Wellbeing & Poverty Pathways

An ESRC/DFID Research Project

Wellbeing Pathways Report: Zambia Round 1

Sarah C. White, Stanley O. Gaines Jr.
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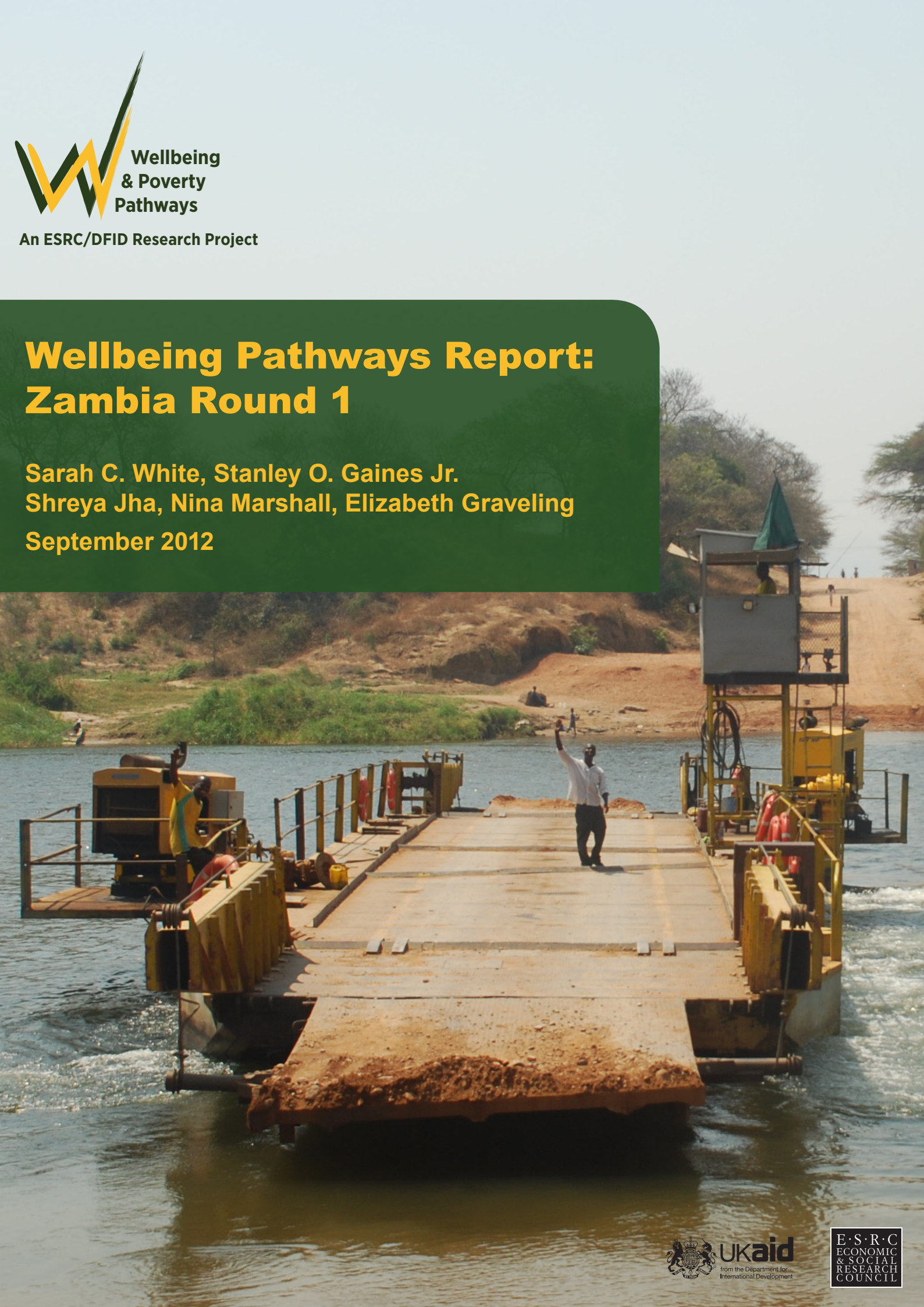
September 2012



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With thanks to Hodi and Susanna Siddiqui, Joseph Kajiwa, Kelvin Matesamwa, Goodson Phiri

Contents

Figures

Tables

Executive Summary

This report provides preliminary evidence about wellbeing and poverty in Chiawa, Zambia, using the multi-dimensional model of wellbeing developed by the Wellbeing and Poverty Pathways research project, and reflects on lessons from its development. Our research has two primary aims:

- To develop a model of wellbeing closer to the ways that people in the South think and talk and feel and act than the dominant models developed by psychologists in the West.
- To use this model to explore the relationships between poverty and wellbeing – both quantitatively through a survey and qualitatively through more open-ended interviews.

Our research involves two rounds of fieldwork each in Chiawa, Zambia, and in rural Chhattisgarh, India, between 2010 and 2013. This report draws primarily on the first round of fieldwork in Chiawa which took place from August to November 2010. The report is in two parts. The first is methodological, reflecting on the approach we took to assessing wellbeing, what worked and what did not work and why. The second is more substantive, describing what we have learnt about the objective conditions of life in Chiawa and people's subjective reflections on different aspects of their lives. This document should be read alongside a sister report which describes our next period of field work, in India February-May 2012 (White et. al 2012). In India we were able to apply many of the lessons learnt in Zambia that we describe here, which allowed us to develop our model considerably further. In the conclusion of this report we also reflect briefly on some similarities and contrasts in substantive findings between our data in the two countries.

Developing, testing and adapting our wellbeing survey
Recent interest in wellbeing has had three main focuses: the objective conditions of people's lives; quality of life approaches that include some subjective measures; and psychological or subjective wellbeing. We seek to combine these, viewing wellbeing as made up of seven domains and assessing each through both objective and subjective measures. In Chiawa, we characterised these domains as: enabling environment, participation and agency, social connections, close relationships, physical and mental health, competence and self-worth, values and meaning.

The most innovative and challenging part of our approach is the attempt to measure respondents' inner wellbeing – what they feel able to be or do. We adopted a standard approach of asking for respondents to state whether they agreed or disagreed with a set of statements, each of which was intended to tap an aspect of one of the seven domains of wellbeing. When we analysed the data, however, the inner wellbeing items did not come together as we had hoped. There were two major difficulties:

- The distribution of responses within each item: instead of the expected distribution curve, in which responses peak in the middle and tail off at either end, some items were clustered strongly at one extreme. This 'skewness' indicates that most respondents were answering the question in the same way.
- The correlation of responses across different items: for some items, people tended to use extreme options, rather than those in the middle, and the overall pattern of responses was different to expected. This 'kurtosis' makes it difficult to identify trends in the responses.

We identified a number of reasons for this pattern of responses:

- Sometimes people answered similarly because the statement was about an external situation not their internal state.
- Responses bunched together when there was an obvious 'right' answer – a socially approved response.
- The form of questioning had an impact and seemed to encourage emphasised responses that skewed results towards the extremes.

- People tended to agree not disagree with the statements we gave. We had included a balance of negatively and positively weighted statements, but still had a striking bias in responses.

For our subsequent fieldwork in India, we therefore adjusted our approach in a number of ways:

- Removed items where the main referent was external, and expanded the objective sections of the survey to include some of these.
- Removed items people found hard to understand or where little variability was found.
- Shifted from statements to questions to help understanding and ease of response, and address negative/ positive weighting and leading.
- Ensured questions were worded to capture the individual's personal response.
- Worded questions to elicit a full range of responses, including careful grading of responses.

This redesign paid off: statistical analysis of the data gathered in India validated both the seven domain model and the concept of inner wellbeing as a whole.

Wellbeing in Chiawa

The methodological issues mean we cannot make general statements about people's subjective experience of wellbeing, or constituent dimensions of this, in Chiawa. But we are able to report people's responses on specific items.

In total we surveyed 168 married men, 172 married women and 72 women heading households. Because of some cases in which the wife responded and the husband did not or vice versa, we have complete data from 164 couples. Our respondents are aged between 16 and 84, with an average age of 38. Married women are on average younger than women heading households.

Communities: Respondents span 25 different ethnicities, although the majority (59%) identify as Goba, a minority ethnic group in Zambia. People of different ethnicity tend to be interspersed rather than clustered geographically and there are high rates of intermarriage. Overall, non-Goba are doing significantly better than Goba in economic terms.

Religion: Chiawa is a predominantly Christian area, and the vast majority of respondents say they belong to a Church, with 24 different denominations mentioned. These span the range of church types, from Catholics and mainstream Protestants through Pentecostal and Charismatic churches, Jehovah's Witnesses, and African Independent churches. Ethnicity is not a significant determinant of church affiliation, but there is a strong association between wife's and husband's church membership.

Results: Objective Wellbeing

Marriages, household and children: Most men (72%) are in their first and only marriage, with only a small number in polygamous marriages. Most single women are widowed or divorced, with 6% having never been married. Most households have a nuclear structure, with just parents and children, although a substantial minority are extended households with other family members. On average three children are reported per household: 53% sons and 47% daughters. In all 20% of children born to our female respondents are no longer living. Grandchildren are most common in single women's households – more than a third of single women have grandchildren living with them. In 40% of these cases the parent of the child is not present, suggesting that grandmothers are taking care of the children of their own children, who have either died or can no longer support them. Nephews and nieces are found in 54 households, usually without their parents.

Education: Attainment levels are generally low: 15% of respondents have passed no schooling, and a further 57% have only passed a primary level. Overall, men are better educated than women, and

more married women than single women have achieved secondary education. The educational situation of respondents' children is very different, with the majority achieving at least primary education, and considerably higher levels of secondary achievement. Data suggests that more daughters than sons are finishing their education at primary level.

Livelihood: Almost all respondents grow at least one crop, and most crops are grown for household consumption, but farming is marginal and precarious. Almost half our respondents (44%) have gone hungry in the last year, with single women more likely to report hunger than married men and women. Most respondents (78%) do not have any paid job and live in households where no one has a job. Women are much less likely to have a paid job than men. By far the largest source of employment is the safari lodges, employing a quarter of male respondents. Almost half the men gain income from fishing, and business is similarly important for single women's livelihoods, although they tend to be involved in enterprises that are both socially and economically marginal.

Living environment and assets: Single women are most likely to live in the lowest quality housing and to have no electricity. Most respondents (92%) get their water from boreholes, and 94% rely on wood for cooking. General levels of asset ownership are low, with only radios, latrines, chickens and mobile phones being owned by more than half of respondents. Married men and women are doing better than single women in possession of some but not all assets.

Savings and loans: More than half of respondents (53%) have no savings or assets put aside for hard times. Most respondents (79%) have not taken out a loan in the past year. For those who have, family and friends are by far the most common source.

Group membership: Around one third of respondents (35%) belong to church based groups, and 21% to village committees, but no other kind of organisation involves significant numbers of respondents. Gender/marital status makes a difference: married men are most likely to belong to village committees, and single women twice as likely as married women to do so, with the opposite pattern in relation to church groups.

Health and disability: 41% of respondents say illness/disability prevented them working to some extent in the last year, and gender/marital status is significant: single women are most likely to report some inability to work due to illness/disability, followed by married women and then married men. Around 20% of respondents provide direct care to others either daily or quite often, with 10% regularly providing indirect care. Some of the stories here are quite remarkable, with people taking on responsibility to provide regularly for others they can see in need, even when there is no kinship or other obvious reason for them to do so.

Mediators of wellbeing

We considered whether or not some key dimensions of difference within the Chiawa population make a difference to the levels of wellbeing reported.

*Objective wellbeing: G*ender/marital status is a significant predictor of economic status, with single women scoring markedly lower than married men and married women.

Subjective reflections on wellbeing: We asked people to reflect on how they have been doing economically over the last year, and to compare their standard of living now with five years ago. Gender/marital status makes a difference in this: both married men and married women score higher than single women on both questions. Ethnicity is not a significant predictor of this, but economic status is strongly and positively correlated with both questions: in other words, the higher an individual's economic status, the more positively they perceive changes in their economic status and standard of living.

Inner wellbeing: We cannot make strong statements about the inner wellbeing domains as composites, due to the issues noted above, but items within them reveal interesting perspectives on life in Chiawa. Highlights include:

- Access to resources: The living environment in Chiawa is strongly perceived as hazardous. Despite the poor state of schooling and health services in Chiawa, access to these is scored positively. This may reflect people's low expectations in objectively poor circumstances. All items about state provision or citizen-state interaction are negatively scored.
- Participation and agency: People have little expectation that they can make organisations fulfil their promises or change official decisions that affect them. Most respondents feel it is important to vote and scores for community participation are relatively high.
- Social connections: In all items in this domain men are scoring highest, then married women, then single women. A palpable sense of personalised harm, often expressed as witchcraft, is a frequent topic in both interviews and everyday conversation.
- Close relationships: These items are overall the most positive. Married men score significantly higher than married women on household harmony and being listened to. Most people are confident of getting care in their old age, although this varies by economic status.
- Physical and mental health: Economic and gender/marital status both significantly affect these items. Men report least sickness/ pain and sleeping trouble and more sense of fitness for work. Many people fear something bad will happen, often linking this to environmental hazards.
- Competence and self-worth: People have no problem positively endorsing strong statements about their achievements and abilities, unlike respondents in India.
- Values and meaning: Items in this domain were difficult to select and to answer, with respondents finding it hard to understand what we were getting at with statements about fulfilment or meaningfulness which are used as standard in the West.

