



Towards a Living Wage

Living wage gap benchmark analysis of roses grown in Kenya, Ethiopia and Zambia sold by large Dutch retailers

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About True Price

True Price is a social enterprise with a mission to contribute to an economy that creates value for all. We do that by helping organisations to quantify, value and improve their impact on society. True Price assists multinationals, SMEs, NGOs and governmental organisations in risk management and strategic decisions, by providing insight in their impacts and related risks and opportunities.

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Version 1.1

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About this report

This report is written by True Price and commissioned by Hivos in the context of their Women@Work program.

Summary

This report demonstrates that many workers at farms that produce roses for the large Dutch retailers receive a lower wage than the wage that one can reasonably live off. The average wage gap per rose amounts to 1,3 eurocents. This means that on average, 13 eurocents is needed per bouquet of ten roses to reach a living wage for the workers producing the roses (see Figure 1).



Figure 1: Average wage gap per bouquet of roses, based on the weighted average of roses from Kenya, Ethiopia and Zambia.

The average wage gap per bouquet that is sold at large retailers in the Netherlands is based on a selection of different rose types from Kenya, Zambia and Ethiopia. Since both the cost of living and the prevailing wages strongly differ between regions, the living wages in this report are computed separately for each of the mentioned regions. Thereafter, a weighted average is taken of these wage gaps. Figure 2 provides an overview of the living wage gaps per rose, region and country, that vary from 7 to 20 eurocents per bouquet. The reported values are gross, i.e. including taxes, duties and premiums.

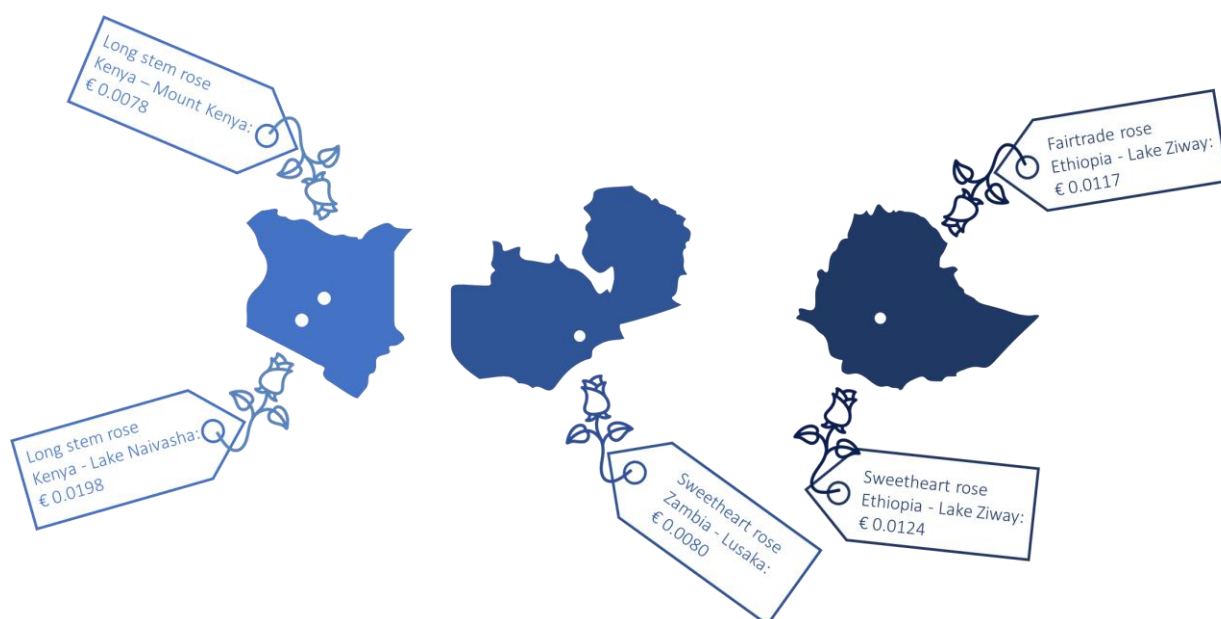


Figure 1: Overview of the wage gaps per rose, region and country.

Offering a living wage does not only improve the life of workers on rose farms, but it also opens up opportunities for companies. Consumers value socially responsible products and are willing to pay a premium for them. Selling roses for which the workers receive a guaranteed living wage, offers large retailers the opportunity to strengthen their reputation and differentiate through positive branding. For the growers, a living wage could help to keep employees, raise productivity and to reduce expenses caused by strikes and conflicts.

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Introduction and scope

The Universal Declaration of Human Rights states that a living wage is a human right (article 25.1):

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

The authoritative document ‘UN Guiding Principles on Business and Human Rights’ addresses the responsibility of organisations in signalling, reporting and acting on human rights issues within their value chain (United Nations, 2011). The Organisation for Economic Co-operation and Development (OECD) guidelines state furthermore that organisations should respect the labour standards, human rights and environmental standards in every country where they operate (OECD, 2011).

Previous research has shown that employees on rose farms often earn below a living wage. This is also supported by former research of True Price, commissioned by Hivos, investigating the prevailing wages of employees on Kenyan rose farms.

There is a clear responsibility for all players in the value chain of the rose industry to work towards living wages, but insight in the size of the living wage gap is often lacking. Moreover, the rose sector is a highly competitive industry with low margins, which makes closing the living wage gap a challenge.

Large retailers, although small in number, maintain a sizeable share of the Dutch flower market. This allows them to skip intermediate players in the value chain, and directly source their flowers from the grower. Consequently, this enlarges their influence on growers. Contrarily, smaller retailers (florists) are larger in numbers, but smaller in size.

