
Team Project ‘WHATSYEPPENIN’ #4

Final Report

Date: December 2015

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<th>Name</th>
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1. General Project Information and History of Changes

1.1 General Project Information

Starting Date: December 2014
End Date first phase: December 2015

Client: Netherlands Water Partnership: Lennart Silvis, Directeur

1.2 Project team
Herewith the project team members in Table 1.

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<td>Connect International</td>
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<td>2.</td>
<td>Sieske Valk</td>
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<td><a href="mailto:sieske.valk@yahoo.com">sieske.valk@yahoo.com</a></td>
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<td>5.</td>
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<td>Soil &amp; More</td>
<td>Ethiopia</td>
<td><a href="mailto:m.p.wolthuis@gmail.com">m.p.wolthuis@gmail.com</a></td>
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Table 1: Project Team Members

2. Project background and definition

2.1 Introduction

The number of professionals in the water sector with international experience and youthful, inspiring and innovative insights is declining. Not only in the Netherlands, but globally as well. On the other hand, most of major issues pose a threat to the existence or quality of our world’s most valuable resource: water. These
Pressing worldwide issues range from water degradation, stress, pollution, mismanagement to scarcity, often leading to conflict. They require a new creative way of thinking by young (water) professionals, seeing opportunities and solutions which the older experts may not pay attention to due to a creative lock-in. All that and more, actively encouraged the Netherlands government to support the Young Expert Programme Water (from hereon YEP Water), adding to it that the country itself needs to maintain its reputation in effective, innovative water management and governance.

The Ministry of Foreign Affairs and Netherlands Water Partnership (from hereon NWP) have initiated YEP Water with the objective of providing assurances for the continued availability of international professionalism and expertise for youth in the water sector. This programme offers the Dutch young professionals an opportunity to acquire professional experience abroad, and the young local professionals an opportunity to engage in an international work environment via Dutch organisations. In adopting this approach YEP Water makes a contribution to a dynamic international water network and makes this network open to a new generation of water experts with youthful creativity to tackle the pressing issues and demands in the sector. The benefits will not only encounter the business market of the Netherlands, but also the participating hosting countries.

The deployment of Young Experts is related to one or more of the following three themes:

- Efficient water management, in particular in the agricultural sector
- Improved river basin and delta management and also safe estuaries
- Access to safe drinking water and sanitation

The two-year YEP Water project consists of two main phases, **Year 1** and **Year 2**. The first year of the project aims at getting all young experts spread around the continents to identify trends and opportunities in the sector. In the second year, the project aims at translating the outcomes of the first year into an innovative business model. This concept project plan will only explore the first year of the project and its assignment: trend(s) watching. The first year consists of two main phases in our crew’s plan, phase **Mega 1** and phase **Mega 2**. In phase Mega 1 (January to June, 2015), all efforts will be paid to and focused on trend watching and periodically analyse them and the inserted data. Phase Mega 2 produces the end-products of phase Mega 1, a report, video and infographic to be presented to the client.

### 2.2 Project definition

The aim of the first year of the project is to scout trends. We define a trend as a development that changes people’s behaviour mostly socially into a new ‘direction’ and has a long-lasting impact. Trends can be found in all parts of society, from fashion to politics, from technician to accountant. A trend is a change in attitude towards an existing, general accepted idea or for example a working method. A trend can bring a solution to a problem, create something new, and will feel like a discovery. Our mission is to identify short-term, mid-term and long-term trends, where we differentiate between: market/product trends (0-5 years), consumer trends (5-10 years), and social trends (10-15 years) respectively. The deliverables of this project include the
collected data, the resulted information of analysing the data, and the discovered trends with logical explanation and supporting materials including photos, videos or any other (See Figure 1 below).

Within one year time, our group of 21 YEP-pers (YEPTains) will perform the trend-watching task assigned to them all in the first phase, Mega 1. The outputs of the first phase will be presented, reported, and produced as infographics.

The investigated trends can be used as market opportunities for the Dutch water sector and thereby serve the interest of the NWP and its members and contribute for the future development of the water sector of the participating hosting countries. Furthermore, the Dutch Ministry of Foreign affairs can shape future strategies into developing tools and policies helping the Dutch private sector on capitalizing on the changing environment.

