Profielwerkstuk Worldschool:

Business plan
Peacefull Orphanage

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Business plan for Peacefull Orphanage in Ukunda, Kenya

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1. Preface

This is the *profielwerkstuk* of Ineke Heeres, Carolien Tolsma and Lianne Huitema. The *profielwerkstuk* is a project that has to be done in the last year of Pre-university Education (VWO). Since all three of us involved in this project have been part in the bilingual education program at the Marne College in Bolsward, our *profielwerkstuk* has to be in English. The English assignments that we could choose from were all provided by Worldschool Consultancy, Research and Design. After weighing up the pros and cons of all of those projects which we were given by Worldschool in July 2011, we decided to work on the Sukuma Wiki question. This project is a business plan for a Kenyan orphanage to become self-sustaining in the nearby future.

[Image: From left to right: Ineke Heeres, Lianne Huitema, Carolien Tolsma.]

Like said before, three persons have been working on this project. We have known each other for more than five years now, thanks to the same bilingual program, and decided to do this project together because of similar interests and chosen subjects in school.

Ineke Heeres has been given the title ‘leader of the project group’, because she is just great when it comes to deadlines and is the right person to do a job like this. She is a 17-year-old inhabitant of Wommels, plays tennis and wants to study econometrics in Groningen.
Carolien Tolsma is the eldest of the three, aging eighteen at the moment, lives in Nijland. She is an enthusiastic football player and is going to study medical science in Nijmegen.

Last to mention, because mentioning your name before anyone else’s is not done, is Lianne Huitema. She is also seventeen, plays tennis and a Frisian sport called kaatsen. She thinks of studying bio-pharmaceutical sciences in Leiden.

Now back to the Sukuma Wiki question. It is a non-profit Dutch organisation that wants to improve the lives of Kenyan orphans. It was founded on December 8 2003. Besides Chairwoman Claudia de Graauw, the foundation consists of three other Dutch volunteers. Currently they are funding and helping the Peacefull Children’s Home in Ukunda, a small village in the south of Mombasa. In the future, they want the orphanage to be self-sustaining, which means that the foundation would not be the major role of funding the children anymore and could concentrate on other orphanages in Kenya.

The assignment that we chose on Worldschool was to make a business plan for this orphanage. We have to come up with plans to generate an income for the orphanage or ways to reduce the costs of it.

You can read a more detailed description of the assignment in the next paragraph. After that you find a hypothesis we made just after we got the assignment. Before we come with our plans, we first tell something about the geographical and the financial view of the orphanage. We are going to mention all the original plans we had and explain why we did not choose them or why those plans are not suitable for the orphanage. We will end with the main conclusion; the projects that we think are best and thus our actual business plan.

We hope you enjoy our work.

- Carolien, Ineke and Lianne
2. Assignment

The assignment we decided to do was to come up with a business plan for an orphanage to generate its own income. The orphanage, known as Peacefull Orphanage in Ukunda, is situated in a small village near a touristic beach. Several local people take daily care of the kids living in the orphanage. Mama Conny, the manager, is very enthusiastic about long-term solutions to make the orphanage self-sustaining.

Their goal is to take care of a group of twenty children and give them the chance to develop themselves and prepare them for a life on their own when they are older. Therefore, a good education is essential. All children should have the chance to go to primary and secondary school.

Besides the children in the orphanage itself, Peacefull Orphanage also supports children that have a family but cannot afford an education. For these, they pay the school fee and further education costs, e.g. school uniform.

At the moment, a Dutch foundation, Sukuma Wiki, supports them financially and advises them on setting up activities that could generate some income. Although they love to help the Peacefull children, they cannot provide money forever. By helping to set up an income generating programme the orphanage will become independent.

You can find the entire assignment as '12.1. Attachment 1: The assignment' on page 34.
3. Hypothesis

In order to be able to make a suitable business plan for Peacefull Orphanage, some research had to be done. By means of a main question and multiple sub questions, we tried to find a good solution.

When starting with the assignment, we decided to focus on the agricultural aspect, although the orphanage also has several other possibilities to become self-sustaining. For instance, they could focus on the tourist sector by renting holiday homes or rooms. Furthermore, they could produce clothes or furniture. Or, they could choose to generate an income by means of agriculture, which is what we decided to focus on. Food is something that everybody needs and it will always be needed, so it is easy to sell. Plus, if the orphanage would grow crops themselves this would reduce the costs for food for the orphanage and thus save money.

But after several weeks of working on this project, we found out that we could not focus on the agriculture alone. Focusing only on agriculture would not raise enough money (for the explanation, go to ‘9. Conclusions’). There is not one single project the orphanage could do to cover all the costs, so we had to think of other, smaller projects that could generate an income together. We did not reject the agriculture idea, because we still thought it is a good way to cut down costs.

After this difficult start we adjusted our research questions so more options were open. Our main question now was the following:

What kind of projects could we best set up in Kenya to enable the orphanage to generate its own income?

To be able to give an answer to this we thought of several sub questions in different sectors:

Geographical situation:
- Where is the orphanage situated?
- What are the economic, cultural and political circumstances?
You can find the answers to the sub questions about the geographical situation in ‘4. Geographical analysis’ on page 9.

Agriculture:
- *Which crops are suitable to be grown in this region?*
- *How much money will these crops raise?*

You can find the answers to the sub questions about the agriculture in ‘8.1. The orchard: Mangoes and bananas’ on page 19.

Finances:
- *How much money does the orphanage need annually?*
- *How high is the revenue of our projects and what are the costs?*
- *How long will it take until the orphanage will be financially independent?*

You can find the answers to the sub questions about the finances in ‘5. Financial analysis’ on page 15.

Tourism:
- *What are the possibilities of generating an income when it comes to tourism?*

You can find the answers to the sub questions about the tourism in ‘6. Touristic analysis’ on page 16.
4. Geographical analysis

Kenya in general

The Republic of Kenya lies in the east of the continent of Africa and is situated on the equator. Its capital is Nairobi. The Indian Ocean lies to its south-east. The rest of Kenya is bordered by Tanzania to the south, Uganda to the west, Sudan to the north-west, Ethiopia to the north and Somalia to the north-east. Kenya is inhabited by 41 million people representing 42 different peoples and cultures.

Geography of Kenya

Kenya has a diverse geography: from the coastline on the Indian Ocean to the broad plains and hills in the inlands and the dense forests in western Kenya. Central and western Kenya is characterised by the Kenyan Rift Valley where Africa’s three highest mountains stand: Mount Kenya, Mount Elgon and Kilimanjaro. Kenya has three important rivers supplying the country with water, the Galana, the Tana and the Ewaso Ng’iro. In addition, lake Victoria lies in the south-west of Kenya and lake Turkana lies in the north of Kenya. The vegetation in Kenya is as diverse as the geography as those two are inseparable. In the arid north and north east the vegetation is sparse and thorny while lots of
mangroves and coconut palms can be found at the coast. Ferns, conifers, cedars and junipers are found in the central highlands. Kenya has little rainforest, the only remaining rainforest is Kakamega Forest National Reserve north to lake Victoria. About 16% of Kenya in arable land. Half of that lies in the Kenyan Highlands which is considered the most successful agricultural production region in Africa.