Conclusions – Observations in Zambia and India compared

For our study communities in both India and Zambia, economic status is the strongest predictor of scores on inner wellbeing items. However, this relationship is stronger in India than Zambia. By contrast, gender/marital status is a more significant predictor of inner wellbeing items in Chiawa, though here the difference between the countries is much less marked. In both countries the general pattern is the same, with people of higher economic status scoring more highly on wellbeing items, and married men scoring more highly than married women, who in turn tend to score more highly than single women.

The big story in terms of wellbeing overall is that Chiawa is a very poor area of Zambia where people are struggling to achieve their basic needs in the context of underdeveloped agriculture, unpredictable environment, and human-wildlife conflict. In contrast to the optimism generally expressed in our India field research, people in Chiawa do not express a general sense of improvement over time. A significant contributor to this seems to be the relative presence or absence of the state in the two locations. In India state welfare provision is a fact of daily life and people comment without prompting on the difference that subsidised rice has made to their standard of living. In Chiawa there are relatively low levels of state provision, and low expectations that this would be otherwise. The form of governance is also quite different, the bureaucratic relationship of state and citizens in India contrasting with the personalised relationship of chieftainess and subjects in Chiawa. This should give pause for thought to anyone who maintains that wellbeing is a purely personal matter. Limited though this phase of our research has been, it clearly points to the fact that politics is critical to people's ability to achieve wellbeing. This applies both in the salience of structural differences such as wealth or gender, and in the importance of the 'enabling environment': policy and polity, security and insecurity.

Introduction

Wellbeing has caught the attention of policy makers and practitioners because of its potential to provide new perspectives on what matters and new ways to assess policy outcomes and their impact in people's lives. While people use the term wellbeing in many different ways, there are two broad areas of agreement. First, that wellbeing offers a positive emphasis on people's strengths and aspirations rather than a negative stress on deficits and deficiencies. Second, that it offers an encompassing approach which extends beyond objective measures of human welfare to include some subjective assessment of quality of life.

While the idea of wellbeing may be attractive, its practical utility to development policy and practice is yet to be proved. To advance we require robust measures for assessing wellbeing on the one hand and clear evidence of the value added in adopting a wellbeing approach on the other. This report presents initial findings from research which seeks to meet these needs. It describes the first period of fieldwork in a two country, three year project to develop a multi-dimensional model of wellbeing – the Wellbeing and Poverty Pathways project.[1]

This report presents findings from fieldwork that took place in Chiawa, Zambia, from August to November 2010. This was very much a learning experience, as we were experimenting with different ideas of what might constitute wellbeing and different ways of asking about these. Subsequent statistical analysis of the data has shown that the statements we used in this round of fieldwork to assess people's subjective perspectives on wellbeing did not come together in the way we expected. This means that, while we can report here on people's responses on specific items, we cannot combine these to make general statements about people's subjective experience of wellbeing, or constituent dimensions of this. We are, however, able to describe what we have learned from the process of the study, which we believe other researchers of wellbeing will find of interest. In addition, we were able to build on this experience to produce a revised version of our approach for the next period of data collection, which took place in Chhattisgarh, India, from February to May 2011. This time the model worked as we had hoped, with the inner wellbeing items combining to form distinct domains, which in turn combined to make up a multi-dimensional model of wellbeing. More details of our approach and the findings of our research in India can be found in a sister report (White et al., 2012).[2]

This report is structured as follows. It begins with a brief description of the project as a whole. The next section describes in some detail the methodology we used in gathering subjective perceptions of wellbeing, the problems we encountered and how we have addressed these. This is followed by an introduction to the field site, and an initial profile of the Zambian community in which we are conducting our research. We begin with some demographic data, and then look at how people are doing in terms of objective wellbeing. This is followed by analysis of the subjective data, looking in particular at how responses differed between married men, married women and single women, and by economic status. This provides a base-line on which to reflect in our second round of research in Zambia, which will run from August to October 2012. The report closes with some reflection on the similarities and differences in findings between our two research sites in Zambia and India.

[1] For more information on the project, see www.wellbeingpathways.org
[2] This report is available online at available at www.wellbeingpathways.org/images/stories/pdfs/working_papers/indiatime1report.pdf.

The Wellbeing Pathways Approach

Wellbeing and Poverty Pathways is an international research partnership working in marginalised rural communities in Zambia (Chiawa) and India (Chhattisgarh), 2010-2013, funded by the UK's Department for International Development and Economic and Social Research Council. It involves collaboration between the UK universities of Bath and Brunel, the G. B. Pant Institute in India, the international NGO Oxfam Hong Kong, and two national NGOs, Hodi in Zambia and Chaupal in India.[3] The project has two primary objectives. First, to develop a model of wellbeing that is grounded in the South, and is thus closer to the ways that people there think and talk and feel and act than are the dominant models which have been developed by psychologists in the West. Second, to use this model to explore the relationships between poverty and wellbeing – both quantitatively through a survey and qualitatively through more open-ended interviews.

Our research begins with the following definition: 'Wellbeing is experienced when people have what they need for life to be good.' This places subjectivity at the centre, linking together experience, resources, needs and evaluation. It is phrased in collective terms, but is also open to individual interpretation. It seeks to recognise connections between the experience of wellbeing and the external conditions in which people live their lives.

We began working on our model of wellbeing in a pilot research study carried out with Oxfam Hong Kong in Zambia and Nepal in 2009 (White, 2009). This formed the basis for our current research. In each location and in each round we plan to conduct a survey with 350 respondents. These comprise 150 couples, with husbands and wives interviewed separately, and 50 women heading households. The structure of involving husbands and wives followed from the frequent observation that relationships are a key dimension of wellbeing (see e.g. Camfield et al., 2009). A sample of women heading households is included because of widespread evidence that they are particularly prone to poverty and social exclusion. A range of other methods are used to generate qualitative data. These include observation and informal discussion with local people, open-ended questions and requests for clarification when conducting the survey, group meetings and individual semi-structured interviews. It is mainly the quantitative data that is presented in this report.

Investigating Wellbeing: developing a wellbeing survey

The recent upsurge of interest in wellbeing has taken three main forms. The first emphasises the objective conditions of people's lives, seeking to go beyond ways of measuring development in terms of economic growth or even poverty reduction, when this is understood in a narrow, income focused way. This is the approach to wellbeing which dominates in economics. Perhaps the best known example is the human development and capability approach, developed by Amartya Sen and Martha Nussbaum. This has been translated into two widely used indices: the Human Development Index of the United Nations Development Programme (UNDP) and the Multi-Dimensional Poverty Index of the Oxford Poverty and Human Development Initiative (OPHI).[4]

The second approach to wellbeing is more common amongst social and health related social sciences. These are the quality of life approaches, which place the main emphasis on objective indicators, but include also some subjective measures (Hagerty et al., 2001). The third approach is most common amongst psychologists. This emphasises psychological or subjective well-being. The emphases of different scholars vary, from primary attention to motivation and fulfilment (e.g. Ryan and Deci, 2001), or optimal psychological functioning (e.g. Ryff, 1989), or happiness and life satisfaction (e.g. Diener, 2000). This last emphasis is particularly associated with the positive psychology movement.

[3] See www.wellbeingpathways.org for more information.
[4] See www.ophi.org.uk

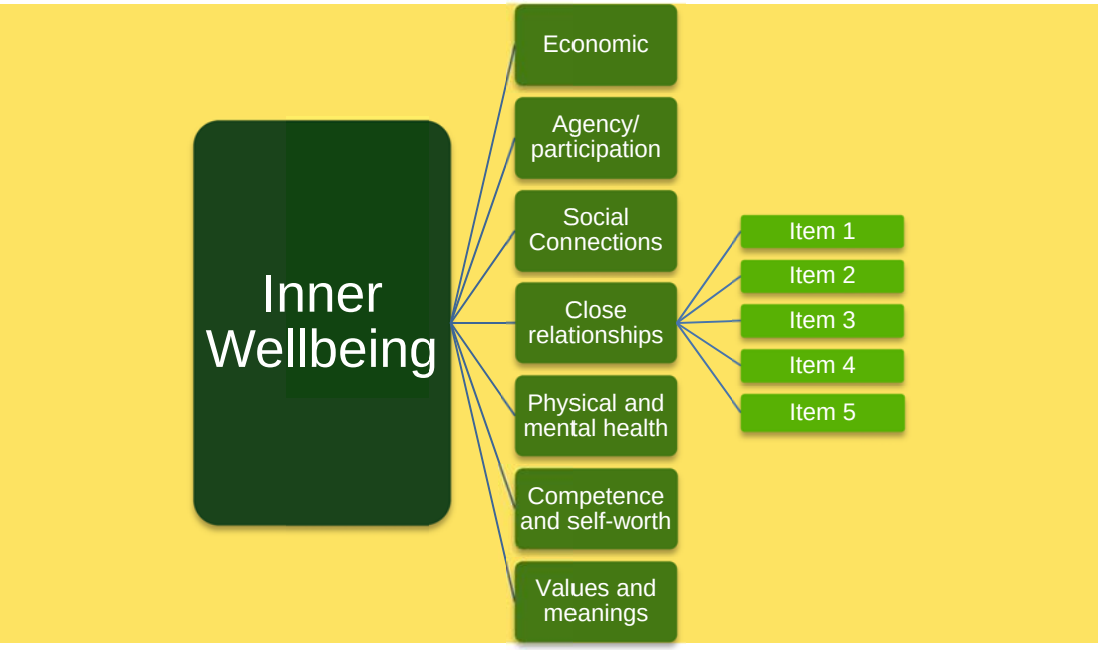
In our work we seek to combine aspects of these approaches in economics, quality of life studies and psychology. We see wellbeing as made up of seven domains, each of which can be assessed through objective and subjective measures.[5] In Chiawa we characterised these domains as: enabling environment, participation and agency, social connections, close relationships, physical and mental health, competence and self-worth, values and meaning.[6]

Our research thus aims to gather both objective and subjective data across the seven domains, and this is reflected in the survey we have developed.[7] In the first place, we firmly believe that the objective conditions of people's lives significantly structure the extent to which they can experience wellbeing. The opening section of our survey therefore comprises a range of demographic questions about household members, marital history, children and education (15 questions). The final section asks questions about economic resources, assets and services, community involvement and health (20 questions). The survey closes with subjective quality of life questions. In Chiawa 2010 these asked respondents to reflect on their current standard of living and whether their economic position had improved or worsened over the previous five years.

It is the central section of the survey which is the most innovative and the one that has taken us the greatest amount of effort to try to get right. This contains subjective statements which are designed to measure what we have called 'inner wellbeing', or what respondents feel they are able to be or do.[8] We devised statements which we hoped would tap each of the seven domains of wellbeing. Respondents were asked to rate their agreement with each of the statements on a five point 'Likert' scale, ranging from strongly disagree at one end (scoring a 1) to strongly agree at the other (scoring a 5). The idea is that each of the wellbeing domains is composed of a number of different facets, which are captured by the items to which the statements refer. If the model is constructed effectively, a statistical method known as factor analysis will show that the way respondents answer one item within a given domain is a good guide to the way they answer other items within that domain, suggesting that the different items are indeed capturing different facets of a single underlying factor. Conducting the same procedure across the domains would show that the domains in turn capture different facets of a single underlying concept, which we have called inner wellbeing. Diagrammatically, this would look like Figure 1.

[5] Our India report describes how we derived this model, White et al., 2012.
[6] In the final model, following analysis of our India data, we have dropped the enabling environment domain and substituted one on economic resources.
[7] Although we have worked to keep it as brief as possible, the survey has expanded somewhat over time. The figures in this paragraph relate to the number of questions in the Zambia 2010 version of the survey. The numbers for subsequent rounds of fieldwork would be slightly higher.
[8] For a fuller description of our concept of inner wellbeing, see the India report, White et al., 2012.

Figure 1: Factor analysis



Developing the survey and testing the model

We began working on the subjective statements in the summer of 2009 with a workshop with Oxfam Hong Kong and our collaborating NGO, Hodi. After a day or two in the office, we went out in the villages where the research was taking place and tried the statements out on people. We talked with them about what the statements made them think about, and took note of what they found easy or hard to understand and respond to. We also removed statements that merged two issues together, to make it clearer what we really wanted to know. For example, while both quality and price may be important in terms of access to health care, a statement must not combine both of these, since respondents might be able to get cheap poor quality health care or expensive good quality health care. When you want to keep the total number of statements down to a manageable size, it is surprisingly difficult to resist the urge to mix issues within a single statement.

