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# **Enhancing Quality of Life Through Foreign Direct Investment in Northern Mozambique**

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## **Abstract**

Foreign Direct Investment (FDI) has the potential to increase economic activity and improve GDP growth in low-income countries, but can hinder economic development (quality of life improvements) if not sustainable and holistic in manner. Africa serves as a host to many cases of FDI focused on economic growth, but not necessarily improving the quality of life for its citizens. FDI has spread throughout the African continent, where many countries are well endowed with natural resources, like minerals and coal. These economies have experienced rapid GDP growth with few benefits reaching citizens of the host country. Mozambique is a low-income country in Africa with rampant food insecurity, significant health issues, and a struggling economy. Mozambique is rich in coal reserves, leading to increases in mining financed through FDI. Resource extraction in Mozambique has resulted in one of the fastest growing economies in the world, but economic development has remained stagnant. New Horizons is a large-scale poultry operation in the city of Nampula, Mozambique that was founded with a mission of increasing access to protein products in the region and creating employment opportunities. New Horizons strives to operate a sustainable business that contributes to both economic growth and development in Nampula. The objective of this study was to implement a survey of New Horizons employees to determine how employment at a holistic FDI venture was associated with economic growth (increased income) and economic development (improvements in quality of life). This survey assessed indicators of quality of life such as improvements to housing, updated modes of transportation, increased likelihood of sending children to school, and ability to support additional household members after employment. The results indicate that employees were both able to increase their revenue and improve the quality of life of themselves and their families. Results from this study will be utilized by leadership at New Horizons to assess their impact on

the lives of their employees. Additionally, this study could serve as a case study of a unique example of FDI that focuses on both profitability and development that can be evaluated by developmental agencies, local or national governments, and other non-governmental organizations.

## **Introduction and Literature Review**

As globalization has expanded, Foreign Direct Investment (FDI) in low-income countries has led to increased Gross Domestic Product (GDP) growth. Low-income countries, or those with a per capita Gross National Income (GNI) below the 2018 World Bank standard of \$1,005, are attractive for potential FDI due to relatively low wage rates and relaxed environmental standards (OECD, 2002). While FDI has the potential to increase overall GDP and stimulate economic activity, FDI can hinder current and future economic development if not conducted in a holistic manner (Awolusi & Adeyeye, 2016). FDI accelerates growth by potentially creating jobs, improving trade, increasing capital, and opening a country to new technology; however, Awolusi and Adeyeye (2016) note that despite these positive effects, many foreign business ventures utilize FDI to increase their own profitability with most revenue flowing out of the host country and back into multinational firms.

Increased economic growth through FDI does not necessarily correlate to an improvement in development or increased quality of life for citizens of the host country. While on paper a country appears to be “growing”, they are selling their resources, usually minerals or oil, to a third party who is unlikely to reinvest profits back into the host country or concern themselves with the wellbeing of the host country’s citizens. Economic growth (an increase in GDP) can be mutually exclusive from economic development (improving quality of life) and in this sense; the host country can become wealthier (from a per capita GDP standpoint) through the injection of FDI, but the quality of life of the citizens in the host country can remain stagnant if the revenue from the FDI is siphoned out of the host country. The increase in wealth (per capita GDP of the host country) can be misleading when the real economic benefits are concentrated in the hands of a few wealthy individuals with rapid capital flight. This divergence

between economic growth and development can lead to positive financial investments that are not productive to an improvement in overall wellbeing of the citizens in a host country.

Some form of FDI has reached most of the African continent, specifically in areas with natural resources like minerals and oil. Most cases of FDI in African economies are not joint ventures which seek to maximize the quality of life for citizens of the host country (Owusu-Sekyere et al., 2014). Often referred to as Dutch Disease, the inflow of foreign investment into one sector of an economy can lead to currency appreciation, decreasing export competitiveness and a decline in production (Owusu-Sekyere et al., 2014). As money is poured into the host country to extract natural resources, other sectors of the economy are neglected by the host government. When the natural resource is depleted, or cost of extraction exceeds profitability, the FDI will withdraw from the country, resulting in little to show in terms of economic improvement as all funds were diverted to the mineral extraction sector. These adverse effects of FDI on the host country are often overlooked.

