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## Understanding job satisfaction in a labor intensive sector: Empirical evidence from the Ethiopian cut flower industry

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#### Abstract

This paper analyses the determinants of job satisfaction in the cut flower industry in Ethiopia. Using primary survey data of 358 workers and focus groups conducted in 5 similar farms, we find that organizational extrinsic rewards are the main determinants of job satisfaction. Intrinsic and social extrinsic rewards however, appear to have little predictive power. Moreover our findings suggest that there are no gender differences in levels and predictors of job satisfaction, however we do find educational differences and explain why. To end, we discuss the implications of this study along with limitations and suggestions for future research.

#### Key words

job satisfaction, labor, cut flower industry, Ethiopia, Africa

#### 1. Introduction

Job creation is a key ingredient in social and economic development of a country. Agricultural investment in labor intensive sectors may create such employment in rural areas. Sectors such as horticulture or floriculture are highly labor intensive and are important for job creation, but labor conditions tend to be hard due to e.g. high temperatures in greenhouses, spraying for crop protection, while payments are relatively low (Riisgaard, 2009). Yet, do workers perceive these working conditions as problematic as we Western researchers think they do? Where do we fall short in understanding job satisfaction? Are determinants of job satisfaction different in low-income conditions? These questions have implications for development of labor intensive farms, in particular when these farms want to invest in working conditions, job stability and well-being of their workers.

While research on job satisfaction is not new, we know very little about job satisfaction in developing countries. Scholars have tended to focus on predicting job satisfaction in western countries. The interest in job satisfaction stems from the notion that it has been recognized to be an important predictor of human well-being (Green, 2010; Linz & Semykina, 2012; OECD, 2013; Sousa-Poza & Sousa-Poza, 2000) and that there is a clear link between job satisfaction and labor market behavior. Workers with high levels of job satisfaction are less likely to quit, tend to show positive workplace behaviors and perform better (Linz & Semykina, 2012; Mottaz, 1985; Munyon, Hochwarter, Perrewé, & Ferris, 2010). Low levels of job satisfaction on the other hand, results in higher absenteeism and labor turnover rates (Brown, Charlwood, & Spencer, 2012; Linz & Semykina, 2012)

Unfortunately, studies on job satisfaction in developing countries are rare. There are a few exceptions such as the article by Mulinge and Mueller (1998) on job satisfaction among high-skilled agricultural technicians in Kenya and a more recent article of Asiedu and Folmer (2007) which focuses on how privatization improves job satisfaction in Ghana. Nonetheless we still know very little. Moreover results from studies in western contexts are not necessarily transferable to other contexts. Research has reported variance in levels and predictors of job satisfaction across cultures (Abdulla, Djebarni, & Mellahi, 2011; Diener, Oishi, & Lucas, 2003; Kirkman & Shapiro, 2001). We are therefore urged to expand this field of research to other cultural contexts and to test the cross-cultural validity of previous findings.

Our paper is an attempt to fill this gap and to advance research on this topic. Based on collected survey data and focus groups discussions we analyze the determinants of job satisfaction in the floriculture sector in Ethiopia. As this labor intensive sector mainly employs unskilled, female laborers, we specifically draw attention to gender and educational differences in determinants of job satisfaction.

This paper is structured as followed: Section 2 provides background information on the floriculture sector in Ethiopia and motivates the importance of researching job satisfaction within this context. Section 3 discusses the theoretical framework applied in our study. Section 4 introduces our data and methods of analysis. Section 5 presents the results of the empirical analysis. Section 6 includes the interpretation of our results in light of the qualitative information collected through the focus groups. Finally, the last section provides implications for research, business and policymaking.

#### 2. Background information on the floriculture sector in Ethiopia

The floriculture sector is a relatively new established sector in Ethiopia and rapidly growing. Whereas only five farms were operative in 2002, there are more than 80 farms operating today on a total of 1,200 ha of land (EHPEA, 2013; EIA, 2013). Inspired by the Kenyan example, the Ethiopian government has made tremendous efforts to attract this industry through the provision of tax exemptions, relaxed regulations and affordable land rents which all contributed to a positive investment climate. In addition, wages are low compared to other African countries (Mano, Yamano, Suzuki, & Matsumoto, 2011; Riisgaard & Gibbon, 2014). As a result, in less than 10 years Ethiopia has become the second largest flower exporting country in Africa (Sahle & Potting, 2013).

All flowers are destined for export to markets in Europe, the US, the Middle East and Japan. For this reason, clusters of flower farms can be found in the vicinity of the capital city Addis Ababa. The industry includes both domestic and foreign investors. They create direct and indirect jobs for over 85,000 people (Getu, 2013).

Most jobs (60 to 70%) on the farms are destined for female workers. Their daily job consists of picking, sorting and packing the flowers. Male workers are hired for jobs related to spraying, maintenance and construction of greenhouses. The high levels of female employment can be explained by the fact that managers perceive women as more productive, better skilled to handle delicate flowers with care and more flexible than their male counterparts (Barrientos, Dolan, & Tallontire, 2003). Working in flower farms involves monotonous, repetitive work for which little qualifications are required. Thus the sector draws upon a large labor pool of rural, uneducated women for whom little or no alternative job opportunities exist.

