

Report

Living Wage for rural South Africa with Focus on Wine Grape Growing in Western Cape Province¹

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1. BACKGROUND

1.1 USE OF AN AGREED DEFINITION AND METHODOLOGY TO ESTIMATE A LIVING WAGE AND COMMITMENT TO IMPROVING WAGES OF FAIRTRADE INTERNATIONAL AND FIVE OTHER CERTIFYING ORGANIZATIONS

This paper estimates a living wage for wine grape growing area of Western Cape Province South Africa using a new methodology developed by the authors that builds and improves on earlier work on living wages published by ILO (see Anker, 2006 and Anker, 2011). This methodology has been used so far to estimate a living wage for urban areas in 9 countries for a multi-national corporation. The present report for South Africa was supported by Fairtrade International as a first step to understand the impact of Living Wage on prices paid for rural commodities and as part of their memorandum with Social Accountability (SAI) and GoodWeave to develop a Living Wage methodology.

These partners were joined later by three other organizations and members of the ISEAL Network of standard setters (Forest Stewardship Council, Sustainable Agriculture Network/Rainforest Alliance, and UTZ Certified). In their common declaration for a “Shared Approach to Living Wage” the organizations have committed to “adopt a common definition of living wage and apply a common methodology to estimating living wage levels ... with long term goal and shared mission of these six organizations to see improvements in workers’ conditions, including wage levels, in the farms, factories and supply chains ... by seeking support from brands, buyers, and retailers to make wage growth possible at the primary production level possible and ... working together with the relevant stakeholders.”

1.2 FAIRTRADE AND REVIEW OF MINIMUM PRICING AND PREMIUM FOR WINE GRAPES IN SOUTH AFRICA

Fairtrade International was undertaking a review of minimum prices and premium for wine grapes from South Africa. Part of this price review involved identifying the impact wages on Ex Works and FOB costs of production of wine grapes if workers were paid a living wage. This meant that a living wage benchmark needed to be established for this review. It is worth noting that this was the first time Fairtrade International included an analysis of the possible impact of wage increases on the minimum price. It was expected that similar reviews would be done for other commodities and countries if this analysis for South Africa proves meaningful.

1.3 SOUTH AFRICAN CONTEXT

A living wage benchmark for the wine grape growing region of Western Cape was especially timely. Farm workers at wine grape farms in South Africa have been demanding higher wages. And, South African trade unions stress the need for workers to earn a living wage. For example, COSATU’s 10th National Congress

Declaration in 2009 stated: “We rededicate ourselves to realize the objective of a living wage”, and “The struggle for a living wage is the lifeblood of the trade union movement.”

While the South African constitution does not include the right to a living wage, it is progressive as regards living conditions for poorer persons. For example, it states that: “Everyone has the right to have access to adequate housing. ... Everyone has the right to have access to – (a) health care services, including reproductive health care; (b) sufficient food and water.” At the same time, the South African constitution recognizes that government action is limited by available resources: “The state must make reasonable legislative and other measures, within its available resources, to achieve the progressive realization of each of these rights.”

Also, South African government increased the minimum wage in March 2013 only a few months before this report, raising minimum wage for farm workers from R69 to R105 per day. This substantially increased the cost of production for farms. This report should be read in this context of significant pressure for increased wages and a recently increased minimum wage.

2. LIVING WAGE ESTIMATE

Our living wage estimate for wine grape growing region of Western Cape South Africa in May 2013 is R3,122 per month (R144 per day). This is before consideration of free in-kind benefits provided to some workers by farmers such as free accommodation and transportation. This is also before consideration of Christmas (13th month) bonus and UIF (Unemployment Insurance Fund) mandatory deduction from pay. **Taking all of these into account, we get an estimated cash living wage of R2,385 per month (R111 per day) for permanent workers who receive free housing, free transportation to town each week as well as a 13th month bonus.** It is important to point out that the living standard used to estimate the living wage is very basic and represent the minimum level for decency.

Considerable thought and effort was put into making this estimate. This included visits to workers’ houses, visits to stores where workers shop, and discussions and information from various key informants in the area as well as statistics, papers and reports from researchers, government and international agencies. This report provides detailed explanations on how this living wage estimate was arrived at.

The level of detail in this report is provided for several reasons. First, transparency is felt to be essential, since it is very important that stakeholders understand the basis for the living wage estimate in this report. Stakeholders should feel that the living wage estimate is solid and representative of the cost of a basic but decent life in the wine grape growing region of Western Cape, regardless of whether or not it will be possible to pay this wage in the near future. Transparency should encourage stakeholder dialogue. Transparency also helps to ensure that the living wage estimate is as accurate as possible and receives as wide an acceptance as possible. Second, it is important that stakeholders are aware that Fairtrade International took the estimation of living wage very seriously and that considerable effort went into making the living wage estimate.

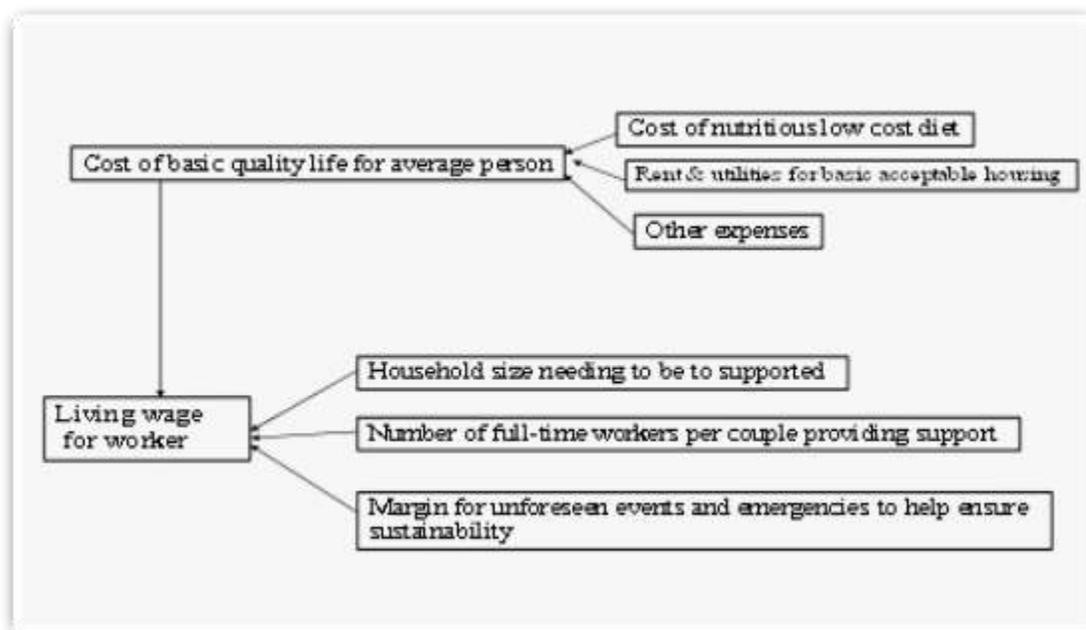
3. INTRODUCTION TO LIVING WAGE AND ITS ESTIMATION

The idea of a living wage is that workers and their families should not have to live in poverty. But a living wage should do more than simply keep workers and their families out of poverty. It should also allow them to participate in social and cultural life. In other words, wages should be sufficient to ensure that workers and their families are able to afford a basic but decent life style that is considered acceptable by the society at its current level of economic development. Living wage assumes that workers receive this during a normal work week without having to work overtime. The following living wage definition has been agreed to by Fairtrade International (Fairtrade) and 5 other certification companies associated with ISEAL (Forest Stewardship Council (FSC), Goodweave, Rainforest Alliance/SAN, Social Accountability International (SAI), and UTZ Certified).

“Remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent standard of living of the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing and other essential needs including provision for unexpected events.”

The idea of a living wage can be traced back to at least Adam Smith in the 18th who felt that workers are entitled to a decent wage. An especially important milestone for a living wage was an 1891 Papal encyclical. Annex A provides quotes on need for a living wage from prominent historical figures and institutions from the 18th, 19th and 20th centuries. For more background on living wage and how it is measured, readers are referred to an in-depth review of living wage definitions and methodologies in Anker (2011).

The following flow chart indicates how living wage in this report was estimated. We started by estimating cost of a basic living standard that would be considered decent in wine growing region of Western Cape province South Africa at the present time (first left hand box). This was estimated by summing up separate estimates of the cost of nutritious food, decent housing, and all other needs at a decent level (first three right hand boxes). Before accepting a preliminary cost estimate for non-food and non-housing needs for a basic life style, we made sure that sufficient funds were provided for education and health care (as they are generally considered human rights around the world) as well as for transportation. A small margin was then added to help ensure that common unforeseen events such as illness or accident do not easily throw workers into poverty and to allow some discretionary spending. This new total cost of a basic quality life that was mostly expressed per capita was then scaled up to arrive at cost for a typical family size and defrayed over a typical number of full-time equivalent workers per household.

Flow chart on how to estimate a living wage**4. LIVING COSTS FOR A BASIC BUT DECENT QUALITY LIFE IN WINE GRAPE GROWING REGION OF SOUTH AFRICA**

Cost of a basic decent quality life in wine grape growing region of Western Cape South Africa was arrived at by separately estimating food costs, housing costs, and all other costs. How each of these costs was estimated is explained in sections 4-6.

4.1 FOOD COSTS FOR BASIC ACCEPTABLE LIVING

Food cost for a living wage was estimated using local food prices and a low cost nutritious model diet for an average person. **Food was estimated to cost R12.5 per person per day.**

4.1.1 Appropriate model diet for estimating food cost for a living wage

An appropriate model diet for estimating a living wage should be:

1. Nutritious (i.e. have sufficient calories as well as acceptable quantities of proteins, fats, carbohydrates, minerals and vitamins). According to World Health Organization (WHO/FAO, 2003), nutritious diets need to have:

- a. At least 10-15 percent of calories from proteins (with a reasonable proportion of proteins coming from “higher quality” sources of legumes and animal-origin foods);
 - b. 15-30 percent of calories from fats;
 - c. 50-70 percent of calories from carbohydrates.
 - d. 400 grams of vegetables and fruits per day (including legumes), although WHO/FAO (2003) acknowledges that it is rare for countries to meet this recommendation.
 - e. Sufficient number of calories that depends on for example age, sex, body size, and activity level.
2. Relatively low in cost for a nutritious diet. Diet should include less expensive types of meats, cereals, fruits and vegetables, etc. to keep down total food cost.
 3. Consistent with a country’s development level. Proteins and animal-origin foods are relatively expensive per calorie and their consumption is known to increase with income and economic development.
 4. Consistent with local food preferences. Consumption of foods whose importance varies greatly across countries should be reflected in a model diet. This includes cereals (e.g. whether rice, wheat or maize is main cereal), roots and tubers (e.g. whether people eat much potatoes or cassava), pulses (e.g. whether people eat much dhal, or beans), dairy (e.g. whether people drink much milk), eggs (e.g. whether people eat much egg), and meats/fish (e.g. whether people eat mostly chicken, pork, fish or beef).