Foreign inflows to low-income countries totaled 1.4 billion US dollars in 1980 (Owusu-Sekyere et al., 2014). This number grew to about 59 billion US dollars by 2016, demonstrating a positive trend for FDI (United Nations Conference on Trade and, D., 2017). Examples of FDI in Sub-Saharan Africa are becoming increasingly common. China has invested in Angola for their oil resources, providing financing for necessary reconstruction following the Angolan civil war (Hylton, 2017). Angola was more than \$10 million in debt after the war, and IMF loans provided heavy conditions that FDI does not require (Hylton, 2017). Some hypothesize that these loans (FDI) are really a payment to the Angolan government for oil rights with no emphasis on development through oil investments (Carmody, 2011). Hylton (2017) concludes that Chinese

investment in Angola proves that economic development is not comprehensive development. In other words, growth and development can be mutually exclusive.

In the Democratic Republic of Congo (DRC), mining makes up 12% of the overall GDP and has assisted the country in progressing through the demographic transition model, increasing the annual GDP by 5-6% each year (Oxford Policy Management, 2013). As a result, FDI has increased substantially, totaling \$7 billion, with an estimated 60-80% of all FDI in the mining industry (Oxford Policy Management, 2013). Investors have targeted these countries primarily for their rich natural resource reserves and large labor forces. The DRC has an estimated \$24 trillion worth of minerals in its territory, yet remains one of the most destitute places in the world, with one out of seven children dying before the age of five (Kelly, 2016). Amnesty International discovered that traces of cobalt (DRC produces 80% of the global cobalt supply) used in Apple and Microsoft products were mined from DRC with labor from children as young as seven years old (Kelly, 2016). UNICEF found that there were over 40,000 children working in cobalt mines, all of which were mining a product bound for export and many of which were funded through FDI (Walther, 2012). While GDP in the DRC may be growing, it could be at the expense of human rights and economic development.

Mozambique is a low-income country on the eastern coast of Africa with 46.1% of the population below the poverty line and an economy centered on subsistence agriculture and an emerging mining industry (CIA Factbook, 2018). Mozambique has endured two major conflicts: a revolution against the Portuguese colonial power from 1960-1974 and a civil war from 1988-1992 (United Nations Conference on Trade and Development, 2010). Economic growth and subsistence level food production in Mozambique has struggled to rebound following decades of destructive conflict and poor governance. Although the majority of both civil conflicts occurred

in the central and southern region of Mozambique, the impact of the conflict reached the entire country. Both wars lead to weakened infrastructure and an economic downturn; the annual GDP growth rate from 1980-1989 dropped from 3.6 percent to -1.5 percent annually (United Nations Conference on Trade and Development, 2010). As a result of economic decline from the civil war, the country entered a structural-adjustment program with the IMF, which further hindered development by making debt repayment more difficult for the Mozambican government (Bozzoli & Bruck, 2009).

Mozambique is struggling to complete the demographic transition today with a population of approximately 25 million and a relatively high fertility rate of 5.3 (Unicef, 2013). The average age of mothers giving birth is 18.9 years and the total infant mortality rate stands at 65.9 deaths per 1,000 births (CIA Factbook, 2018). Basic health needs are typically not met for the poorest citizens and the average life expectancy is 45 years, which is indicative of poor nutrition, lack of adequate healthcare services, and presence of infectious diseases (Pereis, 2008). Mozambique is overwhelmed with serious health issues, including high rates of malaria and HIV/AIDS and low access to hospitals and medical professionals, specifically in rural regions of the country. Unicef (2013) data shows that 11.1% of adults in Mozambique are living with HIV and 740,000 children are currently orphaned due to AIDS.