Although applauded for its job creation, the sector has been criticized for its poor labor standards (Hale & Opondo, 2005; Riisgaard, 2009). Due to the seasonal demand of flower trade, with peak demands at certain moments (eg. Valentine's day, Mother's day and Eastern) and low demand during northern summer, the sector has the reputation of hiring workers on an insecure basis (Riisgaard, 2011). The perishability of flowers implies long working days, sometimes even during holidays, as critical tasks cannot be postponed. Working overtime is therefore not exceptional nor is it always on a voluntary basis or at a better wage rate (Hale & Opondo, 2005). In general wages are considered to be low in the Ethiopian sector, ranging from 0.90 euro up to 1 euro a day. Another key concern this sector is confronted with, is the potential health hazard workers face. The sector makes intensive use of chemicals and fertilizers to which workers are easily exposed to (Hale & Opondo, 2005; Riisgaard, 2011).

It is against this background that this study takes place. Previous studies on labor intensive sectors have already addressed the social and human consequences for laborers by objectively measuring the quality of jobs provided and by benchmarking existing work practices against desired work practices formulated in several certification schemes, codes of conducts and labor regulations (Barrientos & Smith, 2007; Locke, Amengual, & Mangla, 2009; Muradian & Pelupessy, 2005; Raynolds, 2012; Riisgaard, 2009, 2011; Yu, 2008). Yet, missing in this field of research is the inclusion of workers own perceptions vis-à-vis their working conditions; how workers themselves evaluate the quality of their working life. This is an important research gap we need to address as enhancing job satisfaction is typically seen as a 'win-win' situation for both firms and workers (Linz & Semykina, 2012).

For firms it is important to have workers with positive job attitudes (Jiang, Baker, & Frazier, 2009). This is especially true for flower farms as they are inserted in a buyer-driven value chain, which means that key decisions with regard to delivery, cost and quality of products are taken by large western retailers (Dolan & Humphrey, 2000). Adherence to these requirements is decisive for companies inclusion in the chain, but requires a steady workforce, willing to work long hours and capable of meeting high quality standards of products within delivery time (Riisgaard, 2009). Having workers with positive job attitudes coming forth from high levels of job satisfaction is therefore indispensable for a companies' success. Thus, from a management perspective we need to understand what makes workers satisfied with their job.

For workers it is off course also important to be satisfied with one's job. Job satisfaction has been recognized to be an important predictor of human well-being (Green, 2010; Linz & Semykina, 2012; OECD, 2013; Sousa-Poza & Sousa-Poza, 2000). The basic purpose of development is to improve people's lives and to increase human well-being. At the moment, the sector is already referred to as an engine of growth and development as it performs well in terms of job creation and foreign earnings. However, little is known about the sector's impact at workers level. Thus, also from a policy perspective we need to have better understanding of how and to which extent this sector contributes to individual workers well-being.

Previous studies have shown that the determinants of job satisfaction differ across culture and economic realities (Fargher, Kesting, Lange, & Pacheco, 2008; Gelfand, Erez, & Aycan, 2007; Huang & Van De Vliert, 2003; Kirkman & Shapiro, 2001). Employees living in more developed, individualistic economies attach great importance to values that refer to enhancement of self-expression. For these employees, intrinsic rewards such as challenge, autonomy and recognition are therefore positively related to job satisfaction (Gelfand et al., 2007; Huang & Van De Vliert, 2003). In contrast, employees in collectivistic economies attribute higher importance to social recognition. Good relationships with colleagues produce high levels of job satisfaction among these employees while this has little effect on job satisfaction among employees in western, individualistic countries (Gelfand et al., 2007; Huang & Van De Vliert, 2003). Organizational extrinsic rewards referring to for instance salary and job security however appear to be strongly related to job satisfaction across cultures (Gelfand et al., 2007). In other words, cultural contexts matter and previous findings cannot be generalized.

#### 3. Theoretical framework

Job satisfaction has been defined in different ways, from the degree to which someone likes his/her job (Spector, 1997, p. 2), to the degree of fit between actual job rewards and workers expected job rewards (Andrew Clark, Oswald, & Warr, 1996), to job satisfaction as a positive (or negative) evaluative judgment one makes about one's job or job situation (Weiss, 2002, p. 6). Implicit in all definitions is the importance of on the one hand affect, or feeling and on the other hand cognition, or thinking (Lan, Okechuku, Zhang, & Cao, 2013; Saari & Judge, 2004).

Much research has attempted to understand the predictors of job satisfaction. Among the most widespread theories providing a basis to understand how job attributes relate to job satisfaction are Maslow's Hierarchy of Needs (1954) and Herzberg's Motivation-Hygiene theory (1959). Starting point of both theories is that job attributes are the result from a correspondence between individual's needs and job characteristics. When an individual is satisfied with his/her job it is because the needs of this individual are met. Conversely, when these needs are unmet, an individual will be unsatisfied with his/her job.

Maslow (1954) identified five need levels in an hierarchical order: physiological needs, safety needs, social needs, ego needs and self actualization needs. The first three needs are considered deficiency needs. When these basic needs are satisfied, Maslow (1954) argued that the latter two needs, or 'growth needs' would be pursued.