To close the wage gap, more insight is needed into the difference between the regional living wages and prevailing wages. This report meets this need by providing a benchmark analysis of roses from Kenya, Ethiopia and Zambia. The next sections describe how the scope of the wage gap analysis has been determined.

i. Type of rose

Roses can be bought in a wide variety of colors and sizes. Regarding size, the consumer has the choice between cheaper, smaller roses (often the sweethearts of at most 40 cm, with a small flower bud), and the more expensive, luxury roses (long stems of 40 to 80 cm long, with a bigger flower bud). Fairtrade roses have been included in the analysis to assess the impact of certification.

In this wage gap analysis, we distinguish between the above three rose ‘types’: sweethearts, long stem roses and Fairtrade roses. This distinction is ideal-typical. Every rose grower knows that there are many variations of the smaller sweetheart and the bigger long stem rose. A Fairtrade rose could be a sweetheart or a long stem rose. The typology kept in this wage gap analysis is therefore not a representation of all available rose types; it is a typology distinguishing between the three relevant rose types for consumers.

ii. Region

This wage gap analysis assumes four regions of rose production in three different countries: Kenya (Mount Kenya and Lake Naivasha), Ethiopia (Lake Ziway) and Zambia (Lusaka). This selection is based on

an inventarisation of the roses that are sold at large retailers in the Netherlands, and on the available information regarding the origin of these roses. Furthermore, Fairtrade roses from Lake Ziway (Ethiopia) have been taken into account, because these were offered by a number of large retailers at the start of this project. Roses with and without certification could also be sourced from Zimbabwe and Tanzania for example. These countries are not within the scope of this study.

2. Living wage gap benchmark analysis of roses sold at large retailers in the Netherlands

This chapter provides insight into the results of the living wage gap benchmark analysis (see Table 1 for an overview). Chapter 3 discusses the methodology and calculation of the living wage gap.

The average wage gap per rose sold at large retailers is 1.3 eurocents. This means that on average 13 eurocents is needed per bouquet of 10 roses, to arrive at a living wage for the workers that produce them. This average is computed based on regional living wage gaps and the share of the respective regions in the rose import of the Netherlands.



Figure 3: Average wage gap per bouquet of roses, based on the weighted average of roses from Kenya, Ethiopia and Zambia.

The table below presents the findings of the living wage gap analysis. The color codes indicate the difference in size – a darker color corresponds to a larger number. The living wages show the needed annual wage of fulltime¹ employees in the respective regions. The wage gap reflects the amount that an average employee is lacking with respect to a living wage. The prevailing wages that are used contain both the financial wage as well as any in-kind benefits and cash allowances. The following paragraphs will provide a broader context of the results and an explanation for regional differences in living wages and wage gaps.

	Region:	Mt. Kenya (Kenya)	Lake Naivasha (Kenya)	Ziway (Ethiopia)	Ziway (Ethiopia)	Lusaka (Zambia)
	Rose:	Long stem rose	Long stem rose	Sweetheart rose	Fairtrade sweetheart rose	Sweetheart rose
Living wage	€/FTE/year ¹	€ 1,720	€ 2,852	€ 1,659	€ 1,659	€ 1,998
Average wage gap per FTE	€/FTE/year ¹	€ 426	€ 1,302	€ 998	€ 947	€ 736
Percentage FTE below living wage	% FTE ¹	60%	85%	95%	93%	71%
Wage gap per rose	€cents/stem	0.78	1.98	1.24	1.17	0.80
Wage gap per bouquet	€cents/bouquet	7.8	19.8	12.4	11.7	8.0

Table 1: The result of the living wage gap analysis per region.

¹ The amount of hours in one fulltime equivalent (FTE) differs per country and lies between 2050 and 2250 hours per year. This is higher than in the Netherlands, because a conventional workweek in Kenya, Ethiopia and Zambia consists of six days instead of five.

i. Living wage per region

The living wage is the amount that an employee annually needs, to provide in the bare necessities of his or her family. It depends on the country and region where the family lives and works. Regional differences are mainly caused by variations in family composition and size, and in the local costs of food and housing.



Figure 4: Living wages in euros per FTE per year in different regions in Kenya, Ethiopia and Zambia.

Figure 4 shows the annual living wages per country and region within scope. The living wages are computed based on the method of Anker & Anker (2017), which is described in more detail in Chapter 3. Amongst others, regional differences are explained by urbanisation, because the cost of living in urban areas is usually higher than in rural areas. For example, the living wage in Lake Naivasha is higher than in Mount Kenya, because Lake Naivasha is more urbanized than the countryside around Mount Kenya.

ii. Wage gap per region

The wage gap per region is based on a combination of the living wage and the average prevailing wage (including in-kind benefits and cash allowances) in the rose sector in the specific regions, and the distribution of these wages. The model that is used for this distribution is called a log-normal distribution. The results of the wage gap analysis are presented in Table 2. It shows that the percentage of employees below the living wage is highest in Lake Ziway. Most of the workers do not even earn half of a living wage. However, the living wage itself in Ethiopia is lower than in Lake Naivasha, resulting in a lower absolute wage gap per FTE.

	Region:	Mt. Kenya (Kenya)	Lake Naivasha (Kenya)	Ziway (Ethiopia)	Ziway – Fairtrade (Ethiopia)	Lusaka (Zambia)
Average wage gap per FTE	€/FTE/year	€ 426	€ 1,302	€ 998	€ 947	€ 736
Percentage FTE below the living wage	% FTE	60%	85%	95%	93%	71%

Table 2: The wage gaps and the percentage of FTE below the living wage per region.

