

# 「AirComb」

H<sub>2</sub>G (#7, HG18), Hiroo Gakuen High School

## Executive Summary

H<sub>2</sub>G is a company that aims to resolve the issue of neonatal deaths and the death of children under five. Currently, many developing countries are facing an issue of having a high death rate of neonates and children under five. For example, the Sub-Saharan African area has a very high neonatal death rate of 34 deaths per 1,000 live births. This issue is mainly caused by two reasons; diseases like pneumonia, and preterm births. However, these causes can be easily prevented with the use of clean water. It is said that 35-50% of Diarrhea disease and 23% of acute respiratory infection can be prevented by the children and mothers washing hands. Clean water can also be used to increase the efficiency in growing and harvesting crops in farms. This will increase the amount and variety of crops people have access to, which can help provide the necessary nutrition to people. This will also contribute to solve the issue of preterm births, as malnutrition of mothers is the main cause of preterm birth. Therefore, AirComb believes that providing clean water to countries that do not have enough clean water can decrease the death rate of neonates and children under five. To provide clean water, we will create and operate stations that will be placed in villages around numerous developing countries. These stations will create clean water with the use of wet desiccation, which is a process of creating clean water from the moisture in the air. We will sell these stations to governments of countries that are in need of clean water. On top of that, we will help to educate people on how to sanitize and clean their hands, by creating posters that shows how to effectively wash their hands. These posters will be hung at each stations. In our first year, we will start off with Uganda and Ethiopia. Through marketing and further investment, we will expand our target area.

## 1. Mission & Goals

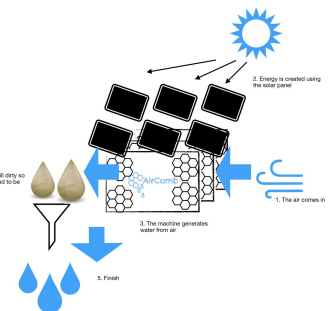
H<sub>2</sub>G aims to decrease the death rate of neonates and children under five by providing a system that creates clean water to those in need. Providing a system to create clean water can help decrease diseases and increase the amount and variety of crops available, which can help meet the needs of nutrition. To raise profits for our service we will be gathering funds from investors who are interested in our service, and also by selling our services to countries that are interested in purchasing our service to provide clean water for its citizens. Our main goals are as follows.

1. Raise funds for our business plan from investors, and return initial funds to investors by the 4th year.
2. Sell our product to nations for \$600 each. By selling at this value, H<sub>2</sub>G will be able to earn \$87 of profit per unit sold.
3. Market our product to other developing nations--preferably to nations close to Uganda and Ethiopia to decrease the cost of transportation of material--and expand our service area.
4. Decrease the neonatal death rate of all countries to 12 deaths per 1,000, and the death rate of children under the age of five to 25 per 1,000.

## 2. Details on Service

H<sub>2</sub>G's service, the AirComb, is a service that provide users with clean, drinkable water by creating water from the humidity in the air. This is possible through a process called wet desiccation, which starts with humid air flowing into our station. Inside our station, brine, a type of dry salt, extracts the humidity from the air, creating water that mixes with brine. The mixture then gets heated up which will separate the water from the brine, which creates clean water that can be extracted from the faucets attached to the station. The brine is sent back to the top of the station to be used again. From this process, we are able to provide clean, drinkable water from the air. When the government purchases this station, H<sub>2</sub>G's workers will be sent to the specified location, who will construct and set up the station. Our service also includes maintenance by cleaning it, supplying it with brine, and repairing it when broken. On top of this, our service will also hang posters that accurately show users of the station how to wash their hands. There will be about 3 posters for each station, and these posters will have drawings on them so that it is easy for children and illegible people. To summarize, our service includes the following.

1. Construction of the stations that creates clean water.
2. Maintenance of these stations.
3. Creating and distributing posters that educate station users on how to wash their hands properly.



## 3. Market/Industry Analysis

AirComb is marketed towards government because of its magnificent potential to improve agriculture and mortality rate by improving the health of their citizens, especially pregnant mothers and children under five. In Uganda and Ethiopia, 60% of the population is engaged in agriculture and 83.9% of exports depend on agriculture, respectively. However, 43% of the population lack access to clean water in Ethiopia. In Uganda, it is a striking 61%. Because water plays a critical role in the quality of the crops harvested, poor water quality is leading to food pollution. Vegetable and fruits are a necessary nutrition for pregnant mothers and children under five. By improving the quality of water, the quality of these foods will be made drastically better, which will enhance their health. There are more benefits for mothers and children. More than 35% of the deaths for children under five in Uganda and Ethiopia is caused by diarrhea and pneumonia. A major cause of this is due to the poor level of water sanitation. It is said that washing hands appropriately can decrease diarrhea by 35-50% and pneumonia by 23%. Since washing hands

can drastically reduce these deaths, improved quality and number of the workforce can be expected by introducing AirComb, which will lead to further economic and industrial blooming in the developing countries.