Herzberg, Mausner, and Snyderman (1959) distinguished two categories, extrinsic factors or so called 'hygienes' and intrinsic factors or 'motivators'. Extrinsic factors are related to the basic needs in Maslow's Hierarchy of Needs. They include aspects not directly associated with the job activity itself, but that are rather a by-product of the work. They occur as a consequence of job performance. Extrinsic rewards may include wage, job security, promotion possibilities, fringe benefits and alike. Intrinsic rewards on the other hand are related with the job activity itself. They satisfy the workers immaterial needs by allowing for self-expression, giving the worker the feeling that they accomplish something worthwhile (Aletraris, 2010; Mulinge & Mueller, 1998). They may include the ability to use own skills, to have variation on the job, to receive the freedom or autonomy to perform tasks and to be able to learn new things. In relation to Maslow's Hierarchy of Needs, intrinsic rewards are linked with the higher order needs such as social, esteem and self actualization. Herzberg et al. (1959) argued that extrinsic rewards were 'job dissatisfiers', while intrinsic rewards were 'job satisfiers'. Herzberg's motivation-hygiene theory is not without criticism (Foor & Cano, 2011), but it has remained popular among researchers because of its ease of interpretation and operability of underling factors explaining job satisfaction (Delobelle et al., 2011).

Although researchers advocate that job attributes are the best predictors of job satisfaction, a significant body of research posits that demographic factors are also good predictors of job satisfaction. The underlying assumption here is that the relative importance assigned to various types of rewards may differ at the individual level. Some may attach greater importance to the wage they receive, while others may be looking for a more challenging and meaningful job (Mottaz, 1985). These individual differences has led to the introduction of personal characteristics into studies on job satisfaction. Demographic factors include gender (Andrew Clark, 1997), age (Andrew Clark et al., 1996), educational level (Peiró, Agut, & Grau, 2010), work experience (Hunt & Saul, 1975) and rural-urban background (Schuler, 1973). The evidence that gender and education matters seems to be strong enough to warrant further research in our context. Following the reasoning above, this study will take into account both environmental factors and demographic factors in the analysis (see table 1 for an overview).

Environmental factors			Demographic factors
Organizational	Social extrinsic	Intrinsic	
extrinsic			
Wage satisfaction	Supervisory support	Freedom at work	Gender
Job security	Co-worker support	Learning new skills	Age
Receiving a bonus	Group cohesion	Variation on the job	Educational level
Receiving a reduction			Location of living
Promotion			Work experience
possibilities			
Healthy environment			

 Table 1. Overview environmental and demographic factors

#### 4. Methods

#### Data

The empirical data were collected through employee surveys undertaken in June-July 2013 in five floriculture farms in Ethiopia. The total sample consisted of 375 responses. After removal of uncompleted questionnaires, we obtained a final sample of 358 cases (237 females, 121 males). The survey was conducted in five farms that were selected on the basis of comparability. They were located relatively close to one another. All five farms produced roses destined for export, were rather similar in size and they were all owned by Ethiopian investors. They only differed with regard to their certification status (three farms had obtained certificates of MPS-Socially Qualified and Fair Flowers Fair Plants, the other two didn't have any certification). Within each farm, stratified random sampling procedures were used to ensure an adequate representation of on average 75 workers who had different job functions within the farm. These job functions included packaging, grading, spraying, crop maintenance and supervising. Due to time constraints, data was collected on and off farm. We checked and found however no bias between people's answers and therefore considered both on and off farm surveys reliable sources of information. The questionnaire was directly translated from English into Amharic or Oromo by Ethiopian master graduates who had been trained before onset of the data collection phase. This training continued throughout the testing phase which lasted three days. The questionnaire included questions on socio-demographics, working conditions, overall job satisfaction and job rewards.

In addition, we organized five focus groups with workers, one in each farm. The purpose of those focus groups was to obtain a deeper understanding of workers perceptions on their working life. Focus groups targeted female workers and included 4 up to 14 participants. Each focus group had a duration of almost two hours and took place on the participants day off. Each focus group discussion was conducted by a moderator (an Ethiopian female master student fluent in Amharic and Oromo) and assisted by a researcher of X University. A range of themes were discussed related to working conditions, workers aspirations, workers needs and perceived ability to change working conditions. As new data emerged throughout the discussions, some themes were dropped while others were added. Focus groups were tape recorded and transcribed in English. For the purpose of this study, quantitative analysis of the survey data was adopted and the qualitative data enabled a deeper understanding and interpretation of the quantitative results found.

#### Measurement

Dependent variable There are two approaches to measure job satisfaction. Either use is made of a single item whereby individuals are asked to evaluate their overall job satisfaction by answering one single question, eg. how satisfied are you with your overall job, taking all facets into account? (Scarpello & Campbell, 1983; Sousa-Poza & Sousa-Poza, 2000; Wanous, Reichers, & Hudy, 1997), either job satisfaction is constructed as a sum of levels of satisfaction with specific job facets such as wage and autonomy (Kalleberg, 1977; Skalli, Theodossiou, & Vasileiou, 2008). Several authors (Highhouse & Becker, 1993; Linz & Semykina, 2012) have argued that a single concept of job satisfaction may be preferred over a constructed measure as overall job satisfaction is more than just a combination of multiple facets. At the same time single-item measures appear to be less likely influenced by temporal factors such as today's emotions linked to a particular job facet (eg. the evaluation of the job facet 'work load' may vary

as a deadline approaches). Following this reasoning, job satisfaction in this study was measured using a single-item measure. Respondents were asked to answer the question 'How satisfied are you with your overall job, considering all jobs facets?' on a five-point Likert scale (ranging from 'very dissatisfied' to 'very satisfied').