**Climate of Kenya**

Kenya's climate along the coast is tropical wet and dry and in the highlands it is more of a savannah climate. This means rainfall and temperatures are high, but the highlands are characterised by a dry season.

The "long rains" season, though, occurs from March/April to May/June. The "short rains" season occurs from October to November/December. The temperature remains high throughout these months of tropical rain.

In the north and north-east Kenya has an arid climate. On the map BWh stands for a desert climate and low altitude climate and BSh stands for steppe climate and low altitude climate.

Furthermore Kenya has a few parts considered to have a temperate climate. These can be found on the highest elevations in Kenya.

**Geology of Kenya**

As said, central and western Kenya is characterised by the Kenyan Rift Valley. The Rift Valley runs from the southern part of the Red Sea, via lake Victoria further to the south. The Rift Valley is a divergent tectonic plate boundary; two earth plates move from each other. Along the rift are several active and dormant volcanoes of which Kilimanjaro is probably the most known.
Economy of Kenya
Kenya has an unemployment rate of 40%. The Gross Domestic Product per capita is $1600 (NL = $40,300) which is very low. Also 50% of the people in Kenya live below the poverty line. Agriculture in Kenya remains the dominant sector in Kenya's economy. It is the second largest contributor to Kenya's gross domestic product (GDP), after the service sector. The service sector is dominated by tourism which has become the country's principal source of foreign exchange. In 2006 tourism generated $803 million, up from $699 million the previous year.

Demography of Kenya
At the moment Kenya has about 41 million inhabitants with a population growth of about 2.5% each year. Half of the population is between 15-64 years old, a low percentage of the population is older than 65 and more than 40% is under 14. In a population pyramid this is marked by a broad base and a small top as shown in the chart. Kenya is plagued by high infant mortality and the life expectancy at birth is only 59 years old. This is not only due to the poor living conditions but also because many people are infected by HIV and die because of lack of medicine.

Social-Cultural Kenya
The vast majority of Kenyans are Christian and the second most common religion is the Islam. There are also still some indigenous religions in Kenya. It is mostly the Maasai, Turkana, Samburu and Pokot tribes which have significant numbers of persons adhering to traditional African religions.
Kenya's education system consists of early childhood education, primary, secondary and college, much the same as it is in the Netherlands. The country's literacy level stands at 85% of the whole population. Early childhood education takes at least three years, primary eight years, secondary four and university four or six years depending on the course. In 1963 the Kenyan government promised free primary education to its citizens but over the years the fees returned and parents have to pay
for things such as uniforms and textbooks. Since not every parent can afford to keep their child in school there are a lot of dropouts.

**Political dimension of Kenya**

Kenya is a presidential representative democratic republic, whereby the President is both the head of state and head of government, and of a multi-party system. The current president is Mwai Kibaki.

Kenya is divided into 47 semi-autonomous counties each having its own semi-autonomous government headed by an elected governor. Under the current Kenya constitution local government authorities are not recognized. However, many urban centres host city, municipal or town councils. Constituencies are an electoral subdivision and currently, there are 210 Constituencies in Kenya.

In the diagram below you can find out (roughly) the way Kenya is governed. For our project we only had to deal with the constituency part of the diagram, not that it was a big deal because law enforcement can be a bit sloppy in Kenya.
Ukunda, Kwale District, Kenya

Ukunda is a town near the coast in the south of Kenya. The city of Mombasa lies 30 kilometres to the north of Ukunda and the village itself lies 10 km from Diani Beach, a very popular tourist resort.

Temperatures and climate in Ukunda are comparable to Mombasa because of its proximity. Ukunda has a tropical climate with high temperatures and rainfall throughout the year. There are two rain seasons in May-April and October-November as shown in the diagram below.

<table>
<thead>
<tr>
<th>Mombasa</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Average C</td>
<td>27.6</td>
<td>28.1</td>
<td>28.3</td>
<td>27.6</td>
<td>26.2</td>
<td>24.8</td>
<td>24.0</td>
<td>24.0</td>
<td>24.7</td>
<td>25.7</td>
<td>26.9</td>
<td>27.4</td>
<td>26.27</td>
</tr>
<tr>
<td>Precipitation in mm</td>
<td>33.9</td>
<td>14.0</td>
<td>55.6</td>
<td>154.3</td>
<td>246</td>
<td>88.3</td>
<td>71.8</td>
<td>68.2</td>
<td>67.2</td>
<td>103.4</td>
<td>104.7</td>
<td>75.8</td>
<td>89.39</td>
</tr>
</tbody>
</table>

Ukunda has an airport, primary school, secondary school and a couple of shops. Moreover there are lot of 'shops' which pretty much consist of a piece of cloth and a table with the products on it.

Mostly the air traffic consists of taking tourists from either Nairobi or Mombasa to Diani Beach and many services are private charter, providing tourist access between the beach resorts and inland game reserves.

Even though located near Diani Beach, Ukunda itself is not a touristic town. The tourists tend to stay near the resorts and/or beach instead of being drawn to the inlands. Reason for the locals to move to the beaches to earn a piece of the pie. A lot of locals earn their money by selling home-made stuff to the tourists or renting boats.
Peacefull Orphanage, Ukunda

The Peacefull orphanage was founded on September 3 2008. It takes care of ten children aged 14-17. All of them go to school; four of them go to primary school and six to secondary school, which cannot be said for most of the population. In total there are five people working in the orphanage. Mama Conny is the head of the orphanage and takes care of the children. There is a cook, secretary, treasurer and a board member.

The children of the orphanage have a very decent living. They live in a proper building and there is a fresh water supply. The orphanage has a vegetable garden for its own use and a couple of chickens, both providing food.

The Dutch non-profit organisation Sukuma Wiki, helps the orphanage to provide education and shelter for the orphans. They try to make the orphanage self-sustaining. Beside the Peacefull orphanage, the organisation has helped to set up another orphanage.
5. Financial analysis

When thinking of activities to generate income we have to find out how much income is needed. Therefore we wanted to find out how much money the orphanage needs. The costs are split up in living costs and education costs. The latter are set, since education is very important we cannot reduce these costs. The costs of living however can be reduced a little by e.g. growing their own crops for food.