The Fairtrade roses within the scope of this research originate from Ethiopia. Fairtrade growers receive a premium to invest in the company or in employees. Currently, at most 20% of this premium is to be spent on higher employee wages (Max Havelaar, n.d.a). This causes the average Ethiopian wage gap and

the share of the employees that earn below the living wage to slightly decrease if the roses are Fairtrade certificated.

Because wages in Mount Kenya and Lake Naivasha are similar, but the costs of living in the urban region of Lake Naivasha are higher, the average wage gap in Lake Naivasha is a lot bigger.

iii. Wage gap per bouquet of roses

Table 3 shows the average wage gap per rose and per bouquet. For long stem roses from Kenya, the wage gap per rose amounts to 0.78 or 1.98 eurocent, depending on the region of origin (Mount Kenya and Lake Naivasha respectively). For Ethiopian sweetheart roses, 1.24 eurocent per rose is needed to compensate the living wage gap. Since Fairtrade growers pay their employees a slightly higher wage, the wage gap for a Fairtrade rose is almost 0.1 eurocents less. The wage gap for roses from Lusaka is 0.80 eurocents per rose. With the most common amount of roses per bouquet (10 stems) at large retailers, the wage gap per rose is converted to the living wage gap per bouquet.

	Region:	Mt. Kenya (Kenya)	Lake Naivasha (Kenya)	Ziway (Ethiopia)	Ziway – Fairtrade (Ethiopia)	Lusaka (Zambia)
Wage gap per rose	€cents/ stem	0.78	1.98	1.24	1.17	0.80
Wage gap per bouquet	€cents/ bouquet	7.8	19.8	12.4	11.7	8.0

Table 3: Wage gaps per rose and per bouquet for each region.

The average wage gap per rose is determined based on production data. There are multiple steps in the value chain at which taxes, premiums and import and export duties have to be paid. Figure 5 shows that this has an impact of approximately 10% on the rose price. This does not take into account possible profit margins, but it does consider all mandatory taxes, premiums and duties.

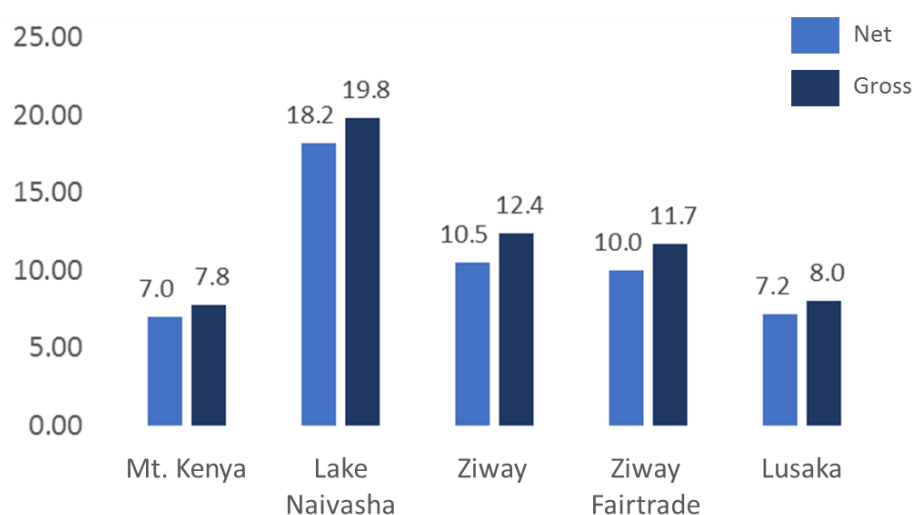


Figure 5: Difference in wage gaps per bouquet including and excluding taxes and duties (source: Deloitte 2017, GPA 2017 and PWC 2017 amongst others).

3. Methodology

This chapter elaborates on the methodology of the wage gap analysis. The wage gap per rose is influenced by three main factors. Firstly, it depends on the wage that one needs to sustain a living in a specific region (a “living wage”). It is necessary to address this at a regional level, because of the large differences within countries. The method of calculating living wages, is discussed in section 3.1. Secondly, the wage gap depends on the wage that is common in the sector (the prevailing wage). The distribution of prevailing wages and the consecutive translation to a living wage gap will be discussed in section 3.2. Finally, the wage gap per rose depends on the rose production per employee. In section 3.3, an explanation is given of the conversion of the average wage gap per employee to a wage gap per rose and per bouquet. Section 3.4 discusses how the average wage gap for a rose at a large retailer has been established, followed by a short description of the limitations of the method in section 3.5.

3.1. A living wage

The living wages computed in this study are based on the method of Anker & Anker (2017), of which an extensive overview is included in the Appendix. In this method, the following definition of a living wage is assumed, in accordance with the definition of the Global Living Wage Coalition (ibidem):

‘A living wage is a remuneration received for a standard work week by a worker in a particular place sufficient to afford a decent standard of living for 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.’