Independent variables To identify which job attributes contribute to job satisfaction, we included 12 aspects of work that can be aligned to the theoretical background of the two-factor theory of Herzberg et al. (1959). We relied on proven questions and scales for measuring workers' perceptions. The scales of individual variables for wage, job security, supervisory support, co-worker support, freedom at work, learning new skills and variation on the job were built on the work of Delobelle et al. (2011), HILDA survey (2012) and Mulinge and Mueller (1998). These work aspects were measured using multiple items where possible. Respondents were asked to rate each item on a five-point Likert scale. It is important to note that the evaluation of each item is based on self-perceptions. In other words, they do not represent objective properties of the worker, but shows how workers evaluate their wage level. It is important to take perceptions into account as these rather than objective measures are the ones that determine job satisfaction (Mottaz, 1985; Sousa-Poza & Sousa-Poza, 2000).

Based on the focus groups in which important work aspects of the floriculture sector were explored, three additional work aspects emerged and were included in the analysis. Workers indicated their monthly wage fluctuated as they sometimes received a bonus or sometimes experienced a reduction in wage. To receive a bonus, workers needed to have worked 26 days a month without having been late or absent. Our focus group participants also indicated they could receive a performance bonus when their personal targets were met, although targets were perceived to be set very high and few workers in our focus groups ever received this type of bonus. A wage reduction on the other hand, was experienced when workers had made a mistake, lost or broke equipment or in general just had a poor record system.

We expect that this bonus-penalties system may have an important impact on workers' wage level and on their levels of job satisfaction. We therefore included a question asking respondents whether they sometimes received a bonus and/ or sometimes experienced a reduction in wage (both dichotomous variables in the dataset). We also included the work aspect 'healthy environment' as workers appeared to be concerned about the negative impact the use of chemicals and pesticides on the farm may have on their health. This work aspect has been measured using a multiple item based on three questions which were rated on a five-point Likert scale. A final work aspect that has been included in the analysis is 'group cohesion'. This item is a dichotomous variable which reflects whether the respondent is a member of an organization within the farm. Appendix 1 gives a detailed overview of the different constructs for each work aspect.

*Control variables* Five personal characteristics possibly related to job satisfaction have been included and controlled for in this study. These characteristics include gender, age, educational level, living area (urban/rural) and work experience (see references above).

#### Data analysis

Descriptive analysis was used to explore our data and to gain insights on the general levels of job satisfaction and the levels of satisfaction with various aspects of the job. Gender and educational differences in job satisfaction and job rewards were compared by conducting Chisquare, independent sample t-tests and one way ANOVA tests.

Due to the ordinal nature of our dependent variable, an ordered probit model was used to determine the effects of both rewards and workers background characteristics on overall job satisfaction. This is a commonly used approach in job satisfaction research (Linz & Semykina, 2012; Litchfield, Reilly, & Veneziani, 2012; Sousa-Poza & Sousa-Poza, 2000). The basic structure of the model is as follows (Liu & Nunnenkamp, 2011; Violette et al., 2013):

$$\begin{split} \gamma_{i}^{*} &= X_{i}\beta + \ \epsilon_{i} \\ \gamma_{i} &= \begin{cases} 1 \text{ if } \gamma_{i}^{*} \leq \ \mu_{1} \\ 2 \text{ if } \mu_{1} &< \gamma_{i}^{*} \leq \ \mu_{2} \\ 3 \text{ if } \mu_{2} < \gamma_{i}^{*} \leq \ \mu_{3} \\ 4 \text{ if } \mu_{3} < \gamma_{i}^{*} \end{cases} \end{split}$$

. .\*

Where  $\gamma_i^*$  represents the latent cardinal valuation of job satisfaction of the ith worker, which is grouped into one of the four ordinal response options,  $\gamma_i$ , according to where  $\gamma_i^*$  falls relative to unobserved cut-points  $\mu_1 - \mu_3$ . X<sub>i</sub> is a vector of explanatory variables.  $\beta$  is a vector of parameters to be estimated and  $\varepsilon_i$  is the random error term.

We are particularly interested in finding the most significant determinants of job satisfaction. Therefore it should be noted that the probit models in our study are based on coefficients rather than on calculated marginal effects. This implies that positive signs for the estimated parameters  $\beta$  indicate higher levels of job satisfaction, while negative signs for  $\beta$ suggests the converse.

The full set of independent variables (X) include the following five subgroups:

$$X_{i} = (X_{i}^{orextr}, X_{i}^{socextr}, X_{i}^{intr}, X_{i}^{demo}, X_{i}^{firm})$$

Where  $X_i^{orextr}$  refers to the organizational extrinsic rewards,  $X_i^{socextr}$  to social extrinsic rewards,  $X_i^{intr}$  to intrinsic rewards,  $X_i^{demo}$  to demographic characteristics of the worker and  $X_i^{firm}$ to firm characteristics.

Our baseline model includes only the last two subgroups of independent variables to capture the general effects of demographic factors on job satisfaction, while controlling for firm characteristics. Subsequently we extend the baseline model by adding the intrinsic rewards and the organizational and social extrinsic rewards, first separately and then together.

In addition we estimate separate models for lower and higher educated workers in a bid to identify the (other) job and personal characteristics contributing to the differences in job satisfaction between these two groups. We also ran separate models for female and male workers to check if there are any differences in the type of job rewards and demographic factors that matter to explain job satisfaction among female and male workers.

#### 5. Results

Descriptive data are summarized in table 2. Respondents age ranges from 12 to 60 years old, and the mean age of the sample is 24 years old (SD= 8.5), however 69% of our respondents are 25 years or younger. Most workers did not receive any education at all or only some primary education (56%), another 39% have finished some secondary education, while only few enjoyed some higher education or formal training. This is in line of what can be expected as the jobs provided in the floriculture sector mainly consist out of routine, low skilled tasks for which no or only little education is required. Work experience also appears to be rather low. On average, respondents have worked on the farm for 18.5 months, however 67% of the respondents indicated to have less than one year of work experience on a respective farm. As mentioned in the methodology section, the male sample is overrepresented which was needed for analytical purposes to allow assessing the gender effects. Overall firms count more female workers.