4.1.2 Model diet used to estimate living wage for South Africa

The model diet used to estimate a living wage for wine grape growing areas of Western Cape South Africa is shown in Table 1. The last column in Table 1 includes comments on the number of meals per day or per week for each food.

Note that our model diet is consistent with five other South African diets that we used to help set our model diet. The distribution of food costs in our model diet is consistent with observed food expenditure of South African households. Annex D discusses in detail how our model diet compares with five other diets for South Africa as well as how the distribution of food expenditure in our model diet compares to actual food expenditure of South African households.

Our model diet has 2261 calories which is number of calories typically used to estimate South Africa poverty lines (e.g. Rose et al, 2002; Woolard and Leibbrandt, 2006).² Percentages of calories from proteins (12.5%), fats

² Quantities for each food item in the model diet were generally purposely set at quantities understandable to laypersons. Thus, the model diet allows for 3 slices of bread per day; 2 small potatoes per day for family; 8 meat meals per week; 3 eggs per week; 1 cup of milk per day for children and ½ cup of milk

(24.5%) and carbohydrates (63.0%) meet WHO standards for a nutritious diet, with 12.5% from proteins towards the lower end of the 12-14 percent range generally found in middle income countries (Anker, 2006). The 245 edible grams of fruits and vegetables included in this model diet (approximately 300 purchased grams) helps ensure sufficient micronutrients and minerals. This model diet is also consistent with food preferences, relative prices and behavior in Western Cape. Thus, cereals are represented by bread plus a combination of maize meal, rice and wheat flour; meat/poultry/fish is represented by frozen chicken and chicken giblets; and fruits and vegetables are represented by least costly vegetables in local markets (cabbage, carrot, pumpkin and orange). Quantities also reflect local preferences. For example, quantity of bread is relatively high; maize meal, wheat flour and rice are included in equal quantities; and quantity of chicken and egg are relatively high compared to dairy.

4.1.3 Model diet

Table 1 indicates the model diet used to estimate our living wage. The idea behind using a model diet to estimate food costs for a decent standard of living is that a worker and his or her family should be able to afford a nutritious diet. This does not mean that people are expected to eat foods in exactly the same quantities in the model diet every day – but rather that they should have sufficient income to be able to afford a nutritious diet. It is for this reason that cost of our model diet was increased by 10 percent to allow for some variety as well as by 3 percent for salt, spices, and condiments³ and 3 percent for minimal spoilage and wastage.

4.1.4 Food prices

Food prices used to determine cost of our model diet are those we observed in local markets especially supermarkets where workers shop for food. Four local supermarket chains located in Winelands area were visited (Savers Lane, Check In, Checkers and Pick n Pay) as well as informal food vendors. Prices for various quantities and brands for each food were collected and entered into an EXCEL worksheet where price per kg could be calculated for each food, brand and quantity.

In each market, lowest price per kg was identified for each food.^{4,5,6} Finally, we calculated a trimmed mean for each food using lowest price in each market and then used this trimmed mean to cost our model diet. For

equivalent per day for adults to add to porridge and coffee and tea; 3 tablespoons of cooking oil per day; and 4 teaspoons of sugar per day. Our model diet also includes, of course, a large quantity of cereals (270 grams per day).

³ Households at 40th percentile of income distribution spend approximately 3 percent of food expenditure for salt, spices and condiments according to data from Statistics South Africa (2012 and 2013).

⁴ Only restriction was that a maximum quantity was set for each food item. This depended on quantity in our model diet and ability of workers to store each food. It was assumed that workers own a refrigerator with freezer compartment and shop once per week at a supermarket in nearest town.

⁵ Although many farm workers buy food hampers, we did not consider food hampers because they contain household items in addition to food and their contents change every month. Managers told us that they adjust contents of food hampers each month to keep their prices similar each month.

example if lowest price per liter for oil was R16.75 for Pick n Pay, R15.00 for Checkers, 15.95 for Check-In, and R15.99 for Savers Lane, the trimmed mean would be R15.97.

5. HOUSING COSTS FOR BASIC ACCEPTABLE HOUSING

Housing costs for our living wage are estimated by summing the cost of: (i) rent for a basic acceptable dwelling; and (ii) utility costs and other housing costs such as repairs and maintenance. **Housing costs were estimated as R1,280 per month.**

5.1 RENT

5.1.1 Standard for basic acceptable housing

Before trying to ascertain rent for basic acceptable housing, standards were set for minimum basic acceptable housing. Housing in the wine grape growing region was then visited with these standards in mind to determine prevailing rents for acceptable housing. Note that we estimated rental cost and not ownership costs for practical reasons. It is difficult to calculate the cost of home ownership and for this reason many national statistical offices measure housing costs based on information on rental costs, including some developed countries such as the United States. Also, it was not felt to be reasonable to expect workers to be able to afford to build or own their own homes.

Standards were set for basic acceptable housing for: (i) location; (ii) materials for walls, floor, and roof; (iii) ventilation; (iv) state of repair and condition of building; (v) facilities/amenities; and (vi) size in terms of square meters of living space and number of rooms or bedrooms. To help set these standards, we relied on international and national standards for acceptable housing, although mainly on South African standards.

South African Basic Conditions of Employment Act No. 75 of 1997 for Farm Worker Section from South African Ministry of Labour (see Annex C) provides some guidance for acceptable housing:

“A deduction [for free accommodation as partial payment of wage] ... may only be made for a house that meets the following requirements:

- (a) the house has a roof that is durable and waterproof;
- (b) the house has glass windows that can be opened;

⁶ For example if in Saver's Lane, Excella oil cost R33.99 for 2 liters and R11.99 for 750ml and Fry Well oil cost R34.99 for 2 liters and R13.99 for 750ml, we would have selected Excella 750ml for Savers Lane as it had lowest price per kg (R15.99 per kg). Note that items on promotion were allowed to be considered for lowest price in each supermarket, because workers are very cost conscious shoppers and often purchase food on promotion.

- (c) electricity is available inside the house if the infrastructure exists on the farm;
- (d) safe water is available inside the house or in close proximity, which is not more than 100m, from the house;
- (e) a flush toilet or pit latrine is available in, or in close proximity, to the house and
- (f) the house is not less than 30 square meters in size.”

A joint report of Statistics South Africa and UNICEF (2013) also provides some guidance specifically for South Africa. It states:

“Shelter deprivation” is “living in informal dwelling or in a dwelling with 3 or more people per room or with inadequate roofing”. Note that number of rooms in this definition excludes rooms that are only bathrooms or toilets.

RDP houses in South Africa that are built for poorer persons typically have 30 square meters of living space (Moola et al, 2011 and Grayling, 2009).

UN-HABITAT defines overcrowded housing as dwellings with more than 3 persons per potential sleeping room (UN-HABITAT, 2006; Habitat for Humanity, 2008).⁷ This implies at least two potential sleeping rooms for the 4.5 person family size we use to estimate our living wage.

Based on the above national and international laws, guidance and codes, the following minimum acceptable housing standards were set for wine grape growing region.

Location: Exclude houses in slums or other areas that are: unsafe with for example high levels of crime, and/or have serious drainage problems, and/or have serious standing water problems, and/or have garbage/refuse in streets, and/or do not have regular refuse collection.

Materials for walls and roof: Roof has to be durable and without leaks (or be easy to repair). Walls have to be made of permanent materials such as cement, stone or brick (and not be made of mud, sticks, or corrugated metal).

Condition of building: Dwelling needs to be in reasonable repair and condition or easy and inexpensive to bring up to standard such as applying some paint.

⁷ A more common definition for overcrowding is more than 2 persons per sleeping room which has been used since 1935 by United Kingdom (United States Department of Housing and urban Development, 2007; House of Commons’ Library, 2011). The reason UN-HABITAT did not use the typical definition of no more than 2 persons per sleeping room is because they found unacceptably high percentages for overcrowded housing in many countries using the typical more than 2 persons per room definition (UN-HABITAT, 2006).

Ventilation: Dwelling needs glass windows that open. Ventilation needs to be adequate.

Amenities: Dwelling needs to have: electricity; flush toilet inside dwelling or in close proximity or an improved ventilated pit latrine in close proximity; safe piped water inside house or in close proximity. There needs to be a kitchen area or a separate kitchen room.

Size: (a) Dwelling needs to have at least two rooms that could be potentially used for sleeping. This includes bedrooms and living/sitting rooms that are at least 4 square meters in size (international standard for minimum size room). Also note that it is acceptable for a large room to be divided into separate areas/“rooms” by a curtain or tall dresser in order to create privacy, and so in essence become two “rooms”. Separate kitchen rooms, storage rooms, toilet rooms, hallways, and bathing rooms are not considered as rooms for this purpose. (b) Floor space needs to be at least 30 square meters. (c) Ceiling needs to be at least 2 meters high at lowest point (international standard). Note that the number of rooms per person standard (point a) implies that at least 2 potential sleeping rooms are required for a family of 4 or 5 persons.

The vast majority of houses in Western Cape have the basic amenities in the above mentioned standards. According to 2007-09 General Household Survey (Western Cape Government Provincial Treasury, 2012), 91.3% of households in Western Cape had piped water in the dwelling or yard, 93.9% had flush toilet, septic tank or chemical toilet, 94.3% had electricity, and 90.5% had refuse removal at least once per week. Indeed, 83.3% of households in Western Cape had all 4 of these amenities.

To get an idea about rent for basic acceptable housing in wine grape growing region of Western Cape, we: (i) visited more than 12 houses of workers in the area, (ii) asked more than 12 additional farm workers about housing conditions and costs, (iii) asked various key informants, including municipal authorities, about housing conditions and costs, and (iv) looked at online websites with housing rentals.

5.1.2 Rental cost estimate

It is important to acknowledge that we did not have an easy time in finding rental cost for housing at our above mentioned standard in the Western Cape wine grape region. There does not appear to be much of a rental market for decent low cost housing in the area.

At the low end, there are many shacks available for rent including in slum areas. There is clearly a market for low cost and very much substandard housing in South Africa - - for the many people in South Africa who cannot afford better. According to workers we spoke with, one room shacks (without water and often without electricity and often located in a slum) rent for R300-500 per month.