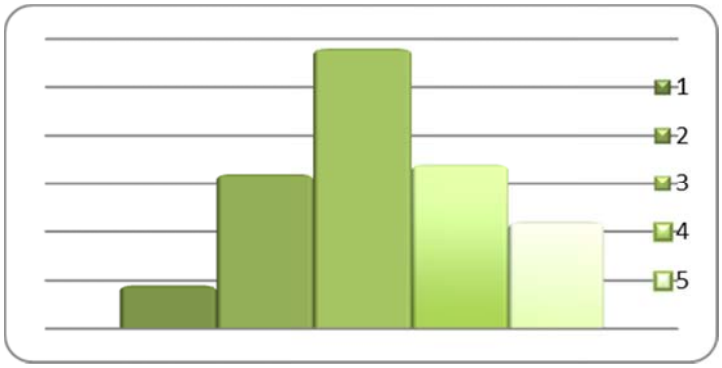
We used the statements developed then as the starting point for a further round of grounding and piloting in August 2010.[9] We settled finally on a list of 42 statements, six in each of the seven domains. We placed the subjective statements in the centre of the survey because they have a different feel and pace to them compared with the objective sections, and we felt it was less taxing for respondents if we varied the style of our questioning in this way.

Unfortunately, as noted in the introduction above, when we analysed the data we had gathered in Chiawa the inner wellbeing items didn't come together as we had hoped. There were two major kinds of difficulty: first, in the distribution of responses within each item; and, second, in the correlation of responses across different items. We explain each of these in turn.

Regarding the distribution of responses within each item, the pattern was very far from the expectation of a normal curve, in which the volume of responses peaks in the middle (our point 3), gradually descending to lows at the edges (our points 1 and 5), as represented in Figure 2.

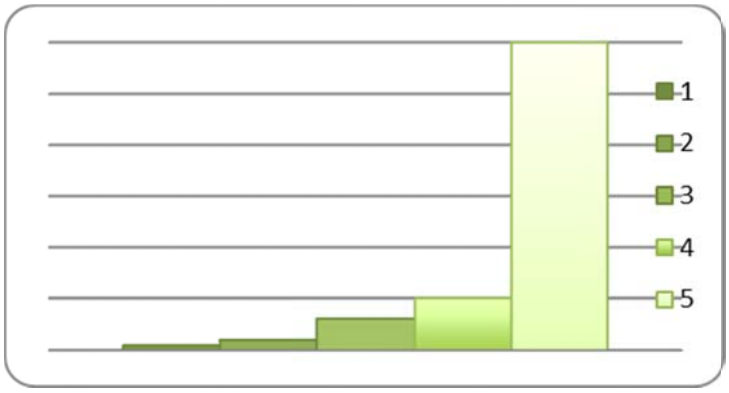
[9] The appendix to White (2009) sets out these initial statements.

Figure 2: A normal distribution



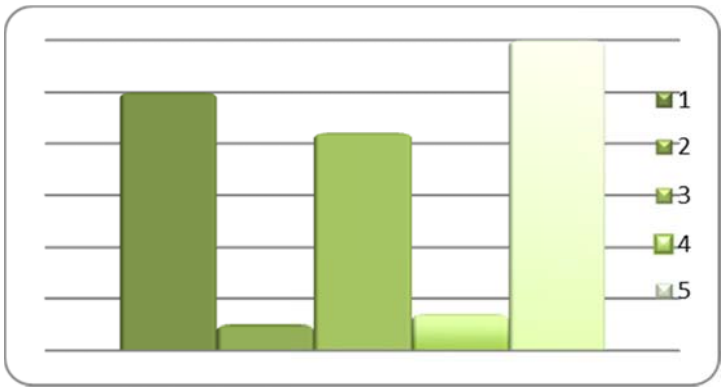
Instead, we found that on some items responses clustered strongly at one extreme, indicating that the majority of respondents were answering in the same way, as in Figure 3. In statistical language, this is known as skewness.

Figure 3: A skewed distribution



On other items the distribution was bi-polar, showing that people had used the extreme options rather than those in the centre. Overall, usage of the second and fourth options (disagree/agree weakly) was extremely low, which runs counter to the usual pattern of responses to statements such as these. In this case, it is difficult to identify any trend in the responses. In statistical language, this is known as kurtosis, as represented in Figure 4.

Figure 4: Kurtosis



Taken together, the degree of skewness and kurtosis in our data meant that we were not able to produce the results from the factor analysis that we had hoped for.

Explaining the problems

On reflection, we realised that there were a number of reasons why we had received this pattern of responses. First, in some cases most people tended to answer in a similar way (as in Figure 3) because the statement concerned an external situation, rather than their internal state. The statement, 'I do not get government assistance at the right time' offers an example of this. The overall mean of scores on this item was very low (1.59), reflecting people's real experience of poor timing in state provision of welfare assistance. This statement was asking for a subjective account of an objective experience rather than asking about an inner wellbeing statement, which concerns what respondents feel they themselves are able to be or do. More detail explaining the difference between these different kinds of subjective questions and our model of the 'layers' of wellbeing which seeks to capture this, is given in the India report (White et al., 2012:12).

Second, the same pattern of bunching of responses was evident for items when there was a clear 'right' answer, that is, one that is socially approved. This was an issue in particular for the domain of close relationships, where people tended to want to present a good face to the world, even when the reality they experienced was less positive. We know, for example, that there is a great deal of domestic violence in Chiawa, and some respondents mentioned this to us in more open-ended interviews. Our statement which tried to get a measure of this was deliberately worded in a quite gentle, roundabout way, as we knew people would be hesitant to comment on violence directly. The statement – arrived at after many attempts in piloting – was 'Even if there is conflict in our home it does not lead to violence.' The scores on this were very high – 4.59 – indicating that most people claimed there was no violence in the home. Mean scores between married women (4.57) and married men (4.77) do show some difference, but not enough to be statistically significant. Indeed, we continued to receive unusually high scores in this domain even with the India survey. Means in India for the close relationships domain were extremely high (4.63 compared with an average of 2.97 across the other domains) (White et al., 2012:54). While high scores on satisfaction with relationships have been taken at face value in other studies (e.g. Biswas-Diener and Diener, 2001; 2006), we believe the lack of fit between qualitative and quantitative data on this suggests that these high scores may be an artefact of the way that questions are asked. We are therefore continuing to seek a form of words that will avoid at least some of the bias towards providing a socially desirable answer that we believe we have seen so far.

A third factor affecting the distribution of responses was the form in which questioning took place. Most surveys involving this kind of statement are carried out with university students who fill in the form themselves. In our case, the low levels of literacy amongst our respondents meant that surveys had to be conducted through a face to face interview. Having to speak responses to a person in front of you may in itself increase the tendency to give a positive answer which you feel will make you look good. But we also believe that the bi-polar model of many of the distributions that we gained is explained by the manner of asking for responses. We began by reading out the statement, and then asking whether respondents agreed or disagreed with it. We then asked a follow up question, as to whether they dis/agreed weakly or strongly. This is in line with the practice recommended by other researchers working with respondents with limited literacy. However, we believe that the effect of this mode of questioning, at least in the cultural context of Chiawa, was to encourage respondents to be bold and go for the emphasised response ('strongly!'), thus resulting in a high tendency to score 1s or 5s.

The social effect of the interviewing context is indicated by another finding. This is that there was a very strong relationship between the loading of a statement – negative or positive – and the scores respondents gave. This means that respondents tended to agree rather than disagree with the statements we gave them. This problem of 'acquiescence bias' is well known in research methods and we took it into account by trying to include an equal number of positively and negatively weighted statements within each domain (negatively worded items were recoded before analysis so that a high final score represented high wellbeing). Nonetheless, the degree of this bias is striking. Of the 42 statements, 20 were phrased positively, and for 19 of these the mean response was itself positively scored (i.e. above the mid-point of 3). Of the 22 negatively worded statements, the mean

response of 17 was similarly negatively scored (i.e. below the mid-point of 3). Of the negatively worded items that were scored positively, two were within the close relationships domain, which received an overall positive weighting as mentioned above, and two within the values and meaning domain, which is similarly vulnerable to a strong social desirability bias.

It is important that we take this leading effect into account when analysing our results. This means that we need to be cautious in reading across items, for example by making comparisons between the mean scores. While we cannot weight scores in a systematic way, we can take into account the loading of the statement in the way we read the scores, informally discounting a little where the responses are in line with the loading of the question. It would be interesting to know, for example, whether the statement on violence in the home would have received such high scores if it had been phrased in a negative way. On the other hand, where responses carry the opposite loading to the statement, this suggests an especially strong response. The negative statement 'I don't see any role for myself in community affairs,' for example, received a mean score of 4.31. This suggests that people felt a strong sense of community inclusion or responsibility for how things go.

While the acquiescence bias complicates our ability to read across different items, it does not affect our ability to see difference across the population according to how people respond within each item. As will be reported in a later section, while the subjective items may not have performed as we hoped they would, analysis of responses item by item between, for example, married men, married women and single women, or by objective economic status, does produce many statistically significant differences.

Redesigning the survey

In India we took account of these weaknesses in the Zambia data and adjusted our approach accordingly. We began by removing those items where the main referent was external, such as 'the children in my family are getting a good education.' We expanded the 'objective' sections of the survey to include some of these items. We also sifted out other items that hadn't worked well, where people had found them difficult to understand or there was little or no variability in the responses. A key structural shift was to move from statements to questions. This had the major advantage that questions were easier for people to understand and respond to. Also, questions are more open, and do not carry nearly so strong a positive or negative weighting. The issue of leading was therefore no longer a problem. In the India survey, 10 of the questions were negatively worded, six of these produced negatively weighted responses and four positively weighted. Of the 22 positively worded questions, 10 produced positively weighted scores and 12 negatively weighted scores.

We then paid attention to the wording of the questions. First, we ensured that their focus was personal, clearly capturing what the item meant to the individual involved. Second, we designed the wording to elicit a full range of responses. For example, in Chiawa we used the following statement: 'I can work with others to bring change to my community.' In the India survey, this item became: 'How confident do you feel that (along with others) you will be able to bring change to your community?' We then devised a set of carefully graded answers for people to choose from, which also helped to spread the responses across the range. In this case, for example, the answers were: 'I never feel confident; I rarely feel confident; I sometimes feel confident and sometimes not; more often than not I feel confident; I always feel confident.'

As mentioned above, all these changes paid off. Whereas factor analysis on the results from Zambia could not validate any of our hypothesised domains nor the underlying concept of inner wellbeing, in India we were able to use our survey to validate our seven domain model and the concept of inner wellbeing as a whole.

The Research Location

Chiawa is a land of contrasts. On the one hand, there are safari camps and lodges for wealthy tourists who wish to view wildlife; Chiawa is a game management area which borders the Lower Zambezi national park. There are also a few large plantations which are commercially farmed, fully irrigated and electrically fenced to ensure a high quality crop protected from marauding animals. On the other hand, the majority of the population lives in basic accommodation, seeking to eke out a living through low or no technology agriculture in which hand-held hoes remain the most common tool. Some employment is available as labourers in the plantations and some, mainly young men, work in the safari lodges, but in the main these are two separate worlds, of luxury and privilege on the one hand and severe deprivation on the other. Malaria, malnutrition and HIV/AIDS are common.

Although it seems quite remote, Chiawa is in fact only two and a half hours' journey from the Zambian capital Lusaka. The remoteness comes from the fact that to reach Chiawa you have to cross the Kafue river, which is passable only by ferry service between 6 a.m. and 6 p.m., and the fact that in Chiawa itself there are no metalled roads. While the lodges have motorboats for both leisure and emergencies, for ordinary people the only option if the ferry is not working is to risk the crocodiles in hand paddled canoes. Once across the river there are only the most basic of amenities: a primary health centre, an agricultural extension office, a community development office, schools and churches. Even these services are not easily accessible to all since there is no public transport. Private pick-ups and small lorries run at specific times in the mornings and evenings to serve people going to and returning from work in the plantations or for those who need to venture further afield; these too serve only the main route. People living in more remote villages may therefore have to walk for some hours before they are able to reach the main road or the only health centre at Chiawa Central. In the entire area there are four primary schools and one (primary) community school plus two high schools. There is a police station near the ferry but it has very limited personnel and usually lacks the transport they would need to investigate a crime. There is also a traditional court in Chiawa Central. Most other official business requires people to travel to the district capital of Kafue, and for hospital care to the nearest town of Chirundu. In both cases this means crossing the river. The other significant government presence in this game management area is the Zambia Wildlife Authority. Governance of Chiawa is ultimately in the hands of the Chieftainess, who appoints the headman who leads each village.