![Figure 1: YEP 4’s planning and project deliverables](image)

### 2.3 Goal

To quote NWP: “By putting our heads together as a network, we can achieve more in solving global water related challenges. A united voice is stronger than 200 individual voices. Moreover, by entering markets in clusters, offering expertise as a one-stop-shop, Dutch companies increase their world market share considerably. In the Netherlands as well as abroad, the NWP is the gateway to all you need to know about the Dutch Water Sector and its solutions to global water related challenges. Let’s work together!”

For the network of clients related to NWP it is important to know relevant trends and developments in society as these trends can create opportunities for the sector. Therefore, and in regards to that approach,
the goal of this project is to identify current trends in the young experts’ home or host countries. Those trends will assist in innovating business opportunities and creative solutions in the sector.

The project’s greater purpose lies in the discoveries which will arise while searching for trends and solutions. Those discoveries will possibly empower the water sector and those in it. It will also enable the Netherlands’ government to create businesses solving the identified problems; while not only benefiting from that, the sector’s services in the beneficiary countries will also be enhanced. In addition to that, this project will contribute to the success of the YEP-pers careers and will expand their network. It will also allow them to have their eyes open to possible business opportunities for their own entrepreneurship development during the project’s different phases.

3. Method

To come up with the selected trends, the following methods were undertaken.

1. Training for young experts.

Training has been given for all young experts (Dutch and local) for a period of three weeks. After the training has been accomplished, an assignment was given for each participant to develop a trend.

2. Individual assignments: Every YEP-per has been assigned for trend watching in the organizations/places they work.

3. Division of tasks by groups

4. The YEP experts (21 in number) were divided in to 4 groups without considering geographical locations they came. The groups for specifics tasks are the following:

   • Trend analysis group: the specific assignment of this group is to collect the trends posted in the base camp and screen and select top 3 trends based on the criterion set.
   • Reporting group: the assignment of report group is to develop a report of the activities in the whole task and submit for the other groups for infographic and presentation.
   • Info graphic group: the specific assignment of this group is for developing infographics for presentation.
   • Presentation group: the specific assignment of this group is to present the trends by developing best way of presentation methods/infographics in a way that can convince participants.

5. YEP Assignment: identification of Trends/trend watching

In the beginning, 49 trends were identified by all members. Two step screening was undertaken to select the best top three trends. To select top 9 trends of the selected 49 trends, the following criteria were applied by the data analysis group.
Relation with water sector
Opportunities for Dutch business to expand their market
Uniqueness does it introduce new technology
Marketability and potential for scaling up (could it be developed into business; is there a market)
Potential impact

In the second step trend selection method votes of all team members were collected to select top three trends of the top 9 trends selected by the data analysis group. 85% of the members (young experts) participated in the voting process.

4. Description of selected trends

4.1 Growing need for food
A growing need for food (due to population growth, urbanization, income growth, increase in life expectancy) is observed. Population will grow from 7.2 to 9.6 billion in 2050 nearly all in developing countries. By 2050 more than 70 percent of the world's population is expected to be urban. Urbanization will bring with it changes in life styles and consumption patterns. In combination with income growth it may accelerate the ongoing diversification of diets in developing countries. While the shares of grains and other staple crops will be declining, those of vegetables, fruits, meat, dairy, and fish will increase.

Life expectancy is assumed to rise continuously, with no upper limit, though at a slowing pace dictated by recent country trends. By 2100, life expectancy is expected to vary across countries from 66 to 97 years. In order to feed this larger, older, more urban and richer population, food production must increase by 70 percent.¹

4.2 Do it yourself (DIY)
Do it yourself (DIY) is the building, changing or repairing of something without the help of professionals. It started in the 50's with people starting small building projects as creative, recreational and cost saving activity.

The digital revolution has empowered people to do things they never had the necessary tools to accomplish on their own from becoming a citizen journalist (cell phone cameras and social media) to turning their car into a taxi cab (Uber) or even turning their house into a hotel (Airbnb).

Of course, radio has not been immune from this revolution as people share playlists (Spotify), customize their traffic reports (Waze) and turn their laptops into broadcast studios (podcasts).