There is also clearly a market for nice small homes that are well beyond the means of farm workers even if they receive a living wage, as many rentals can be found on websites at R2,000 and above, with some people advertising that they are looking to rent at R1,500. We also spoke with one farm worker who paid R1,800 for a

two bedroom house that included electricity and water (and therefore around R1,400 excluding utilities) and someone else who lived on a farm and paid rent of R280 per week (and therefore around R1,100 per month considering that water/refuse was included).

We also learned about inexpensive acceptable housing in the region that is very difficult to get. Stellenbosch municipality rented subsidized 2 bedroom flats for R265 per month. ASLA subsidized small houses were reported to cost about R45,000 to build (not including cost of land) with about R300-500 per month in payments. RDP small houses were said to be great bargains. The problem with these low cost acceptable housing examples is that they are very difficult to get. Waiting lists can stretch to decades and corruption is widespread regarding who gets to the top of the waiting list. These examples of low cost housing are therefore not really viable options for workers.

We are left then with imperfect information on rental cost for basic acceptable housing in the wine grape growing area. This reflects the reality of the situation in South Africa where there is at present not much of a market for such housing.⁸ It probably reflects the fact that not that many workers in South Africa at present receive around a living wage and so are able to afford basic acceptable housing and not more. What we do know from information we collected is that rent of R500 per month is much too low as this is around what one room shacks without water in a slum might cost. We also know that R1,200-1,400 is too high for our basic housing standard as we saw two examples of acceptable housing with 2 bedrooms that are above our acceptable 1 bedroom standard. In light of this imperfect information, we decided to use R900 per month as rental cost per month for an acceptable 1 bedroom dwelling until better information is obtained. This is roughly half way between rent of one room shacks and more than acceptable 2 bedroom housing.

5.2 UTILITY AND OTHER HOUSING COSTS

Utility and other housing costs also need to be estimated. This includes cost of electricity, water, refuse/garbage collection, sewage collection, assessment rates, etc. This also includes cost of minor repair and maintenance.

Utility costs were estimated by asking farm workers, key informants and municipal authorities how much is typically spent for various utilities. Reported utility costs were then compared to Statistics South Africa data on household expenditure for utilities and other housing costs to make sure that our estimates of utility costs for the wine grape growing region are reasonable.

⁸ See a report by Rust (2006) for an excellent description of the housing situation in South Africa which indicates that affordable low cost housing above the ASLA and RDP levels is not widely available.

We estimated that electricity typically costs around R250 per month based on information from 11 workers, and that water/refuse collection typically costs around R100 per month based on information from 3 workers. Together these utilities costs represent about 7% of living cost for our living wage. This is only slightly higher than around 6% paid for electricity and water and other services (4.6% and 1.2% respectively) according to 2012 CPI expenditure weights for all South Africa for households at 40th percentile of income distribution. This comparison implies that our estimate of electricity and water/refuse costs are not unreasonable. Repair and maintenance costs were estimated based on 2012 CPI expenditure weights for households at 40th percentile of income distribution (0.7% and so around R35 per month for our living wage that we rounded to R30 per month or R360 per year).

5.3 SUMMARY OF HOUSING COSTS

Our estimate of housing costs is R1,280 per month (consisting of R900 for rent, R250 for electricity, R100 for water/refuse collection, and R30 for minor repairs and maintenance). This represents around 25% of our estimated cost for a decent living standard for wine grape growing area, which is not unreasonable for housing away from a major city.

6. NON-FOOD AND NON-HOUSING COSTS

6.1 BACKGROUND ON NON-FOOD AND NON-HOUSING COST ESTIMATE

The approach used in this report to estimate non-food costs is a practical compromise between separately estimating the cost of each and every non-food expense (common practice 100 years ago before income and expenditure surveys were widely available and sometimes used today by activist groups) and the approach typically used in developing countries currently that estimates non-food costs as a multiple of food costs. The multiplier is based on Engel's law and data from a household income and expenditure survey.

We divide non-food costs into two components: housing costs based on normative standards for decent housing and other costs based on observed household expenditure from a household income and expenditure survey. Our approach has several advantages over the typical methodology used to estimate non-food costs for developing countries. First, our approach uses a normative standard for decent housing which is very important because many workers in developing countries today live in substandard housing and this is reflected in household expenditure statistics. Second, our approach is able to measure differences in living costs across cities/areas within a country, because differences in housing costs are the main reason for differences in living costs between cities/areas in almost all countries. Third, there is considerable variation in how governments measure food and housing expenditures. These measurement differences are often quite large and cause important differences across countries in reported percentage that households spend for food and non-food

(Anker, 2012).⁹ This means that blind use of Engel's law often provides an unreliable estimate of non-food costs. Fourth, use of Engel's law to estimate all non-food costs also means that this estimate becomes something akin to a large black box, because non-food costs are greater than 50% of living costs in most countries today. Our methodology substantially reduces the size of this black box.

We do not use the alternative approach of estimating each and every non-food expense separately as was typically done 100 years ago because it would require setting standards for quantity and quality of each and every expense and this would be very problematic. For example, it would also be necessary to decide on number and types of shirts, pants, and shoes required. Should a store brand shirt be priced or should a Nike or Adidas shirt be priced for example? Should children and adults be allowed one or two or three or whatever number of new shirts and pants each year? There is obviously considerable space for disagreement on appropriate detailed standards for basic needs and decency, and there are no accepted normative standards for this. In contrast, there are accepted international standards for minimal acceptable food and housing.

We estimate non-food and non-housing costs by multiplying our estimate of food cost (see section above on food costs) by the ratio of non-food and non-housing expenditure to food expenditure observed for households at 40th percentile of the income distribution for all South Africa as such data are not published for rural areas.¹⁰ According to Statistics South Africa 2012 CPI expenditure weights (which are based on 2010-11 income and expenditure survey data), households at the 40th percentile spent 36.7% for food and 16.4% for housing. This means that 46.9% percent was spent for non-food and non-housing. However, the percent spent for non-food and non-housing is further adjusted in our methodology as indicated in the next section.

6.2 ADJUSTMENTS, EXCLUSIONS AND LIMITS FOR SPECIFIC NON-FOOD AND NON-HOUSING COSTS

Before using values indicated in the previous section to estimate non-food and non-housing costs, certain non-food and non-housing expenditures were excluded or adjusted. First, funds for tobacco (1.8 percent of expenditure for household at 40th percentile of income distribution) were excluded, because tobacco was not felt to be necessary for decency. Second, alcohol consumption was limited to 2 beers per week per adult, because it was not felt to be appropriate for a living wage to support a high level of drinking (6.3% of all expenditure for 40th percentile household according to 2012 CPI statistics). Third, we considered that food eaten

⁹ For example for food expenditure: value of own produced/consumed food is often poorly measured; alcohol and tobacco expenditure is sometimes included in food expenditure and sometimes excluded; food taken or eaten away from home expenditure is sometimes included in food expenditure and often excluded. For housing, there are large differences in how countries value owner-occupied housing. Some countries use equivalent rental value for owner-occupied housing (including South Africa); some countries use actual costs of owned houses; many countries completely ignored the cost or value of owner-occupied housing.

¹⁰ 40th percentile was felt to be reasonable because it is roughly half way between the 23.0% poverty rate (World Bank World Development Indicators 2013) and the median.

away from home in “restaurants” reduces need to prepare food at home. It was assumed that one-half of expenditure for food away from home was for the food in the meals and one-half was for services such as food preparation, cleaning, etc.¹¹ Consequently, we reduced non-food and non-housing expenditure by half of the expenditure for food eaten away from home. Fourth, we reduced reported percentage of expenditure for transportation because part of this (2.4%) was for private vehicles as we felt it was appropriate for workers to rely exclusively on public transportation for a living wage.¹² Drawing the above discussion together, we found adjusted non-food and non-housing expenditure to be 35.95% of household expenditure (46.95% – 16.4% for housing – 6.3% for alcohol – 1.8% for tobacco – 2.5/2% for food eaten away from home - 2.4x2/3% for higher cost of private vehicles). Since 36.7% of expenses were for food, the ratio of non-food and non-housing to food was 0.980. This estimate of non-food and non-housing costs (0.98 times cost of our model diet) was increased by cost of the 2 bottles of beer per adult per week “allowed” (found to be R88 per month) to get a total for non-food and non-housing costs.

Table 2 summarizes the above discussion and indicates funds implicitly included in our living wage for major non-food and non-housing expenditure groups using our extrapolation method. Column 2 indicates percentage of total expenditure for each group according to 2012 CPI weights for all South Africa. Column 3 indicates adjusted percentage used to estimate our non-food and non-housing cost estimates for our living wage. Column 4 indicates implied funds provided for by our living wage. Column 5 provides comments. Note that because all non-food and non-housing costs are estimated using household expenditure data rather than on a normative basis, we subsequently post-check (see sections 8-10) whether sufficient funds are provided in our estimate of non-food and non-housing costs for education and health care (and adjusted these when necessary) because these are akin to human rights in almost all countries, and for transportation because this forms an important part of non-food and non-housing expenses in many settings.

7. MARGIN ABOVE COST OF A BASIC QUALITY LIFE TO HELP ENABLE SUSTAINABILITY

Since large unforeseen expenses can quickly throw workers living at a basic life style into poverty and debt from which they may not be able to recover such as illnesses, HIV/AIDS, accidents, funerals, etc., it is common when estimating a living wage to add a small margin above the cost of a basic quality life to allow for unexpected events. It is also common to include some additional funds to allow for some discretionary spending. A 10 percent margin is common.

¹¹ This assumption that one-half of the cost of meals away from home and take out food is the food in these meals has been used by others for South Africa (e.g. Rose et al 2002). It is also similar to what the author found in unpublished field studies. It is worth noting that percentage of the cost of meals taken away from home for food in these meals varies across countries and income classes and is probably around 30 percent in high income countries as well as in upper income households in South Africa compared to probably somewhere around 80 percent in Asian street markets (Anker, 2012).

¹² This reduced percentage for transportation from the 11.0% reported for households at 40th percentile of income distribution to 9.4% as we assumed that private vehicles are three times more costly than public transportation (i.e. $11.0 - [2.4 \times 667]$).

It was decided to add a 10 percent margin to allow for unforeseen emergencies and some discretionary spending. This works out to be R461per month. Note that interest and debt payments are ignored in our calculations. It is assumed that a living wage would enable workers to stay out of crippling debt.