One of the most important industries in Mozambique is agriculture, with 81% of the total labor force employed in the agricultural sector (CIA Factbook, 2018). Of the most disadvantaged Mozambicans, 83% reside in rural regions and 71% of rural citizens are classified as poor (Bozzoli & Bruck, 2009). Other social factors that contribute to slowed economic growth are low educational enrollment and attendance and lack of resources and opportunities for women. It is estimated that 46% of the population of Mozambique live under the poverty line, and those



numbers are likely higher in the arid Northern region of the country (CIA Factbook, 2018).

About 77% of children attend primary school, but only 60% will continue to be enrolled through the last grade; adolescent literacy rates stand at approximately 80% for males, but only 57% for females (Unicef, 2013).

Mozambique is well endowed with natural resources, including coal, which has led to large amounts of mining and FDI in the Tete region. In 2016, hundreds of trains departed from the coal mining regions of Mozambique to Nacala (the main port in the north) which then exported to India, Japan and Brazil (Chissano, 2016). According to data from the Mozambican government's mining registry in October 2012, the government has approved at least 245 mining concessions and exploration licenses in the Tete province, covering approximately 34 percent of its area. The government sold this land while Mozambicans were still living on it, causing widespread forced resettlement. Thousands of Mozambicans have relocated because of mining and been forced to resettle on land not fit for agricultural production. Resettled people have no choice but to move from the fertile banks of the Revuboe River at Capanga, to Mualadzi, a remote location with poor soil quality and an insecure supply of water for personal and agricultural use (Lillywhite et al., 2015). As a result, food security remains an immediate and ongoing challenge. Additionally, lack of transportation and poor infrastructure has reduced access to employment and other economic opportunities (Lillywhite et al. 2015). This forced resettlement has benefited the GDP of Mozambique overall, but increased hardship faced by citizens struggling to feed their families.

During the post-civil war era, Mozambique endured rapid economic and political restructuring which resulted in a structural adjustment agreement with the IMF supported by the World Bank and a newly developed Constitution, which permits foreign investment in all

economic sectors in Article 45 (United Nations Conference on Trade and Development, 2010). The adoption of the new Constitution was followed by laws that focused on increasing the appeal for foreign companies to invest in Mozambique, creating a pro-FDI environment. Much of the FDI that has come to Mozambique has been related to natural resource extraction, but the government has had difficulty collecting revenue from these activities due to the relaxed tax laws put in place to attract FDI (United Nations Conference on Trade and Development, 2010). Two major FDI projects, the Mozal aluminum smelter and the Tamane gas project, accounted for 60% of all FDI in Mozambique in 2007, and FDI inflows averaged to \$215 million dollars per year in the mid-2000s (United Nations Conference on Trade and Development, 2010).

Mozambique's endowment of natural resources and FDI focused on resource extraction has resulted in one of the world's fastest growing GDPs. It is estimated that in 2013, 2014, 2015 and 2016, the real GDP growth rate in Mozambique was 7.1, 7.4, 6.6 and 3.8%, respectively. These economic growth rates are some of the highest in the world over the same period. However, a World Bank report showed that for every percentage point of economic growth in Mozambique, poverty fell by only 0.26 percentage points in the country, roughly half of what is observed in the sub-Saharan Africa region (World Bank, 2016). In the 2016 World Bank report, Mark Lundell, the World Bank director for Mozambique stated:

*"The robust growth that the country (Mozambique) has seen in recent times has mainly benefited the non-poor, signaling a weak inclusion in the country's economic growth model. The country needs to focus on public policies and investments geared towards social and economic inclusion."*

It appears that most of the economic growth has gone to the Mozambican elite or has been siphoned out of the country via FDI. The poverty rates in Nampula and Zambezia provinces, the two poorest in the country, have increased from 2003-2009 (World Bank Group, 2016). The World Bank (2016) study showed that in Nampula province, the growth elasticity of poverty

reduction (GERP), a measure to gage the ability of a country/region to convert economic expansion (GDP growth) into poverty reduction, is exceptionally low, even with respect to other provinces in Mozambique. Increases in GDP do not necessarily equate to a higher quality of life for citizens of Mozambique.