Another example is crowd funding, once a niche model for those who couldn’t get traditional financing, has gone mainstream. Active global crowd funding platforms generated $16.2 billion in 2014—a figure that is expected to more than double in 2015 to $34.4 billion, according to crowd funding research firm Massolution. A person a company doesn’t need a bank anymore to raise finance but due to the connectedness of the crowd and the emerging amount of platforms it has become very easy to DIY. However, this empowerment, which enables anyone to do anything regardless of talent or access to capital, comes not just at an opportunity cost, but quality can also suffer.

### 4.3 Small scale (local) solutions

It is realized that with the growing demand and less success to fulfill it by large scale solutions, the need of small scale solutions are growing as it address need/demand of small to medium level population and in most cases uses a local knowledge to adapt it to a local context. For instance, increased population has impacted on decreasing land holding size or per capita land holding reduced with increased population. Similarly there are numerous example where large scale innovation failed to work, especially due to poor management, high cost, functionality, maintenance and ownership issues that leads to the smart low scale solutions for farms, water security, water management, energy etc.

Small scale solution is as a trend are easy to handle/operate, communities have feeling of ownership (for instance rainwater harvesting at household level to accumulate drinking water), and easily accessible (motorized pump set for agriculture to uptake groundwater or water from river to the small and medium farm field). Not limited to it, small scale solutions are time saving and efficient means to handle the work (for instance a simple manually operated carrier device i.e. sulky to carry bamboo can carry as much as 5 times than an a normal person can carry at one time in same time interval with same effort. The important issue is small scale technology as a small scale solutions are easy to manage and it contribute to solution at local scale that build together to provide networks that give national benefits. So it does have multiple benefits and is more sustainable. For instance few scope and examples of Small Scale Solution are:

- Small Scale solution of Water security: motorized pump for agriculture water, water storage to cope with climate change and variable rainfall.
- Small Scale solution for farm: Biological pest management, composting manure, groundwater recharge, source protection low-cost irrigation system
- Small Scale solution for Water management: Rainwater harvesting for drinking water and agriculture
- Small Scale solutions for Eco-friendly youth village: Production of small scale energy from plant material.

### 4.4 3D printing

This trend of increasing use of the 3D printing technology was spotted in the Philippines. 3D printing technology is quickly advancing and is soon expected to become one of the mainstream leading technologies in society. The ink jet printer puts a single layer of ink on top of the page in order to get the job done, while a
3D printer adds new layers on top of each layer before it, until the object is completed. Pretty much anything can be 3D printed. Since the 80s, many new materials for 3D printing have entered the market, including gold, silver, titanium, wood, and ceramics. Over the last year alone we have seen 3D printed houses, drones, dresses, jewelry. 2 3D printing was primarily used for prototyping, but is now being used for production-ready pieces.

4.5 Need for clean water
A trend is that due to growing population an increased number of people need clean water. Some facts about this trend are:

- 663 million people - 1 in 10 - lack access to safe water
- A review of rural water system sustainability in eight countries in Africa, South Asia, and Central America found an average water project failure rate of 20 - 40 percent.
- Globally, 1/3 of all schools lack access to safe water and adequate sanitation.1
- The water crisis is the #1 global risk based on impact to society (as a measure of devastation), as announced by the World Economic Forum in January 2015. 5
- In low and middle-income countries, 1/3 of all healthcare facilities lack a safe water source.1
- Every 90 seconds a child dies from a water-related disease
- Every $1 invested in water and sanitation provides a $4 economic return
- Women and children spend 125 million hours each day collecting water
- 6 to 8 million people die annually from the consequences of disasters and water-related diseases.

4.6 Growing fish industry
The increase of population all over the world has pushed people to find some alternatives for their food security. One of the easiest ways is the fish aquaculture. The fish industries have significantly grown in some countries. Even in Ethiopia, this industry which is previously not popular starts growing. This trend is firstly spotted in Ethiopia, when people have realized the growing insecurity of food. At the same time, there is an increasing demand of fish in urban areas. Fish production in Ethiopia keeps growing from around 3700 tonnes in 1980, 5000 tonnes in 1990, and it reaches 18000 tonnes in 2010. Meanwhile, the increase of fish production also happens over the world. Figure 1 shows the 10 main aquaculture countries, with China as the country with the highest fish production, followed by Indonesia, India, etc. From the graphic’s trend, we can see that the fish production always increases and reaches 79 million tonnes in 2010.