8. WHETHER FUNDS PROVIDED FOR HEALTH CARE IN NON-FOOD AND NON-HOUSING COSTS ARE SUFFICIENT

Our estimate of non-food and non-housing costs (that is based on Engel’s law and the extrapolation method described above) implicitly determines amount of funds included in our living wage for health care – unless we purposely make an adjustment.

This section looks at whether funds indicated by the extrapolation method for health care are indeed sufficient, because health care is considered a human right in almost all countries. We assume that public health care in South Africa is acceptable for decency, in particular for major health problems and hospitalization. Although there are differences of opinion on the decency of public health care in South Africa, most families in South Africa rely mainly on public health care especially for major problems and hospitalization. Furthermore, surveys indicate high levels of satisfaction with government health services. For example according to the 2011 General Households Survey (Western Cape Government Provincial Treasury, 2012), 87.5% of adults in Western Cape were either satisfied or very satisfied with government health services. Similar results are found in the 2003 DHS for South Africa as only 22.1% of users of public health facilities expressed any dissatisfaction with government community health centers and only 23.3% of users expressed any dissatisfaction with government hospitals and/or clinics (with dissatisfaction lower in Western Cape, 18.6% for community health centers and 25.5% for government hospitals and/or clinics).

Despite these high levels of satisfaction with public health services, acceptability of having to rely solely on public health for all routine visits and minor problems is less clear. One frequently hears complaints about long lines and waits – that one could die waiting in line so to speak – and possible loss of a workday.¹³ Partly for this reason, farmers often provide free transportation to and from private facilities so that workers take less time off from work for medical visits. It is also partly for this reason that farm workers sometimes use private health care for routine and minor health problems.

The above implies that it is reasonable for decency to have some funds available to be able to use private health care on a limited basis. It is also necessary for workers to have some funds for medication as this is not always available in public facilities which frequently have shortages.

¹³ The three most important reasons for dissatisfaction with government health services according to 2003 DHS were: long waiting time, staff being rude or unkind behavior, and prescribed medication not being available.

Visits to private clinics cost between R200 and R250 including basic medication according to discussions with private clinic doctors in Rawsonville and Worcester who regularly treat farm workers in the region. When more serious medication is required, scripts are taken to a pharmacy and prescribed medicines are said to tend to cost around R60-R80. And according to surveys, adults visit health care providers somewhere over four times a year on average. Those less than age 18 years have approximately 3 visits per year on average (2003 DHS; Harris et al. 2011).

In light of the above, it seems reasonable for decency to allow workers and their families some flexibility to be able to use private facilities on a limited basis as well to have some funds for medicines that are not available from public facilities.¹⁴ If we assume the need for 1 visit per person per year to a private facility and the need for 1 privately filled prescription per person per year, we get an estimate of funds required for health care of R1,328 per year for our family of 4.5 ($4.5 \times 225 + 4.5 \times 70$) or R111 per month.

Our estimate of non-food and non-housing cost based on extrapolation method implicitly includes R56 per month for health care for workers and their family, since 1.2 percent of total household expenditure of 40th percentile household is spent for health care (Statistics South Africa, 2012 and 2013). The above calculations imply that funds for health care included in our estimate of non-food and non-housing costs are too low. For this reason, we increased our estimate of required funds for health care by R50 per month. It is worth noting that this revised amount for health care is consistent with the higher value for health care expenses in the 2005/2006 income and expenditure survey in South Africa (2.1% compared to the 1.2% in 2010-11 household income and expenditure survey).

9. WHETHER FUNDS PROVIDED FOR PUBLIC EDUCATION IN NON-FOOD AND NON-HOUSING COSTS ARE SUFFICIENT

Our estimate of non-food and non-housing costs (based on the extrapolation method described above) implicitly determines amount of funds included in our living wage for children's education – unless we purposely make an adjustment.

This section looks at whether funds included for children's education are sufficient, because it is considered a human right in almost all countries. We assume that public education in South Africa is acceptable for decency even if it has problems, because it is the norm that children of workers go to public school in South Africa. It is also the norm that children attend school in South Africa as only 4.5% of children ages 7-15 were not attending school in 2008 in Western Cape Province according to Western Cape Government Provincial Treasury (2012).

¹⁴ Note that around 1/5th of people in the lowest two income quintiles actually used private health outpatient care (Harris et al, 2011).

Public school costs are relatively low in South Africa. According to wine grape workers and key informants, primary school fees are generally zero, although some reported paying up to R700 per year. Secondary school fees were said to range from R600 to R700 per year. This implies that typical education costs are somewhere around R650 per year for a family with 2.5 children with 1 child in primary school, 1 child in secondary school and remaining “0.5 child” less than primary school age. Note that school fees are the main school expense for analysis in this section, because in the South African expenditure statistics used to estimate non-food and non-housing costs, school uniform costs are included under clothing expenditure group and transportation costs to school are included under transportation expenditure group.

According to household expenditure data from Statistics South Africa for 2012, 0.9 percent of expenditures of households at the 40th percentile of the income distribution is spent on education. This means that approximately R500 per year is implicitly included in our living wage estimate for education.

In summary, amount of funds per year implicitly included in our living wage estimate for education of around R500 per year is lower than the approximately R650 per year estimated above as necessary on average. We decided not to adjust funds included in our living wage for education as the difference between funds implicitly included in living wage per month (R42) is only R12 less than our estimate of need per month (R54).

10. WHETHER PROVIDED FOR TRANSPORTATION IN NON-FOOD AND NON-HOUSING COSTS ARE SUFFICIENT

Transportation is the third largest cost for households in South Africa and is an important cost for households at all income levels. While rich households spend heavily on private vehicles, most workers in South Africa have high commute costs by public means. According to Statistics South Africa 2012 data, 11.0% of all expenditure of households at 40th percentile income of the income distribution was spent for transportation. Most (8.6%) of this was spent for public transportation. In contrast, households in the top income quintile spent 19.5% for transportation with just 1.3% of this for public transportation.

To help estimate necessary transportation costs for workers living on farms that do not provide free transportation to nearest town, we (i) collected information on cost of transportation to nearest town by local “taxi” (really minivan) and (ii) made assumptions on number of visits to town for workers and their families that would be “necessary for decency”.

Farmers, farm workers and key informants were asked how much it costs per person for a “taxi” to go from farm to nearest town. Although cost per trip obviously varied with distance, R20 return and R40 return were the most common costs mentioned. According to this information, cost per person for a return trip from farm to town is typically around R30.

We also made assumptions about what could be considered to be a reasonable number of trips to town per month for workers and their families, since those living on-farm need to go to town to shop, visit doctors, visit banks, have time off for entertainment, etc. It is also customary to visit relatives during major holidays. We

made the following assumptions for trips to town: (1) once per week to nearest town for food shopping. Farm workers indicated that it was necessary to go to town to buy food as small shops or food vendors are not available near farms. (2) Once per month per adult to go to nearest town for variety of reasons such as visits to bank and doctors and day out on the town. (3) Once every other month for children to go to nearest town for various reasons. (4) One visit per year to relatives such as during Christmas/New year period (assuming R80 per person for transportation cost for a visit). These assumptions work out to a total approximate cost of R244 per month when transport to town is not provided for free by farmer.

This R244 is around R200 lower than the R436 per month implicitly provided for transport in our living wage estimate based on Engel's law. Finding an overestimate for transportation from Engel's law is not surprising, because workers living on-farm do not have daily commute costs. Transport costs for farm workers living off-farm in small towns may be lower still, since they also do not have to pay for transport to town for shopping, etc. Given this overestimate of transportation costs, we reduced funds included in our living wage for transportation by R200 per month to be conservative.

11. FAMILY SIZE NEEDING TO BE SUPPORTED BY LIVING WAGE

Living wage is a family concept (see Anker 2011 review). It is, therefore, necessary to determine the family size that would be appropriate to use for wine grape growing region of Western Cape. To help in deciding what family size would be appropriate, we used the following information: (i) total fertility rate (TFR), which is an estimate of the number of children women typically have over their life at present, and (ii) average household size.

11.1 TOTAL FERTILITY RATE

Total fertility rate is available for different areas and population groups for South Africa, including for Cape Winelands area (Table 3). Although TFR varies by source, area and population group, TFR for Cape Winelands workers appears to be around 2.5. TFR in Cape Winelands area was 2.6 in 2007,¹⁵ and TFR for Africans and Coloreds in all South Africa who comprise most of the workers in Cape Winelands area is higher (2.9 and 2.5 respectively compared to 2.5 for entire country). A total fertility rate of 2.5 implies a family size of 4.5 persons (2.5 children + 2 parents).

¹⁵ Note that the lower TFR of around 2.1 for Western Cape Province is heavily influenced by Cape Town where TFR was 2.1 according to 2007 Community Survey (Statistics South Africa, 2010) and 2.3 for 2006-11 according to 2011 Population Census estimates (Statistics South Africa, October 2012). Also note that since fertility rates have been falling over time in South Africa, TFR in 2013 for Cape Winelands should be somewhat lower than the 2.6 for 2007 indicated in table 3.

11.2 AVERAGE HOUSEHOLD SIZE

Average household size for different areas and population groups for South Africa is available from several sources including for Cape Winelands area (Table 4). Average household size is around 4 for almost all population groups and sources. Average household size is, however, 4.5 in Cape Winelands area when single person households are excluded. Since living wage is a family concept, data on average household size that excludes single person households is more appropriate for estimating living wage than is overall average household size. This is 4.5 for Cape Winelands area.

11.3 SUMMARY FOR FAMILY SIZE

Taken together, estimates for total fertility rate (TFR) and average household size indicate that 4.5 persons would be an appropriate family size for estimating a living wage for Cape Winelands area. Although this is higher than the approximately 4 persons necessary for population replacement and a common assumption for estimating living wage (see Anker 2011 review), 4.5 persons is more realistic for the Cape Winelands area in our opinion, and could even be considered conservative, because it excludes grandparents/parents and other relatives that workers in South Africa often need to help support.

Cultural norm in South Africa is that those who are more fortunate (such as those employed) have responsibilities for others, and requests from relatives for money are difficult to reject. And there are many fortunate relatives in South Africa where unemployment is extremely high. Also, there are continuing problems caused by the HIV/AIDS pandemic. According to 2003 DHS, 19% of households (and 29% of non-urban households) include an orphan or a foster child. This commendable cultural norm of helping others implies that 4.5 persons is a conservative assumption of the family size needing support.