For the majority who are dependent on farming to survive, life is hazardous. Plantations and lodges have annexed some of the best quality land, forcing local people into more marginal locations. Much of the land along the Zambezi river is sandy and therefore unfit for cultivation. The most fertile land is right along the river banks (the matoro), but farming here is highly risky, with the dual hazards of marauding animals and unpredictable flooding when water is released from dams upstream. To try to protect their fields from elephants and hippos, people often sleep in the fields at night, sometimes sustaining serious injuries themselves as a result. As it is a game management area the animals are protected, so the measures that local people can take to protect their crops are limited. Further inland towards the Zambezi escarpment the terrain changes, becoming more uneven, with stretches that are difficult to pass. However, the soil is more fertile and better irrigated due to many small streams flowing down from the hills. The vegetation here is denser and the landscape more green. Larger scale settlements are found in three areas, Chiawa village, Pontoon (near the ferry) and Gota Gota - or in smaller villages dotted along the river.

Our partner NGO – Hodi –was able to introduce us into the communities in Chiawa, an area in which they have been working for some time with a combination of livelihoods, education, and health-oriented activities. Hodi supported us in recruiting three local research assistants, who acted as peer researchers, mediating, interpreting and interacting between the local respondents and the external team members through the grounding and piloting process and on throughout the fieldwork. The group process is described in more detail in the India report (White et. al 2012).

In Chiawa we surveyed a total of 168 married men, 172 married women and 72 women heading households. Most of these women are either widowed or divorced; only four women (6% of the single women interviewed) have not been married. Because of some cases in which the wife responded and the husband did not or vice versa, we have complete data from 164 couples. As an individual may not have answered a particular question, the count in some analyses varies from these overall totals.

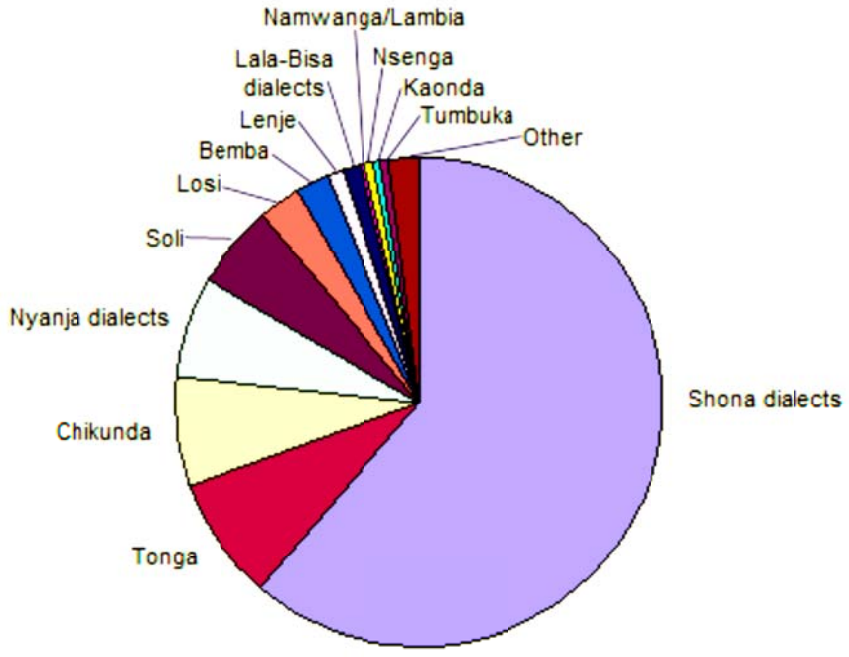
For our respondents as a whole, the minimum age is 16; the maximum 84; and the mean 38. Married women range from 16-65, with a mean of 34. Married men range from 22-84 with a mean of 40. The group of women household heads is older on average. They range from 24-75, with a mean of 43.

Communities

The majority of our respondents identify themselves as Goba (235, 59%), a minority ethnic group who speak a dialect of Shona. The word Goba seems to be derived from 'govi', which means valley, and is indicative of the fact they have migrated to this area from the Zambezi valley in what is now Zimbabwe. Harland (2008:173-4) describes how the Goba people migrated in the late 1800s and settled about 80km downstream from Chiawa, brokering peace with the more powerful Soli people through marriage. In 1952 they were forced by the colonial authorities to move to their present location because of an outbreak of sleeping sickness.

A total of 25 different ethnicities are represented among the respondents. After the Goba, the second largest single group is Tonga (31, 8%), followed by similar low numbers of Losi (10, 3%), Nyanja (10, 3%) and Bemba (9, 2%). A total of 26% of respondents (106) come from other tribes, including Chikunda (31 respondents), Soli (24 respondents), and Chewa (15 respondents).
The distribution of respondents by ethnicity is represented in Figure 5. Most of those shown as 'Shona dialects' are Goba.

Figure 5: Distribution of respondents by ethnicity



Data on ethnicity by gender/marital status is set out in

Table 1.

Table 1: Ethnicity by gender/marital status

Ethnicity	Married men	Married women	Single women	Total
Goba	95 58%	86 52%	54 75%	235 59%
Tonga	15 9%	14 8%	2 3%	31 8%
Nyanja	5 3%	5 3%	0	10 3%
Losi	5 3%	5 3%	0	10 3%
Bemba	2 1%	5 3%	2 3%	9 2%
Other	41 25%	51 31%	14 19%	106 26%
Total	163 99%*	166 100%	72 100%	401 101%*

* Rounding error

People of different ethnicity tend to be interspersed rather than clustered geographically and there are high rates of intermarriage. Of 121 couples involving Goba people, only 56 comprise two Goba partners. Of the remaining 65, 38 Goba men have a wife of different ethnic background, while 27 Goba women have a husband of a different ethnicity. Although gender/marital status does not differ statistically significantly by ethnicity, a greater number of single women (54, 75%) are Goba compared to married men (95, 58%) and married women (52%). There are strong kinship ties criss-crossing the Chiawa community, with people often being related to others through multiple relationships.

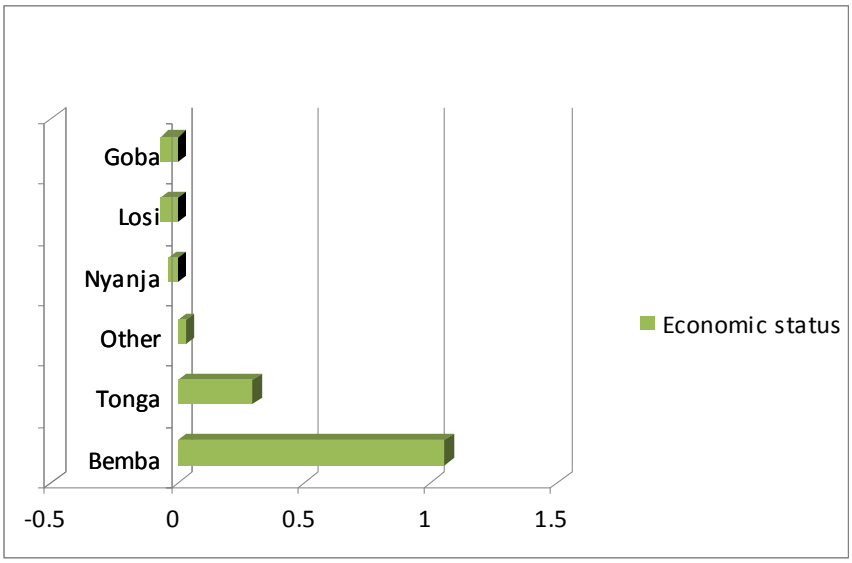
We created an economic index by bringing together scores on education, source of livelihood, assets, savings, service access, housing, and months gone hungry. [10] The economic factor establishes the mean as 0. The more negative the score is, the worse is economic status. The more positive the score, the better is economic status. We then used this to investigate whether ethnicity is a significant predictor of an individual's economic position. The results are set out in Table 2 and Figure 6 below and show that Bemba have the greatest positive score, and thus best economic status, followed by Tonga and Other ethnicities, also with positive scores. Nyanja and Losi have negative scores, indicating less good economic status, with Goba people scoring least well.

[10] Appendix 1 sets out details of this economic factor.

Table 2: Ethnicity by economic factor

Ethnicity	Number of respondents	Mean
Bemba	8	1.0567713
Tonga	31	.2980687
Other	106	.0321956
Nyanja	10	-.0394784
Losi	10	-.0659458
Goba	232	-.0705278
Total	397	.0092956

Figure 6: Ethnicity by economic factor



A one-way analysis of variance (ANOVA) shows that there is a significant relationship between ethnicity and economic status (p=<0.05).[11] Post hoc tests show in particular that Bemba score significantly higher than Goba on the economic test (p=<0.05). This is because, amongst men in particular, the (very small number of) Bemba tend to be in-migrants who have come to Chiawa to take up salaried positions, such as teachers.

We also tested whether the economic factor showed a difference between Goba and non-Goba, by amalgamating all those who did not identify themselves as Goba into one category. This showed that non-Goba are doing significantly better than Goba in economic terms (p=<0.05).

[11] *P* values are measures of significance, which record the probability of an outcome arising from a random sample. The smaller the *p* (probability) the higher the statistical significance of the result. Conventionally, a *p* value more than 0.05 and less than 0.1 is considered to show marginal significance

Religion

Chiawa is a predominantly Christian area. Out of 419 respondents, only 15 do not say they belong to a church. Of these fifteen, only one is female, and one is a male Muslim. Table 3 sets out figures for church affiliation by gender/marital status.

Table 3: Church affiliation by gender/marital status

Church	Married men	Married women	Single women	Total
Catholic	33 21%	36 22%	20 28%	89 23%
Baptist	3 2%	2 1%	1 1%	6 2%
Assemblies of God	4 3%	14 8%	2 3%	20 5%
Church of God	17 11%	16 10%	9 13%	42 11%
Pentecostal Holiness	5 3%	6 4%	2 3%	13 3%
Good News	7 5%	6 4%	2 3%	15 4%
Seventh Day Adventist	8 5%	7 4%	3 4%	18 5%
Jehovah's Witnesses	27 17%	19 11%	11 16%	57 15%
African Apostle	20 13%	28 17%	7 10%	55 14%
New Apostolic/Church of Zion	16 10%	22 13%	12 17%	50 13%
Other	16 10%	10 6%	2 3%	28 7%
Total	156 100%	166 100%	71 101%*	393 102%*

* rounding error

Church membership is distributed across 24 different churches, although just six of these account for three-quarters of respondents (Catholic 23%, Jehovah's Witness 15%, African Apostles 14%, New Apostolic/Church of Zion[12] 13%, Church of God 11%). The single largest church in terms of affiliation is the Catholic Church, with 21% of married men, 22% of married women and 28% of single women reporting membership. The next largest are Jehovah's Witnesses, with 17% of married men, 11% of married women and 16% of single women reporting membership.
While the significance of gender/marital status for church membership is statistically marginal (p=<0.1), there are some differences that can be observed. Single women seem to gravitate to either end of the denominational spectrum, being more likely to be members of the Catholic Church

[12] These are different churches which were erroneously combined in our data collection time 1. They will be reported separately for time 2.

or the New Apostolic/Church of Zion. A relatively high number of married women identify themselves with the (Pentecostal) Assemblies of God and the (African Independent Church) African Apostle.

Analysis indicates that ethnicity is not a significant determinant of church denomination. However, statistical analysis reveals a highly significant association between wife's church and husband's church (p=<0.001).

Objective Wellbeing: How are people doing?

Demographic factors

As stated above, all the men in our sample are married. The majority (72%) state they are married to and have only ever had one wife. We came across a small number of men who were living without wives, but we did not interview any of these. Only a small number of respondents (six married men, 11 married women) state that they are in polygamous marriages. The different numbers of men and women reflect the fact that in several cases men stated that they had only one wife, whereas their wives stated that the relationship was polygamous. There was no case in which the reverse was true. This suggests that men may feel some shame in reporting that they have more than one wife. In no case are more than two co-wives reported.

Of the single women, four (6%) report never having been married. The remainder are fairly evenly split between being widowed (34, 48%) and divorced (32, 45%). More men report being remarried following divorce (34, 20%) than women (26, 15%). The opposite is true in relation to the relatively low levels of remarriage after widowhood (11 or 6% married women, compared to seven or 4% married men). Table 4 sets out the marital status of our respondents.[13]

Table 4: Marital status by gender/marital status

Marital status	Married men	Married women	Single women	Total
Single (never married)	0	0	4 6%	4 1%
Married (one wife)	121 72%	122 71%	0	243 60%
Married (more than one wife)	6 4%	11 6%	0	17 4%
Widowed	0	0	35 49%	34 8%
Divorced	0	1 1%	32 45%	33 8%
Previously divorced now remarried	34 20%	26 15%	0	60 15%
Previously widowed now remarried	7 4%	11 6%	0	19 5%
Total	168 100%	171 99%*	71 100%	410 101%*

* rounding error

[13] If people were both widowed and divorced we recorded their most recent status.

- ***Household Composition and Children***

We looked at household composition by using data reported by women only, to avoid double counting.