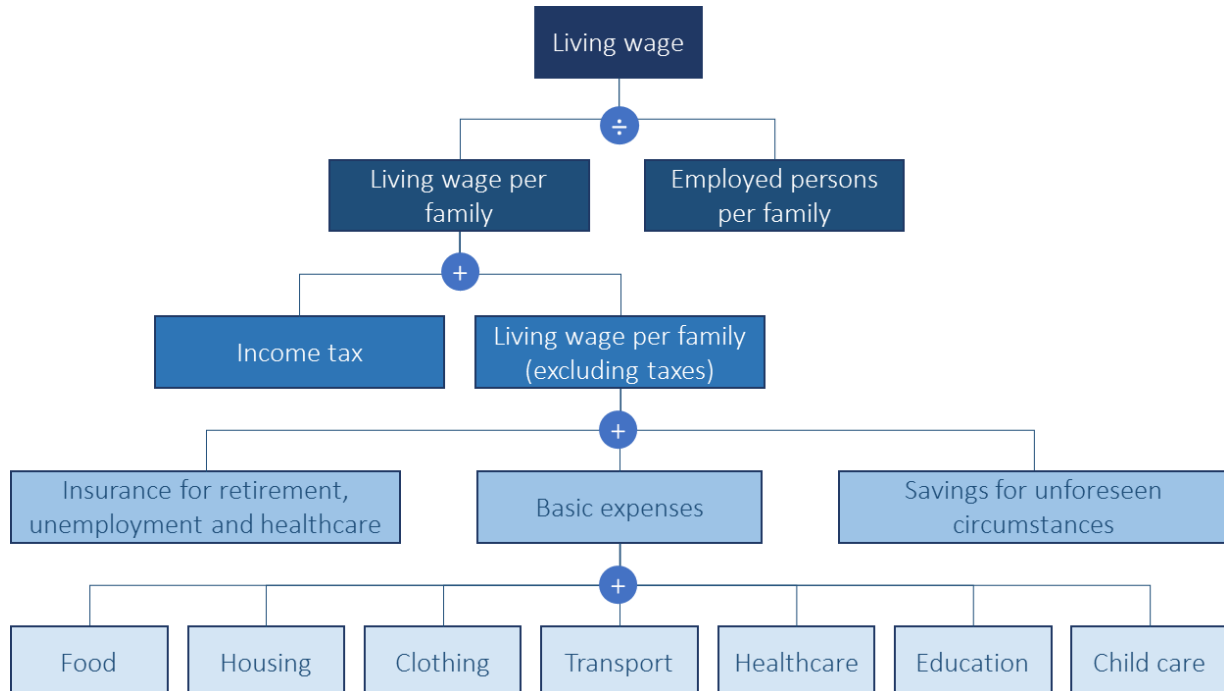


Figure 6: Overview of the calculation of the living wage per employee.

The following basic expenses are taken into account as part of a living wage: food, housing (including utilities such as water, electricity and furnishing), clothing, education, healthcare, transport and child care. Where possible, these costs are determined based on external literature of the Global Living Wage

Coalition (GLWC). For example, the living wages for rose farm workers in Kenya and Ethiopia are partially based on values from the GLWC reports of Tiruwha Melese (2016) and Anker & Anker (2014, 2016).

The costs of food, housing, etc, differ between countries and regions. Therefore, this study focusses on the four regions of origin of the roses that are included in the scope: Mount Kenya and Lake Naivasha in Kenya for the long stem roses, and Lake Ziway in Ethiopia and Lusaka in Zambia for the sweetheart roses. For each region, the living wage is calculated separately. Figure 6 shows how different factors contribute to a living wage. Besides the above described basic expenses, social security, savings for unforeseen circumstances and income tax are also taken into account.

3.2. Distribution of prevailing wages

The definition of a wage gap is the negative deviation of the prevailing wage with respect to the living wage. To determine this wage gap per FTE at a certain grower, simply calculating the difference between the living wage and the average prevailing wage does not suffice. This is because the average prevailing wage includes wages above the living wage, for which there is no wage gap (because these yield a positive deviation with respect to the living wage). Therefore, only the income of people earning below the living wage should be included in the calculation of the living wage gap.

Because of limited data availability, this study does not use primary data on prevailing wages of every separate rose farm worker. To estimate the distribution of the wages throughout the sector, a wage distribution model is used. Such a model shows the distribution of the wages across a certain population; in this case, specifically across employees in the rose sector.

The wage distribution model is formed by a frequently observed pattern: a large share of the population earns relatively little, and a small share earns a relatively large amount. This pattern is mathematically described by a log-normal distribution (Geiger et al., 2016). Figure 7 shows that the wage distribution in Ethiopia across all sectors shows reasonable similarity with a log-normal distribution. Again, the most frequent hourly wage is relatively low. Only a handful of people, usually those at the 'top' of a company, earn more.

To arrive at a general statement on the wage gap per FTE, the above described log-normal distribution is used to simulate wages in the rose sector. For this, averages of available data were used.

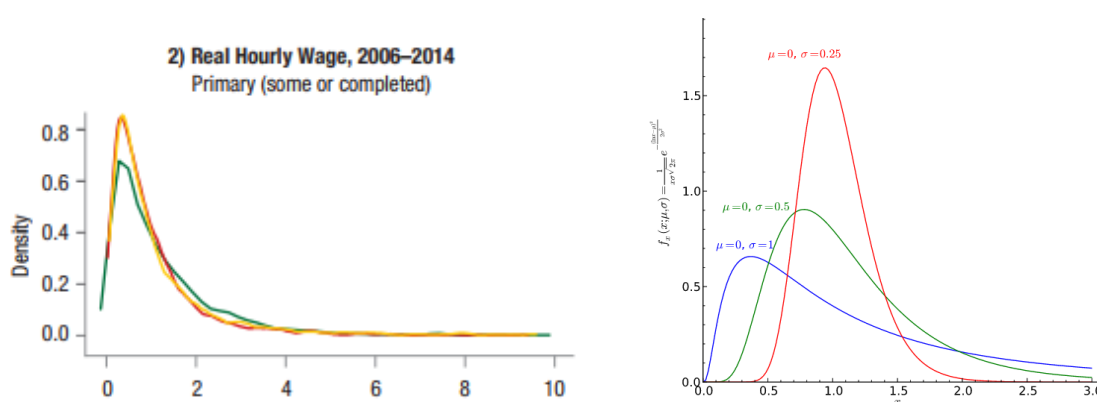


Figure 7: Left: wage distribution of employees with primary education in Ethiopia (source: World Bank Group 2016); Right: examples of log-normal distributions with different standard deviations.

