

## **Poverty Alleviation by GEM Project**

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## **Abstract**

GEM meaning Global Engagement and Mobilization is an education program for international development. With a goal of holistic community development, it is a project that undergraduate students studying in a different area participate in a holistic development program, helping people vulnerable to poverty. While existing approach of international development is focused on giving countries, this GEM project is more focused on receiving countries, which is to send students to the fields and has a feature to satisfy real needs of the fields through connections of regional people or NGOs. Also, this program is for encouraging university students as a voluntary participant to strengthen their sense of responsibility of resolving the world's problems. There are two directions that we want to suggest. First one is to build up GEM NETWORK of inter-universities for boosting sporadic expansion of GEM project. Second one is about connection and cooperation of inter-actors of international society for sustainability of GEM project. About those of two directions, we will more deeply discuss and research on our thesis.

**Keywords: GEM, poverty, community development, network**

## **I. Introduction**

### **1. Background**

UN set MDGs to help world's countries of abject poverty and did their best to eradicate poverty until 2015. Even though many developed countries offered an aid to developing countries and implemented many programs, they didn't accomplish a great success, and rather their poverty and their difference of poverty has increased gradually. Therefore, it is true that simple financial aid is not a solution for poverty problems in the world, and it is a time to put an emphasis on education as one of methods to resolve the poverty.

### **2. Purposes**

GEM is an education program for international development, and with a goal of holistic community development, undergraduate students from different departments participate in this program to help regional people in poverty and to resolve international social problems. The students investigate needs of regional people and with multidimensional approach from a department of international studies, management and economics, social welfare, mechanical and control engineering, and so on, they set a goal for sustainable development and improvement for international problems. While the current approach for international development is focused on donor countries, this GEM sends students to fields, focusing on recipient countries. Also, they can fulfill actual needs for regional people through connection of NGOs.

### **3. The Reason to Introduce GEM (Global Engagement and Mobilization)**

GEM is worth for having an attention because it deals with both education and community development. This is a program for undergraduate students who are educated from each different department such as international studies, management and economics, social welfare, mechanical and

control engineering to use their knowledge for alleviating poverty of developing countries before they go to apply their knowledge in a society. The effectiveness of GEM is especially revealed as accomplishing community economy development through suggesting a business model in a region. For this reason, we think that GEM can be a new model for international development project of UN.

#### **4. Direction**

Therefore, the flow of this paper is looking at the process from the beginning stage of GEM to the later step of actualizing effectiveness through first, second, and third cases which were a project performed GEM program. In addition, we will think about limitation that the GEM program is performed in just one university and to improve this limitation, we will discuss about forming GEM Network through connection of each university and about methods for connection and cooperation of international society for sustainability of GEM.

## **II. Main Subject**

### **1. Cases of GEM**

#### **1.1 Chad Charcoal Business**

The world seventh poor country, Republic of Chad is called as ‘the dead heart of Africa’. They depend on import for getting most of their materials and goods because there are few resources and industrial foundation is very weak. Therefore, diverse NGOs and international organizations including Good Neighbors, World Vision, and UNESCO offer their aid for social infrastructure and development of them. Of many international NGOs and organizations, Chad branch of Good Neighbors, an associated institution with GEM of Handong Global University helps do community development, focusing on eleven villages. In these eleven villages, more than 50% of regional people are living with less than one dollar a month. Good Neighbors of Chad asked GEM of Handong Global University to do project with them, using their own charcoal molding machine.

Therefore, this project started with a goal of a community business and its stable management to solve energy problem caused by desertification and logging prohibition of Chad government. This project was done from 2011 second semester to 2013.

This project has a goal for not only increasing income but also alleviating poverty and holistic development through charcoal making technology and regional people's spontaneous business management. The project team performed marketing survey for charcoal sale around FarchaAttere which had a motivation for business. Also, they experimented for charcoal making process and improvement of charcoal quality and they surveyed a method for operating cooperative social business.

The desired effectiveness of this project was about stable mass production through improved charcoal machine and about making and executing a plan through spontaneous participation of regional people. They finally wanted to get change and development of regional people through strengthening regional people's independence and motivation for charcoal business project.