Overview of the costs of the orphanage

<table>
<thead>
<tr>
<th></th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education(^1)</td>
<td>€1,000</td>
<td>€12,000</td>
</tr>
<tr>
<td>Costs of living(^2)</td>
<td>€1,250</td>
<td>€15,000</td>
</tr>
<tr>
<td>Total</td>
<td>€2,250</td>
<td>€27,000</td>
</tr>
</tbody>
</table>

\(^1\) Based on the assumption that half of the kids are in primary school (€350 per year) and the other half in secondary school (€450 per year) and there will be five more kids for whom Peacefull Orphanage pays the education bills.

\(^2\) This also includes the staff needed for taking care of the kids (Mama Conny, a cook and day/night guards).

\(^3\) These costs are estimated for 25 children living in the orphanage.

Extra: When needed for the activities more staff can be hired. Depending on their jobs they will be paid about €70 – €80 per month (€840 – €960 annually).
6. Touristic analysis

Only ten kilometres from Ukunda there is a very popular beach resort called Diani Beach. Over there, you can find loads of hotels and beautiful white beaches. The hotels are very luxurious. Many people go to Kenya because of the beautiful weather and the beaches, but there are also many interested in the country, going on safari and its inhabitants. Most tourists are from Europe or North-America.

At the moment, the orphanage does not take (any) advantage of the tourism over there, while many people from the area do. A lot of people living in or near Diani Beach/Ukunda work at the hotels or try to sell goods at the beach. Although we have to deal with quite some concurrence, we think that with some original ideas the orphanage could make, without a lot of effort, quite some money annually.

The orphanage needs to employ extra people to do tourist work. If they want to make a profit we have to think of other plans than selling typical Kenyan stuff like souvenirs or offering tourists a ride on a camel (because after paying the extra employer there will not be much money left for the orphanage).

We have had contact with some of the hotels located in the Diani Beach area. This was mainly for our idea about the tourist goodie bags. Some of the people we mailed were very enthusiastic about this idea, because they are interested in helping the local people by selling their self-made souvenirs. So that is why we included it in our business plan. You can read more about that in '8.3. Focusing on tourism' on page 24.

We want to focus on the people that want to explore the country of Kenya a little more. This has led to the idea of organising the so-called 'open days' (more in '8.3. Focusing on tourism' on page 24).
7. Other orphanages

Peacefull Orphanage is of course not the only in its sort. To get some inspiration and more feeling for the subject we wanted to get in touch with another orphanage. It happened to be that a man living in the same village as Ineke was involved with three orphanages in Kenya. We went to this man for an afternoon and he told us about the foundation and about the orphanages. Especially the part about the income generating and costs reducing projects were interesting for us.

The most impressive was that at one of the orphanages an entire school was set up. In contradiction to Peacefull Orphanage in this case over a hundred children were taken care of. For us it will be impossible to realise a school. Not only because of the relatively small group of children but also because there is already a school in Ukunda.

Another activity is to let European people visit the orphanage so that they can experience the way of life over there. Furthermore, those visitors are invited to come along with the outreach programme. This programme is to help the poorest locals in taking care of their families. This is the real misery in Kenya. This should be an incentive for the tourists to donate money. Though we do not have an outreach programme it will be interesting for tourists to visit the orphanage for a day. This activity is included in our final business plan (you can find this at ‘10. Conclusion’ in this work 32).

Just like Peacefull Orphanage this orphanage is guarded too. When trying to find a suitable guard dog they found these were hard to get. This was for them another opportunity to earn money. They are now breeding dogs and there is even a waiting list for the puppies.
The last idea is not yet relevant for Peacefull Orphanage, but might be in the future. The first kids that lived in the orphanage are now at the age that they have settled, got a job and can take care of themselves. Some of them even have their own business. It happens to be that those people would love to give something back to the orphanage, to thank them. They do this by giving the orphanage money or helping the kids to get a job/apprenticeship.

The foundation Spirit Of Faith was founded in 2003 (Hurdegaryp, the Netherlands) and supports social work in Africa. Their main focus is the Blessed Children’s Centre in Ruiri, Malindi and Nyamira (all Kenya). The orphanages are not just orphanages, they also help with projects of the local population and they offer various types of schooling.

www.spiritoffaith.nl (the foundation)
www.riafennema.nl (the three orphanages in Kenya)
8. Possibilities

We considered a lot of ideas. We realised that it was impossible to come up with one project that would cover all the costs. So we thought of a combination of ideas that could generate an income for the orphanage.

You can find the projects that we rejected and the reason why in the conclusion. These are the final projects we came up with, that can be sorted in three categories. The calculations for the financial overviews can be found in '12.2. Attachment 2: The calculations' on page 37.

8.1. The orchard: Mangoes and bananas

One option of generating income is setting up an orchard and grow fruits. We researched the possibilities and profits of mango trees and banana plants. We chose these fruits because the climate in Kenya allows only certain types of fruit to be cultivated. Mangoes and bananas being one of them. Also mangos and bananas are being eaten and used in the kitchen quite a lot so the demand for those fruits is present. As we were busy with researching the orchard possibilities, we thought we might be able to supply those fruits in the (near) future to the hotels in Diani beach when the orchard runs well, in order to make a steady income.

8.1.1. Mangoes

A good option would be to cultivate the Sabine mangoes (in ‘12.3. Attachment 3: The orchard’ on page 41). It might bear fruit only from the third year on, but it will bear an average of about 210 mangoes a year for at least six years long. Furthermore, it will raise more money per mango because of the weight and rarity of the mango.

Selling a Sabine mango will raise somewhere between 20 – 25 KES, probably closer to 25 KES than 20 KES because the mangoes aren’t sold on a farm. Note that in the calculation 25 KES is used as selling price for the mangoes. Note that for the harvesting period we assume we need four employers for half a month, so the wage is that of two people working for one month.

A mango seedling costs typically 110 KES. It would be a good option to start with twenty mango seedlings and when those bear fruit it is possible to grow your own mango trees from the seeds of the mango. This way you can create a mango orchard and keep it running for several years.
The costs of the seedlings will be €19,00. For planting the seedlings we charge the wage of one employer working for a month.

Assuming one mango tree will bear an average of about 210 fruits each year from the third year on, results in an approximate yearly income of about €965. This is the revenue of twenty mango trees, bearing 210 mangoes, sold for 25 KES each in one year.

After three years the orphanage can earn money by selling the mangos and the profit will be about €945. (Do bear in mind this is based on the average amount of mangos in one year. Profits may vary due to a bad harvest) The years after the third will result in a yearly income of around €965. The wage for hiring four people for half a month will be €140. We estimate we need about €10 annually for fertilizer, but we don’t know this for sure because we weren’t able to find exactly how much it costs and how much is needed.