2 (https://blogs.windows.com/devices/2013/01/22/10-fascinating-facts-about-3d-printing/)
Aquaculture in China is more into large scale production, while in other countries are more into small scale production. China even made a floating village which covers the whole bay. It’s called a village because basically it consists of fishermen’s houses. Every fisherman operates a small scale fish industry in each floating house.

In some areas in Indonesia, there is an interesting way of growing fish which is called “minapadi”. It combines a farming area with fish pond, so people can use both the water and the area effectively. The government starts to appreciate it and even support the development of this program, for instance to change fish with shrimp.
4.7 Increase in online transactions

Online transactions for shopping, booking tickets and other purposes become popular in the last decade. In 2020, e-commerce transaction will reach near USD 450 billion a day (Bruce Johnston). What can we see from this trend and how can we use it in international water development?

In some years ago, people have to go to market to buy clothes, foods, or other stuffs. When they want to book a ticket, they need to go to a locket, sometimes have to wait for they turn in that locket. But now, with almost every people have access to internet, online transaction becomes popular. We can do the transaction anywhere and anytime, we don’t need to wait in a line and we can choose anything we need by just sitting and clicking. The important thing we need is an access to the internet. With this easy way, the total transaction via internet increases every year. The statistic in Figure 4 gives information on retail e-commerce sales worldwide from 2014 to 2019. In 2015, retail e-commerce sales worldwide amounted to 1.67 trillion US dollars and are projected to grow to 3.55 trillion US dollars in 2019.

Figure 5 Retail e-commerce sales worldwide from 2014 to 2019, in trillion U.S. dollars (Source: http://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/)
5. Trend analysis leading to opportunities

The new developments and associated inclinations observed were analyzed and summarized, and accordingly the opportunities derived from the trends were again linked to the opportunities that signpost business solutions.

The observed trends are 7 in number: Growing E-commerce /Crowd funding/, Increasing the use of 3D printing technology, the growing need for clean water, growing need for food, growing fish industry, applying (local) small scale solutions for problems and the enriched sense of Do it Yourself.

These trends were combined to produce lively opportunities that could be change to business and development agenda. A trend in the list can produce one or more opportunities, and in that it was summarized in 3 opportunities, as shown in the table below (Table .xx.xx).

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Below, the opportunities will be described.

5.1 Opportunity 1: Shop, Donate, Click (3d) and build

5.1.1 Description of the opportunity

Online transactions for shopping, booking tickets and other purposes become popular in the last decade. What can we see from this trend and how can we use it in international water development? We see this trend as a highly potential solution for humanitarian (water development) aid.

We have made the assumption that small amounts such as US$1,- or 50 cents per purchase on an item worth, let’s say US$ 399,50,would not create a barrier for purchasers on popular websites such as Amazon, eBay websites of flying companies. The only thing these websites need to do is attach a “donate” button on their final payment page.
Just imagine, that after the “proceed payment” page, you will find a “Donate Now” button and an overview of where your money will be donated to (e.g. improved sanitation and provision of clean water). Assuming the charity rate reaches 0.05% of total transaction amount, it counts for millions of US Dollars per day.

5.1.2 Beneficiaries, consumers or stakeholders

Beneficiaries are people in underdeveloped regions. The beneficiaries will get the development in the water sector (sanitation, clean water, etc).

Other stakeholders are organizations: more workforce needed (for monitoring, implement project, get funding for their project). Also the large online shops will benefit from this.

5.2 Opportunity 2: Clean Water Supply / Desalination

5.2.1 Description of the opportunity

Quality, quantity and access to clean water have been an increasing problem worldwide. Population pressure, a high rate of urbanisation and climatic changes have been the root cause of these problems for decades now and various solutions have been proposed and implemented globally. One of the solutions spotted in several YEP Water working areas was the use of desalinisation plants of which one of the case studies will be discussed below.

Moerk Water Solutions (MWS) is a German company which is focusing on desalination plants and solar power installments in Zanzibar (Tanzania). As a group of islands, surrounded by sea water, Zanzibar faces many challenges concerning fresh water supply. Although fresh water wells are present on the main islands, some have been privatized and the public wells are poorly managed. Not much reliable data is available on the whereabouts, quantity and quality of the public wells. Moreover, due to both anthropogenic factors and climatic change, fresh water wells tend to become salinized and contaminated, increasing water related diseases. Furthermore, population pressure drives people to migrate to inhabitable smaller islands in the archipelago. Uninhabitable, because of the lack of fresh water wells. Untill recently, people living on these small islands shipped in plastic bottles of water from the main islands, a very expensive and environmental unfriendly practice.