This project started from 2011 fall semester and was progressed as a five step such as project analysis, cooperative planning, business launching, business launching<sup>2</sup>, and business expansion and sustainable development. First, in a department of machine and engineering, they improved the current charcoal making machine appropriate for regional needs. For the designing team, they set a goal to make a logo and develop a packing to sell the charcoal product. For business and management team, they set a goal to make a sale route and support stable and sustainable sale.

As a result for performing this project with Chad Good Neighbors, they were able to produce charcoal 7.5 times through the improved charcoal machine compared with the previous charcoal machine. The business management team got information about large-scaled market through Chad branch of Good Neighbors. Cooperation with NGO was strengthened in this project and very important in making a business plan because the project team had a difficulty to understand their culture and to build a trust with just short-term visiting by themselves. When they had a meeting with

village leaders and they educated the regional people, the cooperation of Chad branch of Good Neighbors was very helpful because they had already known about the village and worked with regional people for a long time.

For the designing team, their purpose of the designing team work was to make regional people realize the possibility of sugarcane charcoal business by letting them know about a packaging way as a tool of strengthening for making a profit. Through this, they improved possibility for mass production for charcoal product, and first of all, they actualized the stable and sustainable sale through regional peoples' spontaneous participation. Also they strengthened independence and motivation for regional people.

Through cooperation with undergraduate students, regional people, and NGO, this project brought out active process. In this case, the Good Neighbors helped students to perform field survey and understand regional needs. They also selected villages which had a strong motivation for this project instead of students who had difficulties to find out field situation. Also, when students visit the field, the Good Neighbors took a role as a bridge between students and regional people.

Business management team performed a role to initiate this project. At the first time of this project, Chad branch of Good Neighbors asked GEM project team to do business with charcoal machine which the Chad branch of Good Neighbors had. So, before launching the project, the role of business management was very important.

Machine and engineering team of this project made much effort to make best sugarcane charcoal production machine appropriate for the regional environment and people. They continued to develop and revise charcoal machine for best quality charcoal product, but their perspective to upgrade a function of the charcoal machine was that the regional people could assemble parts of machine easily and effectively as well as producing best quality of charcoal.

The designing team found a need for naming and branding for the sugarcane charcoal product for expanding business and marketing route. Their first packaging material was plastic which

was general material to package goods in Chad, but they found out that the plastic packaging was fragile and made charcoal have humid and easy to be broken during delivery. So, they revised the packaging material from plastic to paper, which can be burn with charcoal when burning it without making charcoal have humid.

One problem of designing a package was that the materials used for package were from Korea for the first time, so the designing team went to a market of capital city of Chad to find alternative package materials which can be obtained in the regional area. However, most of people there had no packaging way, instead of the packaging, the regional people put their goods and materials on their head or put them in a plastic bag for taking them. The material for packaging that the designing team wanted to find was paper because the paper packaging was considered as the best way, and the designing team used to see some shops using paper packaging when they walked around market. In addition, for regional people, paper packaging was the other way used as frequently as plastic packaging. However, the regional paper was not possible to use for packaging because it was very weak and fragile for packaging a charcoal product. In addition, there was limitation for finding the alternative. This is the problem needed to be solved afterwards, for sustainable development directly in the region.

The quality of sugarcane charcoal which was developed by GEM project team of Handong Global University was not comparable with other charcoal products. The quality of the sugarcane charcoal product was very good. It was due to the efforts to make best charcoal product through considering the regional situation and environment. Through this project, product development and competence were more strengthened than before.

This project brought out not only generating individual income but also activating community economy. The regional people also tried to develop their agriculture by themselves so that they could produce charcoal product as much as possible because sugarcane was their main resource for making charcoal of this project. Through agriculture development and sugarcane charcoal business, the regional economy was more improved.

## **1.2 GEM Project in India**

### **1.2.1 Water Quality Improvement Project**

#### *Background of this Project*

Bihar, India is renowned for a region suffering economic destruction and severe income disparity, as well as social problems, such as bad governance. Nactadiara, a region in Bihar, has been marginalized and losing interest for economic growth and basic social welfare and healthcare due to its location quite distant from the central. Northern and Southern regions separated by Ganges River, seemingly, are different in that one has been much developed, and another has not. Thus, those who live in the underdeveloped region have been exposed to not only various social problems, but water pollution caused by high concentration of heavy metal and microparasites, so they are in the very danger that brings about a lot of waterborne epidemics. Also the water in the region is diagnosed as not-enough-to-drink, not complying with WHO. The two main sources of water in the region, one of which is from the water acquired by using hand-pumps, digging a well to pull water from the cluster, and another is natural bedrock water containing various essential minerals. The latter is known to be portable water, but the quality highly depends on the depth of the bedrock. Also there is a possibility that a lot of harmful waste have been saturated in the water. The water that people easily obtain in the region is assumed to be the first.