Andrew Cunningham, a native of Zimbabwe, started a FDI poultry operation in Nampula, Mozambique called New Horizons in 2005. The company is for-profit and seeks to increase poultry production and has become one of the largest employers in Nampula city, the third largest city in Mozambique.<sup>1</sup> Currently, New Horizons operates through an employee program as well as an outgrower program with around 340 employees total (Hansen, 2016). Outgrowers are screened and selected from local communities and provide chicken houses for production, with the opportunity to build additions to their structure to accommodate more birds over time and increase their income as their poultry skills improve. New Horizons employees may be assigned tasks like delivering feed and supplies, construction, chick management, and packaging (Hansen, 2016). Cunningham has designed his business to be “sustainable and promote economic activity and holistic protein production” in the region. Many employees and outgrowers claim that employment at New Horizons has had a positive impact on their quality of life and wellbeing of their families as well as increase their total household income (Hansen, 2016). Although a form of FDI, New Horizons is unique because the organization is led by business-minded individuals who promote sustainable development of economic, social, and spiritual aspects of the individual employee, his/her family, and the community (VerSteeg, 2010). Training sessions that focus on using the guiding principles of the company to guide financial responsibility, family commitments, and health and hygiene are held one Saturday a month for the employees of New

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<sup>1</sup> Nampula is a city within Nampula Province

Horizons (A. Cunningham, personal communication, May 28, 2015). Personal growth, family commitments, and a healthy self-awareness all fall under the second priority for training sessions, as New Horizons seeks to provide support for a healthy home and family life, especially while undergoing the change in quality of life that results from employment (A. Davidson, personal communication, April 11, 2015).

New Horizons provides a unique case study of FDI because one of their stated goals is to improve quality of life (economic development) as well as increase financial stability of employees (economic growth). Leaders at New Horizons focus on financial responsibility training to teach employees to use income to make sustainable improvements in their quality of life and not waste money on unnecessary items, such as of alcohol, leaving the family in the same poverty state prior to employment (A. Cunningham, personal communication, May 28, 2015). The purpose of this study is to assess the economic growth and developmental impact that New Horizons has made on their employees and isolate the effects on the quality of life for New Horizons employees. A survey was implemented to New Horizons employees during the summer of 2016 using the offline version of the Qualtrics software inquiring how their lives have changed both from an economic growth and an economic development standpoint since being employed at New Horizons. Results from this study can give development agencies, NGOs, local and federal governments and potential FDIs and insight to strategies to improve employees' quality of life as well as financial wellbeing, which often are not evaluated simultaneously.

## **Methods**

A survey was implemented to New Horizons employees during the summer of 2016 using Qualtrics software. The survey was delivered by a team of four University of Arkansas undergraduate students on iPads from May to June 2016 in Nampula and surrounding areas using a translator. The official language of Mozambique is Portuguese, but many rural villagers speak a local dialect called Makhuwa, which sometimes required an additional translator. The team collected 125 responses over the course of three weeks from New Horizons employees and poultry outgrowers. All questions on the survey were developed to gather information regarding improvements in quality of life, income and financial stability, food security, and health issues since the employee started working at New Horizons. The survey was administered over the course of three weeks throughout the Nampula region to 125 participants total.

The objective of this survey is to assess if employment via an FDI (New Horizons) associated with increasing income (economic growth) and quality of life improved (economic development) based on the number of years of employment, defined as:

- 1) Increased confidence in ability to provide for their family
- 2) Ability for employee to support additional people in their house
- 3) Increased likelihood of sending children to school
- 4) Increased likelihood of improving their living conditions
- 5) Increased likelihood of improving their mode of transportation