Most households have a nuclear structure, containing just two generations: parents and children. However, there is also a substantial minority of extended households, most commonly through the addition of children of other family members. Almost all members of households are kin – in the entire sample only five non-kin members were identified, plus four foster children who may or may not have been kin by blood or marriage. An average of three children are reported per household. The average number of children is higher for married households (3.22) than single women's households (2.36). This may in part reflect the older average age of the single women interviewed. Overall, 53% of the children in the households are sons and 47% daughters. The difference might reflect the fact that women get married at a younger age and so daughters leave the household before sons do. There is an interesting difference, however, that emerges when the figures for single and married women are compared: 55% of the children reported by married women are sons, compared to only 49% of those reported by single women.

We also asked women how many children they had in total. The maximum number was 12 children, with a mean of 4.06. We also asked how many children they had who had died. Here the maximum was 9 and the mean 1.04. In all, 20% of children born to our female respondents are no longer living.

Very few respondents report having a parent in the household. With one exception, only single women report having their mother (9, 13%) or father (3, 4%) living with them. However, the reverse is true for reports of parents in law, with only married women reporting having a mother or father in law within their household (both 2% of households). Only married women report siblings-in-law in their households, with twice as many households reporting brothers in law (17, 10%) as sisters in law (9, 5%). In some cases there is more than one brother or sister in law in the household.

After the respondent's spouse and children, grandchildren are the next most common type of household member. Here there is a striking difference in the type of household to which they belong: 26 of the 72 single women (36%) report a having a grandchild in the house. The average number of grandchildren across single women's households is 0.9. For married women's households the equivalent figure is only 0.2. There is also an interesting difference in the sex of grandchildren belonging to married and single women. While single women have equal numbers of boys and girls (33 of each), married women have considerably more granddaughters (23) than grandsons (14), meaning that 62% of the grandchildren living with their married grandmothers are girls. Finally, it is interesting to note that of the 26 single women who report grandchildren in their households, 10 report neither son nor daughter. This could mean that grandchildren are being sent to look after elderly grandmothers, or (more likely) that grandmothers are taking care of the children of their own children, who have either died or can no longer support them.

There are slightly fewer nieces and nephews reported than grandchildren (90, compared with 113 grandchildren). These are more common in married than single women's households, but the contrast is not so striking: there is an average of 0.4 nieces and nephews per married household, and 0.3 per single woman's household. There are markedly more nephews (58) reported than nieces (32). In only a minority of cases are the parents of these nieces and nephews also living in the household. In 80% of married women's households and 75% of single women's households they are not, suggesting informal kin-based fostering or adoption arrangements. Only four foster children are reported, and all of these are female. Three are in married households and one is in a single woman headed household. In all cases there is only one foster child per household.

Just as our respondents might have other children living with them, so they might also send their own children to live elsewhere. Again we used data from women only to avoid double counting. This

showed of 730 children aged 19 or under, 604 (83%) are living at home, 75 (10%) are reported as away all year, 33 (5%) are reported as away during term time, and 18 (2%) are reported to be living in their own household.

In our general conversations and in interviews it was common to come across cases of people sharing the care of children. Usually this is done within families, but it might also be undertaken between friends. Children move from their own home to live in a different household, either because their own immediate family cannot support them, or because there are better educational opportunities in the other location, or because the foster family needs some support. When we questioned this people were very matter of fact – it was simply the African way, to care for others' children along with one's own. Adults' accounts of their own experience of time spent in other households as children were rather different, however. While they might appreciate the educational opportunities they had been given, they also recall sharply being second class members of the household, having to work 'like a slave', being last in line when good things were provided, and missing their families of origin.

Education

In Zambia, primary education (classes 1-7) is free. Secondary education is divided into Lower Secondary (classes 8 and 9) and Upper Secondary (classes 10 to 12), and at this level pupils must pay fees as well as buy their own uniforms and books. Table 5 shows the level of schooling our respondents have passed.

Table 5: Level of schooling passed by gender/marital status

School level passed	Married Men	Married Women	Single Women	Total
None	9 5%	27 16%	25 35%	61 15%
Primary: Class 1-7	85 51%	110 65%	38 53%	233 57%
Lower Secondary: Class 8-9	36 21%	24 14%	4 6%	64 16%
Upper Secondary: Class 10-12	25 15%	6 4%	3 4%	34 8%
Tertiary	13 8%	3 2%	2 3%	18 4%
Total	168 100%	170 101%*	72 101%*	410 100%

* rounding error

Levels of attainment are generally low: 15% (61) of respondents have passed no school level, and a further 57% (233) have passed only a primary level. The transition points between educational tiers are also clear, with 28% (116) of respondents continuing their education beyond primary level, 16% to lower secondary, 8% to upper secondary and just 4% to tertiary levels. Harland (1980:167) reports long periods of school closure in this region during the Zimbabwean war in the 1970s. This may have affected the educational achievement of some of our older respondents.

There is a highly significant association between gender/marital status and education (p=<0.001). Overall, men are better educated than women. Only 5% of male respondents have no education, as opposed to 16% of married women and 35% of single women. Indeed there is a clear difference in levels of education between married and single women: 20% of married women achieved at least one year of secondary education compared with 13% of single women. The gap does appear to

narrow further up the educational scale, although the numbers of both married and single women reaching anything above class 9 are very low.

We also looked at the education level of respondents' children, again using data from women only in order to avoid double counting. First we examined respondents' children's education level by age, looking at data for school age children. The results are set out in Table 6 below.

Table 6: Education of respondents' children, by age (under 20 years only)

School level passed	5-9 year olds	10-14 year olds	15-19 year olds	Total
None	70 35%	3 2%	2 1%	75 14%
Primary: Class 1-7	128 64%	175 92%	59 40%	362 68%
Lower Secondary: Class 8-9	1 1%	11 6%	64 44%	76 14%
Upper Secondary: Class 10-12	0	1 1%	21 14%	22 4%
Total	199 100%	190 101%*	146 99%*	535 100%

* rounding error

These figures suggest that the majority of children are achieving at least primary education, with only 2% of 10-14 year olds and 1% of 15-19 year olds having passed no level of education. This is in contrast with the 15% of respondents who have passed no education. In addition, since children may start school late and miss or have to repeat periods of schooling, some of the older children may still be in primary school, so their ultimate attainment may be higher than is shown here. Almost half of children aged 15-19 have achieved a lower secondary level of education (44%), although only 14% have achieved a higher secondary level of education. These levels are again considerably higher than for respondents themselves, only 16% of whom finished their education at the lower secondary level and 8% at the higher secondary level. Despite this, however, many people state that the quality of education is now much lower than it was a generation ago.

Expanding the data to look at all respondents' children, including those of pre-school age and aged over 19, we also looked at whether there was a difference in education level achieved by gender. The results are reported in Table 7 below.

Table 7: Education of respondents' children by gender

School level passed	Male children	Female children	Total
None	139 29%	136 26%	275 27%
Primary: Class 1-7	214 44%	294 56%	508 50%
Lower Secondary: Class 8-9	73 15%	68 13%	141 14%
Upper Secondary: Class 10-12	58 12%	24 5%	82 8%
Total	484 100%	522 100%	1006 99%*

*rounding error

This shows that, while a similar number of our respondents' sons and daughters have not achieved any education, primary level is reported as achieved by 44% of sons but 56% of daughters, while the gender order is reversed for secondary (15% of sons, 13% of daughters) and higher secondary (12% of sons, 5% of daughters) levels. This implies that more daughters finish their education at primary level, while sons are more likely to continue on in education. The gender difference is particularly marked at higher secondary level.

Livelihoods

- ***Farming***

As introduced above, most people in Chiawa undertake some farming, but as a source of livelihood it is highly precarious. Harland (2008: 165, 168-9) states that areas of fertile and viable farming land in the area have been reduced since the late 1950s, mainly due to the construction of dams which halted the annual flood that would enrich the soil close to the river, but also because of a more recent increase in attacks by wild animals since the expansion of safari tourism and animal protection policies. Nonetheless, almost all respondents grow at least one crop (only 2% of men and 3% of women do not). By far the most popular staple is maize, grown by 88% of men and women. This is followed by groundnuts (21%), sorghum (15%) and rape (14%). The main crops respondents had grown in the previous year are set out in Table 8 below. While there are some small differences in the percentage of men and women growing the same crop, analysis revealed that gender/marital status is not statistically significant in relation to any of the crops grown. This may suggest that people are talking about the household as a whole despite being asked to respond as individuals, or that men and women farm the same crops, perhaps in different quantities.

Table 8: Type of crops grown in last year, by gender/marital status

Crop type	Married men N=167	Married women N=172	Single women N=72	Total N=411
Maize	147 88%	151 88%	62 86%	360 88%
Groundnuts	32 19%	36 21%	17 24%	85 21%
Rape	26 16%	24 14%	6 8%	56 14%
Sorgum	29 17%	22 13%	12 17%	63 15%
Cotton	3 2%	1 1%	0	4 1%
Tobacco	0	0	1 1%	1 0%*
Bananas	15 9%	16 9%	4 6%	35 9%
Other	115 69%	107 62%	44 61%	266 65%

Apart from staples, most people (71% of men and 63% of women) also grow other crops, predominantly pumpkins (grown by roughly two thirds of men and women), cucumbers and okra, but also including a range of fruits and vegetables such as sweet potatoes, beans, water melons, butternuts, cow peas, onions and tomatoes – though these are avoided by some because they attract elephants. We asked respondents if they do any gardening or growing of fruit and vegetables: 36% (62) of married women, 26% (19) of single women and 34% (57) of married men said they do.

The types of land farmed suggest some interesting differences by gender/marital status. People report farming up to 5 hectares of the fertile but risky river bank matoro land, with an average of 0.8 hectares, and up to 3 hectares of dry land, with an average of 0.26 hectares. Single women farm significantly (p=<0.05) less matoro land (mean = 0.48 hectares) than married men (mean = 0.91 hectares) and married women (mean = 0.88 hectares), and significantly (p=<0.05) less dry land (mean = 0.1 hectares) than married men (mean = 0.35 hectares).

We also tested whether there is a difference within couples in the amount of land reported as farmed: while there is no significant difference between husbands and wives in the reporting of matoro land, there is a significant difference ($p.$= <0.05) in relation to dry land, with husbands reporting farming significantly more dry land than their wives.

Most crops are grown for household consumption, especially staples. A total of 35 married women (20%), 14 single women (19%) and 23 married men (14%) say they sell maize/ groundnuts or other staples. Gender/marital status is not significant in this. However, there is a marginal (p=<0.1) effect of gender/marital status in reported selling of fruit/ vegetables: the majority of respondents do not do so, but single women (9, 13%) are even less likely than married women (44, 26%) or married men (38, 23%) to report selling fruit or vegetables. In addition to market or lodge sales, a small proportion of produce is sold locally from people's homes or in the village. Harland (2008:161) comments that people largely live off what is produced locally and there is little bought from outside the area.

- ***Hunger***

Almost half (44%) of our respondents stated that they have had to go hungry at some point in the previous year. The results are summarised in Table 9.

Table 9: Number of hungry months over previous year, by gender/marital status

No. of hungry months in last year	Married men	Married women	Single women	Total
None	101 60%	103 60%	27 38%	231 56%
One to three	35 21%	32 19%	21 30%	88 21%
Four to six	21 13%	26 15%	10 14%	57 14%
Seven to nine	7 4%	4 2%	4 6%	15 4%
Ten to twelve	4 2%	6 4%	9 13%	19 5%
Total	168 100%	171 100%	71 101%*	410 100%

* rounding error

21% of our respondents report going hungry for one to three months and 14% for four to six months. A total of 9% of respondents report more than six hungry months in the previous year.

There is a significant relationship between gender/marital status and number of months going hungry (p=<0.001). In particular, while 60% of married men and women report not going hungry at all, only 38% of single women similarly experienced no hunger. At the other end of the range, while only 2% of married men and 4% of married women report being hungry in ten to twelve months, 13% of single women report that level of hunger.

- ***Paid employment***

The uncertainties of farming in Chiawa mean people seek additional ways to sustain their livelihoods. Having someone with a paid job in the household is a primary way to stave off hunger and seek improvement. However, a significant majority of all respondents (78%) do not have any paid job. There is also a sharp gender difference in employment opportunities, with married and single women much more likely to report not having a paid job (96% and 94% respectively) than married men (53%). Table 10 sets out the distribution in employment by gender and marital status.

Table 10: Paid jobs by gender/marital status

Paid job type	Married men	Married women	Single women	Total
None	88 53%	165 96%	65 94%	318 78%
Commercial farm worker	9 5%	0	0	9 2%
Safari lodge worker	41 25%	1 1%	1 1%	43 11%
Guard	1 1%	0	0	1 0%*
Nurse/teacher	6 4%	1 1%	3 4%	10 2%
Police	1 1%	0	0	1 0%*
Government officer	9 5%	1 1%	0	10 2%
Other	12 7%	3 2%	0	15 4%
Total	167 101%*	171 101%*	69 99%*	407 99%*

* rounding error

By far the largest source of employment is the safari lodges, employing 25% of the male respondents, though only 1% of women. A further 5% of men – though no women - work on commercial farms. Only 10% of men, 2% of married women and 4% of single women hold professional jobs, as police, nurses, teachers, or government officers. A further 4% of the total population have other jobs, including bar work, retail, security and mill-operating.