The primary data originates from past research by True Price, commissioned by Hivos, and is supplemented by secondary data² of prevailing wages on rose farms in the relevant regions. The results have been submitted to number of large retailers for validation.

The average wages that are used, include in-kind benefits and cash allowances by the employer. Examples of in-kind benefits are meals during work hours, (allowance for) housing, travel allowance, access to a doctor, hospitals, schools or child care. These wages also include social security contributions of the employer as well as indirect wages through paid sick leave, because these are indirect benefits to the employee. As the prevailing wages differ per sector and region, data on prevailing wages for the specific sector and region are used.

3.3. Wage gap per bouquet

The average wage gap per FTE is based on the living wages and the average prevailing wages, as described above. Productivity data³ of a number of growers is used to estimate the number of roses that a rose worker produces on average. A large share of the employees works on the field, but some of the employees have managing or administrative tasks. Both have been taken into account in the calculation of the average production per FTE.

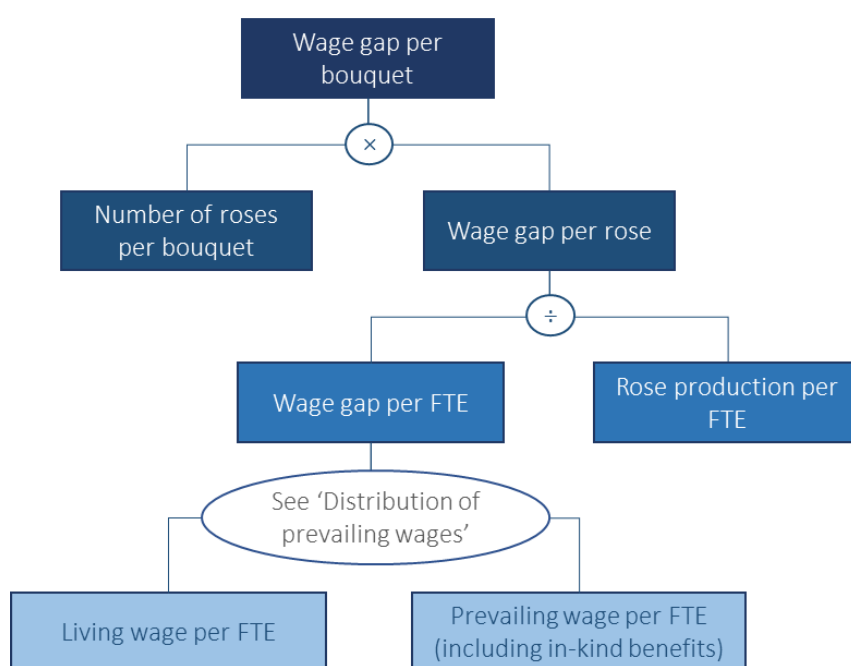


Figure 8: Overview of the calculation steps needed to translate prevailing and living wages to a wage gap per rose bouquet.

The labor productivity data shows that the long stem roses require more care and time to grow than the smaller sweethearts: one FTE produces 60,000 to 70,000 long stems roses annually, compared to 100,000 roses per year in the regions that focus on sweethearts.

² Secondary data is obtained (amongst others) from GLWC studies conducted by Anker & Anker (2014, 2016) and Tiruwha Melese (2016), from the study Flowers for Food (LANDac, 2016), and from the Zambia Labour Force Survey Report (Central Statistical Office Zambia, 2014).

³ This consists of size (in hectare), employees (in FTE) and production (in stems) as reported by rose farms in the studied regions.

Dividing the wage gap per employee by the production of one employee yields the average wage gap per rose. Figure 8 provides an overview of the computation of the wage gap per bouquet, given the average prevailing wages and the living wages. It is assumed that one bouquet contains ten roses, as is common for a bouquet sold by large Dutch retailers.

To compute the living wage gap throughout the rose value chain, it is necessary to add mandatory taxes, premiums and duties. These depend on the regulations and agreements regarding import and export duties in the country of origin, as well as in the Netherlands. The applicable tariffs are summarized in Figure 9.