#### 4. Marketing & Strategy

To market our product to the two target nations, Uganda and Ethiopia, H<sub>2</sub>G will first pitch our idea of creating clean water stations to the governments of these two nations. To convince these governments to purchase our products, we may have to first set up a station for free, and show how our service works, and why it is important for decreasing the death rate of neonates and children under five. By providing evidence of our success there, we will convince and sell the government our service. Furthermore, for continuous marketing, we will make ourselves better known via our own website and SNS, which is proved to be one of the most cost-effective advertisements around the world. By doing so, we will be recognized by bodies as huge as the government. On top of these marketing methods, we will also provide other governments of developing nations with proof of our success in previous sites H<sub>2</sub>G built stations in. This will lead to the expansion of our network, and by 2030, H<sub>2</sub>G aims to set up stations in all countries with high death rates of neonates and children under the age of five. Moreover, the poster we hung at the station will also serve to let the people who use our product to recognize our presence. However, perhaps the most effective amongst our marketing strategy will be the research conducted towards the people who used our product. By showing that the health of mothers and children under five improved, we will be able to gain continued investment from government, as well as getting attention from other developing countries as well.

#### 5. Management

To start up our business, we will need employees to operate the H<sub>2</sub>G company, as well as to construct and maintain the stations. For this, we will employ the local communities and educate them on how to create and maintain the stations. However, to educate our employees, H<sub>2</sub>G need to fully understand how to construct and maintain the stations. For this, H<sub>2</sub>G will partner up with Calvin College, a leading researcher of water desiccation stations, and gain knowledge from them. H<sub>2</sub>G will also partner up with the Planet Water Foundation [PWF], a non-profit organization that is also aiming to distribute clean water to people in developing countries, and learn the know-how of distributing water to people in need from them. Also, we will partner up with the Africa Educational Trust, Children Of Ethiopia Education Fund [COEEF], and Asian educational organizations to educate people on how to sanitize their hands properly.

#### 6. Finance

- We expect the economy in both Uganda and Ethiopia to keep growing steadily, and have therefore assumed the growth in the amount of service sold throughout the first three years
- We assume that there will be no major change in federal grant funding ability
- We assumed growth in the need for our service throughout both Uganda and Ethiopia as well as in other countries where the service may be provided in the future
- We assume that, while droughts may be beneficial to us as the demand for water will increase, other major weather catastrophes could negatively affect our business, and we hope that they do not happen at all
- We expect to be able to pay back the funding in less than four years

(USD)	Year 1	Year 2	Year 3
Revenue	300,000	600,000	900,000
Product/Service	300,000	600,000	900,000
units sold	500	1,000	1,500
unit price	600	600	600
Production Cost	256,500	513,000	769,500
unit cost	513	513	513
Expenses	279,229	13,340	18,815
Staff Salaries	7,800	13,000	18,200
Sales & Marketing	160	335	610
Rent	271,264	-	-
Other Expenses	5	5	5
Profit/Loss Before Tax	-	73,660	111,685
Income tax	-	22,098	33,506
Net Profit/Loss	-	51,562	78,180
Start Up Cost	51,200	-	-
Capital Investment	51,200	-	-
Free Cash Flow	(102,400)	51,562	78,180
Funding Required	105,000	-	-
Cash Balance	2,600	54,162	80,780

#### 7. Conclusion

AirComb will bring an enormous change to Third World nations with its potential to create and distribute clean water effectively, which means that infections will be prevented, along with improving the unhygienic conditions of those countries. As a result, the passing down of infections from mother to child before and after birth can be avoided and a safe environment is given to the newborn babies, preventing thousands of deaths of neonates and children under the age of five. On top of that, our business model is profitable. Through various methods of marketing, we will sell our service to nations around the world, starting from Ethiopia and Uganda. By selling these products to various third-world nations not just in Africa, we will be able to make profit in less than four years, meaning that we will be able to return the initial funds from investors in just four years.

AirComb believes that we will be able to play a crucial role in decreasing the death rate of neonates and children under the age of five, by providing a system that creates a clean, safe source of water. However, to make our business model a reality, the investment from investors is essential. However, because our project both benefits the world and is profitable, we believe that the investment from investors will be beneficial for the investor. Our project is for the future of the next generation, and so that the people after us can have a better life than in the past.

#### Citations

- <http://www.calvin.edu/academic/engineering/2011-12-team5/wetdes.php>
- <http://www.who.int/mediacentre/factsheets/fs178/en/>
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