Eventually the orchard can be expanded if one wishes to. Experts say it is possible to have 125 mango trees in one hectare. Also, if they wish to they can start selling mango trees of their own.

**Financial overview**

**Financial overview mangoes - Year 1**

<table>
<thead>
<tr>
<th>Costs</th>
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<tbody>
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<td>Seedlings</td>
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</tr>
<tr>
<td>Employee</td>
<td>€70</td>
</tr>
<tr>
<td>Fertilizer/water</td>
<td>€10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€99</td>
</tr>
</tbody>
</table>

**Financial overview mangoes - Year 2**

<table>
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<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer/water</td>
<td>€10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€10</td>
</tr>
</tbody>
</table>

**Financial overview mangoes - Year 3 and on**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>€140</td>
</tr>
<tr>
<td>Fertilizer/water</td>
<td>€10</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>€815</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€965</td>
</tr>
</tbody>
</table>
**8.1.2. Bananas**

Banana plants are often mistaken for trees. Their main or upright stem is actually a so-called pseudostem (a false stem made of the rolled bases of leaves) that can grow six to seven metres tall, growing from a corm. Each pseudostem can produce a single bunch of bananas. On each bunch there are about ten to fifteen ‘combs’ and on each comb there are eighteen to twenty bananas, so each bunch has about 200 bananas. After fruiting, the pseudostem dies, but offshoots may develop from the base of the plant. These offshoots are called suckers and these may be grown into a banana plant. This way a banana plantation can exist for many years.

Generally banana suckers costs 30 KES. The banana plant usually takes one year to develop fruit before dying. So only one year after purchasing the plants, money can be earned by selling the fruits. Individual bananas sell for 5 – 8 KES while a bunch will retail for 150 to 600 KES depending on size (in '12.3. Attachment 3: The orchard' on page 41). Note that in the calculation 8 KES is used as selling price for the (separate) bananas.

The acquisition of twenty suckers is fairly reasonable to start with. This makes the purchase price €5.40. Twenty banana plants produce around 200 bananas each year and those bananas can be sold for 8 KES a piece, which leads to a year income of €290. We assume we need 2 employers to harvest the bananas in half a month. Maybe the same employers who help with harvesting mangoes can help with the harvesting of the bananas. After the first year the profit will be around €285 and the following years will raise about €290 on yearly bases.

Furthermore, will it be possible to sell suckers in case there is a superfluous amount for next year’s harvest. Those suckers can be sold again for 30 KES. Profits of that will depend on the amount of excessive banana suckers.

**Financial overview**

**Financial overview bananas - Year 1**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banana suckers</td>
<td>€5.40</td>
</tr>
<tr>
<td>Employee</td>
<td>€70</td>
</tr>
<tr>
<td>Fertilizer/water</td>
<td>€10</td>
</tr>
<tr>
<td>Profit</td>
<td>€204.60</td>
</tr>
<tr>
<td>Total</td>
<td>€290</td>
</tr>
<tr>
<td>Total</td>
<td>€290</td>
</tr>
</tbody>
</table>
### Financial overview bananas - Year 2 and on

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee</td>
<td>€70</td>
</tr>
<tr>
<td>Fertilizer/water</td>
<td>€10</td>
</tr>
<tr>
<td>Profit</td>
<td>€210</td>
</tr>
<tr>
<td>Total</td>
<td>€290</td>
</tr>
</tbody>
</table>

#### 8.2. Rabbits

One of the possible activities for Peacefull Orphanage is a rabbit farm. This does not cost much to set up and profit will be made within one year. It also does not need much space and is fairly cheap compared to keeping e.g. cows. Furthermore it happens to be that the demand for rabbit meat is quite high in Kenya. This is because the meat is low of cholesterol and fat. Especially restaurants and hotels use rabbit meat. This means the demand for rabbit meat is very high. We do not know to what degree the supply is already meeting this demand, but we expect there to be some good possibilities. Especially because it may attract that, by buying our rabbits they will help an orphanage.

What might be a struggle for us though is the heat, because rabbits cannot stand very high temperatures. We will name the solution for that later on.

Young rabbits will be born every three months. Three months later they will be ready to be sold. This means that the amount of rabbits will always be about the same. Every time a rabbit gets babies, there are about nine of them.

With this system one doe gives birth to about (4 * 9 =) 36 babies a year. A three months old rabbit (weighing about 3 kg) can be sold for about 750 KES, so (36 * 750 KES =) 27,000 KES per rabbit per year income. As an indication, this is about €216.

When keeping seven does this will be 7 * €216 = €1,512 revenue. Having seven does means that there will be approximately 70 rabbits in total, a buck included.

In order to be able to mate the does immediately we have to buy mature (min. six months) does and a mature buck. These will cost 3,000 till 5,000 KES, depending on the breed. We took 4,000 KES (€32) for our calculations.

Of course there will be costs too. Based on information on the website of KARI a rabbit eats about 25 grams of pellets a day. We took 30 grams for our rabbits since we want them to get a little fat. So with the 70 rabbits we will need 2,1 kg a day. One kilogram of pellets costs about 50 KES which results in (2,1 * 50 KES =) 105 KES each day, so 38,325 KES a year (€307).
Furthermore, someone has to take care of the rabbits. Because of the large number of rabbits we will have to hire someone for this. Yet it will not be a fulltime job. Assuming this person can do other activities for the orphanage we only take half of the wage as costs for rabbit farming. A fulltime wage of €70 per month will than be €420 annual part-time wage, which is about 52,500 KES.

The rabbits also have to get to the restaurants. Our plan is to get them to the restaurants in Diani Beach, which is about 10 km away. Because we sell rabbits only four times a year it will not be profitable to buy a car. So we will try to borrow one and only pay the fuel. Exact prices are hard to find and since we do not know exactly what kind of car we will be using we calculate the transport costs based on these assumptions: the car can drive 10km on 1 litre and a litre of fuel costs 150 KES. Each trip to Diani beach will therefore cost 300 KES (€2,50).

Also, there are costs for the cages. The first year these will be very high due to the fact that we have to build them, the years after there will only be some money needed to keep them clean and to fix them if needed. These cages will be made of a wooden construction with wire mesh sides, this to keep it as cool as possible and the floor is to get rid of the droppings. Very important is that the cages will be put at a shady place, along the north side of the building or in the orchard.

For a cage with the measurements of 120 x 60 x 60 cm the costs for materials will be about 2,000 KES. We need eight cages (seven does and one buck), so this is 16,000 KES. Next to the cage itself there will be some more needed to give the rabbit a safe home, for instance a food trays and water supplies. The budget for these extra costs included wage for the person who builds them and is estimated at 4,000 KES, which makes the total costs for the cages in the first year 20,000 KES (€160). The years after the cages might need a little repair, costs for this are estimated at 1,500 KES (€12).