#### *Projects proceeding*

The surface water that most people use in Bihar contains high dose of fluorine, which can possibly cause geromorphism. It also contains high level of arsenic, coltis germs, and other sorts of heavy metal, so the purpose of the present research can be found. First and foremost, the project team distributed BSFs (Bio-Sand Filters) processed by alternative technology and proceeded sanitary education for the people. This project also has reached the 4th phase, the product localization and



spread, equipped with arsenic purifying function, in order to increase its compatibility by compensating the weaknesses and defects of them. Then the team held the sanitary education seminar for the grasp of environmental degradation that causes water pollution and founded a distribution channel by meetings with the local universities and NGOs for the fundamental change of the region.

### *Possible problems*

The outcome of the experiment for eradicating germs in the water has not been finished, it is verified that BSFs can decrease the level of arsenic, known to be the biggest problem, in the water. The second biggest problem is coltis germs, so BSFs can be commercialized and further distributed if they can inhibit the activity of coltis germs. Therefore, the GEM team re-invented a model using sodium hypochlorite to decrease the number of coltis germs in the water; they believe that the new model can be welcomed, provided sodium hypochlorite in the purifier is proved to be not harmful to people.

Another problem is that the local people do not understand the gravity of water pollution and its severity, so they are not willing to use the products. Thus, the 2013 team and previous teams had a meeting to hold more beneficial seminars and decided to add BSF usage resources and the hazard of water pollution resources in the education materials.

### *The progressive future of GEM*

Sustainable development has been one of the most significant agenda in international development studies since 1990's. In a narrow sense, the sustainable development by BSFs for water quality improvement cannot be stopped, but the people use BSFs for at least one year and provide the teams with feedbacks, then co-operation with the NGOs and private corporations in the region induce other regions to use the products, and consequently manufacturing BSFs becomes a revenue source for the regional people for community development. For this process, the network with other actors, such as the local people, and interest groups, and universities interested in grassroot development, is required for further distribution, maintenance, and management of the products. The team calls this

process “feedback oriented network” for alternative generation to solve the problems. In addition, the actors who have the grasp on usage of BSFs should thereby co-operate with the Handong University water quality improvement team with the development of “co-operation-centered project network.”

### **1.2.2 Child Welfare Project**

The Bihar, which 104 million of people lives in is the poorest state in India. At the moment, children in Bihar face bad environment in social and cultural basis to grow as healthy social adults. Those are because of several reasons like: absence of ethics education in school, high portion of illiteracy rate, children battering condition in society, and also discrimination by a Caste system from the early ages. We started GEM project to heal these children by processing counseling program. By working with people in that region we tried to solve this matter. For processing this project, GEM team and Canaan farmer school cooperated. This project was planned as 5 times for 2 years. For the first project, we took a psychology test to the children in Akilpul(the poor farming district) and Bincoli(the poor urban district). Based on that result, we developed the art psychotherapy program to solve matters appear to the children. Also, we processed Helper education programs, to make this children cure program more effective. Through the 4<sup>th</sup> and 5<sup>th</sup> project, we tried to educate local people and NGO people, who meet children directly. We asked them to assist the program in the 4<sup>th</sup> period, and in the 5<sup>th</sup> period they proceeded with program themselves as a main performer. By this process, we hoped the region could keep changing as a place that children could grow well.

We found children has violence attitude from a psychology test. Also, we found the children in this region are undeveloped than other area, in perceptual part and emotional part. We planned play psychotherapy for the Akilpul children with educational program to improve their poor education environment. Though the children in Bintoli needs educational program too, but we programed personality training program. Because we thought they need more personality building program for making upright character. We also planned emotional maintaining program for the local people working for the children. The 5<sup>th</sup> period was children developing education to the local workers. Because the local people and Canaan team followed the program well, and also because they had

eager for the children healing, the program had worked perfectly.