MWS works together with Pamoja Zanzibar, a local NGO which focuses on capacity building among locals. MWS first researches which areas could possibly need and host such a plant and whether people would be interested, mostly in remote rural. They strive to work together with local institutions such as schools, mosques and health providers, such as clinics, to convey the message (i.e. importance of clean drinking water). When a plant is installed, a few local people will be trained by Pamoja Zanzibar to do the simple upkeep. After a year or two, one or two locals will be trained to do the more difficult upkeep, which up to then was done by MWS staff itself.
Through experience on the ground MWS knows people in remote rural areas often do not have the means and/or are not willing to pay for clean water and will keep on drinking (dirty of saline) water from their wells because it is free. They don't know better than that their children are sick every few weeks and sometimes die from dehydration and/or diarrhea. That is why, most of the time, the use of the plant is free in the pilot-phase, to show people the benefits of clean water. After experiencing the health benefits, people are more likely and willing to pay a small amount for the clean drinking water. Together with implementing the plant, Pamoja works together with the aforementioned institutions to teach people about health issues and empowerment.

Next to this, Pamoja strives to install desalination plants for water intensive institutions, such as the many hotels which decorate Zanzibar’s coastline. Hotels marketing themselves as eco-friendly are mostly interested in the plants as most of the hotels have to bring in fresh water from the wells in big trucks. This is because Zanzibar’s main island Unguja lacks the proper water infrastructure. These hotels, which install the desalination plant, need to pay the normal price of installment and usage.

However, there are several uncertainties concerning the desalination of saline water of which the most important one is the impact of treated water on human health in the long term. As the water is treated, important minerals, naturally present in water, are also extracted. How this problem for public health can be tackled, still needs to be solved if this trend is to be implemented worldwide. Furthermore, building these plants takes knowledge, materials and most importantly financial capacity, whereas the people needing the machines the most often don’t have access to any of them. These are problems which need to be solved, before the trend can evolve further.

Fresh water is diminishing in many areas around the world and the amount of people migrating due to environmental circumstances is increasing. Furthermore, population pressure is increasing, in turn increasing the pressure on fresh water wells. In order to reduce the latter, we need to find ways to use saline water, which is available in large quantities.

5.2.2 Beneficiaries, consumers or stakeholders

The beneficiaries and consumers are people living in remote rural areas or on the coast line, hotels and other big water users. Other stakeholders are the desalination plant construction companies (not necessary MWS), Ministries of Water (infrastructure), Water boards, Water companies and environmental organizations.

5.3 Opportunity 3: Ensuring food security through increased Fish Production

Ensuring food security has been on the agenda of many (developing) countries’ governments. The world’s population is rising, land is getting scarcer and the fertility thereof is diminishing. Furthermore, we are increasingly exploiting nature’s resources and therefore also our sources of food. The following trend, spotted
in Ethiopia) seems to build a bridge between food security and over (or the wrong type of) exploitation of nature’s resources.

5.3.1 Description of the opportunity
In Ethiopia and many poor African countries with plenty of fresh surface water resources, people have realized the growing insecurity of food. Fresh water lakes and rivers are not properly utilized, not enough utilized or totally ignored, depending on people’s awareness, the suitability of the water body and the access to roads and towns. At the same time the quality of fresh water bodies are deteriorating due to a lack of awareness on consequences of environmental unfriendly practises.

This trend has been spotted in many African countries and other developing countries in the world. At the same time, there is an increasing demand of fish in urban areas. Taking this into consideration, one can easily understand the necessity of this trend to be solved.

Food insecurity is a global problem, of which often the solutions are difficult to find or have major consequences for certain paradigms (such as the redistribution of food and wealth). However, in the case of Ethiopia and many other countries which are rich in fresh water bodies, food insecurity can (partly) be solved by, for instance, capacity building. “Teaching the man to fish instead of giving him fish” would be highly applicable in this case. Furthermore, there many fish species in Ethiopia alone, while the water quality is deteriorating. The issues mentioned above shows the necessity to comprehend the trend and to organized, utilise and manage it accordingly.