**Financial overview**

**Financial overview rabbit farming - Year 1**

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbits</td>
<td>€256</td>
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<tr>
<td>Cages</td>
<td>€160</td>
</tr>
<tr>
<td>Food</td>
<td></td>
</tr>
<tr>
<td>Pellets</td>
<td>€240</td>
</tr>
<tr>
<td>Hay</td>
<td>€160</td>
</tr>
<tr>
<td>Transport 1)</td>
<td>€10</td>
</tr>
<tr>
<td>Wage</td>
<td>€420</td>
</tr>
<tr>
<td>Total</td>
<td>€1246</td>
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</table>
### Financial overview rabbit farming - Year 2 and on

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cages</td>
<td>€12</td>
</tr>
<tr>
<td>Food</td>
<td></td>
</tr>
<tr>
<td>Pellets</td>
<td>€307</td>
</tr>
<tr>
<td>Hay</td>
<td>€160</td>
</tr>
<tr>
<td>Transport¹</td>
<td>€12</td>
</tr>
<tr>
<td>Wage</td>
<td>€420</td>
</tr>
<tr>
<td>Profit</td>
<td>€601</td>
</tr>
<tr>
<td>Total</td>
<td>€1512</td>
</tr>
</tbody>
</table>

¹ Transport costs are based on the assumption that the rabbits will be sold to restaurants in Diani Beach. These costs can be eliminated if the restaurants come to get the rabbits themselves, this depends on the contracts signed.

### 8.3. Focusing on tourism: Orphanage tours and tourist goodie bags

After researching the tourism in the area of Ukunda we decided to include some projects that have to do with tourism in our final business plan.

#### 8.3.1. Orphanage tours

It is quite usual that every once in a while a school or a company in the Netherlands organises an ‘open day’. That is basically a day where anyone can go there and have a look around. Schools and universities try to convince people to go to that particular school when they are finished with primary or secondary schools. Companies tell their visitors what it is they are doing and where/how they do it. And this is about the same thing we want to do.

The children could talk about their life in the orphanage and their life in school. It is a good way of practising their English, too. The tourists can also have a look at the orphanage itself. The idea is to ask for an entrance fee. This could be a very successful project, without putting too much effort in it. And of course it is possible for the tourists to give more money than the normal entrance fee. This day does not have to be very special, and could take place every week. We thought that Sunday was a good day, because the children will be at home than. A couple of Sundays throughout the year may not be suitable for tours, because of the rain season or other obligations that the people at the orphanage have to do. So in our calculations we took of the 51/52 available Sundays every year only 36.
The entrance fee will also include transportation from the hotel to the orphanage. We think it is best that each Sunday the orphanage hires a car that drives from the hotels to the orphanage. This is because almost all hotels are all-inclusive, which means there is no car for the tourists available. Of course the tourists could hire a car themselves, but we think more people want to come to the orphanage if transport is included.

Financial overview:

Financial overview tours - Year 1

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisement board</td>
<td>€25</td>
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<tr>
<td>Rent for the car</td>
<td>€1,080</td>
</tr>
<tr>
<td>Petrol costs</td>
<td>€360</td>
</tr>
<tr>
<td>Car driver</td>
<td>€126</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>€2,009</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€3,600</td>
</tr>
</tbody>
</table>

Financial overview tours - Year 2 and on

<table>
<thead>
<tr>
<th>Costs</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent for the car</td>
<td>€1,080</td>
</tr>
<tr>
<td>Petrol costs</td>
<td>€360</td>
</tr>
<tr>
<td>Car driver</td>
<td>€126</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>€2,034</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>€3,600</td>
</tr>
</tbody>
</table>

1) An employee in Kenya earns about €70 – €80 a month. We calculated that as €70 / 20 = €3.50 per working day.
2) Twenty persons paying each a fee of €5. This may sound rather expensive, because we employ people for €3,50 a day. But we have to keep in mind that the only people interested in these tours are tourists, so €5 would sound even quite cheap for them.

The only thing that is left to do is to make the tourists of the beach resort know that they could go to one of these open days. A big advertisement-board at the entrance of the orphanage isn’t enough. This brings us to the second idea we have in mind called the tourist goodie bag.
8.3.2. Tourist goodie bags
This idea basically means that people can buy Peacefull Orphanage bags in the hotels. Those bags with a typical Kenyan appearance would include a brochure about the orphanage and a small Kenyan souvenir. In the brochure there is information about the orphanage, the dates and information about the open days, a Kenyan recipe and a ‘real life story’ written by someone from the orphanage. We got that last idea from the website of Sukuma Wiki. You can find there several stories from the children in the orphanage, too. We think this is a great idea. The ‘small Kenyan souvenir’ may sound a big vague, but it could be almost anything. A small painted stone, a drawing/painting made by one of the children or a home-made soap. All of these things can be made very easily. The bag making process is not very time-consuming and with a good manual this could be done rather quickly. Mama Conny Ogiengo could use her sewing machine for this.

Financial overview

Financial overview goodie bags - per bag

<table>
<thead>
<tr>
<th>Costs</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fabric 1)</td>
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<tr>
<td>Needles and thread</td>
<td>€0.10</td>
</tr>
<tr>
<td>Brochure</td>
<td>€0.05</td>
</tr>
<tr>
<td>Kenyan souvenir</td>
<td>€0.20</td>
</tr>
<tr>
<td>Employee 2)</td>
<td>€0.23</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td><strong>€3.97</strong></td>
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<tr>
<td>Total</td>
<td><strong>€5.00</strong></td>
</tr>
</tbody>
</table>

**Financial overview goodie bags - each year**

<table>
<thead>
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<th>Costs</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Fabric 1)</td>
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<tr>
<td>Needles and thread</td>
<td>€18</td>
</tr>
<tr>
<td>Brochure</td>
<td>€9</td>
</tr>
<tr>
<td>Kenyan souvenir</td>
<td>€36</td>
</tr>
<tr>
<td>Employee 2)</td>
<td>€41.40</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td><strong>€714.60</strong></td>
</tr>
<tr>
<td>Total</td>
<td><strong>€900</strong></td>
</tr>
</tbody>
</table>

1) In Kenya you can buy cloths called cangas. They are very popular and one by two meters. Two of them are 400 KES, which equals €1.80. We calculated that you can
make four bags out of one cloth, per bag this would lead to a total of cloth costs of €0.45.

2) An employee in Kenya earns about €70 – €80 a month. We calculated that as €70 / 20 = €3.50 per working day. In one workday you can make about fifteen bags. The employee costs per bag are therefore €3.50 / 15 = €0.23.
9. Conclusion

This is the conclusion of our project. In other words, this is our business plan. We have decided to do several projects, because we realised it was very hard to come up with one good project that could cover up all the costs. Having only one project brings a very great risk: If your project fails because of some reason (e.g. a bad harvest, a war breaks out in Kenya which reduces the amount of tourists going to Diani Beach, the weather is bad or another unseen problem arises), than you do not have any income. We came to the conclusion that it was a bad idea to have only one project.