Children's problem: Their cognitive development is undeveloped well. Because of their family environment, they have offensive and violence personality. Through the program, we can find their attitude changes clear. In case of local people working for this area looks they don't know how to care children.

For the psychology project, we programed in two ways. One is analyzing children's state directly, and based on this result, counseling and healing program has been processed. The other is emotional maintaining program for the local workers and building a children care center in the area. Through the program, children's behavior slowly changed. We focused on discipline so that children correct their personality. This project was needed because these kids will lead Bihar. If they don't have upright personality, problems will succeed to their descendant

This project is not finished yet. We keep report results of programs with an appraisal that should be improved. This makes the project keep continue and increase effectiveness. Also we cooperate with local workers and NGO, so that after our project we make the project keep continue by them.

The existing international development has been done by NGOs or an international organization. However the GEM project is worked by university students and professors. This makes university students experience international problems. It would be an opportunity for the students to think about using the knowledge for the poor. Also GEM has excellence on the way it approaches the matters. We approaches in many dimensional ways, and with many assist groups like NGO or local professional people. That helps to process proper solutions for the area.

There are 5 projects that proceeded in this area for 3 years. Some projects had been finished in 1 to 2 years, and others are still working. That is because we keep proceed the projects until the result are works effectively. We continue to improve approaching ways and try many different measures in multilateral. This helps to solve complex matters.

## **2. GEM NETWORK**

We talked a lot of good effects of GEM project through real examples that progressed. Now we hope to see the ways to vitalizing GEM projects. Our goal on this paper is to make GEM as a post MDG by expanding to the national movement. When we think alleviation in a broad sense so many complex problems are mixed. GEM will be effective to solve in this kind of problem. Not like an existing organizations, GEM's goal is holistic problem solving in the target area, which would be helpful in complex environment. We begin to introduce our idea to help this GEM's sporadic expansion, "GEM NETWORK".

### **2.1 Definition of GEM NETWORK**

GEM NETWORK is a link between universities incorporated in GEM projects. We think this GEM NETWORK would be a proper way of sporadic expansion of GEM project. When this kind of link is vitalized, in the side of unification of faculty education and international area development would be alternative for post MDG. Not just an information exchange or a result report, we expects the appraisal of members that proceeds GEM which will make GEM more perfect ways of international development measure. This NETWORK is also expected to have learning effect that will be social capital. We say this expansion as a NETWORK.

### **2.2 Practical Ways to Create GEM NETWORK**

For execute this GEM NETWORK, we need a hub organization. The role of hub is when new enterer hopes proceeding GEM they introduce the ways and give information of the previous GEMs. Like a net server, it supports information exchanges, and appraisals. In the same way, it advertises GEM to universities, so it is more vitalize. Hub should be the organization in charge of professional international developer, it could support in many practical ways on the places that GEM proceed. Also it should have power to solve the unexpected matters that could happen during the program. When we consider these sides, we think the UN would be best hub organization. After the

hub is established, then the universities that proceed GEM should work bases on the NETWORK and execute the project. From the moment they choose one area to finding the way to solve matters and research the area, the GEM NETWORK would perform very crucial.

### **2.3 Expected Effects on GEM NETWORK**

We confirm the effectiveness of NETWORK, and would have synergy to other international development projects. For the first, GEM NETWORK would charge of information exchange, so that new enterer could come in easy. At the same time, the accumulated reports could be used as a secondary source for next the team which would be helpful to them in project. For example, Chad charcoal project could be used to other area, with similar environment to Chad. Also the places with similar historical basis or a similar cultural basis could be interchanging the ways from research stage to problem solving stage. Until now, it was hard to share the result of area development, but through this NETWORK it would be possible to have learning effects on area development. Second, it would be easy to get other international organization's assist. Because it approaches the target area with nearby NGO or local professionals, these will be reported in NETWORK. So when the problem happens it is easy to cooperate again with them. Through this way because the universities are connected as one group projects team they could get and give assists to each other, which makes more effective the GEM.