In general, our respondents are not particularly satisfied with their jobs. In total, only 47% reported to be overall satisfied. This is much lower than what is generally found in other studies. For example, Sousa-Poza and Sousa-Poza (2000) compared job satisfaction levels over 21 western countries using a similar question and found very high job satisfaction levels among all countries, ranging from 67% of workers indicating to be fairly-to-completely satisfied in Hungary to 88% in Denmark.

With regard to separate job facets it is shown that social extrinsic rewards 'supervisory support' and 'co-worker support' are positively evaluated. The items 'wage' and 'healthy environment' however score low. Workers at the flower farms are less satisfied with their wage levels and also tend to perceive the working environment as unhealthy, unsafe.

Table 3 compares the job satisfaction levels for female and male workers as well as for different educational levels. There are no significant differences between female and male workers. Both appear to be equally satisfied. When comparing different educational levels, we notice an inverse relationship: the higher the educational level, the lower the levels of job satisfaction.

We were also interested in differences among satisfaction levels with separate job facets across gender and educational levels. Women are more likely to receive a bonus ( $X^2 = 4.51$ , n = 358, p < 0.05) and to experience a reduction of wage ( $X^2 = 7.04$ , n = 358, p < 0.01). Women are also more likely to be a member of an organization within the farm ( $X^2 = 19.21$ , n = 358, p < 0.001). Male workers tended to answer more often that there were no promotion possibilities on the farm ( $X^2 = 3.93$ , n = 358, p < 0.05). They also indicated to have more variation on their jobs (M = 3.45, SD = 1.41) than their female counterparts (M = 2.64, SD = 1.58). This difference was significant, t (267.89) = 5.48, p < 0.001.

With regard to the educational levels, a one way ANOVA showed that the highest educated workers perceived the working environment significantly less healthy (M = 2.27, SD = 1.15) than the lowest educated workers (M = 3.08, SD = 1.08) and those workers who had enjoyed secondary education (M = 2.87, SD = 1.16, F (2, 358) = 5.487, p = 0.004). There was also a significant difference between the perception on job security (F(2, 355) = 5.621, p < 0.05). A Tukey post-hoc test revealed that the lowest educated workers perceived job security more positively ( $3.59 \pm 1.20$ ) compared to the highest educated workers ( $2.89 \pm 1.11$ ). There were no significant differences between those workers who had enjoyed secondary education and the lowest educated (p = 0.395) or highest educated workers (p =0.124). The lowest educated workers ( $3.57 \pm 1.04$ ) (F(2, 355) = 3.174, p = 0.072). Also here no significant differences were found between those workers who had enjoyed secondary education and the lowest educated (p = 0.232) or highest educated workers (p =0.347).

	N° of items	Mean	Std. dev.
Dependent variable			
Job satisfaction (1-5)	1	3.36	1.31
Explanatory variables			
Organizational extrinsic rewards			
Wage satisfaction (1-5)	3	2.36	1.09
Job security (1-5)	2	3.48	1.23
Bonus (0-1)	1	0.50	0.50
Penalty (0-1)	1	0.52	0.50
Promotion possibilities: yes (0-1)	1	0.54	0.50
Promotion possibilities: no (0-1)	1	0.30	0.46
Promotion possibilities: I don't know	1	0.16	0.37
(0-1)			
Healthy environment (1-5)	3	2.95	1.13
Social extrinsic rewards			
Supervisory support (1-5)	3	3.97	0.99
Co-worker support (1-5)	3	4.07	0.97
Group cohesion (0-1)	3	0.37	0.48
Intrinsic reward			
Variation on the job	1	2.92	1.59
Freedom at work	1	3.65	1.39
Learning new skills	1	3.59	1.47
Control variables			
Gender (female =1; male =0)	1	0.66	0.47
Age	1	24.1	8.31
No or primary education (0-1)	1	0.55	0.50
Secondary education (0-1)	1	0.39	0.49
Higher education or formal training (0-	1	0.06	0.23
1)			
Location of living (0= rural; 1= urban)	1	0.81	0.39
Work experience (months)	1	18.5	24.9

 Table 2. Descriptive data for variables (n=358)
 1

	Very	Dissatisfied	Neither	Satisfied	Very	N° of
	dissatisfied		Nor		satisfied	observations
Total sample						
	13.1	10.1	29.3	22.6	24.9	358
Gender						
Female	13.5	8.4	32.9	19.0	26.2	237
Male	12.4	13.2	22.3	29.8	22.3	121
Education						
$\geq$ Primary	11.7	7.6	23.9	24.9	32.0	197
Secondary	14.3	10.0	35.7	21.4	18.6	140
Higher	19.0	33.3	38.1	9.5	0.0	21

 Table 3. Levels of job satisfaction (percentages)

The results of the ordered probit model are shown in table 4. With regard to the personal characteristics, the coefficients for the two educational levels (secondary and higher or formal training) are negative and significant at the .05 and .01 level respectively. This suggests that compared to workers who did not receive any education or only some primary education, these two groups tend to be less satisfied with their jobs. The coefficient for age is also significant and negative, while the coefficient for age<sup>2</sup> is significant and positive implying that the relationship between age and job satisfaction is U-shaped. This is consistent with previous research on age and job satisfaction (Andrew Clark et al., 1996).