We discussed, researched and thought of many ideas. We had to keep some points in mind:

- The project can be done easily. Not a lot of extra employees are needed.
- The project cannot have a bad influence on the children in the orphanage. Their first priority is their school. It is impossible that they work more than five hours per week on a project. If they need to help, it cannot be hard work.
- The project must have a positive outcome within no more than five years. Of course you need some years to set up something, but that cannot take too long. This is the orphanage wants to be self-sustaining within ± five years.
- When there is need of more than one project, we cannot focus it on one area (like tourism, agriculture or organising safaris). Having multiple projects is okay, but we should divide them into various areas.
- When it comes to tourism, the project has to be original. A lot of people in the area of Diani Beach sell souvenirs at the hotels or on the beaches.
- The project cannot be too big (big meaning making thousands of money annually). Licenses are not needed if the company is not too big.

This is why we had to reject a lot of our ideas. First we are going to name some other ideas we had and why they didn't make it to our business plan.

Agriculture
As you may now know by now, we decided to set up an orchard with 20 banana plants and 20 mango trees. Of course we could not expand the orchard too much because we would have to deal with all kinds of licences and that would cost time and money. Also, if the harvest would be bad and all we had was the orchard to
generate an income for the orphanage, it would result in some hard times for the orphanage because there would be little money left for living and education. We also chose to have two different kinds of fruit instead of one because if the orchard would be affected by disease there would still be an income since half of the orchard would still bear fruit.

We chose for mangoes and bananas because the climate allows these fruits to grow well. Of course there are other types of fruits which do well in this type of climate but about mangoes and bananas there was, by far, more information to find. As we were struggling to find any kind of information, we decided we had better not make it too hard for ourselves and investigate the possibilities with bananas and mangoes. The profit of these are high enough to be satisfied with.

Breeding dogs
One idea was breeding dogs, watch-dogs to be more precisely. The reason why we did not choose to add this project to the options was because of lack of information. This made it impossible to make a reliable overview of the costs.

More tourism: Renting rooms
We also thought about renting rooms to tourists. We dropped the idea fairly soon because we would probably not be able to compete with the luxurious hotels in Diani beach. We thought that maybe people are interested in renting a room near an orphanage, so they can see how ‘real life’ in Kenya is. But a lot of things have to be done before there will be a profit. European and North-American tourists do expect clean houses/rooms, proper furniture, decent meals et cetera. Even though they know that they can expect something else than their luxurious house at home, they still do expect certain things that are not ‘normal’ in the Kenyan culture. At some point we got a little overexcited during our brainstorming process and thought we might set up a travel agency named ‘Peacefull tours’. But as this is quite impossible, it would be too big and too much bureaucracy would be involved, we dropped the idea as soon as we came up with it.
We do have two projects in our final business plan that have to do with tourism. It would be risky to start renting homes too, because if for any reason the tourism in Kenya would decrease, the income of the orphanage would turn out much lower than planned.
More animals: fish and cattle
One other idea we came up with was setting up a hatchery (fish breeding). We did not choose this project because, again, we could not find sufficient information. We also thought of cattle breeding. But as we were searching for information we realised that the acquisition of a cow (or sheep) is quite expensive and that it takes a lot of cows and therefore space to be lucrative. Since the projects need to be quite small this was not an option for the orphanage.

You can find the possibilities that we thought of and that we did choose in the end of the previous chapter. There you can also read why we chose them.

The projects for our business plan in short:

• **The orchard: Mangoes and bananas**

We thought growing mangoes and bananas is not much of a challenge in that region. Growing conditions around the equator are good so the harvest will be optimal as well. Plus, food is something people will always need so we would not really have to worry about selling it.

• **Rabbits**

Breeding rabbits is an easy and simple way of making money and it does not cost much to set it up. Every three months the young rabbits will be sold to the restaurants in Diani.

• **Focusing on tourism: Orphanage tours and tourist goodie bags**

A project that has to do with tourism has to be original and great. A lot of people in the area try to do the same. We think that the tours can be very successful. It is near the hotels and the tourists do not have to think of the transport – that is included in the price. It is an easy way for the tourists to go out of the hotel and into the country a bit. Mama Conny knows a little English and can tell a bit about the orphanage, and of course the children in the orphanage can improve their English this way.
Becoming self-sustaining

In ‘5. Financial analysis’ on page 15 you can read that the orphanage needs €2,250 per month or €27,000 annually. As can be seen in the table below the profits of the projects we came up with will not cover all the costs made by the orphanage. Yet we managed to raise over €4000.- and when converted to Kenyan shilling this is almost 500,000.

For us it was quite impossible to raise the entire sum of money needed, but we are satisfied that we came to these profits.

Overview of the profits of all the projects

<table>
<thead>
<tr>
<th></th>
<th>1st year</th>
<th>2nd year</th>
<th>3rd year</th>
<th>4th year</th>
<th>5th year and so on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangoes</td>
<td>-€99</td>
<td>-€10</td>
<td>€815</td>
<td>€815</td>
<td>€815</td>
</tr>
<tr>
<td>Bananas</td>
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<td>€210</td>
<td>€210</td>
<td>€210</td>
<td>€210</td>
</tr>
<tr>
<td>Rabbits</td>
<td>-€111</td>
<td>€601</td>
<td>€601</td>
<td>€601</td>
<td>€601</td>
</tr>
<tr>
<td>Tours</td>
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<td>€2034</td>
<td>€2034</td>
<td>€2034</td>
<td>€2034</td>
</tr>
<tr>
<td>Bags</td>
<td>€714.60</td>
<td>€714.60</td>
<td>€714.60</td>
<td>€714.60</td>
<td>€714.60</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>€2718.20</strong></td>
<td><strong>€3549.60</strong></td>
<td><strong>€4374.60</strong></td>
<td><strong>€4374.60</strong></td>
<td><strong>€4374.60</strong></td>
</tr>
</tbody>
</table>
10. Post face and evaluation

We have worked on this project for quite some time. We chose the assignment just before the summer break in 2011, but we started after it in September. We worked on it at school together or alone at home. We had so-called project days where the three of us came together and worked on it for an entire day. We went to the Knowledge Day in Zwolle to meet the Chairwoman of the Sukuma Wiki foundation, who set up this assignment, and we had a meeting with mister Schiffart of the Spirit Of Faith foundation. We got most information that we used on the internet.

