 5 Uniquely these three households, although using multiple fuels, cooked mostly with paraffin and only occasionally with wood. One was a one-man household and the other two were more wealthy households that did not collect any wood.
- 6 I did most of the interviews in the kitchen because this is where women socialized but also because it afforded me a chance to observe cooking practices, equipment, the general environment, persons involved in cooking and reactions to smoke among other things.
- 7 Name coded for confidentiality reasons.
- 8 CD4 denotes a glycol protein receptor and is commonly used as an indication (although not an absolute test) of HIV presence as well as treatment efficacy. The higher the CD4 count, the stronger the immune system. Full blown AIDS is often defined when CD4 count is less than 200.

References

Abebe, A. et al.

2003 Resolving resource conflicts around Sherkolle Refugee Camp. *Leisa Magazine* 19 (3): 18-20.

Anonymous

1992 Indoor air pollution and Acute Respiratory Infections in children. *The Lancet* 339 (8790): 396-98.

Bembridge, T.J. & J.E. Tarlton

1990 Woodfuel in Ciskei: A headload study. South African Forestry Journal 88 (154).

Biran, A., J. Abbot & R. Mace

2004 Families and firewood: A comparative analysis of the costs and benefits of children in firewood collection and use in two rural communities in Sub-Saharan Africa. *Human Ecology* 3 (1): 1-25.

Bissonnette, M.

- 1998 Optimism, hardiness, and resiliency: A review of the literature. http://www.reachinginreachingout.com/documents/Optimism%20Hardiness%20and%20Resiliency. pdf. May 10, 2008.
- Boy, E., N. Bruce & H. Delgado
 - 2002 Birth weight and exposure to kitchen wood smoke during pregnancy in rural Guatemala. *Environmental Health Perspectives* 110 (1): 109-14.

Bryceson, D.F. & J. Howe

MEDISCHE ANTROPOLOGIE 20 (2) 2008

1993 Rural household transport in Africa: Reducing the burden on women? *World Development* 21 (11): 1715-28.

Cocks, M.

2006 Wild plant resources and cultural practices in rural and urban households in South Africa. Implications for bio-cultural diversity conservation. PhD Thesis Wageningen University.

Department of Health

- 2007 National HIV and syphilis antenatal seroprevalence survey in South Africa. Pretoria.
- Echarri, J.J. & F. Forriol
 - 2002 Effect of axial load on the cervical spine: a study of Congolese woodbearers. *International Orthopaedics* 26 (3): 141-44.
 - 2005 Influence of the type of load on the cervical spine: A study on Congolese bearers. *The Spine Journal* 5 (3): 191-96.

Hadju, F.

2006 Local worlds rural livelihood strategies in Eastern Cape, South Africa. PhD Thesis, Linköping University.

Haile, F.

1989 Women fuelwood carriers and the Ssupply of household Energy in Addis Ababa. Canadian Journal of African Studies 23 (3): 442-51.

Kenny, A.

2002 Why electricity saves lives. *In Focus*. 25. http://www.hsf.org.za/publications/focusissues/issues-21-30/issue-25/electricity-saves-lives/

Kirsch, B., S. Skorge & S. Magona

2004 Teach yourself Xhosa. Reading: NTC Publishing Group.

Kobasa, S.

1979 Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology* 1: 1-11.

Lloyd, P.

2002 The safety of paraffin and LPG appliances for domestic use. *Energy Management News* 8 (2): 1-6.

MSF

2005 The crushing burden of rape: sexual violence in Darfur. http://www.doctorswithoutborders.org/publications/reports/2005/sudan03.pdf. December 19, 2005.

Odimegwu, C. et al.

2005 Men's role in emergency obstetric care in Osun State of Nigeria. *African Journal of Reproductive Health* 9(3): 59-71.

Reddy, T.S. et al.

2004 Domestic cooking fuel and lung functions in healthy non-smoking women. *Indian Journal of Chest Diseases and Allied Science* 46: 85-90.

Rumchev, K. et al.

2007 Indoor air pollution from biomass combustion and respiratory symptoms of women and children in a Zimbabwean village. *Indoor Air* 17: 468-74.

Scoones, I.

1998 Sustainable rural livelihoods A framework for analysis IDS Working paper 72.

Shackleton, C.M., J. Gambiza & R. Jones

2007 Household fuel use in small electrified towns in Makan District, Eastern Cape, South Africa. *Journal of Energy in Southern Africa* 18 (3): 4-10.

Smith-Sivertsen, T. et al.

- 2004a Chronic airway symptoms and lung function among women in a rural community in Guatemala with high indoor air pollution levels. *Epidemiology* 15(4): S79-S80.
- 2004b Eye discomfort, headache and back pain among women In Guatemala using open fires for cooking and heating. *Epidemiology* 15(4) S78.

Smith, K.

1993 Fuel combustion, air pollution exposure and health: The Situation in Developing Countries *Annual Reviews – Energy and Environment* 18: 529-66.

Smith, K.R. et al.

2000 Indoor air pollution in developing countries and acute lower respiratory infections in children. *Thorax* 55: 518-32.

UNAIDS

2007 AIDS epidemic update Copies available from UNAIDS/07.27E / JC1322E. UN-AIDS. Geneva.

Walsh, F.

1996 The concept of family resilience: Crisis and challenge. *Family Process* 35 (3): 261-81.

WHO

2006 Fuel for life: Household energy and health. Geneva: WHO.

Wickramasinghe, A.

2003 Gender and health issues in the biomass energy cycle: Impediments to sustainable development. *Energy for Sustainable Development* 7 (3): 51-61.