12. NUMBER OF FULL-TIME WORKERS PER COUPLE PROVIDING SUPPORT

As living wage is a family concept, it is necessary to make an assumption about number of workers in the family who provide support through their work. The most common assumptions used for this in previous living wage studies are one worker or two workers per family (see Anker 2011 review). Neither assumption is realistic for South Africa. The one worker assumption is not realistic because most men and women in South Africa are in the labor force. Nor is the assumption that both adults work full-time realistic. Many adults cannot find work and are unemployed or discouraged by a lack of jobs from looking for work; some adults stay home to take care of children or parents; and some adults work part-time or seasonally. In any case when both parents/partners work full-time year round, expenses for child care, transportation, and clothing increase and these additional expenses are not considered in our living wage calculation.

To get an idea of what would be a realistic number for full-time workers per couple, relevant labor market information for Western Cape Province was put together. It was first assumed that the wine grape worker has full time employment. This means that it is only necessary to estimate the likelihood that the worker's

spouse/partner is working full time. Average labor force participation rate for Western Cape for ages 25-59 years was estimated to be 77.5% using data from the 2012 Western Cape Economic Review (Western Cape Government, Provincial Treasury, 2012).¹⁶ Unemployment rate for Western Cape for persons 25-59 was estimated to be 17% using the same source.^{17, 18}

Using the above information, it is possible to estimate the likelihood that a person 25-59 years is working. This is 64.3 percent (i.e. $77.5 \times [1 - .17]$). This implies that 64.3 percent of spouses/partners have work on average and therefore that there are on average 1.64 full-time equivalent workers per family for farm workers.

13. GUARANTEED BONUSES AND MANDATORY DEDUCTIONS FROM GROSS PAY THAT AFFECT TAKE HOME PAY

To ensure that workers are able to afford a decent living standard of living, it is necessary to take into consideration mandatory payroll deductions that affect take home pay. There are two mandatory deductions from pay in South Africa (UIF and income tax).

1. Workers must pay 1% of gross pay into UIF (Unemployment Insurance Fund). This is mandatory.
2. Our living wage is, below the minimum pay that is subject to income tax (R5,296 per month in 2013). Therefore, income tax is not relevant for us.
3. Voluntary deductions from pay are not considered here, because they are similar to voluntary expenditures. They include: union dues, union strike fund, Christmas savings plan, union unemployment insurance benefit, funeral fund.

¹⁶ Ages 25-59 was used because those younger than age 25 may still be in school and in any case are less likely to have families of their own; and many persons over age 59 are retired and/or have older children.

¹⁷ Possibility that spouse/partner works part time was ignored, because the frequency of part-time employment is low while frequency of long working hours is high in South Africa. According to Statistics South Africa Quarterly Labor Force Survey, only 4.6% of workers worked fewer than 30 hours per week in July-September 2012 (Statistics South Africa, November 2012). In comparison, 35.1% worked more than full-time hours (46+ hours per week).

¹⁸ It is worth noting that the labor force participation rate for Western Cape is higher than for the rest of South Africa. In 2012, labor force participation rate for prime working ages 25-34 was 85.0 percent for Western Cape compared to 71.9 percent for all South Africa. Unemployment rate for 2012 was similar for Western Cape and all South Africa.

13.1 TAKING INTO CONSIDERATION GUARANTEED BONUSES THAT INCREASE ANNUAL PAY

Bonuses increase pay that workers receive and therefore likelihood that workers receive a living wage. Bonuses, however, have to be more or less guaranteed before they can be considered for a living wage.

1. Christmas bonus – so-called 13th month – is given in December to permanent farm workers but not to seasonal or temporary farm workers. As this is guaranteed by custom to permanent farm workers, the prorated monthly value of the Christmas bonus could be considered as additional monthly pay for permanent workers when considering payment of living wage. Note that when Christmas bonus is taken into consideration, it means that temporary and seasonal workers would need to receive higher monthly pay than permanent workers everything else equal.
2. Productivity bonuses are not considered for living wage, because they are irregular and their amount is uncertain.
3. Overtime pay is not considered for a living wage, because one principle of a living wage is that it should be earned during normal working hours.

In summary to determine if workers receive a living wage, it is necessary to calculate how much workers take home on a regular basis and so have available to spend each month. Gross pay of permanent workers should be increased by prorated monthly value of the Christmas bonus. Gross pay of workers should be decreased by: (i) mandatory unemployment insurance tax (UIF), (ii) overtime pay, and (iii) productivity bonuses.

14. FREE IN-KIND BENEFITS AS PARTIAL PAYMENT OF LIVING WAGE

14.1 BACKGROUND

In-kind benefits provided by farmers can reduce the amount of cash income that workers require to ensure that they receive a living wage. For this reason, it is reasonable to take it into consideration the value of in-kind benefits when determining if workers receive a living wage. It is common for example for wine grape growing farms to provide permanent workers with free housing and water and transportation to nearest town on weekends. Less common is provision of free crèche, school, food, medical care and land to grow food.

ILO conventions and South African law provide guidance on whether and how free in-kind benefits should be valued as partial payment of living wage.

14.2 ILO WAGES CONVENTIONS AND ACCEPTABILITY OF IN-KIND BENEFITS AS PARTIAL PAYMENT OF WAGES

ILO Conventions 95 and 99 (See Annex B) allow for in-kind benefits to be considered partial payment of wages if they are “authorized by national laws or collective agreements or arbitration”, and if they “are either customary

or desirable because of the nature of the work”, and if they are “appropriate for the personal use and benefit of the worker and his family”.

14.3 SOUTH AFRICA MINIMUM WAGE LAW

South Africa’s minimum wage law for farm sector is clear about the types of in-kind benefits that can be taken as partial payment of minimum wages in farm sectors. Relevant excerpts from this law are provided in Annex C. For example, minimum standards for housing and housing amenities have to be met before free accommodation can be considered as partial payment of minimum wage. In terms of valuing in-kind benefits, no more than 10% can be deducted from a worker’s pay for free housing and no more than 10% for free food. Amount deducted from wages cannot exceed cost to the employer of supplying accommodation or food. And there can be no deduction for allowing workers to graze livestock.

14.4 DIFFERENCE BETWEEN LIVING WAGE AND MINIMUM WAGE AS REGARDS VALUING IN-KIND BENEFITS AS PARTIAL PAYMENT OF WAGES

There are several reasons why it is reasonable to allow for greater flexibility in deciding whether and how to value in-kind benefits for a living wage compared to for a minimum wage. First, minimum wage can be too low to allow for even a subsistence living standard whereas living wage by definition allows for a decent living standard. This means that while there are almost always serious concerns for minimum wage, there is necessarily less concern when valuing in-kind benefits for living wage that is higher. Second, paying a living wage is voluntary. This means that there are no legal restrictions for living wage whereas there are for minimum wage.

14.5 HOW TO VALUE IN-KIND BENEFITS

The value of in-kind benefits as partial payment of wages should be “fair and reasonable” according to ILO Conventions 95 and 99 (ILO NORMLEX 2013). Unfortunately, there is no consensus or standard agreed way to implement the vague “fair and reasonable” concept included in ILO conventions. Rather, there is considerable variation across countries in how in-kind payments are valued as partial payment of wages, both for wage payments in general as well as for determining if a minimum wage is paid.

There are two steps typically used to value in-kind payments as partial payment of wages (see ILO 2003 for many of following examples).

1. **Minimum standards often need to be met** before in-kind benefits are allowed to be counted as partial payment of wages. Some countries (including South Africa) specify minimum conditions for free accommodations, for instance in terms of sanitation, lighting, cooking facilities and water supply. Some countries specify that minimum nutritional standards be met before meals can be counted as partial payment of wages. For example in Connecticut, free meals need to be nutritionally balanced and so

include adequate portions of at least egg, meat or fish; cereals, bread or potato; fruits or vegetables; and coffee, tea or milk. It is worth noting that the need for in-kind benefits to meet minimum acceptable standards before they can be considered as partial payment of wages often included in national employment law is consistent with the use of normative standards to estimate a living wage. It is also worth noting that some governments require that workers have to consent to in-kind benefits before they can be considered as partial payment of wages (e.g. Swaziland, Guiana, California, United Kingdom).

2. **Various approaches are used to value acceptable in-kind benefits.** These include:

- Fair market value (e.g. Oregon); retail prices at nearest markets (e.g. India); current prices in the region (e.g. Mozambique); not exceed ordinary market value (e.g. Czech Republic, Israel, Slovakia)
- Not exceed cost to employer (e.g. Guatemala, Uganda, Ukraine)
- Not exceed predetermined percentage of worker's total remuneration (many countries including South Africa)
- Specific amount (e.g. New York State)
- Replacement value (e.g. free meal valued at cost of meal prepared at home that is avoided) which we have used to estimate living wages in some countries.

14.6 RULES USED TO VALUE IN-KIND BENEFITS AS PARTIAL PAYMENT OF LIVING WAGE FOR WINE GRAPE GROWING FARMS

The following guidelines/rules were used to value in-kind benefits as partial payment of living wage for wine grape growing farms. These guidelines take into consideration ILO conventions, South African law, and national practices from around the world.

14.6.1 To be considered as partial payment of living wage, free in-kind benefits need to be:

- **Regular so that worker can count on receiving the benefit.** This means that benefit cannot be irregular or at discretion or whim of farmer. Otherwise, workers would not be able to count on receiving the benefit.
- **Considered to be of value by workers.** In-kind benefits such as free housing, food, transportation, and education clearly meet this criterion.
- **Customary** in that a reasonable number and percentage of wine grape growing farmers provide the benefit for free.

- **Worth around R500 per year or more** per worker for practical purposes and to avoid becoming petty. This amount is equivalent to around R1 per day for the living wage.

14.6.2 To be considered as partial payment of living wage, minimum standards need to be met.

- **Housing.** Housing standard for acceptable housing would need to be met (see above section on housing standards). Note that this standard is based in large part on standards included in South Africa minimum wage law (see Annex C).
- **Transportation to nearest town.** South African law on safety standards for transportation of farm workers would need to be met.
- **Other free in-kind benefits** (e.g. medical care, school, food, land for growing food, land for grazing livestock, etc.). It was decided not to consider these in-kind benefits as partial payment of living wage, because they are not “customary” on wine grape growing farms in Western Cape in the sense that a minority of such farms provide these for free. Also, South African minimum wage law prohibits valuing free livestock grazing as partial payment. Some might disagree with the decision not to consider these other in-kind benefits as partial payment of living wage since these in-kind benefits are of value to workers. For this reason, other free in-kind benefits could be considered as partial payment of living wage on a farm by farm basis if there was a very good justification to do so and workers were consulted.