We also asked our respondents about the employment status of others in their household. The majority indicate that no one else in their household has either a temporary (365, 89%) or permanent job (326, 79%), confirming the generally low level of paid employment available.

More women than men report that someone else in the household holds a temporary job. The figures are 25 (15%) for married women and nine (13%) for single women, but only 13 (8%) for married men. This reinforces the strong tendency for paid employment to be male, suggested by the figures on paid jobs reported above. The most commonly reported occupations are safari lodge worker (24) and commercial farm worker (15), accounting for 83% of the 47 temporary jobs reported. Three married men and two married women report more than one other person in the household having a temporary job.

When it comes to permanent jobs held by someone else in the household, however, a marked difference opens up between married and single women. A total of 71 married women (41%) report someone else in the household having a permanent job. This is in contrast to only four single women (6%) and 11 (7%) of married men. No respondents report more than one other person having a permanent job. Again, safari lodge worker is the most frequently reported role (44), followed by commercial farm worker (20), although 11 respondents also report someone working permanently as a government officer and eight report nurse/teacher as the occupation of someone else in their household.

- ***Other income-generating activities***

Fishing

Fishing is a strongly male dominated activity: 82% of married women and 86% of single women do not do any fishing, as opposed to only 53% of married men who do not fish. For 10% of married men – as opposed to 2% of married women and 1% of single women – fishing is the main source of income. For the remainder - 16% of married women, 13% of single women and 37% of married men – fishing provides a subsidiary source of income.

Business

Business is particularly important to the livelihoods of single women, 45% of whom indicate that they undertake a business of some kind. By comparison, 75% of married women and 76% of married men say they do not do any business. Single women are also significantly more likely to say that doing business is their main source of income – 36%, as compared to14% of married women and men (difference by gender/marital status p=<0.001). However, the kinds of business in which single women are involved are both socially and economically marginal. Table 11 sets out the business activities people reported (multiple answers were possible).

Table 11: Business activity type by gender/marital status

Type of business	Married women	Single women	Married men	Total
Beer brewing	1	11	2	14
Petty trading	31	20	13	64
Craft work	1	2	2	5
Blacksmith/ artisan	0	0	4	4
Shop (separate premises)	6	0	7	13
Mechanic/ skilled worker	0	0	1	1
Other	8	2	14	24

* rounding error

Overall, the most frequently reported type of business is petty trading (64 respondents), with far lower levels of other activities reported. This is the case regardless of gender/marital status. However, some differences by gender/marital status in type of activity can be seen. In particular, beer brewing is significantly more frequently reported by single women than married women and married men. Beer brewing is a livelihood of 'last resort,' which may be why it is more likely to be practised by single women. Returns are marginal and there is the added significant social cost of being labelled a 'bad woman', which is something that a single woman may already be facing. This is similarly the case with petty trading, which has low returns but is possibly the only business in which women can find just about enough seed capital to get started.

No single women report doing business in a shop, as opposed to six married women and seven married men. Only men report engaging in business as a blacksmith, artisan or mechanic/ skilled worker. The type of business pursued thus divides sharply in line with the broader ranking of gender/marital status.

Living environment and assets

➢ *House construction*

In the areas of house construction and services, single women are again the least well off. There is a significant (*p*= <0.05) relationship between gender/marital status and house construction. 18% of single women live in the lowest quality housing, compared with 10% of married couples. At the other end of the spectrum, only 9 (13%) single women live in concrete houses, compared with 23% of married couples.

➢ *Services*

Most respondents – 284 or 69% - do not have access to electricity. Of those who do, 91 (22%) get this from the grid and 35 (9%) use solar panels. There is a significant (*p*=<0.01) difference within these numbers by gender/marital status. While around 65% of married men and married women have no electricity, this is higher for single women (62, 87%). Single women (7, 10%) are also less than half as likely as married women and married men to access electricity from the grid, and less than one third as likely (2, 3%) to get their electricity from solar panels.

There is no piped water in Chiawa. Most respondents (376, 92%) obtain their water from boreholes, while the rest (34, 8%) use river water, at the risk of attack by crocodiles. For cooking, only 25 respondents (6%) use electricity, with the remainder (385, 94%) reliant on wood. Gender/marital status had no significance in terms of water source or type of cooking fuel used.

➢ *Possession of assets*

We asked respondents whether or not they own a series of assets. The results are set out in table 15 below.

Table 12: Assets held, by gender/marital status

Asset	Married men N=168	Married women N=171	Single women N=71	Total N=410
Radio	109 65%	96 56%	11 15%	216 53%
Latrine	131 78%	124 73%	42 59%	297 72%
Chickens	114 68%	113 66%	37 52%	264 64%
Goats	58 35%	55 32%	18 25%	131 32%
Cattle	16 10%	11 6%	0	27 7%
Bicycle	93 55%	89 52%	12 17%	194 47%
Mobile phone	125 74%	118 69%	33 46%	276 67%
Fishing boat	17 10%	10 6%	3 4%	30 7%
Television	61 36%	59 35%	7 10%	127 31%

Generally levels of asset ownership are low, with only radios, latrines, chickens and mobile phones being owned by more than half of respondents.

Statistical analysis reveals that gender/marital status makes a difference in terms of possession of some assets. Married men and women are doing better than single women (p=<0.001) in ownership of radios, latrines, bicycles, mobile phones and televisions. However, the significance is not present in terms of all assets. There is no significant difference between married men and women, suggesting that they may be reporting on assets held commonly within the household rather than as individuals.

The only asset type for which ethnicity makes a significant difference (p=<0.01) is cattle. Most people do not have cattle, but the percentage of those with cattle is highest for Tonga (23%) and Losi (20%) people.

Savings and loans

We asked respondents whether they have savings or assets put aside to draw on in hard times. The results are presented in Table 13.

Table 13: Savings or assets for hard times by gender/marital status

Amount of savings	Married men	Married women	Single women	Total
None	81 48%	90 53%	47 66%	218 53%
A little	78 46%	73 43%	22 31%	173 42%
A comfortable amount	9 5%	8 5%	2 3%	19 5%
Total	168 99%*	171 101%*	71 100%	410 100%

The figures show that the majority of respondents have no savings or assets set by for hard times, suggesting members of this community are highly vulnerable to unforeseen shocks: 53% of respondents have nothing set aside.

While gender/marital status shows no differences of statistical significance for savings or assets, the figures do suggest variation between single women and married men and women: 66% of single women (47) report having no such savings/ assets, compared to 53% of married women and 48% of married men. Single women are also less likely (31%) than both married women (43%) and married men (46%) to report having a little savings set aside. Only 5% of respondents – slightly lower again for single women at 3% - report having a comfortable amount of savings set aside.

We then looked at whether the amount of savings differed by ethnicity (Table 14).

Table 14: Savings for hard times, by ethnicity

Amount of savings	Goba	Tonga	Nyanja	Losi	Bemba	Other	Total
None	130 55%	13 42%	6 60%	5 50%	5 56%	52 50%	211
A little	100 43%	15 48%	3 30%	3 30%	4 44%	45 43%	170
A comfortable amount	5 2%	3 10%	1 10%	2 20%	0	8 8%	19
Total	235	31	10	10	9	105	400

Unlike the economic factor, there is no statistically significant difference by ethnicity in which people report having savings. This may in part be due to the relatively large number of variables and small numbers of cases in each cell.

- ***Loans***

We asked respondents about loans they had taken out in the past year and the source of these. Of the 412 respondents, 327 (79%) do not report taking out a loan from any source. The source of loans for the 21% of respondents who had taken out a loan is reported in Table 15. Multiple answers were possible.

Table 15: Source of loans taken in the past year, by gender/marital status

Source of loan	Married men N=168	Married women N=170	Single women N=71*	Total loans from source
Family and friends	23 14%	26 15%	5 7%	54 65%
Microfinance institution	7 4%	3 2%	1 1%	11 13%
Bank	5 3%	4 2%	2 3%	11 13%
HODI	0	4 2%	0	4 5%
Money-lender	2 1%	0	0	2 2%
NGO	0	0	1 1%	1 1%
Total number of loans taken	37	37	9	83 99%**

* except for microfinance institution, for which n=70
** rounding error

By far the most common source reported is family and friends – 54 loans or 65% of the loans reported. Microfinance loans and loans from the bank are next most frequent (both 11 loans or 13% of loans taken out).

Some patterns emerge in terms of gender/marital status, although the statistical significance varies by loan source. Gender/marital status has no significance in terms of loans from family/ friends or banks, some significance (p=<0.05) for microfinance institutions, money lenders and HODI, and

marginal significance (*p*=<0.1) for NGO. Overall fewer loans are reported by single women (9) than both married men and married women (both 37). Single women are half as likely to report taking loans from family and friends (7%) as married men (14%) and married women (15%). Only women report taking loans from HODI or an NGO, while only men report loans from a money-lender.

We also looked at whether there is a difference in loan sources by ethnicity (Table 16).

Table 16: Source of loans taken in the past year by ethnicity

Source of loan	Bemba N=9	Tonga N=31	Other N=105	Nyanja N=10	Losi N=10	Goba N=235*	Total loans from source
Family and friends	0	2 6%	12 11%	3 30%	2 20%	34 14%	53
Bank	0	4 13%	5 5%	0	0	2 1%	11
Microfinance institution	1 11%	2 6%	3 3%	0	1 10%	3 1%	10
HODI	0	0	1 1%	0	0	2 1%	3
Money-lender	1 11%	0	0	0	0	1 0%*	2
NGO	0	0	0	0	0	1 0%*	1
Total number of loans taken by ethnic group	2	8	21	3	3	43	80

* except for microfinance institution, money-lender when n=234

Analysis reveals that ethnicity is only slightly significant in relation to loans from moneylenders (*p*=<0.05), - which were only accessed by Bemba (1, 11%) and Goba people (1, 0%) - and bank loans (*p*=<0.05), which were only accessed by Tonga (4, 13%) and Goba people (2, 1%). Ethnicity is not statistically significant in relation to any other source of loan.

Group membership

Village level committees are often set up under the aegis of the church or a government programme. There is a school committee, for example, which has parents on it and which keeps a check on the functioning of the school. There is also a village health committee under the health department. This is essentially a group of community health volunteers who provide some care for people who are extremely ill and have nobody to care for them. But there are also church committees that perform a similar care role. We asked respondents whether they belong to any groups in their community (Table 17). Church-based groups have the highest membership (35% of respondents), followed by village committees (21%), but no other single kind of organisation involves much more than 10% of the respondents overall.

Table 17: Group membership by gender/marital status

Group Type	Married men	Married women	Single women	Total
Village committee	48 29%	23 13%	17 24%	88 21%
Church-based group	40 24%	80 47%	24 34%	144 35%
Hodi	5 3%	32 19%	8 11%	45 11%
Government sponsored group	18 11%	11 6%	7 10%	36 9%
Other	22 13%	13 8%	11 15%	46 11%

There are notable differences between male and female patterns of group membership, and between single women and married women. In terms of village committee membership, gender/marital status is significant (p=<0.01), with married men most likely to state membership, and single women almost twice as likely to state membership as married women. The strong significance of gender/marital status (p=<0.001) is the opposite for church groups, with 24% of men claiming membership compared with 47% of married women and 34% of single women. Gender/marital status was also significant (p=<0.001) in membership of Hodi groups, which involve 19% of married women, 11% of single women and only 3% of men. This reflects Hodi's targeting of women. However, in relation to both government-sponsored and other groups overall, gender/marital status is not significant or only inconsistently so.

Health and disability

We asked respondents if they experience physical or mental conditions that give them pain or trouble. Table 18 sets out the results.

Table 18: Physical or mental conditions that give pain or trouble, by gender/marital status

Experience pain/ trouble	Married men	Married women	Single women	Total
Always	13 8%	21 12%	11 15%	45 11%
Sometimes	74 44%	101 59%	43 61%	218 53%
Rarely or never	81 48%	49 29%	17 24%	147 36%
Total	168 100%	171 100%	71 100%	410 100%

A total of 11% of respondents report experiencing pain or trouble all the time, and a further 53% sometimes experiencing this. Having a physical or mental condition causing pain or trouble varies significantly by gender/marital status (p=<0.001) – married men are especially likely to say rarely or never.

We asked our respondents about their experiencing of disability and ill health through a question capturing the extent to which these had impacted on their ability to work (Table 19).

Table 19: Time over last year that illness or disability prevented work, by gender/marital status

	Married men	Married women	Single women	Total
The whole year	2 1%	6 4%	2 3%	10 2%
Some of the year	56 33%	69 40%	36 51%	161 39%
Not at all	110 65%	96 56%	33 46%	239 58%
Total	168 99%*	171 100%	71 100%	410 99%*

*rounding error

In total 41% of respondents report that illness or disability has prevented them from working to some extent, although only 2% state that this had been for the whole year. Malaria is common, causing frequent but intermittent problems. Taken overall these results do indicate that health and disability are impacting on the livelihoods of the majority of respondents to some degree.[14] Being unable to work because of illness/disability also varies significantly by gender/marriage (p=<0.05) – 44% of married women said they had experienced this to some degree, and 54% of single women, as opposed to 34% of married men.