Three of the organizational extrinsic rewards turn out to be statically significant predictors of job satisfaction (p < 0.01). These include wage, job security and healthy environment. Interestingly, social extrinsic rewards and intrinsic rewards are not shown to be significant determinants of workers' job satisfaction.

These results are robust over the different models. In model five and seven a dummy variable indicating whether or not the employee sometimes experienced a reduction of wage, is marginally significant. The coefficient is negative for all models. In models two and four, an affirmative answer on supervisory support seems to increase the probability on job satisfaction. Yet, the significant effect disappears when the model controls for organizational extrinsic rewards. Models three and four predict that freedom at work increases the probability of being satisfied with ones job as well as getting the possibility to learn new skills. Yet, these effects disappear when all rewards are controlled for. Noteworthy are also the signs of the different coefficients (model 8): except for group cohesion, all positive rewards (i.e. carrots) are contributing to a higher probability of job satisfaction. All sanctions (i.e. sticks), such as salary reductions, no promotion possibilities and not knowing if there are promotion possibilities get a negative sign. The model confirms the descriptive statistics that men and women are equally satisfied with their jobs. Yet, determinants of this job satisfaction may be different for men and women. This is checked in the models reported in table 5.

Table 5 presents the results of the separate models. It is shown that female and male workers have similar job needs. For both the organizational extrinsic rewards are the main determinants of job satisfaction. Within the organizational extrinsic rewards, we do notice some differences. Women tend to be less satisfied when they may face a reduction of wage (p < 0.1), while men's job satisfaction is lower when they don't know if there are any promotion possibilities compared to the group of men that do indicated there were promotion possibilities (p < 0.01). In addition, male workers who positively scored the variation in their job, tend to have lower job satisfaction levels (p < 0.01).

The determinants of job satisfaction among different educational levels do appear to be different. Little or no educated workers attach more importance to organizational extrinsic rewards and to the social extrinsic reward 'supervisory support' (p < 0.01) while for those who are higher educated only two rewards are positively and significantly contributing to job satisfaction. These are wage (p < 0.01) and healthy environment (p < 0.01).

	Coef.							
Extrinsic organizational reward	ls							
Wage satisfaction					0.390***	0.372***	0.387***	0.373***
Job security					0.181***	0.174***	0.163***	0.159***
Receiving a bonus					0.046	0.035	0.032	0.025
Receiving a reduction					-0.223*	-0.207	-0.215*	-0.202
No promotion possibility					-0.097	-0.082	059882	-0.048
I don't know promotion					-0.246	-0.243	-0.246	-0.244
pos								
Healthy environment					0.189***	0.182***	0.175***	0.171***
Extrinsic social rewards								
Supervisory support		0.192***		0.143**			0.073	0.069
Coworker support		0.145**		0.114*			0.075	0.070
Group cohesion		0.072		0.038			-0.087	-0.087
Intrinsic rewards								
Freedom at work			0.188***	0.156***		0.042		0.029
Learning new skills			0.086**	0.074*		0.015		0.016
Variation on the job			-0.008	-0.002		0.009		0.008
Controls								
Gender	-0.041	-0.050	-0.024	-0.025	-0.228*	-0.203	-0.191	-0.173
Age	-0.092**	-0.115***	-0.097**	-0.112***	-0.120***	-0.120***	-0.122***	-0.121***
Education_2	-0.340***	-0.327***	-0.333***	-0.325***	-0.324**	-0.320**	-0.323**	-0.320**
Education_3	-0.834***	-0.731***	-0.823***	-0.748***	-0.622***	-0.622***	-0.577***	-0.582***
Where do you live	-0.029	-0.048	0.007	-0.010	0.062	0.067	0.084	0.088
Work experience	0.002	0.002	-0.000	0.000	0.005*	0.004	0.006*	0.005*
Age <sup>2</sup>	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
Firm (yes/ dropped)								
Pseudo R <sup>2</sup>	0.0414	0.0601	0.0668	0.0768	0.1375	0.1386	0.1409	0.1415
Ν	358	358	358	358	358	358	358	358

### Table 4. Determinants of job satisfaction – ordered probit

	Total	Female	Male	No or junior primary education	Senior primary and higher
	Coef.	Coef.	Coef.	Coef.	Coef.
Extrinsic organizational rewards					
Wage satisfaction	0.373***	0.447***	0.247*	0.560***	0.333***
Job security	0.159***	0.151*	0.133	0.215	0.092
Receiving a bonus	0.025	-0.010	0.283	0.554*	-0.095
Receiving a reduction	-0.202	-0.277*	-0.352	-0.358	-0.003
No promotion possibility	-0.048	0.043	-0.107	-0.132	-0.069
I don't know promotion	-0.244	-0.091	-0.814***	-1.025***	-0.099
Healthy environment	0.171***	0.180**	0.333***	0.153	0.260***
Extrinsic social rewards					
Supervisory support	0.069	0.048	0.153	0.695***	0.033
Coworker support	0.070	0.041	0.163	-0.239	0.142
Group cohesion	-0.087	-0.110	0.233	0.366	-0.181
Intrinsic rewards					
Freedom at work	0.029	0.013	0.138	-0.137	0.045
Learning new skills	0.016	0.017	0.115	0.148	-0.003
Variation on the job	0.008	0.055	-0.246***	0.038	0.018
Controls					
Gender	-0.173			-0.856***	0.001
Age	-0.121***	-0.115**	-0.292*	-0.248***	-0.272***
Education_2	-0.320**	-0.291*	-0.723***		
Education_3	-0.582***	-0.625***	-0.630		
Where do you live	0.088	0.354	-0.292	-0.527	0.085
Work experience	0.005*	0.008**	-0.010	0.010	0.004
Age <sup>2</sup>	0.002***	0.002**	0.006**	0.003***	0.005***
Firms (yes/ dropped)					
Pseudo R <sup>2</sup>	0.1415	0.1444	0.2257	0.2776	0.1336
Ν	358	237	121	85	273