14.6.3 General guidelines used to value free in-kind benefits as partial payment of living wage for wine grape growing farms

- **Value for any benefit should not exceed cost to farmer.** This prevents farmers from “profiting” on providing in-kind benefits.
- **Value for any benefit should not exceed cost to workers if worker had to purchase in-kind benefit.** This helps ensure that value used is “fair and reasonable”.
- **Value for free accommodation (excluding electricity) should not exceed 15 percent of living wage.** This percentage is not high for housing around the world.
- **Value for any other in-kind benefit should not exceed 10 percent of living wage.**

- **Total value of all in-kind benefits should not exceed 25 percent of living wage.**¹⁹
- **Workers and farmers should be asked their views** as regards what they consider to be “fair and reasonable” values for in-kind benefits, to help improve stakeholder dialogue and to help ensure that value attributed to each in-kind benefit is “fair and reasonable”.

14.7 VALUE OF FREE ACCEPTABLE HOUSING AS PARTIAL PAYMENT OF LIVING WAGE

We use the rental cost of minimum acceptable housing in nearby towns to value free housing provided to workers that meets acceptable standards (i.e. dwellings in permanent structure with 1 bedroom, 1 living room with kitchen, indoor toilet and necessary amenities such as electricity, piped water, and windows). A limit of 15% of living wage is set in order to ensure that this “credit” is not too large and does not become contentious. Although South Africa minimum wage law does not allow this value to exceed 10% of the minimum wage as partial payment of minimum wage, a 10% limit does not need to be used for living wage as explained above. Note that our 15% limit implies a “credit” for free accommodation of R464 per month which is much higher than the “credit” of R228 for free accommodation allowed for in current South African’s minimum wage law. At the same time, R464 is much lower than what we estimated this would cost workers to rent outside a farm.

14.8 ESTIMATED COST TO FARMERS OF FREE TRANSPORTATION TO NEAREST TOWN PROVIDED TO PERMANENT WORKERS AND VALUE OF FREE TRANSPORTATION

It is common for wine grape growing farms to provide free transport to nearest town to permanent workers and their families, especially on weekends. This is of considerable value to workers as workers indicated that it typically costs R20-R40 to go to and return from town by public means. Given this, it is reasonable to allow farmers who provide free transport to town a standard “credit” for this as a partial payment of the living wage. All of the 8 Fairtrade International farms we spoke to provide transport to town. 3 provide transport to town once per week, 2 provide transport twice per week, 1 provides transport every day, and 2 provide transport once per month.

In the remainder of this section, we estimate typical cost of transport to town to farmers using Automobile Association of South Africa (AA) 2013 online cost calculators of running costs for vehicles. Fixed costs are ignored in these calculations because most of the time vehicles used for bringing workers and families to town are being used for general farm work. Assuming that farms are typically around 15 kilometers from town (which is a typical distance from Fairtrade International farms to town), that most common vehicle is a bakkie that uses

¹⁹ Some countries set a maximum limit for value of free in-kind benefits (ILO 2003). Examples include: 30% of minimum wage in Colombia; 30% of wage in Brazil; 30% of wage of rural workers in Guatemala; 50% of wage of domestic workers in Mexico; 15-20% of wage of agricultural workers in Greece and 50% in Chile.

diesel fuel and has less than 2000cc motor (4 of the 8 farms use a bakkie), and that 8 persons are carried in a bakkie at a time on average (which is the average for the four Fairtrade International farms using a bakkie), AA online calculator indicates a running cost per return trip to town of R18.1 per vehicle and so R2.3 per person. This cost estimate implies a cost per person per month to farmers of R44 for our family of 4.5 persons and R530 per family per year for 1 round trip per week per person to town. We feel that this R530 per year and so R44 per month estimate of typical running cost to farmers of providing once a week transport to town is an appropriate “credit” as partial payment of living wage for farmers that provide this service for free at least once per week. It is worth noting that this amount represents a great savings on transportation for workers living on farms, as a R44 “credit” per month is much lower than the approximately R315 we estimated it would cost workers per month to go to town (fewer times) by “taxi”.

15. CONCLUSIONS

This study was done for Fairtrade International to assist their review of minimum prices and premium for wine grapes from South Africa as well as to identify the impact on Ex Works and FOB prices of wine grapes if workers were paid a living wage. This study was also the first report/pilot for a country using an agreed definition and methodology to estimate a living wage under the memorandum of understanding on “Shared Approach to Living Wage” of Fairtrade International and five other certifying organizations.

Our living wage estimate for May 2013 is R3,122 per month (R144 per day). This is before consideration of any free in-kind benefits possibly provided to workers by farmers, Christmas (13th month) bonus and UIF (Unemployment Insurance Fund) mandatory deduction from pay. Taking these into account, we get an estimated cash living wage of R2,385 per month (R111 per day) for permanent workers who receive free housing, free transportation to town each week and 13th month bonus. In contrast, temporary workers, who do not get these in-kind benefits, would need to receive a cash wage of R144 per day. While our living wage (R144) is 37% higher than the new R105 per day minimum wage instituted in March 2013, it is only 6% higher for permanent workers who receive free housing, free transport to town and 13th month bonus. It is worth noting if this study had been done only a few months earlier before the minimum wage was raised from R69 to R105 in March 2013, we would have concluded that wages were much too low as these would have been around 61% lower than our living wage for permanent workers with in-kind benefits and around 109% lower than our living wage for other workers.

It is important to emphasize that the living standard we used to estimate our living wage is basic for South Africa and represents a minimum level for decency for South Africa. It is also worth noting that considerable thought and effort was put into making this estimate. This included visits to workers’ houses, visits to stores where workers shop, and discussions with various key informants in the area as well as statistics, papers and reports from researchers, government agencies and international organizations. This effort was made, because we feel that transparency is essential for stakeholders and others to understand the basis for our living wage estimate as

well as to feel that our estimate is solid and credible, whether or not it will be possible to pay this wage in full in the near future.

16. ABOUT THE AUTHORS

Richard Anker is an economist retired from International Labour Organization (ILO) and an expert on labour, poverty and development. He has worked extensively on measurement of living wages and decent work and written a comprehensive review of living wages published by ILO (2011). He is currently a visiting scholar at the Political Economy Research Institute, University of Massachusetts.

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TABLE 1. MODEL DIET USED FOR ESTIMATING LIVING WAGE FOR WINE GRAPE REGION OF WESTERN CAPE

Food ^a	Grams pd purchased	Grams pd eaten	Comments
Maize meal	90	90	W. Cape eats combination of maize meal, rice and flour as cereals.
Rice	90	90	
Flour	90	90	
Bread	117	117	3 slices per day.
Potato	67	50	2 small potatoes for family pd. Implies 2 kg per week for family.
Beans	25	25	Average of sugar beans and split peas. Inexpensive beans.
Milk	163	163	1 cup for children. ½ cup for adults for porridge and tea/coffee.
Egg	24	21	3 eggs per week.
Frozen chicken	131	85	7 meat meals per week of 85 edible grams per meal (3 oz.). Frozen chicken less expensive than fresh chicken and other meats/fish.
Chicken giblets	12	12	1 chicken giblets meal per week. Giblets less expensive than chicken.
Vegetable 1 (cabbage)	73	58	175 edible grams vegies per day. 208 grams as purchased.
Vegetable 2 (carrot)	68	58	3 least expensive vegetables per edible gram used. See column 1.
Vegetable 3 (pumpkin)	69	58	
Fruit (orange)	96	70	1 small orange per day. Orange least expensive fruit.
Oil for cooking	30	30	Least expensive vegetable oil used. Less expensive than margarine or butter. About 3 tbsps. per day.
Sugar	30	30	About 7 teaspoons per day. S. Africans typically consume more sugar (e.g. 3 teaspoons per cup of coffee or tea common).
Tea or coffee	1.3	1.3	3 cups coffee or tea per day for adults.
Salt, spices and condiments			3% added to food cost for salt, spices & condiments. ^b

Notes: ^a Specific food item(s) used to represent each food group are lowest cost food item(s) per edible gram to reduce food cost and mimic how workers typically shop. Food prices are based on market survey of local places where workers typically shop (especially supermarkets). ^b Households at 40th percentile of income distribution spend approximately 3 percent of food expenditure for salt, spices and condiments according to 2012 Statistics South Africa data.

TABLE 2. NON-FOOD AND NON-HOUSING COSTS: PERCENTAGE DISTRIBUTION OF ACTUAL EXPENDITURE FOR ALL SOUTH AFRICA HOUSEHOLDS AT 40TH PERCENTILE OF INCOME DISTRIBUTION AND IMPLIED FUNDS INCLUDED IN OUR LIVING WAGE FOR WESTERN CAPE WINELANDS AREA

Non-food non-housing major expenditure group	% all expenditure according to government statistics ^a	% after adjustments. Used for estimating living wage	Implied funds provided by our living wage	Comments
Alcohol	6.3	1.7	88 pm	2 beers per week per adult provided.
Tobacco	1.8	0	0	Not considered essential.
“Restaurants”	2.5	1.25	64pm	Half of cost of meals away from home assumed to be for the food in these meals.
Clothing and footwear	6.6	6.6	3677 py	
Household contents & appliances	4.5	4.5	2507 py	
Communication	2.4	2.4	111 pm	
Recreation and culture	2.6	2.6	121 pm	
Miscellaneous goods & services	7.3 ^d	7.3	339 pm	
Post-checked to see if implied funds are sufficient. Amount changed when necessary.				
Health	1.2 ^b	1.2	56 pm	Amount in col 4 too low. Increased by R50 pm (see section 8).
Education	0.9	0.9	42 pm	Possibly slightly low. No change made (see section 9).
Transport	11.0	9.4 ^c	436 pm	Amount in col 4 too high. Decreased by R200 pm (see section 10).

Notes: py indicates per year. pm indicates per month. pw indicates per week. ^a Note that 36.7% of household expenditure was for food and 16.4% was for housing. ^b 0.6% was for medical products such as medicine and 0.5% was for medical services such as doctor visits. 0.1% was for hospitals. ^c 8.6% was for public transportation and 2.4% was for private vehicles. It was assumed, based on Automobile Association of South Africa (AA) online cost calculators, that private vehicles are three times more expensive than “pubic” taxis. ^d Miscellaneous includes for example: 1.8% for insurance, 1.4% for funeral services, 1.0% for financial services such as bank charges, and 0.15% for accommodations such as hotels.