These questions were selected to gather information on specific issues facing the general population of Northern Mozambique. Literacy rates in Nampula province were estimated to be 44% in 2014/2015, the second lowest of the 11 provinces in the country (UNESCO, 2015). If the

discrepancy between males and female literacy rates are equivalent to the country as a whole, this would imply male literacy rates in Nampula would be approximately 54.85%, while female literacy rates would be only 33.97%. Improvements in education are not only beneficial for the NPV earnings of the younger population, but can also help reduce the large gender bias in education helping economic development. Increasing quality of living conditions is also a priority in Mozambique, where 37% of the rural population have improved drinking water and 10% have improved sanitation conditions (CIA Factbook, 2016). Many people in rural Northern Mozambique still use straw to thatch their roofs; while this is sufficient in the dry season, this provides little protection from water during the rainy season. One of the first improvements Mozambicans make to their home once they have steady income is to replace their straw roof with a corrugated tin roof. This may not increase their income but does increase their quality of life. While some Mozambicans have bicycles, most employees at New Horizons walk to work from near and distant villages and have no choice but to make the journey on foot. In previous surveys of New Horizons employees, respondents stated that if they could have better transportation, they could spend more time with their families, but instead they must leave earlier in the morning and return later at night due to the fact they often must walk (A. Davidson, personal communication, April 11, 2015). This opportunity cost of time is yet another way FDI can improve quality of life as well as increase incomes.

Survey questions (found in Appendix 1) were targeted at gathering data about indicators of quality of life of employees before and after working for New Horizons. The subjects of questions included their housing and transportation situations, information on members of their households, health of their families, financial stability, and food security. The survey in its entirety can be found in Appendix 1.

The equation used for all logit models is as follows:

$$P(Y=1|x) = \frac{\exp^{\beta x}}{1 + \exp^{\beta x}} - 1$$

Where  $\beta$  is a  $1 \times k$  vector of parameters and  $x$  is  $k \times 1$  vector of independent variables (Rodriguez, 2007). The units of  $\beta$  are difficult to interpret. Consequently, marginal effects are computed that give the change in the probability for a one-unit increase of an independent variable (Greene, 2012).

#### **Independent Variables (x) for Logit Models (Tables 1-5)**

<b><u>Model #</u></b>	<b><u>Dependent Variable</u></b>	<b><u>Independent Variables</u></b>	<b><u>Variable Names</u></b>
<b>Model 1</b>	<b>Confidence in Ability to Provide for Family</b>	<b>Years at New Horizons</b>	<b><i>YEARSNH</i></b>
<b>Model 2</b>	<b>Ability to Support More People</b>	<b>Years at New Horizons</b>	<b><i>YEARSNH</i></b>
<b>Model 3</b>	<b>Improved House</b>	<b>Years at New Horizons</b>	<b><i>YEARSNH</i></b>
		<b>Number of People in Household</b>	<b><i>NUMPEOPHOUS</i></b>
<b>Model 4</b>	<b>Likelihood of Sending Children to School</b>	<b>Years at New Horizons</b>	<b><i>YEARSNH</i></b>
		<b>Number of Children</b>	<b><i>CHILDREN</i></b>
<b>Model 5</b>	<b>Improved Transportation</b>	<b>Years at New Horizons</b>	<b><i>YEARSNH</i></b>

## Results

**Table 1: Estimated Logit Coefficients for Increased Confidence in Providing for Family After Starting Employment at New Horizons**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.604626	0.382571	1.580428	0.1140
YEARSNH	0.128507	0.088743	1.448078	0.1476
McFadden R-squared	0.022942	Mean dependent var		0.744444
S.D. dependent var	0.438617	S.E. of regression		0.435569
Akaike info criterion	1.155079	Sum squared resid		16.69542
Schwarz criterion	1.210630	Log likelihood		-49.97856
Hannan-Quinn criter.	1.177481	Deviance		99.95712
Restr. deviance	102.3042	Restr. log likelihood		-51.15210
LR statistic	2.347076	Avg. log likelihood		-0.555317
Prob(LR statistic)	0.125518			
Obs with Dep=0	23	Total obs		90
Obs with Dep=1	67			

The results of Table 1 estimated the increased probability of feeling more confident to provide for your family after starting employment at New Horizons. Model 1 is a partial sample model that measures the responses from 90 participants. This subset of employees stated in their survey response that they did not feel confident in their ability to provide for their family prior to employment at New Horizons. Thirty-five employees who self-reported that they could sufficiently provide for their families before working at New Horizons were eliminated from the sample group for this model. Years at New Horizons was found to be insignificant ( $P > .10$ ) with regards to increasing or decreasing an employee's ability to provide for one's family after working at New Horizons (Table 1). This would imply that additional years at New Horizons did not increase or decrease one's ability to provide for one's family.