- ***Caring for Others***

We also asked our respondents whether they provide care for anyone who is unable to care for themselves because of a physical or mental condition. We explained direct care in terms of physical care of the person, such as assisting or attending to their household tasks, such as fetching water or firewood, cooking, or helping someone to the health centre. Indirect care generally meant financial support. Results are set out in Table 20 and Table 21.

Table 20: Provision of direct care, by gender/marital status

Frequency provided	Married men N=163	Married women N=165	Single women N=70	Total N=398
Every day	18 11%	20 12%	8 11%	46 12%
Quite often	14 9%	17 10%	3 4%	34 9%
Occasionally	41 25%	31 19%	8 11%	80 20%
Never	90 55%	97 59%	51 73%	238 60%

[14] Zambian census data of 2000 recorded the incidence of disability at 2.7% population but the World Health Survey of 2002-4, which gathered data based on the more inclusive ICF definitions and framework for disability and impairment, reported a disability prevalence rate of 14.8% for Zambia (WHO/World Bank 2011: 276).

Table 21: Provision of indirect care, by gender/marital status

Frequency of provided	Married men N=162	Married women N=166	Single women N=70	Total N=398
Regularly	23 14%	14 8%	3 4%	40 10%
Occasionally	50 31%	35 21%	10 14%	95 24%
Never	89 55%	117 70%	57 81%	263 66%

More than 10% of all types of respondent report providing direct care every day, and a similar percentage of the total group report providing regular indirect care. Some of the stories here are quite remarkable, with people taking on responsibility to provide regularly for others they can see in need, even when there was no kinship or other obvious reason for them to do so.

Analysis shows that there are significant differences by gender/marital status in both direct care (p=<0.05) and indirect care (p=<0.001). Single women are more likely to report never providing direct care (73%) than both married women (59%) and married men (55%). However, a similar proportion of single women (11%) report providing direct care every day to married women (12%) and married men (11%). The main differences are thus in the providing of direct care quite often or occasionally. Single women are also most likely to report never providing indirect care (81%), compared to 70% of married women and 55% of married men. Single women are least likely to report providing indirect care of all types and married men most likely.

Mediators of wellbeing

Our understanding of what *constitutes* wellbeing – the seven domains – is described briefly above.[15] Recognising that people do not exist in a vacuum, our approach also considers what *enables* wellbeing – the resources that are provided by the environment in which people live. But of course, people are not all equal – issues of power, status and influence affect, or *mediate* the opportunities different kinds of people have to achieve wellbeing. In this section, therefore, we consider some key dimensions of difference within the Chiawa population, and explore whether these are significant mediators of wellbeing – that is, whether their presence or absence makes a significant difference to the levels of wellbeing that people report.

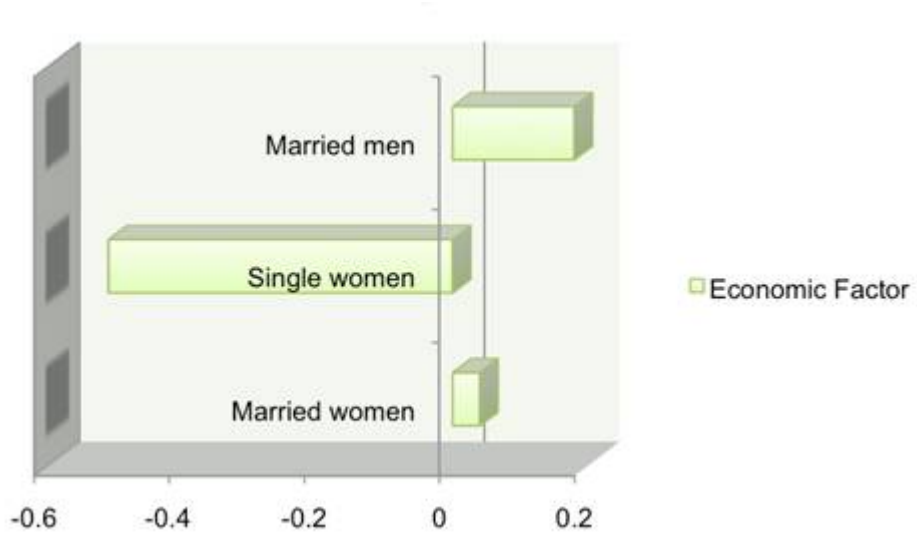
First we considered gender/marital status, and tested whether it is a significant predictor of the key objective wellbeing indicator of economic status. We found that it is, with single women scoring markedly lower than married men and married women (p=<0.001) (Table 22 and Figure 7).

[15] For a fuller description of our concept of inner wellbeing, see the India report, White et al., 2012.

Table 22: Gender/marital status as a predictor of economic status

	N	Mean
Married women	170	.04
Single women	71	-.51
Married men	165	.18
Total	406	.00

Figure 7: Economic factor by gender/ marital status



Post hoc tests of significance consider which comparisons are significant by looking at each pair in turn. These show that married men and women are not scoring significantly differently from each other, but both are scoring significantly differently to women heading households (married women-single women p=<0.001; married men-single women p=<0.001). Some correlation between married men and women is expected, as they are reporting on the same household, though other factors (such as level of education) may differ between them.

Subjective Reflections on Wellbeing

Our survey contained a way to capture subjective reflections on wellbeing via two final questions. These asked people to reflect on how they have been doing economically over the previous twelve months; and to compare their standard of living now with five years ago.

First, we tested whether gender/marital status is a significant predictor for the final two subjective questions. We ran two ANOVAs separately, which were then joined together in Table 23 below.

Table 23: Gender/Marital status as predictors of subjective reports on economic wellbeing and standard of living (ANOVA)

	F[16]	Sig.
How well doing this past year economically	7.675	.001
How present standard of living compares with five years ago	17.311	.000

These show married men, married women and single women differ significantly on both items. Post hoc tests tell us more about which differences are significant. These show that both married women and married men are scoring higher than single women on subjective economic wellbeing (p=<0.01) and standard of living five years ago (p=<0.001). There is no significant difference between married men and married women.

Second, we tested whether ethnicity is a significant predictor for the final two subjective questions. Results showed no significance.

Thirdly, we tested whether economic status is a significant predictor for the final two subjective questions (Table 24). There is a strong and positive correlation between these variables – in other words, the higher an individual's economic status, the more positively they perceive changes in their economic status and standard of living.

Table 24: Economic status as a predictor of subjective reports on economic wellbeing and standard of living

	F	Sig.
How well doing this past year economically	24.795	.000
How present standard of living compares with five years ago	34.820	.000

Inner Wellbeing

In this section we report on people's responses to our inner wellbeing items. Although the sections are organised by domain, as explained above we cannot make any strong statements about the domains as composites, because the factor analysis did not work with our Chiawa sample. However, these items nevertheless reveal some interesting perspectives on life in Chiawa, and provide for some more methodological reflection on the project of investigating wellbeing.

- ***Access to Resources***

At the opening of section two of the survey we asked respondents for their reactions to a series of statements about the environment in which they live. The first concerned whether children could move around safely. The genesis of this item came from earlier work we had conducted on wellbeing in South Asia, where the safe movement of women and girls is a significant wellbeing issue. In Chiawa, however, very few people think there is a particular issue about mobility from a gender perspective. We subsequently tried out a number of different statements that aimed to capture gender in particular, but were unable to find one that worked well. We therefore settled ultimately on this item. The mean score is slightly positive at 3.64, with no significant differences by either gender/marital status or economic status. The most commonly noted hazards are animals (43). Some note that some places are safe and others are not. Other issues mentioned are sexual assault, the river and traffic. These examples link this item with another, which stated 'the environment we live in is full of hazards.' The score for this is very low (1.63), as one would expect

[16] The F value is a measure of significance, from which the significance value (Sig.) is derived.

given how precarious people's livelihoods are. There is no significant difference by gender/marital status, but the economic factor produces significant difference at p=<0.01.

The other two items on the environment that receive positive scores concern children's access to quality education and access to medical treatment. Given the poor state of both schooling and health services in Chiawa, we were surprised to see these items are given positive scores. Comments are consistent with our impressions: few were positive. People remark on the distance from health care provision (25), plus shortage of money for travel and the lack of an ambulance, lack of medicines (25), and lack of staff (13). On education respondents talk about the lack of teachers and poor teaching quality, that teachers are too harsh, or too drunk. Other comments relate to respondents' poverty and inability to afford to send their children to school. But there are also some criticisms of (particular) children themselves, that they are simply not very bright, or have poor concentration.

Given the negative tone of these comments, how do we account for the positive scores? A number of factors may have contributed. First, both items were worded positively and, as noted above, this introduced a strong positive bias into the scores given. Second, however, both items show up significant differences between respondents, with marginal significance by gender/marital status (p=<0.1) and high significance (p=<0.01) by economic status. Most interestingly, however, in both cases the relationship is in the reverse direction to that which was found in almost every other case. On these items only those who are better off economically score worse than others. On these items also, single women score more highly than married men. Amongst all the differences found to be significant which involved single women, there is only one other in which single women score more highly than the other group involved.[17] As seen above, single women are both less educated and more subject to ill health than other groups. It would seem likely, therefore, that these are rogue findings, which tell us more about the low expectations of people in objectively poor circumstances than the quality of the services they are receiving.

All of the other items which refer to state provision or citizen-state interaction are negatively scored. 'I do not get government assistance at the right time' is particularly low, with a mean score of 1.59. While women score lower than men on this item, the difference is not significant. However, there is a significant difference according to economic status, at (p=<0.05) level, with less well-off people scoring lower. Comments refer to the government providing assistance at 'their time', and that people hear from them 'only during campaigns.' A positively phrased statement 'I find government officials approachable and responsive to my needs' produced a marginally negative mean response (2.92), with no significant difference by gender/marital status or economic status. People commented that different kinds of government official differed, and that they might be approachable but not responsive (9). A negatively phrased statement about confidence in getting justice similarly produced slightly negative overall mean scores (2.78), with no significant difference by either mediating factor. Nine people talked about corruption, 10 that it depends on the type of case, three that they had higher expectations of justice from the formal law rather than the traditional courts.

- ***Participation and agency***

People have little expectation that they can make organisations fulfil their promises (1.53) and married women have significantly less hope of this than married men (p=<0.05). Even more positive comments betray how disempowered people feel: 'we can get them to fulfil their promises by doing what they tell us to do'. Economic status does not make any significant difference to this item. Respondents similarly express little confidence that they can change official decisions that affect them. This item attracts the lowest score of any, at 1.31. It was negatively worded, but even so this score is strikingly low. There is a significant difference by economic and gender/marital status, both at p=<0.05 level, with married men scoring significantly higher than married women, and better off people scoring more highly than those who are poorer. Interestingly, this same item re-phrased as a

[17] The other item on which single women score more highly is: 'Even though I believe in God I often do not find time to pray.'

question produced very similar results in India. There the overall score was still negative though slightly higher (2.50). Responses in India again show a significant difference for both factors, this time at *p*=<0.01 level, with married men again scoring significantly higher than married women, and better off people scoring more highly than those who are poorer. Despite all this, however, most respondents in Chiawa feel it important that they should vote (4.19). Comments reflected people's ambivalence around this, with equal numbers saying they should vote to bring change, and others that they should vote despite the fact that it would bring no change. Men are more committed to voting, scoring marginally more highly than married women, at *p*=<0.1 level. Economic status makes no difference to this item. [18]

By comparison, scores on community participation in Chiawa are relatively high, at 4.58 for 'I can work with others to bring change to my community' and 4.31 (reverse coded) for 'I don't see any role for myself in community affairs.' The latter of these shows no significant differences by either mediating factor. On bringing change in the community, married men profess themselves marginally more confident than married women. Both men and women refer to lack of unity as a problem (23 comments). Economic status makes a significant difference to this item (*p*=<0.01).

- ***Social connections***

The social connection items taken as a domain show the strongest pattern of significant difference by gender/marital status, with three items significant at *p*=<0.01. In all cases men are scoring highest, then married women, then single women. In two cases the significant difference is only between men and single women, in the third ('I know some important people whom I can go to for help') single women score significantly lower also than married women. The headman is the person most frequently mentioned as who people go to (six comments). The economic factor is also highly significant for this item (*p*=<0.001) and one of the others ('I feel isolated from other people'). There is marginal significance by gender/marital status for the item 'People come to me for help and advice'. In this case the general pattern shifts. Married men score highest as usual, but unusually married women come out lowest, with single women lower than but nearer to married men. The highest score in this domain (4.80) relates to the item 'I am part of a circle of friends who help and support each other.' As one person put it, 'This is how we live!' However, single women still score significantly lower than married men (*p*=<0.01).