5.3.2 Beneficiaries, consumers or stakeholders
The solution to the trend could benefit millions of (poor) people’s in Africa, especially those living in countries rich in surface water. Ethiopiarcould possibly be the perfect exempla of a country where people are living nearby plenty of fresh water lakes, while starving of lack of access to food due to rapid growth of the population, urbanization and lack of proper knowledge of fresh water potential for food security.

This solution to the trend can benefit Ethiopian, Dutch and other companies that can properly invest in this.

6. Group process
The process of coming to the end result was briefly evaluated on 26-11-2015 during the comeback training. The session was facilitated by the process coordinator Naomi Timmer. The following gives an overview of the topics that were discussed.

- How was the teamwork going?
Some of the participants indicated that they have experienced problems in communication. They saw this as a reason why deadlines were missed. Other feedback on problems in the cooperation was the fact that the
tasks were dependent on each other. This caused people waiting for each other. According to the majority of the group the biggest problem was the lack of 100% commitment. Participation was good in the beginning, but dropped after lead team member had to step down. The rewards system was working very well (YEPper of the month).

- How were the 8 hours per month spent?
The hours were divided among the different work tasks depending on the work groups. It was not for everyone always possible to spend 8 hours per month as it is part of the contract between the Dutch organization and YEP. For some YEPpers it was a challenge to find enough time for the YEP assignment. For the future it is recommended to make it more clear to the organizations that the 8 hours are to be spend on the project.

- What would we do differently to keep connected?
We would use Whatsapp for keeping the communication alive. An idea of group 3 is to organize webinars on a certain topic. We have decided to keep communicating via Basecamp and Skype.

- Were we using each other’s strengths?
No, but the network will stay. We may meet in the future.

- Feedback on the team leaders?
The lead team members were working nice.

7. Conclusions and recommendations

7.1 Conclusions
Imagine if the world population doubled and the digital revolution came to pass, what would change? Probably not much would stay the same. Well, as it already stands the world population has indeed grown to 7 billion people. During the 20th century alone, the population in the world has grown from 1.65 billion to 6 billion and digital revolution is upon us. This has brought with it numerous changes and trends in our daily lives from the way we think to how we do things. Most importantly of all is that the resources that were always readily available to us are no longer as vast and this has seen lots of trends creep up in a bid to survive and sustain natural resources and most importantly water.

Therefore people have made a shift from waiting for professionals to doing things for us and now taking it upon themselves (DIY), the need for security and sustainability has raised the demand for water, fish hence the increase of fish farming and small locally produced water systems. With the digital age came e-commerce and the ability to do crowd funding online. Suffice it to say that with the changes have come numerous opportunities especially for the water sector where we can now build toilets online (shop, click, donate and build a toilet), build our own small scale water systems to increase access to water and last but not least be able to keep food insecurity at bay by sustainably increasing fish production.
Spread out across the world the Dutch and local YEPtains have been able to scour the water sector for different trends that they observed through their daily work. As a group they were able to keep together through an online platform called basecamp for communication and sharing of ideas. With different schedules, circumstances and time zones it had some challenges like missing appointments or delayed replies and meeting of deadlines since this platform requires that one has a good Wi-Fi connection. However the group was able to work against such odds through diversifying the means of communication. Besides basecamp, Skype, Whatsapp and sms were used to make sure that everyone kept abreast with the process. Dividing the group into teams according to the tasks at hand also was very handy in ensuring the assignment was accomplished in time. However since it was a fairly big group leaders to coordinate the different groups also helped to keep everyone in line.

7.2 Recommendations

In retrospect looking back at how the process of the trend assignment rolled out, the challenges and victories we made, the following are the recommendation we would like to make.

- Induction into the assignment, what trends really are and the expectations of the client (Netherlands water partnership) could have been handled better. For instance during the return training expert trend watchers helped clarify the difference between trends and opportunities and this was done after the assignment which brought to light the fact that what had been selected as trends were actually opportunities and trends were underlying signals that led to the identification of the opportunities.

- To keep up the motivation, for monitoring and to ensure full participation of all YEPtains spread across the world a mid-term workshop or get together to review the process of how much progress has been made at the point, what is going well and what can be done better would have been helpful. One would say that it would be costly to get all the YEPtains in one location however it would contribute greatly to the quality of work. In that regard however, clusters around would have been just as effective. The get together of same batch members per region or continent as an alternative would also improve the process.