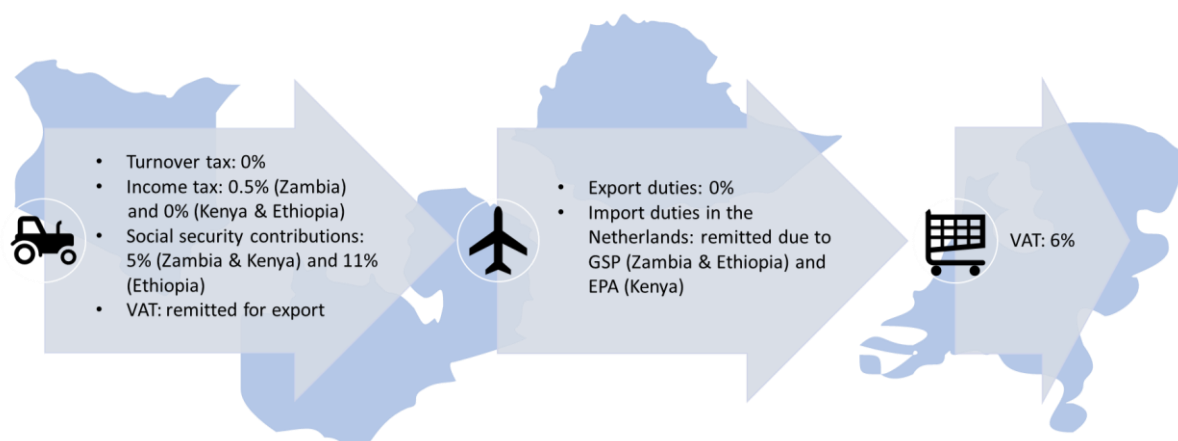


Figure 9: Taxes, premiums and duties applicable to the value chain of roses available at large Dutch retailers (source: Deloitte 2017, GPA 2017, PWC 2017 and Revenue Authorities of Kenya and Zambia, amongst others).

Turnover tax in Kenya, Ethiopia and Zambia only applies to companies with extremely small revenues (equivalent to a few thousand euros). The considered rose farms clearly do not fall within this category. Payroll tax is nonexistent (in Kenya and Ethiopia) or low: 0.5% in Zambia. In Kenya and Zambia, there is an upper bound on the social security contributions paid by the employer. The living wage in Lake Naivasha exceeds this bound, and for this region the social security tax is only computed over the lower share of the wage gap. Value-added-tax (VAT) in all three countries is remitted, because the roses are produced for the export. In the Netherlands (or in the EU), import tariffs have to be paid, but to stimulate the economies of these countries, none are currently applied. As a member of the European Union, the Netherlands acts according to the agreements of the European Commission (European Council & European Parliament, 2016). Within the Netherlands, the national VAT rate of 6% is applied to a bouquet of roses (Belastingdienst, n.d.).

3.4. Wage gap of an average rose sold at large retailers in the Netherlands

In this study the wage gap of an average rose that large retailers in the Netherlands sell, is determined as a weighted average of the wage gaps of the analyzed rose types. For Kenyan and Ethiopian roses, an average has to be taken per country. For Kenya, an average of the wage gaps for roses from Mount Kenya and Lake Naivasha is used. For Ethiopia, a weighted average is taken of the wage gaps for Fairtrade roses and non-certified roses. The ratio between these two types is based on the share of roses at large Dutch retailers that is sold under a Fairtrade certificate. Finally, the average wage gaps of Kenya, Ethiopia and Zambia are combined in an average wage gap, weighted by Dutch import rates from the respective countries (CBS, 2017).

3.5. Limitations of the wage gap analysis

This wage gap analysis recognizes two limitations. First, the scope of five rose types with respective regions has been chosen to preserve project feasibility. Since this inventarisation of most frequently sold roses at large retailers is not exhaustive, the above analysis provides a limited estimate of the actual average wage gap. Second, the wage gap itself is calculated based on a simulated wage distribution. This simulation is based on a number of theoretically substantiated assumptions.

In a follow-up study, the scope could be extended. For example, including the living wage gaps of roses from a different origin or with other certifications will lead to a more complete calculation. Retailers also sell roses from Tanzania or Zimbabwe, but these countries are currently not within the scope of this study. Also, the living wage gaps could be calculated using primary data on prevailing wages. By using primary data, fewer assumptions on the wage distribution are needed. This means that in determining the wage gap, it is not necessary to use an average wage gap per grower, but instead the specific wage gap per employee could be taken into account.

4. Towards a living wage

The previous chapters demonstrate that the workers that produce roses for the large Dutch retailers often earn below a living wage. This opens up a challenge to everyone in the value chain to close the wage gap. Consumers, employers' organizations, the government and NGOs expect companies to take their corporate social responsibilities (SER, 2012). A living wage is one of the universal human rights to which companies are committed through the OECD guidelines (2011) and *UN Guiding Principles on Business and Human Rights* (2011). A living wage not only improves the lives of rose workers that face a wage gap, but also offers opportunities to consumers and companies.

4.1. Consumers

Previous studies showed that consumers value socially responsible products and are willing to pay a premium for them (True Price, 2015). In this research, a meta analysis was conducted of 41 studies on the willingness of consumers to pay for socially responsible products. The study shows that European and North-American consumers are on average willing to pay 21.5% extra for socially responsible products.

4.2. Large retailers

Since roses are a luxury product and are often presented in the form of a gift, offering a living wage rose would create opportunities for companies to differentiate with respect to competition and thereby increase sales and profit. Furthermore, offering roses for which a living wage is guaranteed, provides the opportunity to improve the company's reputation and make use of positive branding. Within the Dutch retailmarket, there is strong competition. This means that large retailers are relatively sensitive to negative publicity, which could affect the loyalty of customers.

Because of their market power, large retailers could pressure suppliers to demand living wages. However, former studies showed (True Price, 2015) that rose growers (in Kenya) do not make enough profit to bear the full costs of closing the wage gap. Therefore, it is important that all players within the value chain contribute to living wages. For this, collaboration with existing certifiers such as Fairtrade is possible, by taking away part of the living wage gap through a Fairtrade premium.

Research into the exact living wage gaps of the roses sold by large retailers is the first step in this process. Next, the outcome of this study can be used as a conversation starter between rose growers, on how procurement practices of retailers could contribute to living wages. One possibility is to offer (together with value chain partners) a special living wage bonus system, through which contributions of large retailers are being paid to rose workers directly. Nudie Jeans successfully set up such a system with a supplier in India (Nudie Jeans, 2015).