**Table 2: Estimated Logit Coefficients for Ability for Employees to Support More People After Starting Employment with New Horizons**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.044261	0.105759	9.873930	0.0000
YEARNH	0.039586	0.021418	1.848216	0.0646
Mixture Parameter				
SHAPE:C(3)	-1.485162	0.320130	-4.639239	0.0000
R-squared	0.023203	Mean dependent var		3.312000
Adjusted R-squared	0.015262	S.D. dependent var		2.424392
S.E. of regression	2.405821	Akaike info criterion		4.428795
Sum squared resid	711.9207	Schwarz criterion		4.496674
Log likelihood	-273.7997	Hannan-Quinn criter.		4.456371
Restr. log likelihood	-287.3526	LR statistic		27.10579
Avg. log likelihood	-2.190397	Prob(LR statistic)		0.000001

When analyzing if employees were able to support more people in their household after working at New Horizons, the entire sample size (125) was utilized. This measures an increase in household members following employment at New Horizons; it is common in Sub-Saharan Africa to take in more extended family members or friends when someone obtains a formal job or revenue stream. Several models were run using independent variables such as whether the respondent was an outgrower (meaning worked for New Horizons off-site of the main farm location), number of household members, and location (Nampula or Rapale villages). Rapale, although closer to the farm, is a smaller and less affluent town than the larger and wealthier town of Nampula. All variables besides years at New Horizons were insignificant and Table 2 illustrates the results of the preferred logit model. We found marginal significance ( $p < 0.10$ ) for years working at New Horizons. Additionally, the effect was positive so as years working for New Horizons increased, so did the ability to support more people.

**Table 3: Estimated Logit Coefficients for the Ability to Improve your House After Starting to Work with New Horizons**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.605649	0.576990	-1.049669	0.2939
YEARSNH	0.439947	0.103975	4.231263	0.0000
NUMPEOPHOUS	-0.031193	0.082797	-0.376741	0.7064
McFadden R-squared	0.165825	Mean dependent var		0.640000
S.D. dependent var	0.481932	S.E. of regression		0.427635
Akaike info criterion	1.138130	Sum squared resid		22.31036
Schwarz criterion	1.206009	Log likelihood		-68.13311
Hannan-Quinn criter.	1.165706	Deviance		136.2662
Restr. deviance	163.3545	Restr. log likelihood		-81.67727
LR statistic	27.08833	Avg. log likelihood		-0.545065
Prob(LR statistic)	0.000001			
Obs with Dep=0	45	Total obs		125
Obs with Dep=1	80			

**Table 4: Estimated Logit Coefficients for Increased Likelihood of Sending Children to School After Starting to Work for New Horizons**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.790415	0.509278	1.552030	0.1207
CHILDREN	0.045003	0.111376	0.404069	0.6862
YEARSNH	0.361553	0.149101	2.424883	0.0153
McFadden R-squared	0.094060	Mean dependent var		0.872000
S.D. dependent var	0.335434	S.E. of regression		0.326200
Akaike info criterion	0.741166	Sum squared resid		12.98157
Schwarz criterion	0.809045	Log likelihood		-43.32286
Hannan-Quinn criter.	0.768742	Deviance		86.64572
Restr. deviance	95.64176	Restr. log likelihood		-47.82088
LR statistic	8.996039	Avg. log likelihood		-0.346583
Prob(LR statistic)	0.011131			
Obs with Dep=0	16	Total obs		125
Obs with Dep=1	109			

**Table 5: Estimated Logit Coefficients for Increased Likelihood for Updating Mode of Transportation After Beginning work at New Horizons**