This assignment does not fit all of our sections we do at school (Nature and Health, Nature and Technology) or the studies that we will be following next year. Still we did the best we can to make this project a successful one.

We have reached about 16% of our end goal, which was €27,000 annually. On the one hand, this might sound a bit disappointing. But on the other hand, these projects combined raise more than €4,000 annually. That is a lot of money. We are sure that we could come up with other projects or make the projects we have now bigger to cover all the costs, but we stayed very realistic. Why should we make a ‘perfect’ business plan on paper or in mind if it doesn’t work out in the real world?

We think it was an interesting but challenging assignment. A lot of research had to be done and often it was hard to find the data we needed. It also took some time before we could come up with good plans. We did came up with a lot of plans, but most of them were not suitable for the given situation. But the idea that this assignment could help a group of kids in Kenya kept us going. However we did not manage to get enough money to cover all the costs, we are happy with the results of this project.

We hope that we helped the Sukuma Wiki organisation and the people of the Peacefull Orphanage with giving them some (new) ideas about becoming self-sustaining. We wish them all the best in realising this in the following years!

We hope you enjoyed our work.

- Carolien, Ineke and Lianne
11. Glossary

Buck  A male rabbit.

Bunch  A bunch of bananas, consisting up to 200 bananas (sometimes even more).

Canga  Multifunctional piece of cloth, used as clothing by African women.

Comb  Eighteen to twenty bananas together.

Corm  A short thick solid food-storing underground stem.

Doe  A female rabbit.


KES  Kenyan shilling, the currency used in Kenya. €1 = 111 KES.

Pseudostem  A false stem composed of folded blades and sheaths that surround the growing point.

Pellets  A small package of food.

PUM  Programma Uitzending Managers, www.pum.nl. People who help setting up companies in third world countries.

Sucker  Banana seedling growing from the main stem.
12. Attachments

Here you can find all the attachments of our project.

12.1. Attachment 1: The assignment

The assignment can be found on [www.worldschool.nl](http://www.worldschool.nl).

You are working on the following assignment: G002 - Sukuma Wiki (Kenya): Businessplan for income generating activity orphanage.

<table>
<thead>
<tr>
<th>Country</th>
<th>Kenya</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>Ukunda/Diani</td>
</tr>
<tr>
<td>Website</td>
<td>Business</td>
</tr>
<tr>
<td>Topics</td>
<td>Cultuur en Maatschappij, Economie en maatschappij</td>
</tr>
<tr>
<td>Subjects</td>
<td>Economie, Management &amp; organisatie</td>
</tr>
<tr>
<td>Schools</td>
<td>Carolus Clusius, Lorentz Lyceum, Marne College, Nassau College</td>
</tr>
</tbody>
</table>

Question
What kind of projects could we best set up in Kenya to enable the orphanage to generate its own income?


Situation
In 2008 the Peacefull Orphanage was founded in Ukanda, near Dani, about 40 kilometres south of Nairobi (Kenya). Sukuma Wiki is a Dutch foundation that helps the orphanage in Ukunda become independent. Not only do we support them financially, but we also advice them and help them to set things up in such a way that in five years time they will be able to continue independently.

Sukuma Wiki raises funds and donors to financially support the orphanage, but sometimes sends volunteers over to offer help and advice as well. Soon we will try to raise funds to buy a piece of land and build our own building there, and perhaps invest in activities to generate income. This, to us, seems a requirement for independence. Moreover, to acquire (an) official recognition, the orphanage will have to accommodate at least 20 children, and to provide for these children it obviously needs financial income of its own.
In order to operate independently, Peacefull Orphanage needs to generate income to be able to pay the bills. These involve costs for groceries, water, but also salaries, textbooks, uniforms, etc. There are several orphanages in Kenya that help children by means of a trade. This trade could be anything. Some orphanages keep chickens for the eggs and meat, or cows for milk and eventually sell the meat. Other orphanages have their own sewing shop to make and sell clothes (e.g. school uniforms), or a wood workshop to make furniture on demand. A different idea is to build an apartment building (financed by funds) and rent out the rooms, or to build holiday homes and rent them to tourists.

Besides taking care of income and the possibility to become less dependent on one party, such a project provides the children with many learning opportunities. They could learn a trade, like seaming or making furniture. In any case, it clearly shows that anyone can learn something, that they can take care of themselves and do not need to beg.

Taking up an income generating activity is the idea of the Dutch board. Thinking strategically and long term planning is not easy for local manager Conny Ochiengo of the orphanage in Kenya. She is predominantly occupied with solving the daily, weekly and monthly problems. She is very enthusiastic about long term strategies and the desire to have the orphanage operate independently. She would love it if the orphanage would become independent and would generate its own income. It has been discussed, but there are few concrete plans.

In this Worldschool assignment we ask students to develop a number of ideas for income generating activities. This should enable us to pick the best option, based on realistic future prospects that fit Kenya's local community and habits.

The business plan should clearly specify the products the children could make using 1 or 2 employees. If these products yield enough money to pay for the employees, as well as production costs (raw materials, electricity, wear of equipment, etc). There should be some money left for the orphanage. In addition, a consumer market is needed and the sale and marketing of the product needs to be contemplated. E.g., when the orphanage is producing eggs, a shop that wants to sell the eggs needs to be found, or a hotel that wants to purchase them. Because Ukanda is close to Dani, where there are lots of resorts and hotels for western tourists, there are bound to be ample opportunities. But how do you go about transporting them? After making a well founded choice for a product and a fitting project, a plan is needed to implement the project. This includes a schedule, a division of labour, financial underpinning and a marketing plan.
The money that is needed to start the project will be raised by Sukuma Wiki from known or new funds. We would like to start a good plan right away. Students are not asked to implement the plan themselves. There is a possibility to stay involved and to help voluntarily after the completion of the assignment. However, this is not part of the assignment.

**Desired endproduct**

*We would like to receive a business plan containing:*

- an overview of possibilities and experiences of other orphanages or local projects and a discussion of opportunities and constraints of the activities for Peacefull Orphanage
- a grounded choice for one of the economical projects

**A description of this project:**

- what are we going to do / how are we going to do it / where are we going to do this?
- what raw materials or inputs are needed? Where do we get them from? what are the processes and which materials/machines are needed? Where do we get them from?
- to what extend does the project offer possibilities for (officially recognized) schooling?
- how can children combine regular education and work?
- a division of labour (who is involved in the project and which responsibilities do they have?)

**Financial underpinning of the project:**

- a calculation of the intended income
- a calculation of the costs when the project is running
- a calculation of the costs to develop the project
- a kind of risk analysis for the project: are there any financial bottlenecks?