## Table 5. Determinants of job satisfaction by gender and educational levels – ordered probit

#### 6. Discussion and conclusion

The objective of this paper was to analyze the determinants of job satisfaction in the floriculture sector in Ethiopia. We applied ordered probit models to estimate the relative importance of both demographic and environmental factors on the scores workers gave on job satisfaction. With regard to the demographic factors, our results suggest that age and educational level are important predictors of job satisfaction. Environmental factors explaining a higher job satisfaction include positive perceptions on wage, job security and healthy environment. All of these job facets are considered to be organizational extrinsic rewards. In the following section these results will be discussed in light of relevant literature and interpretation of qualitative data collected through the focus groups.

The relationship between age and job satisfaction seems to be U-shaped. Youngest and oldest employees are more likely to be satisfied with their jobs. This result is consistent with previous findings (Andrew Clark et al., 1996). Higher levels of job satisfaction among the youngest workers may be explained by the fact that for most of these young employees working in the floriculture sector is a first work experience. In this stage they may not have enough information to compare their job in relation to other jobs. Because of the novelty of their situation they may first enjoy their job, but in a later stage they may discover that their expectations were too optimistic which would explain the downward slope of the U-shaped relationship. The rise in job satisfaction at an older age, the upward sloping part of the U-shape, could be the result of reduced aspirations. Throughout the focus group discussions participants mentioned that one of the advantages of working in the floriculture sector was that there was no age boundary for new employees. Older workers appear to have few alternative job opportunities in the area other than working in the floriculture sector which may explain their higher levels of job satisfaction.

Our results show that there is a negative relationship between educational level and job satisfaction. This is in line with previous studies conducted in western contexts that found that job satisfaction is higher among those individuals who or either under- nor over-educated for the job (Allen & De Weert, 2007; Peiró et al., 2010). While most jobs provided in the floriculture sector are low-skilled of nature, and thus don't require any educational background of the worker, the sector does attract both skilled and unskilled workers. We reason that workers with higher educational levels are less satisfied with their job as these occupations are below their expectations. Throughout the focus group discussions it emerged that most participants aspired a job that paid better and was in a working environment free of any use of pesticides or chemicals. The general sentiment was that those jobs are only reserved for those who have enjoyed education. It is therefore possible that higher educated workers when comparing themselves with peers may feel deprived especially when it comes to these two working attributes wage and healthy environment.

With regard to environmental factors, job satisfaction is almost exclusively explained by organizational extrinsic rewards. The perception on wage appeared to be the most powerful determinant of job satisfaction. As Abdulla et al. (2011) phrased remunerations can mean different things in different contexts. For some it may be a source of recognition, for others it may mean security. We reason that workers in the flower sector put so much emphasis on wage because of its large impact on their living standards. The sector provides minimum wages

situated somewhere around the poverty line of 1 dollar a day. A loss in this income stream would be devastating for many of these households.

In line with this reasoning, it also makes sense that job security was found to be an important predictor of job satisfaction. Job insecurity, meaning that workers have the perception that there is a potential threat for continuity, is shown to be an important cause of stress (Heaney, Israel, & House, 1994). For this reason, job security has been found to be one of the work facets most often predicting job satisfaction (Aletraris, 2010; Andrew Clark, 2001). Workers in the floriculture sector may lack alternative job opportunities, therefore a perceived risk of losing their job may even take a greater toll than if alternative jobs would be available.

A last job attribute significantly contributing to job satisfaction is a positive perception of the healthy environment. This does not come as a surprise as a major concern raised by workers was the potential health hazard they might face due to being exposed to chemicals. Frequently mentioned health problems included skin irritation, headaches and respiratory problems. Focus group participants narrated that female workers feared not being able to get pregnant if they worked in greenhouses for too long periods and that they had seen male workers fainting while they were spraying. Our model results confirm that the perception of the healthy environment is an important contributor to job satisfaction. Interestingly, this perception does not play for very low and non-educated personnel whose job satisfaction seems to be mainly determined by remunerations and supervisory support.

Interestingly, our results on the importance of social extrinsic rewards and intrinsic rewards are not robust enough to consider these as predictors of job satisfaction in our case study. Previous studies focusing on the relative importance of intrinsic and extrinsic rewards have found that workers at lower occupational levels put higher emphasis on extrinsic rewards, while workers at higher occupational levels attach more importance to intrinsic rewards. One explanation for this is that most workers at lower occupational levels have a more instrumental orientation towards work in that sense that work is simply seen as a way to earn a living rather than a central life interest (Centers & Bugental, 1966; Mottaz, 1985; Rose, 2003). Following Maslow's Hierarchy of Needs, extrinsic factors are related to the basic needs. We argue that a main concern of workers in the floriculture sector is to provide for these basic needs. Even though intrinsic rewards are scored positive by workers, they do not contribute to job satisfaction as such. According to Maslow, intrinsic rewards are linked with higher order needs such as self esteem and self actualization and are only pursued once the basic needs are fulfilled.