Moreover, stimulation of trade unions and collective bargaining can contribute to a living wage. For example, help can be offered to people in organising a labour union. Other examples of such contributions are trainings for employees to strengthen their bargaining skills, or offering legal advice on their labour rights.

4.3. Rose growers

Rose growers experience upwards pressure on costs and, through strong competition, downwards pressure on price levels. Offering a living wage to their employees could create a competitive advantage

with respect to other growers. Furthermore, paying a living wage could possibly help to keep employees, raise productivity and avoid the costs of conflict and strikes (SER, 2012).

A first step that growers could take in this process is the collection and preservation of data on financial wages and in-kind benefits (for example meals, transport and housing allowances), so that this could be used to monitor the wage gap. In determining the local living wages and monitoring the wage gap, rose growers can collaborate with employee organisations and NGOs. By talking to employees, more insight can be gained into their needs. Similar to large retailers, rose growers can contribute to the position of employees by working with understandable payslips, showing employees how their salary is build up. Other examples are the possession of a paper contract, and the possibility to individually or collectively negotiate about living wages and other labour conditions. Finally, the employer can discuss with the government about a raise of the minimum wage, or discuss a simultaneous wage increase with other companies in the region.

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Annex – Anker & Anker methodology

The methodology behind the living wages in this study is based on the method of Anker & Anker, as described in *Living Wages Around the World: Manual for measurement* (Anker & Anker, 2017). A short discussion of the method, and how it is applied in this study, follows in the sections below.

i. Composition of an average household

The Anker method determines the living wage per employee. This wage should not only enable the employee to provide for his or her own living, but also for the living of his or her family. For this reason, the living wage is based on the expenses of a model family of two adults. The number of children per family is based on fertility and child mortality rates (0-5 year olds) from regional demographic data (Central Statistical Agency Ethiopia, 2016), and the average number of people in a household. The number of children varies between 3 and 3.5 per household, mostly depending on the urbanisation of the region, because family sizes in rural areas are often bigger.

The number of retirees that are part of the model family is based on the percentage of elderly people within the population. This is approximately 0.2, or in other words: one out of every five households contains a retired family member, in addition to the two adults mentioned before. To arrive at a basic wage per employee, the living wage per household is divided by the average number of employed people (in FTEs) per family: by assumption, this is 1 (for the rose worker), plus the number of FTEs that an average employable person between the 25 and 59 years works in the respective country.

ii. Food costs

The regional food costs are determined by selecting a nutritious diet, that strives to fit the local customs, but simultaneously uses ingredients that are available at a relatively low price in the area concerned. The food prices are determined based on prices on local markets, stalls and kiosks that employees state to visit most frequently. Finally, around 15% of the total food costs is added, to allow for variation in the diet, compensate for waste and spoilage, and for the use of spices.

iii. Housing costs

Housing costs are based on the rent paid for basic housing in the respective regions. Expenses for water, electricity, fuel, furnishing and other utilities are added to this amount.

iv. Non-food and non-housing costs

The remaining costs (non-food and non-housing costs, or NFNH costs), are in the Anker method determined based on the ratio between food expenses and NFNH costs. The data needed to compute this ratio comes from national household surveys of Kenya (Kenya Bureau of Statistics, 2006) and Ethiopia (Central Statistical Agency Ethiopia, 2012). This ratio differs strongly between urban and rural areas: around the urbanized Lake Naivasha, the ratio between food and NFNH costs is 0.87, while in the rural Mount Kenya region, it is only 0.40 (Kenya National Bureau of Statistics, 2006). Expenses that are not strictly necessary for a decent living, such as tobacco and motorised private vehicles, are subtracted from the NFNH costs.

On the expense categories of healthcare, education and transport, post-checks were performed to ensure that the values found are in accordance with the experiences of employees. This means that first, based on the household surveys, it is determined which percentage of the necessary NFNH expenses and which amount should be spend on healthcare, education or transport. This amount is

then verified through local cost inventarisations and interviews with employees. If necessary, the found values are adjusted based on this additional input.

v. Clothing and child care

Clothing and child care are not explicitly part of the Anker method; they are implicitly part of NFNH costs. The necessary budget for clothing in this study is determined in the same way as healthcare, education and transport costs in the Anker method: by using the share of NFNH expenses that is spent on clothing. Since childcare is not a separate item in household surveys, we used a different approach.

It is assumed that children between 0 and 4 years old need a caretaker, who is paid according to the average regional prevailing wage. The (partially) unemployed adult family members or retirees offer part of this care themselves. It is assumed that the rest of the necessary care is provided by an external caretaker, which has to be paid, and takes care of 5.75 children on average, based on Dutch regulations.⁴

vi. Living wage in Zambia

An equivalent Anker & Anker study on Zambian rose workers was not available at the time of this research. Following the Anker method, the national survey that monitors living conditions (Central Statistical Office Zambia, 2015) was used instead. Since 57.5% of the Zambian population lives below the international poverty line of \$1.90 per day⁵, average Zambian household expenditures do not represent the amount of money that a household generally needs. A correction factor has been used to lift the average expenditures above the poverty line. This still provides a conservative estimate of the living wage.

The living wage described above represents the amount that employees need to sustain a basic living. Because families should have the opportunity to build up savings for illnesses, unemployment and their retirement, and taxes have to be paid on the wage received, this basic living wage is not equal to the living wage that employers should pay their workers.

vii. Addition of taxes and social security

For families living on the verge of the minimum wage, the financial impact of unexpected expenses is very high, because these families have no reserves to cover the extra costs. To prevent this, a small amount is added to the living wage to compensate for unforeseen expenses. Also an additional 5-10% of the living wage is added for retirement savings, whether this is done through official registration with retirement insurance companies or in the employee's own management. Because no money is paid by the government of the respective countries in case of illness or unemployment, a small percentage of the living wage is added to foresee in these expenses.