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.705924	0.351344	-4.855429	0.0000
YEARSNH	0.230417	0.069332	3.323403	0.0009
McFadden R-squared	0.080987	Mean dependent var		0.312000
S.D. dependent var	0.465174	S.E. of regression		0.443005
Akaike info criterion	1.172847	Sum squared resid		24.13922
Schwarz criterion	1.218100	Log likelihood		-71.30292
Hannan-Quinn criter.	1.191231	Deviance		142.6058
Restr. deviance	155.1729	Restr. log likelihood		-77.58645
LR statistic	12.56705	Avg. log likelihood		-0.570423
Prob(LR statistic)	0.000393			
Obs with Dep=0	86	Total obs		125
Obs with Dep=1	39			

The final three models (Table 3, Table 4, Table 5) includes the entire sample (125 responses) and estimate the employees' probability that employees would improve their home, send their children to school, and change their mode of transportation as a function of the number years they have been employed at New Horizons. The results indicate that employment at New Horizons resulted in a significantly ( $P < .05$ ) increased probability of improving their house (Table 3), sending their children to school (Table 4), and updating their mode of transportation (Table 5). All three models were associated with positive coefficients for the independent variable "Years at New Horizons". We can infer that the longer people work at New Horizons, the more likely they are to improve these three factors.