Finally, our results should be viewed in light of our study limitations. Face-to-face interviews always involve some risk of social desirability bias (Bowling, 2005). This refers to the tendency of respondents to answer questions in a socially acceptable direction, resulting in an over-reporting of desirable behaviors and an under-reporting of undesirable behaviors (Grimm, 2010). For instance, some workers may have been reluctant to say that they were dissatisfied with different aspects of their work. In our study we have tried to minimize this response bias by assuring anonymity, by using multiple scales and by randomly ordering items. Another limitation of our study is the degree of sample selection bias. We conducted our surveys in the period June-July, when it is plowing season in Ethiopia. During this season especially male workers leave the flower farm to work either on their own plot or that of a relative. At the same time many students are attracted to come and work on the farm during their holidays. These workers will leave as soon as school starts again. To end, this season is also characterized by a low demand of flowers in northern countries which means that workers don't have to make overtime or are under a lot of

pressure to perform, which is the case in other months. It would therefore be interesting to repeat this study for instance in February when production of flowers peaks and rural employees have returned from their fields and started working in the flower farms again.

#### 7. Implications

This study deepens our understanding of the determinants of job satisfaction in the floriculture sector in Ethiopia and contributes to the job satisfaction literature by extending our knowledge to a context which has previously not been considered. Hence, our findings provide implications for research, business and policy making.

With regard to research implications, our results show that job satisfaction was higher when employees positively evaluated their organizational extrinsic rewards. In contrast to previous western findings social extrinsic and intrinsic rewards had little effects on job satisfaction. This stresses again the importance of taking into account cultural and economic contexts. Therefore, in our opinion, It would be interesting for future research to investigate the determinants of job satisfaction for workers in this sector located in other countries. Do workers in flower producing countries such as neighboring country Kenya or Colombia, Ecuador have similar levels of job satisfaction and are the determinants similar or do they differ across these countries? At the same time, we recognize that Africa certainly is not one monolithic bloc. Other African countries and sectors need to be investigated too. For long time, research attention on job satisfaction has largely escaped this continent. As Africa becomes more and more interconnected to the globalized world and other sectors find their way to this continent, further research on this matter is needed.

Moreover, we argue that subjective measures like job satisfaction merit academic attention as they affect workers' behavior and thus have important social implications. However, we underline that job satisfaction is disconnected from job quality. Even in objectively measured poor jobs, there will be job satisfaction reported. We therefore need to have a better understanding of why workers report job satisfaction. Brown et al. (2012, p. 1012) phrases this as follows: 'is it because a full range of work-related needs are being met, or it is because workers' norms and expectations have adjusted to accommodate a situation in which a full range of needs cannot be met?'. Hence, job satisfaction is not only the product of job characteristics and individual characteristics, but also depends on the norms and expectations workers have. These norms and expectations are not fixed. They result from social processes and may rapidly change in response to changes inside as well as outside the workplace (Brown et al., 2012). Further research using qualitative analysis is needed to incorporate these workers norms and expectations as to better understand the rationale behind workers responses.

In terms of managerial implications, an important issue that needs addressing is the low levels of job satisfaction found among workers in the floriculture sector in Ethiopia. Although it is beyond the scope of this study to examine the consequences of these low job satisfaction levels on work performance, previous studies have suggested that low levels of job satisfaction result in negative workplace behaviors, higher absenteeism rates and higher labor turnover rates (Brown et al., 2012; Linz & Semykina, 2012). To avoid negative behaviors, HR policies are needed to improve those aspects in a job considered to be important predictors of job satisfaction but that are currently not positively evaluated. Our findings reveal that the organizational extrinsic rewards wage, job security and healthy environment are the most important determinants. These three rewards have in common that they are negatively scored compared to other work aspects.

Although our results seem very straightforward, we do recognize it to be very challenging to make improvements in these three working attributes at firm level. Improvements will require not only good management practices, but also assistance of other actors situated at the end of the value chain, it is the buyers of roses –both western retailers as consumers. This because low satisfaction levels with wages and job security originate from the current production dynamics at play in a buyer-driven supply chain. The power of decision-making regarding purchases and pricing practices is found at the level of buyers. As long as these buyers are pushing down prices and confirm the size of an order until the day of delivery, it is hard to meet workers' needs by giving them long-term contracts and living wages (Hale & Opondo, 2005). Thus, HR management alone will not be able to provide for these needs. It will require joint action of all actors involved in the chain.

In terms of policy making implications, our results indicate the need to take into account a more holistic approach to development that is not strictly defined in terms of national income or economic growth. An institutional framework that facilitates the creation of a working environment in which workers can be satisfied should be considered as satisfied workers may have indirect and positive effects on society at large. A recent paper of Riisgaard and Gibbon (2014) found positive changes in the Kenyan floriculture sector with regard to job security and wage levels, two working attributes identified in this study as major determinants of job satisfaction. The evolution towards more secure job contracts and wage in Kenya were contributed in the study to a stabilized market and to efforts made by civil society organizations, both at the national and international level. Important lessons could be drawn from the experience of neighboring producer Kenya, especially when it comes to government support for strengthening workers rights as made possible by the revision of the Kenyan labor law in 2007 (implemented in 2010) and the tripartite institutional system which facilitates collective bargaining agreements (CBAs) and gives labor unions greater influence in promoting workers concerns.

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