A striking factor in the Chiawa data is the palpable sense of personalised harm, often expressed as witchcraft. This was a frequent topic in both interviews and everyday conversation. Two comments refer to this in response to the item on the hazards of the environment noted above. More directly, the item, 'I believe that there are people who would like to cause me harm,' scores an overall negative 2.11[19]. Interestingly, although it doesn't measure as statistically significant, men score noticeably lower on this item, with a mean score of 1.97 as against married women's 2.29. People talk of fearing harm from community and family members (33 comments), of fear because close relatives have already been bewitched, and of people's envy of their activities or talents. As one person put it: 'If one is in the forefront of bringing development to this area, you will be looked at as if you want to destroy people's thoughts over their life.'

A second item sought to tap this sense of harm in a more generalised way: 'I live in fear of harm from evil powers.' Here again the score is low (2.28). There is no significant difference by gender/marital status but there is by economic status, at *p*=<0.001. In India the analogous question ('To what extent would you say that you live in fear of harm from witchcraft, evil gaze, magic?') evoked similar responses, with a mean of 2.87, and economic status was again a positive and significant predictor (*p*=<0.001). In India, married men also scored significantly more highly than married women at *p*=<0.001. The more personalised sense of harm did not however seem to

[18] Respondents who identified themselves as Jehovah's Witnesses said that voting was against their religious beliefs.

[19] Like other negatively worded items, the score presented here has been reverse-coded, so that a negative score indicates illbeing and a positive score wellbeing.

resonate with respondents in the Indian context. 'Do you feel that there are people who would like to cause you harm?' produced an average score (recoded) of 4.35. Discussion of this item in India was also of a different quality, with potential harms and hostilities couched in natural rather than supernatural terms.

- ***Close relationships***

Mention of alcohol in Chiawa was noted above in relation to school teachers. It is also mentioned in the family context, as two women commented that their husbands listened to what they said 'so long as he is not drunk,' and several others remarked on it in the context of the item on violence. As noted above, the items on close relationships are overall the most positive, with only one mean domain score dropping below three. This was an item that tried to tap the negative side of family ties: 'I find it hard to find a balance between my own needs and those of my family' (2.08). While this does not show significant difference by gender/marital status, there is some marginal difference by economic status (p=< 0.01*).* 'There is little harmony in my home' elicits significantly higher (recoded) scores from married men than married women (p=< 0.05*).* Not surprisingly, the degree of difference between married men and married women is even stronger for the item 'People in my household listen to what I say' (p=< 0.01*).* In general people express considerable confidence that their families will care for them when they are old (mean of 4.42). However, this varies significantly by economic status, and there is a marginal difference by gender/marital status, with single women recording the lowest scores (p=< 0.1*).*

- ***Physical and mental health***

Physical and mental health also constitutes a domain which shows up a large number of significant differences. For five of the six items economics makes a significant difference and for four of the six gender/marital status does. People say they worry about children's health, especially when they are sick, or if they lack food. There is no difference in men and women's responses on this, but economic status does make a difference, at p=< 0.05. Conforming to more general patterns, men are significantly less likely to agree that they 'often feel sick or in pain' than either married or single women (p=< 0.01*).* This is most commonly related to difficulties working. Economic status is a significant predictor of this item at the same level. Men state that they have less trouble sleeping than both single and married women (p=< 0.01*),* with economic status making a difference at p=< 0.0*5.* People attribute their poor sleep to physical pain and mental worry in roughly equal proportions. Bad dreams are particularly widely noted. Insufficient time to rest and relax is related again to having too much work (11 comments). Men state that they are fit and strong for their work significantly more than do married women (p=< 0.05*).* Economic status is significant for this item at the same level. Many people agree that they are 'always thinking that something bad is going to happen,' producing (recoded) means of 2.70. The economic factor is a highly significant predictor of this (p=< 0.001*).* People link this item to the hazards in the environment rather than it appearing as an attitude of mind or disposition. Fifteen talked about death, ten disease, two children, and others job loss, floods, crop failure, poverty and hunger.

- ***Competence and self-worth***

By contrast, only two items in the competence and self-worth domain show significant difference by economic status, and for gender/marital status only one item shows even a marginal difference. In this item ('I cannot do much to help other people') single women are the ones scoring (marginally) significantly lower than both married women and married men. For India three of the four items in this domain were highly significantly predicted by economic status (p=< 0.001) but none by gender/marital status. This apart, there is an interesting difference in the way people in Zambia and India responded to the items in this domain. In Zambia people have no problem with positively endorsing strong statements about the self: 'I feel proud of my achievements' (4.69), 'I am good at what I do' (4.83). In India, by contrast, people demurred when asked about such things, claiming

that if we wanted to know about them, we should ask a neighbour for his or her judgement, it was not for oneself to say.

- ***Values and meaning***

We struggled considerably to find suitable items to populate the final domain of values and meanings. It is a lot easier to see the importance of this domain to people's wellbeing than to come up with items that can measure it effectively. People had real difficulty understanding what we were trying to get at with statements about fulfilment or meaningfulness which are used as standard in the West. To get a sense of how people felt about their social identity, we included the statement 'If I had a choice I would have been born into a different tribe.' This was also a good item for lightening the mood, as many people greeted it with a smile or laugh. While most people disagree with this statement, for those who agree there is an interesting difference in responses between India and Zambia. In Zambia people without exception mention a higher status ethnic group – the most common (looking mischievously at us) being white. The most common reasons that people give for this choice are either that 'then life would be easy' or that the group concerned is more supportive to its own members, having good relations within itself. In India, by contrast, a number of people mentioned a lower status group, on the grounds that they had preferential access to state-provided welfare benefits.

In Zambia, within the values domain, gender/marital status proves to be significant for only one item (p=< 0.001). This is 'Even though I believe in God I often do not find time to pray.' This is an unusual item in that the scores are reversed from the usual order, with single women scoring highest and married men lowest. This may in part reflect the fact that single women tend to be older, and may have more time on their hands given the lack of employment or enterprise opportunities. Economic status proves more significant, differentiating scores on three items. Two of these suggest a more generalised reflection on people's lives 'I feel I can fulfil God's purpose for my life', and 'All in all I feel that life has been good for me.' In both of these economic status is significant at p=< 0.05.

Conclusions: Chiawa and Chhattisgarh compared

The big story in terms of objective wellbeing is that Chiawa is a very poor area of Zambia where people are struggling to achieve their basic needs. In part at least this reflects a model of development which largely excludes smallholder livelihoods. At the national level it seems that the main part for Chiawa in the development story lies in wildlife and the tourism it can attract. The supporting role is played by large commercial plantations, growing soya, banana, or other crops. Development prospects for the local people are seen in terms of employment in these ventures, as commercial farm or safari lodge workers, rather than through the smallholder farming which the majority of our respondents identified as their main occupation. For most local people the animals are seen as a hazard, threatening destruction to crops and personal injury. While the younger generation are gaining more years of schooling than our respondents, accessibility of schools is still an issue, especially at secondary level. Concerns are also expressed about the quality of education available, which is compared negatively with that of a generation ago.

There are two striking differences in comparison to our Indian research site. The first is that in Chhattisgarh there is a strong sense of things getting better, of movement in a positive direction, if from a low base. While there are certainly some signs of hope in Chiawa, this sense of generalised improvement was not evident. The second difference was the striking visibility of the state in India – with categories of ration rights, for example, literally painted on house walls. In Chiawa, state provision was relatively absent and there were low levels of expectation that this might be otherwise. Compared with the more bureaucratised relationship in India between state and citizens, in Chiawa power seems still highly concentrated in the person of the chieftainess and the network

of headmen she appoints. It should be noted, however, that the fieldwork took place towards the end of a presidency with which many had become disillusioned. It may be that expectations of the state will have changed since the election of a new government in 2011. The difference between our two field sites does emphasise the importance of looking at the wider environment within which people are living, and recognising that the achievement of wellbeing is a political issue, rather than something that can simply be attributed to the characteristics of individuals.

Turning now to the inner wellbeing items, at the multivariate level both gender/marital status and economic status are significant predictors. Although they are also related to each other, this does not account for their effects on the wellbeing items, which are operating quite independently for the two mediating factors.

Comparing our data from Chhattisgarh, India, to Chiawa, the great difference is the overwhelming sense of the economic factor in India, proving a significant predictor of 23 out of 32 items (72%) and a marginal predictor of two more. In Chiawa economic status predicts 19 of 42 items (45%) and is marginally significant for two more. The most likely reason for this difference is that, while both communities are poor and marginalised, there is a greater degree of economic differentiation in our Indian sample, and this translates into a stronger effect on responses to the inner wellbeing items.

In Chiawa, gender/marital status predicts 12 items significantly and six more marginally.
In India the gap with economic status is larger, as gender/marital status predicts nine items significantly and four more marginally. In both countries the general pattern is the same, with married men scoring more highly on inner wellbeing items than married women, and both scoring more highly than single women. The difference in mean scores between married men and single women is slightly higher (0.28) in Chhattisgarh than in Chiawa (0.17) but we cannot draw any conclusion from this because the items in each country were different.

For Chiawa, as noted earlier, because the statistics did not come together as we had hoped we are not able to make any strong statements at the domain level. Looking at the items which we used in the different domains, however, there does seem to be a pattern in terms of which are more responsive to economic status, and which to gender and marital status. Gender/marital status shows rather little effect for items in three domains: the enabling environment, competence and self-worth, and values and meaning. The domains in which gender/marital status makes most difference are social connections and physical and mental health, followed by close relationships. For the economic factor the spread across the domains is more even. The enabling environment and physical and mental health show the strongest pattern of difference. Close relationships shows the weakest.

Finally, we need to underline the limitations of what is reported here. Our research in Chiawa was very much a learning experience, in which we were seeking to develop a method for assessing wellbeing, at the same time as learn something about the place in its own terms. Our ability to reflect the texture of everyday life in Chiawa is therefore limited. In particular, the overwhelming emphasis in this report on the findings of our quantitative data inevitably limits the possibility to explore local constructions of wellbeing in Chiawa, which would be more amenable to qualitative analysis.

References

Biswas-Diener, R. and Diener, E. (2001) ‘Making the best of a bad situation: Satisfaction in the slums of Calcutta’, *Social Indicators Research.* 55(3): 329-352.

Biswas-Diener, R. and Diener, E. (2006) ‘The subjective well-being of the homeless, and lessons for happiness.’ *Social Indicators Research.* 76:185-205.

Camfield, L., Choudhury. K., Devine, J.(2009) ‘Wellbeing, Happiness, and Why Relationships Matter. *Journal of Happiness Studies*. *10 (1): 71-91.*

Diener, E. (2000) ‘The science of happiness and a proposal for a national index.’ *American Psychologist.* 55 (1):34-43.

Hagerty, M. R.; Cummins, R. A.; Ferriss, A. L.; Land, K.; Michalos, A. C.; Peterson, M.; Sharpe, A.; Sirgy, J.; Vogel, J. (2001) ‘Quality of Life Indexes for National Policy: Review and Agenda for Research.’ *Social Indicators Research.* 55 (1): 1-96.

Harland, C.S. (2008). *Suffering peacefully: living with adversity in Chiawa, Zambia*. University of Bath: Unpublished PhD thesis.

Ryan, R.M. and Deci, E. (2001) 'On happiness and human potentials: a review of research on hedonic and eudaimonic well being.' *Annual Review of Psychology.* 52:141-166.

Ryff, C. D. (1989) ‘Happiness is everything, or is it? Explorations on the meaning of psychological well-being.’ *Journal of Personality and Social Psychology. 57*: 1069-1081.

White, S.C. (2009) ‘Bringing wellbeing into development practice.’ WeD Working Paper 50.

White, S. C., Gaines Jr. S., Jha, S., Marshall, N. (2012) *Wellbeing Pathways Report: India Round 1*. Available at www.wellbeingpathways.org.

WHO/World Bank. (2011). *World Report on Disability* Geneva: World Health Organisation

APPENDIX A: The economic index and asset index

Economic Index
For each gender, the economic index was created via a principal axis factor analysis of the following items, with one standardized factor extracted and the resulting factor score for each person taken as the economic index:

1. Education
2. Business category
3. Construction of house
4. Source of electricity
5. Cooking fuel
6. Savings
7. Asset index (see below)
8. Job category for self, on a 1-3 scale depending on type of job
9. Permanent job category for others, scored the same as job category for self

Asset Index

The asset index was generated by weighting the asset items as follows:

Radio: No = 0, Yes = 1
Latrine: No = 0, Yes = 1
Mobile phone: No = 0, Yes = 1
Chickens: No = 0, Yes = 1
Goats: No = 0, Yes = 2
Cattle: No =0, Yes = 3
Bicycle: No = 0, Yes = 2
Fishing boat: No= 0, Yes = 2
Television: No = 0, Yes = 3

These weighted items were then entered into a principal axis factor analysis, in which one standardised factor was extracted. The resulting factor score for each individual was taken as the asset index.

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