TABLE 3. TOTAL FERTILITY RATE (TFR) FOR DIFFERENT AREAS AND POPULATION GROUPS

Area and Population group	TFR	Year	Source
National	2.5	2006-2011	2011 Population census
National	2.8	2007	2007 Community survey
Western Cape Province	2.3	2006-11	2011 Population census
Western Cape Province	2.1	2007	2007 Community survey
Cape Winelands	2.6	2007	2007 Community survey
Africans, National	2.9	2007	2007 Community survey
Coloreds, National	2.5	2007	2007 Community survey
Indians, National	2.0	2007	2007 Community survey
Whites, National	1.8	2007	2007 Community survey

Note: According to 2011 Population Census estimates, TFR declined during the 2006-2011 period from 2.64 in 2006 to 2.35 in 2011 and is generally expected to continue to decline.

Sources: Statistics South Africa (2010 and October 2012).

TABLE 4. AVERAGE HOUSEHOLD SIZE FOR DIFFERENT AREAS AND POPULATION GROUPS

Area and Population group	Average household size	Year	Source
National	3.9	2010-2011	2010-11 HIES
National	3.9	2001	2001 Population census
National	3.8	2003	2003 DHS
National	3.8	2007	2007 Community survey
National	4.2 (excluding 1 person HHs)	2003	2003 DHS
Urban	3.7	2003	2003 DHS
Nonurban	4.0	2003	2003 DHS
Cape Winelands	4.0	2001	2001 Population census
Cape Winelands	4.5 (excluding 1 person HHs)	2001	2001 Population census
Cape Winelands	4.0	2007	2007 Community survey
Cape Winelands	4.5 (excluding 1 person HHs)	2007	2007 Community survey
Blacks, National	4.0	2010-2011	2010-11 HIES
Coloreds, National	4.1	2010-2011	2010-11 HIES

Notes: HIES indicates household income and expenditure survey. DHS indicates Demographic and Health Survey. HH indicates household.

Sources: Statistics South Africa (2009) for 2001 population census and 2007 community survey. Statistics South Africa (October 2012) for 2010-11 HIES. DHS (2007) for 2003 DHS.

**ANNEX A. QUOTES ON LIVING WAGE BY NOTABLES FROM 18TH, 19TH, AND 20TH CENTURIES
(EXAMPLES DRAWN FROM ANKER, 2011)**

Adam Smith (1776). “No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable. It is but equity, besides, that they who feed, clothe and lodge the whole body of the people should have such a share of the produce of their own labour as to be themselves tolerably well fed, clothed and lodged. ... These necessaries and conveniences are: not only commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without.”

Pope Leo XIII (1891). “Remuneration must be enough to support the wage earner in reasonable and frugal comfort. If through necessity, or fear of a worse evil, the workman accepts harder conditions because an employer or contractor will give him no better, he is the victim of fraud and injustice.”

International Labor Organization Constitution (1919). “Peace and harmony in the world requires the provision of an adequate living wage.”

John D. Rockefeller (1925). “The purpose of industry is quite as much to advance social well-being as material progress. ... Every man is entitled to an opportunity to earn a living, to fair wage, to reasonable hours of work and proper working conditions, to decent home, to opportunity to play, to learn, to worship, and to love, as well as to toil, and that responsibility rests as heavily upon industry as upon government or society, to see that these conditions and opportunities prevail.”

Franklin D. Roosevelt (1936) “Liberty requires opportunity to make a living – a decent living according to the standard of the time, a living which gives man not only enough to live by but something to live for.”

United Nations Declaration of Human Rights (1948). “Everyone who works has the right to just and favorable remuneration ensuring for himself and his family an existence worthy of human dignity.”

ANNEX B: RELEVANT ARTICLES ON IN-KIND BENEFITS FROM ILO WAGES CONVENTIONS 95 AND 98

Relevant articles from two ILO conventions that deal with in-kind benefits/payments are reproduced below.

Article 4 of ILO convention 95 - Protection of Wages Convention, 1949 states:

“1. National laws or regulations, collective agreements or arbitration awards may authorise the partial payment of wages in the form of allowances in kind in industries or occupations in which payment in the form of such allowances is customary or desirable because of the nature of the industry or occupation concerned; the payment of wages in the form of liquor of high alcoholic content or of noxious drugs shall not be permitted in any circumstances.

2. In cases in which partial payment of wages in the form of allowances in kind is authorised, appropriate measures shall be taken to ensure that--

(a) such allowances are appropriate for the personal use and benefit of the worker and his family; and

(b) the value attributed to such allowances is fair and reasonable.”

Article 2 of Convention 99 – Minimum Wage Fixing Machinery in Agriculture – 1951 states:

“1. National laws or regulations, collective agreements or arbitration laws may authorise the partial payment of minimum wages in the form of allowances in kind in cases in which payment in the form of such allowances is customary or desirable.

2. In cases in which partial payment of minimum wages in the form of allowances in kind is authorized, appropriate measures shall be taken to ensure that –

(a) such allowances are appropriate for the personal use and benefit of the worker and his family; and

(b) the value attributed to such allowances is fair and reasonable.”

**ANNEX C: EXCERPTS FROM BASIC CONDITIONS OF EMPLOYMENT ACT NO. 75 OF 1997,
SECTORAL DETERMINATION 13: FARM WORKER SECTOR, SOUTH AFRICA, SECTION B: MINIMUM
WAGES**

8. DEDUCTIONS

(1) An employer may not make any deduction from a farm worker's wage except –

(a) a deduction not exceeding 10 percent of the farm worker's wage made in accordance with sub-clause (2) for food supplied to the farm worker;

(b) a deduction not exceeding 10 percent of the farm worker's wage made in accordance with sub-clause (4) for accommodation in which the farm worker ordinarily resides....

(2) An employer may only make a deduction in respect of accommodation and/ or food in terms of sub-clause (2) (a) or (2) (b) respectively if –

(a) the food or accommodation is provided free of charge by the employer to the farm worker at the employer's cost;

(b) the food or accommodation is provided on a consistent and regular basis as condition of employment;

(c) no additional deduction is made from the farm worker's remuneration for food or accommodation;

(d) in the case of accommodation, no deduction is made by the employer for electricity, water or other services; and

(e) the deduction does not exceed the cost to the employer of supplying food or accommodation, as the case may be.

(3) A deduction in terms of sub-clause (1) (b) may only be made for a house that meets the following requirements:

(a) the house has a roof that is durable and waterproof ;

(b) the house has glass windows that can be opened;

(c) electricity is available inside the house if the infrastructure exists on the farm;

(d) safe water is available inside the house or in close proximity, which is not more than 100m, from the house;

(e) a flush toilet or pit latrine is available in, or in close proximity to the house; and

(f) the house is not less than 30 square meters in size.

(4) An employer may not make any deduction for accommodation in terms of sub-clause (1) (b) in respect of a farm worker who is under 18 years of age.

(5) An employer may only make a deduction in terms of sub-clause (1) (b) in respect of one farm worker residing in any house.

(6) (a) Subject to sub-clause (1) (b) where more than two farm workers reside in communal accommodation, the maximum deduction that the employer may make in total in respect of

all the farm workers who reside in that accommodation is 25% of the applicable minimum wage payable to an individual farm worker.²⁰

(b) An equal amount must be deducted in respect of each of the farm workers residing in accommodation contemplated by paragraph (a).

(7) A deduction may only be made in respect of clause 8(1) (c) in respect of a payment made or to be made to –

(a) any holiday, sick, medical, insurance, savings, provident fund or pension fund of which the farm worker is a member,

(b) any registered trade union in respect of subscriptions; (c) any bank, building society, insurance business, registered financing institution, local authority in respect of a payment on a loan granted to the farm worker to acquire a dwelling;

(d) the owner or agent in respect of the rent of a dwelling or accommodation occupied by the farm worker.

(8) An employer may not make any deduction in respect of the grazing of a farm worker's livestock;

(9) A deduction may be made to reimburse an employer for loss or damage only if—

(a) the loss or damage occurred in the course of employment and was due to the fault of the farm worker;

(b) the employer has followed a fair procedure and has given the farm worker a reasonable opportunity to show why the deductions should not be made;

(c) the total amount of the debt does not exceed the actual amount of the loss or damage; and

²⁰ If the applicable minimum wage is R994.00 per month, the maximum deduction that may be made in total from the workers living in communal accommodation as a whole is R248.50 per month. The deduction to be made from an individual farm worker may not exceed 10% of that worker's wage.

(d) the total deductions from the farm worker's remuneration in terms of this subsection do not exceed one-quarter of the employee's remuneration in money.

(10) A deduction of any goods purchased by the employee must specify the nature and quantity of the goods and the amount that correlates with a proof of purchase.

(11) An employer who deducts an amount from an employee's remuneration for payment to a third party must pay the amount to that party in accordance with the time period and other requirements specified in the deed of purchase agreement, law, court order or arbitration award.

(12) An employer may not require or permit an employee to—

(a) repay any remuneration except for overpayments previously made by the employer resulting from an error in calculating the employee's remuneration; or

(b) acknowledge receipt of an amount greater than the remuneration actually received.

ANNEX D. COMPARISON OF OUR MODEL DIET TO OTHER DIETS FOR SOUTH AFRICA AND COMPARISON OF PERCENTAGE DISTRIBUTION OF FOOD EXPENDITURE IN OUR MODEL DIET TO ACTUAL DISTRIBUTION OF FOOD EXPENDITURE IN SOUTH AFRICA

D1. COMPARISON OF OUR MODEL DIET TO OTHER DIETS FOR SOUTH AFRICA

Table D1 provides examples of other diets that have been used for South Africa. These other diets were used to help set the model diet we used to estimate our living wage (see section 4).

Two diets in Table D1 are recommended for healthy eating by nutritionists in South Africa (University of Stellenbosch in column 1 and South Africa Department of Health in column 2). These diets are around 50% more expensive than our model diet because they include greater quantities of animal-origin foods (milk, meat/poultry/fish, and egg) and fruits, all of which are relatively expensive per calorie. Both of these model diets contain over 16% protein which is more than the 10-15% protein recommended by WHO (2003) and more protein than is typical for low cost nutritious model diets in middle income developing countries such as South Africa (Anker, 2011).

Columns 3 and 4 in Table D1 indicate food availability in South Africa (FAO for column 3 and Medical Research Council for column 4). These diets are somewhat less expensive than our model diet, by 13% and 4% respectively. This is as expected, because they are based on observed food availability and not on nutritional considerations. Interestingly, MRC implied diet is reasonably similar to our model diet - - although there are fewer grams of edible vegetables (129 grams compared to our 175 grams) and more grams of edible poultry/meats/fish (119 grams compared to our 97 grams) and sugar (90 grams compared to our 30 grams) in the MRC implied diet than in our model diet. Neither the lower quantity of vegetables nor the higher quantity of sugar in MRC implied diet is justifiable for a model diet, although the higher quantity of poultry/meat/fish in MRC implied diet could be justified. However, we felt that the 8 poultry/meat/fish meals per week in our model diet is sufficient for a basic acceptable life style in Cape Winelands area, especially given that our model diet includes more milk and beans/lentils than MRC implied diet.