Between 10% and 25% (PWC, 2017; GPA, 2017) of income tax is paid on the taxable share of the wages. In Ethiopia and Zambia, part of the wage is tax free, so income tax is only paid on a share of the living wage. To ensure that the living wage reflects the amount paid by the employer, income taxes are added to the living wage. This leads to a final living wage for the rose workers in this study.

⁴ The maximum number of children differs by age group. The number of 5.75 children is an average of the categories 0-1 year olds, 1-2 year olds, 2-3 year olds and 3-4 year olds. See *Beleidsregels kwaliteit kinderopvang en peuterspeelzalen in NL* (2012). Online available at: wetten.overheid.nl/BWBR0017461/2010-08-01.

⁵ In 2015, 57.5% of the Zambian population lived below the poverty line. See World bank (2017). *Country Poverty Brief Sub-Saharan Africa: Zambia*.

viii. From the wage gap per FTE to the wage gap per bouquet

The difference between the prevailing wage and living wage does not directly yield the average wage gap per employee, due to differences in wages among workers. The solution to this problem is already covered in the section 'Distribution of prevailing wages'.

The number of roses that a rose worker annually produces is based on sector averages and data on individual rose farms. Combined with the average wage gap per employee, this yields the wage gap per rose. Figure 10 on the next page shows how these steps lead to a wage gap per bouquet. For more details on the computation, we refer back to Chapter 3.

Legend:

Long stem rose Mount Kenya (Kenya)
Long stem rose Lake Naivasha (Kenya)
Sweetheart rose Lake Ziway (Ethiopia)
Fairtrade rose Lake Ziway (Ethiopia)
Sweetheart rose Lusaka (Zambia)

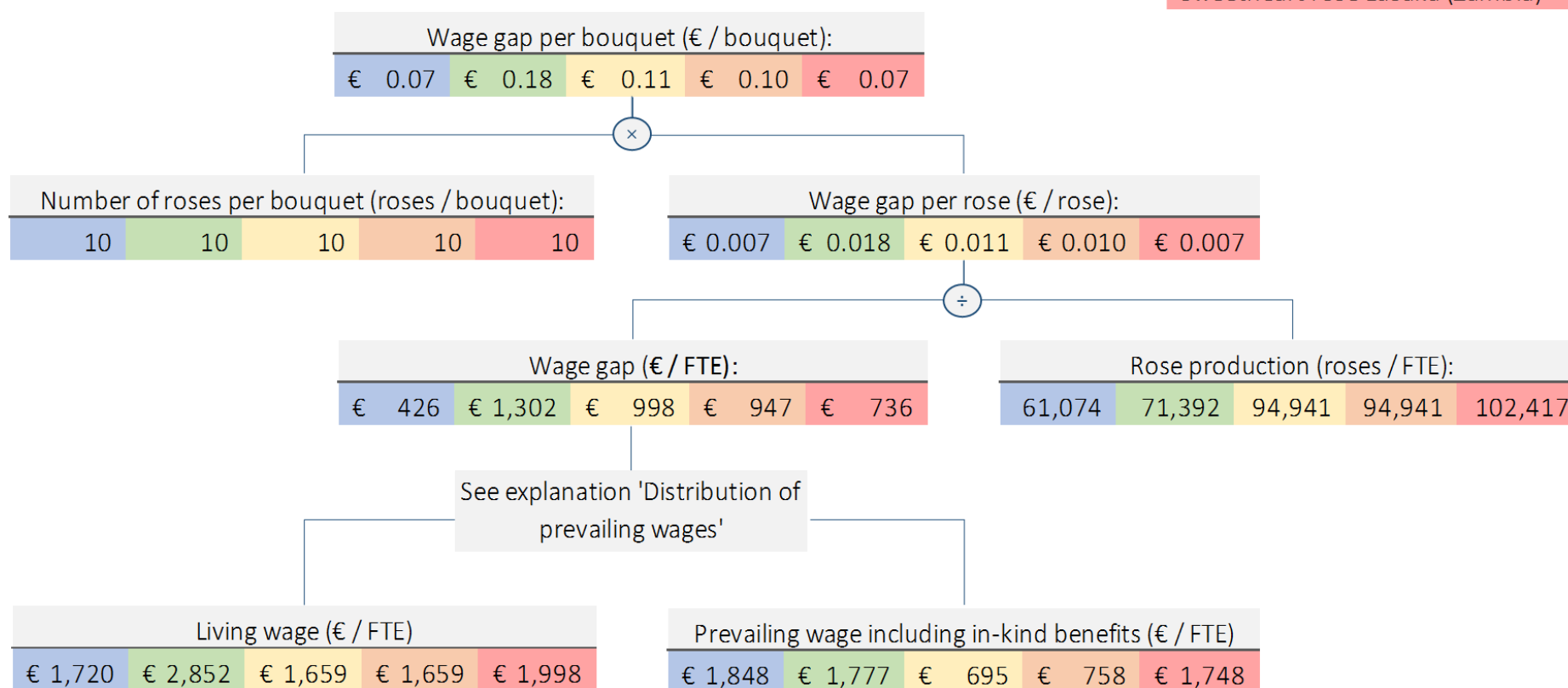


Figure 10: From living wage and prevailing wage per employee per year to the wage gap per bouquet per region.