## **3. Engagement of GEM Project within Regions**

### **3.1 Network formation of the universities for GEM projects**

Universities are the very actors who seem to be distant from other organizations who pursue economic interest, so the barrier of entry is expected to be weak. Also the co-operation with donor and partnership universities is an intriguing factor to many other parties in that societies are developed by collective wisdom and educated intellectuals. Thus, the GEM network should contribute to grassroots empowerment and be further expanded. Through, the cases stated above can encourage the self-

empowerment of localities. Then, the know-hows and knowledge for development should be transmitted in various ways to partnership countries' universities so that the local communities can empower themselves. This self-disciplinary development encouragement can also weaken the cultural barriers, such as language, history, and ethnic diversity. Provided the partnership universities seek autonomous improvement, the following educational help, thereby, virtuous circle within the local communities.

### **3.2 Social capital augmentation through the GEM network**

The GEM network can be helpful to establish social capital. Social capital can be analyzed that a structure or social relationship can be encouraged to do a particular action through an individual's participation within the society. Also this social capital can extend its coverage by networking and partnership behavior. Furthermore, internal cohesion and external integration can be generally achieved by this social capital augmentation. (Shin, 2008) The GEM network can possibly boost in-depth co-operation with the universities, so it is presumed to increase the rate of university entrance and the level of contribution to local communities. Thus, the college students can be highly educated both-wise—quantity and quality—as well as vocational aspiration caused by the educational improvement. The level of vocational aspiration is meaningful in one's choosing the first job, and the higher level also indicates positive influence of education. In addition, high level of education is exceedingly related to human resources in community development. Thus, social capital plays an important role in acquiring a social position and public education, so the individuals can construct a cohesive entity which offers beneficial opportunities for a better society. (Shim & Seol, 2010)

For the sake of the development of social capital, participation is highly required. Since participation encourages intertwined network formation within constituents for a participatory and autonomous organization, the partnership communities can expect the trustworthy relationship through positive interactions, as well as the organic integration of a society. (Han, 2007) Also social capital functions for resolving the problems caused by conflicts between individuals and a whole society to tackle common pool resources. It is thought to be a positive function of social capital

because local community populace can be involved in the policy-making process, not as private-public partnership and state-leading governance. (Kim, J, Kim, Y & Lee, K, 2013) Therefore, bridging and linking accumulation of social capital will be required considering this network is willing to acquire knowledge through the relationship with external parties. (Kim, H, 2011)

### **III. Conclusion**

Through the case of GEM, we examined the several features that GEM has as compared with the existing method of international development cooperation. In addition to this, we searched GEM NETWORK that is the network among universities for activation of GEM. Significance of the GEM is as follows

First of all, GEM is aligned with the needs of developing countries from the start to post evaluation of the program. After understanding the needs of local people from literature research or NGO or native, they create a team to start the program.

Plus, multilateral approach to solve the problem of developing countries is also possible because student's major who participate in this program are various. In developing countries, even one kind of problem like poverty, the cause could be knotty and complicated. Therefore, if it is accessed in only one approach of the poverty, there is a potential possibility that problems occur in other places. As you can see in the case of India, for the development of a region, GEM is using a new approach for students who majoring in various area to progress multiple projects simultaneously.

Thirdly, Local experts and professors participated in the project together with the students. Accordingly, it is possible to achieve at a higher level effectiveness and professionalism of the projects. Furthermore, The GEM has a meaning also in terms of addition of various actors and methods in international development cooperation field. In other words, it is possible that university students participate in the field of international development and grow up as the actor in the world state. Missionary could be also active as local experts. Improvement of effectiveness can be expected

by the GEM NETWORK which is a strategy to expand and revitalize in GEM projects. This network will play the role of sharing of information and exchanging know-how and will help in order to be able new universities to interact and cooperate with other universities more easily. In addition, we have analyzed GEM NETWORK gives the effect to form a social capital in developing countries.

Lastly, the formation of network between universities within the developing countries can induce participation of local and these networks can help university contribute to the local community. For the sake of the development of positive mutual relationship, participation is highly required.

After the MDGs were announced with the universal goals for eradicating extreme poverty, it is only 6 month left before the deadline. Despite the huge and constant financial aid and various programs, there has not been a big accomplishment in poverty. We now know this simple financial aid is not the solution for world's extreme poverty problem. Thus, we introduced so far the GEM which is a case of international development cooperation and devised the two issues of educations and regional development. As there are many difficulties in the way to eradicate poverty and hunger, we suggested the GEM We hope our suggestion will become a small contribution to eradicate poverty.



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