Household Subsistence Level (HSL) model diet in Table D1 is based on a combination of nutritional needs and observed average food consumption (column 5). Although this diet is from 1993, it is still often used to estimate the poverty line for South Africa. The HSL diet is similar to our model diet. Both diets have roughly the same number of grams of cereals (388 grams compared to our 387 grams), potato (54 grams compared to our 50 grams), beans/pulses (21 grams compared to our 25 grams), eggs (23 grams compared to our 21 grams), and vegetables and fruits combined (277 grams compared to our 245 grams). The main difference between HSL diet and our model diet is that HSL diet includes much more dairy (340 grams compared to our 190 grams) and much less poultry/meat/fish (30 grams compared to our 97 grams). Another important difference is that HSL diet includes too few grams of fruits (39 grams compared to our 70 grams), although this could be justified by large quantity of vegetables in HSL diet (238 grams compared to our 175 grams). Of lesser importance is that HSL diet

includes unnecessarily larger quantities of oils (39 grams) and sugar (49 grams). Our feeling is that the 30 grams of poultry/meat/fish in HSL diet is too low for decency in South Africa where there is a strong cultural preference for these, as HSL diet only allows for about three such meals per week, which is why we include 97 grams in our model diet to allow for 8 such meat/poultry meal per week. It is a judgment call if quantity of milk in our model diet is sufficient.

In summary, our model diet is consistent with five other diets for South Africa.

TABLE D1. EXAMPLES OF OTHER SOUTH AFRICA DIETS (COLUMNS 1-5) AND MODEL DIET USED TO ESTIMATE LIVING WAGE FOR COMPARISON (LAST COLUMN)^A

Food group	University of Stellenbosch, Nutrition and Information Center. Recommended diet ^b (1)	South Africa Department of Health. Healthy Eating Guidelines ^b (2)	FAO. Food availability 2007-2009 ^c (3)	Medical Research Council (MRC). Food availability 1995 (4)	Household Subsistence Level (HSL). Recommended diet. Often used to estimate S Afr Poverty Line (5)	For comparison Model diet used to estimate living wage (6)
Cereals ^d	222	235	400	256	206	270
Bread	78	80	100	64 ⁱ	182	117
Potato	78	52	55	42	54	50
Beans/pulses	22	26	7	15	21	25
Milk/dairy	649	628	143	174	340	190
Eggs	42	50	14	21	23	21
Meats/poultry/fish ^e	143	131	106	119	30	97
Vegetables ^f	197	77	77	129	238	175
Fruits ^g	195	235	59	78	39	70
Oils and fats ^h	13	15	12	28	39	30
Sugar	13	15	70	90	49	30
Calories total	2261	2261	2261	2261	2261	2261
% proteins	16.3	16.2	12.2	11.8	11.5	12.5

Notes: All diets are expressed in edible grams per day as consumed. Quantities in columns 1-5 were all proportionately scaled to ensure total of 2261 calories to allow for better comparison across diets. For example if a diet had 2000 calories, all quantities in this diet were increased by 2261/2000. If a diet had 2900 calories, all quantities were reduced by 2261/2900. All diets use USDA NAL (2013) online database values for calories, proteins, fats and carbohydrates per 100 edible grams for different food groups. To estimate number of

purchased grams, all diets used information on USDA's NAL online nutrition database on proportion of foods that are refuse/inedible. Tea/coffee was excluded from all diets to increase comparability.

^a Note that when diets or numbers of calories were differed for different age groups, the age groups used were those felt to be the most appropriate given information available in source. For HSL, it was one male age 19+, one female age 19+, and 2.5 children ages 7-10. For Department of Health, it was 2 adults ages 25-60 and 2.5 children ages 7-13; note that recommended servings were identical for these age groups. Three of the diets were indicated for an average person. ^b Some sources indicate recommended number of servings along with size of one serving. When a range was indicated for servings, midpoint of this range was used. For example if 6-8 servings were recommended, 7 servings was used. Serving sizes were converted into number of grams. Judgment was used to distribute servings within food groups. For Department of Health (serving size indicated in brackets): 7 cereals/starchy foods servings were distributed as 5 servings of maize meal porridge (57 grams), 2 servings of bread (39 grams), and 1 serving of potato (50 grams); 2.5 meats/poultry/fish/beans & pulses servings were distributed as 1.5 poultry servings (85 grams), 1/2 egg serving (1 egg), and 1/2 beans serving (25 grams); 5 servings of vegetables and fruits were distributed as 4 servings of vegetables (1/2 cup, 57 grams) and 1 serving of fruit (1 medium size fruit, 75 grams); 3 servings of milk (1 cup, 244 ml) was used; oil and sugar were recommended to be used sparingly, with 15 grams used to represent this recommendation. For University of Stellenbosch diet (serving size in brackets): 8.5 servings of cereals/starchy foods were distributed as: 5.5 mealie porridge servings (57 grams), 3 bread servings (30 grams) and 1 potato serving (90 grams); 2.5 meats/poultry/fish/beans and pulses servings were distributed as 1.83 poultry servings (85 grams, 1/3 egg serving (1 egg), and 1/3 beans serving (25 grams); 3 servings of milk (1 cup, 250 ml) was used; 4 servings of vegetables and fruits were distributed as 3 servings of vegetables (1/2 cup, 57 grams) and 1 serving of fruit (1 medium size fruit, 75 grams); oil and sugar were recommended to be used sparingly, with 15 grams used to represent this recommendation. ^c FAO suggests that reported data be averaged over three years because of variability in annual values. 2007-2009 are three latest years with data from FAO online food supply database. ^d Maize meal was used for cereals in all diets. ^e Frozen chicken was used for meats/poultry/fish in all diets. ^f Cabbage, onion and pumpkin were used for vegetables in all diets. ^g Banana was used for fruits in all diets.

^h Vegetable oil was used for oils and fats for all diets. ⁱ It is assumed that bread was 20% of cereals. FAO only reports total cereals.

Sources: University of Stellenbosch (2007). South Africa Department of Health (2004). FAO (2013). Rose et al (2002). EPRI (2004).

D2. COMPARISON OF PERCENTAGE DISTRIBUTION OF COSTS BY FOOD GROUP IN OUR MODEL DIET TO PERCENTAGE DISTRIBUTION OF ACTUAL FOOD EXPENDITURE IN SOUTH AFRICA

To further check reasonableness of our model diet for South Africa, we compared the distribution of food costs by food group in our model diet to distribution of actual expenditure according to 2012 CPI expenditure weights (that are based on 2010-11 expenditure survey data for 40th percentile household for all South Africa). This

comparison is shown in Table D2. A priori expectation is that more will be spent on foods that are relatively expensive per calorie in our model diet compared to actual expenditure, because our model diet was developed based mainly on nutritional criteria. As expected, less is spent on relatively inexpensive forms of calories in our model diet such as: roots and tubers (3.1% compared to 5.2%), cereals (26.8% compared to 32.6%), oils and fats (4.4% compared to 4.8%) and sugar (2.4% compared to 5.2%). Also as expected, more is spent in our model diet for vegetables and fruits (18.2% compared to 5.5%) as well as animal-origin food (37.7% compared to 34.4%). Unexpected is how little is spent for fruits and vegetables by workers in South Africa at present (only 4.7% spent for vegetables and 0.8% for fruits); this compares to 11.1% and 7.1% respectively in our model diet. South Africans are clearly consuming too few vegetables and fruits for proper nutrition. Lastly, it is worth noting that our model diet does not include soft drinks or sweets that comprise around 3.5% of food expenditures for 40th percentile household in South Africa. In summary, our model diet seems reasonable when compared to actual South African food consumption when one considers nutritional needs.

TABLE D2. COMPARISON OF PERCENTAGE DISTRIBUTION OF FOOD EXPENDITURE BY FOOD GROUP IN MODEL DIET USED TO ESTIMATE LIVING WAGE AND ACTUAL DISTRIBUTION FOR HOUSEHOLDS AT 40TH PERCENTILE OF HOUSEHOLD INCOME DISTRIBUTION FOR ALL SOUTH AFRICA IN 2012 ^B

Food ^a	(%) Our model diet	(%) Actual expenditure	Comments
Cereals	26.8%	32.6%	Cereals inexpensive source of calories. Model diets typically include less cereal.
(Bread)	(11.7)	(11.9)	Workers eat considerable quantity of bread.
Roots and tubers	3.1	5.2	Model diet uses least expensive root and tuber (potato).
Animal-origin	37.7	34.4	Similar %s. Distribution different.
(Dairy)	(13.0)	(5.8)	Workers not able to afford much milk at present. Model diets typically allow milk for children (1 cup per day in our model diet).
(Eggs)	(4.5)	(2.3)	Egg less expensive source of protein
(Poultry/meats/fish)	(21.5)	(26.3)	Model diet includes relatively inexpensive items (frozen chicken and chicken giblets)
Beans/dried vegetables	5.2	1.1	Dried vegetables used to represent beans for actual expenditure. Probably understates pulses expenditure.
Vegetables	11.1	4.7	Actual vegetable consumption too low for proper nutrition.
Fruits	7.1	0.8	Actual fruit consumption too low for proper nutrition.
Oils and fats	4.4	4.8	Model diet uses least expensive vegetable oil
Sugar	2.4	5.2	South Africans have high sugar consumption (e.g. use about 3 teaspoons per cup of coffee/tea). Sugar provides “empty” calories.
Tea or coffee	0.8	1.7	3 cups per day per adult in our model diet may be on low side.
Salt, spices, sauces and condiments	3.0	2.3	2.3% for spices, salt and condiments for actual consumption probably understates this as some “other foods” probably used for food preparation.
Cold beverages and other foods	0	7.2	Model diet does not include soft drinks, cakes, sweets or chips.

Notes: ^a Specific food item(s) used to represent each food group in our model diet are lowest cost food items per edible gram in food group in order to reduce food cost and mimic how workers typically shop. Food prices for our model diet were based on market survey of local sellers where workers typically shop. For each food, trimmed mean of lowest cost in each market was used. ^b 10% is added to estimated cost of model diet to allow for some variety which is important for good nutrition.