**Figure 1: Increased Probability of Increasing Quality of Life Factors based on Time of Employment at New Horizons.**

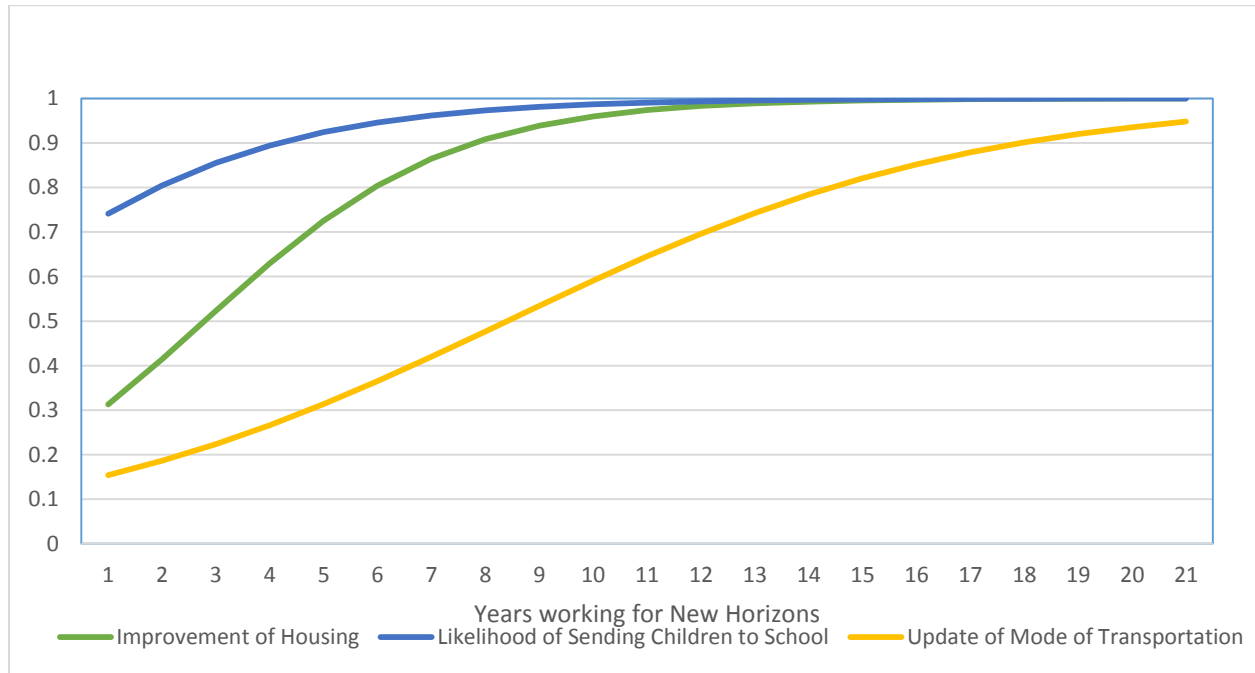


Figure 1 illustrates the changes in the probability of employees improving their home, sending their children to school and improving their mode of transportation as a function of years worked at New Horizons. Improvement of employees' homes was significant ( $P < 0.01$ ) with a marginal effect of 0.087. Respondents were also more likely to send their children to school ( $P < 0.05$ ) after working at New Horizons with a marginal effect of 0.025. The probability of updating their mode of transportation was increased ( $p < 0.01$ ) with a marginal effect of 0.049. From these metrics, there appears to be a positive overall trend in indicators of quality of life over time working at New Horizons. Figure 1 indicates that the quickest improvements after initially working at New Horizons are improving one's house. This result is not surprising, given that unlike sending children to school or upgrading their mode of transportation, improving their house can be accomplished quickly (in the terms of switching from a straw to a tin roof) and is relatively inexpensive. The largest improvements to quality of life are seen in upgrading their

mode of transportation, which sees large increases, but only after those in improving their household and sending their children to school.

## **Conclusion**

One of the largest arguments about large scale FDI in low-income countries is that it increases per capita GDP without improving the quality of life for the host countries' citizens, as most of the benefits go to the political and urban elite. This study analyzed New Horizons, a FDI whose stated goal was a holistic enhancement of the local community of Nampula, Mozambique. Our results indicate that there is an increased probability ( $P < .10$ ) of providing for additional people in their household following employment at New Horizons. This is an indication that employment at New Horizons can lead to improved financial stability, as most employees at New Horizons did not previously hold a formal job, and the ability to take in more family members into the home increasing the holistic quality of life.

As housing in Northern Mozambique is still relatively primitive, consisting predominately of mud walls and foundation with thatched roofs we also wanted to see how employment at New Horizons affected the probability of improving their house. We found that once employment began at New Horizons, there was an increased probability ( $P < 0.05$ ) that employees undertook some form of home improvement. The results also indicate that employment at New Horizons resulted in a significantly increased probability ( $P < .05$ ) of sending their children to school. Increased access to education and higher literacy rates are vital steps to the demographic transition and allow for better employment opportunities and financial stability for future generations. The adult literacy rate in Mozambique is currently 50.6%, so a higher

probability of sending the next generation to school because of employment at New Horizons is indicative of positive changes in quality of life (Unicef, 2013). The percentage of adults who report support for youth education is 46.6%, and improving this number may lead to higher education rates (Unicef, 2013).

Transportation is a luxury for most citizens in Nampula and the increased probability of updating their mode of transportation after working for New Horizons is an important indicator of economic improvement. A change from walking as the main method of transport to a bicycle or motorbike can substantially improve the overall quality of life for a person and their family and decrease the amount of time they spend getting to and from work.

This study could be improved by modifying the survey to accommodate people outside of employees of New Horizons, including former employees and citizens of Nampula who are unaffiliated with the company. One thing we did not control for was how people who did not work for New Horizons' life had changed over the same time period. Was this simply a case of good economic times raises all boats are myopic to those only who worked at New Horizons? This study also suffers from the "Survivor Effect", meaning that we were unable to gather responses from people who were terminated or quit from New Horizons, which means this is not technically a random selection. This would have created a random sample and given us a control group to compare with the experimental group of New Horizons employees. In an ideal scenario, we would have access to accurate census data for the population of Nampula to compare factors about average citizens to our sample.

What these results do seem to imply is that those who gained, and kept, employment at New Horizons were able to both increase their revenue as well as improve their quality of life.

This is important in a development sense in that increasing revenue without improving quality of life via the injection of FDI brings to question the holistic nature of the actual benefits. Most FDI's respond to shareholders and quarterly profits and are not charities. As such, their primary goal is not international development but rather profit enhancement. We must realize this important fact and not confuse capitalism for compassion. That being said, New Horizons has proven, at least in a Northern Mozambican context, that increased profits and increasing livelihoods do not need to be mutually exclusive. New Horizons could be used as a case study for future FDI or current large scale FDI in Mozambique who want to ensure that their investments provide not only jobs, but enhanced livelihoods.

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