**A time line for the development of the project, and an indication of the different stages, from development to complete operation, including key decision pints.**

**A marketing plan to bring the product to customers**
12.2. Attachment 2: The calculations

Calculations on the orchard

Calculations on the mangoes

Costs of 20 seedlings

\[ 20 \times 110 \text{ KES} = 2,200 \text{ KES} \approx €19 \]

Estimated yearly income

\[ 210 \times 25 \text{ KES} \times 20 = 105,000 \text{ KES} \approx €965 \]

Estimated profit after the third year

\[ 105,000 \text{ KES} - 2,200 \text{ KES} = 102,800 \text{ KES} \approx €945 \]

Estimated yearly profit from the fourth year on

\[ 210 \times 25 \text{ KES} \times 20 = 105,000 \text{ KES} \approx €965 \]

Wage for hiring 4 people during the harvest period

\[ 4 \times €70,- \times 0.5 = €140 \]

Calculations on the bananas

Costs of the banana suckers

\[ 20 \times 30 \text{ KES} = 600 \text{ KES} \approx €5.40 \]

Estimated yearly income

\[ 20 \times 200 \times 8 \text{ KES} = 32,000 \text{ KES} \approx €290 \]

Estimated profit after the first year

\[ 32,000 \text{ KES} - 600 \text{ KES} = 31,400 \text{ KES} \approx €285 \]

Estimated profit after the first year

\[ 20 \times 200 \times 8 \text{ KES} = 32,000 \text{ KES} \approx €290 \]

Wage for hiring 2 people during the harvesting period

\[ 2 \times €70 \times 0.5 = €70 \]
Calculations on the rabbit farming

Costs
Rabbits year 1: \( \€32 \times 8 = \€256 \)
Pellets year 1: \((105 \text{ KES}/70 \times 8) \times 365 \times 0.25 + 105 \text{ KES} \times 365 \times 0.75) = 29839 \text{ KES} (\approx \€240)\)

Incomes
Sold rabbits year 1: \(3 \times 9 \times 7 \times 750 \text{ KES} = 141750 \text{ KES} (\approx \€1135)\)
Sold rabbits year 2: \(7 \times \€216 = \€1512\)

Profits
Year 1: \(\€1135 - \€256 - \€160 - \€240 - \€160 - \€10 - \€420 = -\€111\)
Year 2: \(\€1512 - \€12 - \€307 - \€160 - \€12 - \€420 = \€601\)

Calculations on tourism

Calculations on the orphanage tours

Costs

Per ‘open day’ Need to be paid once

Orphanage tour
- Hiring costs for the van \(\€30^*\) -
  Per day
- Advertisement-board entrance orphanage - \(\€25\)
- Petrol costs \(\€10^*\) -
  10 kilometres per drive
- Employee who drives car and gives tour \(\€3,50^{**}\) -
  One workday on Sunday

Total: \(\€43,50\) \(\€25\)

* - Estimated costs.
** - A employee in Kenya earns about \(\€70/\€80\) a month. We calculated \(\€70 / 20 = \€3,50\).
**Income**

**Per 'open day'**

**Orphanage tour**
- Entrance fees* €100

**Total:** €100

* = 20 persons paying each a fee of €5. This may sound rather expensive, because we employ people for €3,50 a day. But we have to keep in mind that the only people interested in these tours are tourists, so €5 would sound even quite cheap for them.

**Profit**

Profit per month: $3 \times \text{Estimated incomes} - 3 \times \text{Costs} = 3 \times 100 - 3 \times €43.50 = €169.50$

Profit per year: $12 \times \text{Profit per month} - \text{Costs that need to be paid once} = 12 \times €169.50 - 25 = €2009$

**Calculations on the tourist goodie bags**

**Costs**

**Tourist goodie bag**
- Materials bag* €0.45
- Extra materials used by sewing machine €0.10
- Brochure about orphanage €0.05
- Kenyan souvenir €0.20
- Employee who makes bags** €0.23

* = In Kenya you can buy cloths called cangas. They are very popular and one by two meters. Two of them are 400 KES, which means one is €1.80. We calculated that you can make four bags out of one cloth, per bag this would lead to a total cloth costs of €0.45.

** = In one workday you can make about 15 bags. One workday is €3.50, so €3.50 / 15 = €0.23 per bag.

**Income**
Per ‘open day’

*Orphanage tour*
- Entrance fees*  €100

**Total:**  €100

* = 20 persons paying each a fee of €5. This may sound rather expensive, because we employ people for €3,50 a day. But we have to keep in mind that the only people interested in these tours are tourists, so €5 would sound even quite cheap for them.

*Tourist goodie bag*
- 15 bags*  €75

**Total:**  €75

**Profit**
Profit per month: Estimated incomes – 15 * Costs per one bag = €75 – 15 * €1,03 = €59,55
Profit per year: 12 * Profit per month = 12 * €59,55 = €714,60
12.3. Attachment 3: The orchard

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Average fruit weight (g)</th>
<th>Average number of fruits/kg per tree per year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1st</td>
</tr>
<tr>
<td>Sensation</td>
<td>310</td>
<td>50/15.5</td>
</tr>
<tr>
<td>Kent</td>
<td>610</td>
<td>17/10 4</td>
</tr>
<tr>
<td>Hadan</td>
<td>308</td>
<td>44/17.3</td>
</tr>
<tr>
<td>Maya</td>
<td>335</td>
<td>33/11.0</td>
</tr>
<tr>
<td>Sabine</td>
<td>511</td>
<td>112/57.2</td>
</tr>
<tr>
<td>Van Dyke</td>
<td>283</td>
<td>12/3.4</td>
</tr>
</tbody>
</table>

For comparison

Ngoiwe 57/1 22/12.6 30/17.1 88/50.3 198/113.1 153/87 217/123.9 148/84.5


The table on the right can be found on: [http://www.kari.org/sites/default/files/mtwapa_price_list_of_Kari_mtwapa_products_2011_0.pdf](http://www.kari.org/sites/default/files/mtwapa_price_list_of_Kari_mtwapa_products_2011_0.pdf)
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Books


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• Dekker, R. from Traveltroef (24th November 2011) – For giving us feedback on our idea of the tourist goodie bag and the idea of selling rabbit meat to hotels.
  [www.traveltroef.nl](http://www.traveltroef.nl)
• Forest Dream Resort (24th November 2011) – For giving us feedback on our idea of the tourist goodie bag and the idea of selling rabbit meat to hotels. www.forestdream.com

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• Kabala, F. (28th November 2011) – For an up-to-date price list of fruits in Kenya. www.kari.org

• Muinga, R. (28th November 2011) – For extra information on selling prices of fruit outside the farm. www.kari.org

• Mwangi, P. (27th November 2011) – For information about rabbit farming.

• Nijnens, F. from PUM (30th September 2011) – For giving us information about setting up a company in a third world country. www.pum.nl

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