Community water supply and sanitation in Nongteng, Vientiane, Lao P.D.R.

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In the real world, the population are lack of safe water and sanitation especially in the developing and underdeveloped counties. Most people are poor, the children mortality rate is high, and the lack of fresh water source would be affected on the living life, including animals, human beings, and lastly environmental changeable. In Asia, including ASEAN countries, face challenges due to deforestation in the region, which affects the water shed. The surface water from the river is affected by serious drought. In Vientiane, the capital city of Lao P.D.R., there were severe drought effects in April, with the lowest level of the Mekhong river in 40 years. This affects the demand for water treatment plans to supply water to 200,000 consumers for a month. The Vientiane Water Supply Company is working to solve this problem with tanker delivery to high-demand areas, including resettlement zones, but it is not enough to serve the whole city. There are a few water supply community programs supported by local and village volunteers, but their capability is not enough to supply due to increased resettlement numbers. The author highly recommends raising this topic to have any donor assist in providing clean water to communities with over 1,000 households and lacking sanitation systems due to a lack of water supply. In the longer run, a lack of clean water and sanitation will affect human hygiene and increase disease, especially for school children, potentially leading to school absenteeism from normal life style that human beings need.

Introduction
Lao P.D.R. is located in the Greater Mekong Region. Population: 5.2 million; population growth rate is 2.8%; ranked 143 (out of 173 countries) in UNDP Human Development Index (2002); 77% of the population lives in the rural area. Many parts of Lao P.D.R. are remote and difficult to reach, with many different ethnic minorities (40+). About 11,000 villages, mostly small population (250-1000 persons). Some 6,000 villages have received water supply services to date (55%), and about 4,500 villages have improved sanitation facilities. 142 district towns, 30 with water supply, some more with agreed financing, 90+ without formal water supply services.

Objective
In the real world situation now, the human beings were huge living in the earth more increasing and challenge with their environmental pollution, risk with high technology affected.

An aim of this project are focus in the following task:
1. To improving the need of infrastructure in the urban zone
2. To upgrade the people health and sanitation facilities
3. To supply clean water to the community level
4. To reduce the poverty in the resettlement residential area

Scope and Limitation
The scope of the project focus to the Nongteng resettlement zone with more than 1000 household living together. Those people have been removed from the urban center Nongchanh that site will be construction for the public park for the green and recreation area at present time.

Rationale problem
When the resettlement residential have been moving, the need of their living like shall be arrangement too, unfortunately for Nongteng resettlement zone look insufficiency for shortage water before long due to the high ground and effect to the low pressure water.

However, the water supply agency try to supply water for them, there is one booster pump station to pump up to the that zone, but the inlet flow face to be low pressure. Thus those pump shall be run only the evening time sometime nearly 10 PM.

Literature Review
The government Policy and Improvement living life
In the strategic plan of the Lao government to be enforcing the good living life to reducing poverty in target year 2005 reduce the poor in Vientiane capital city to 60% of total population at present time.
The reducing urban poor
In Vientiane the capital social cultural and business city that to be the priority zone for improving the living life, unfortunately the shortage budget of the government face heard to be cover all zone of the improving infrastructure including water supply.

However, the government led the policy to some organization how to adaptation improve the infrastructure for middle facilities of the supporting of their living.

The small modern industry scale strategy
Refer to the strategic plan of Laos’s government at present time the small modern industry now a day face to booming, in every organizations enforcing their target to be achieve the goal of upgrading for the modern industry campaign.

The Vientiane Urban Development Plan Project

Government policy for Vientiane mater plan
The increasing population number in Vientiane face to be approximate 1 million in year 2020, while the service cover present only 50% of total population and population in service area present about 60%.

Vientiane Urban Environmental Management project
Refer to the total population increase the people need more water face to be increasing too, in fact the supply and demand present imbalance among them, thus the priority plan will be extension water treatment plan follow by master plan

Publicity for the development environmental campaign
To be achieve on the slogan “the clean, green zone the capital city” of the mayor of Vientiane city, there are many activity on going to be make plan for improving urban environmental campaign such as: the solid wage activities, improved the conservation zone lake and marsh in surrounding Vientiane capital city.

At the same time the water supply for community are all so be race to be improving for sufficient service including the balance the water pressure in urban zone, unfortunately the full capacity are effect to the shortage water pressure somewhere else.

The Resettlement of the effected residential in Nongchanh Marsh.

Population congestion area
Refer to the Vientiane Urban Development Authority strategic project to remove the congestion area in center of Vientiane in year 1999, due to the selected zone would be arrange of the public recreation zone including the public green park.

Therefore some effected people in initial household; were not permanent style only some of wood house in numerous

Interview on resettlement residential at Nongchanh Marsh
Base on interview of the people whose living in the Nonchanh that located in the center of Vientiane seen to most people agree to remove from there existing land house but they proposed to available of the land acquisition including basic infrastructure such electric, water supply or others support. In fact the supporting facilities are face to lack of other contribution from other source only small beget from the implementing agency and some of local government limited budget that shall be support only basic of the electric city, deep well water supply including insufficient facilities.

The in sufficiency budget for the resettlement site
Due to in efficiency public water supply to that resettlement zone and seen to the destination of the supply compare to the high elevation of geography in Vientiane.

The existing community water supply included sanitation were funded be the Danish cooperation agency to support the basic need, while the deep well borehole were installed with the elevated tank with capacity 5m3 content face to lack of enough whole supply to the communities, thus the villagers must be delivery water by hand carry or by small content of hand cart from the center supply to their household most of them are woman and children.

Due to limited budget of the donor funding source the demand and supply seen deficit ratio, the Vientiane water supply face to difficulty of the support budget of the extension special line direct to the community due to the low water tariff compare to investment to supply the water to the community.

The priority of the government raise to be proposed to the donor who shall be contribution some of the budget to implement of some scale of basic c infrastructure to mitigate of the basic need in average level.

The shortage water supply in new resettlement area and an effect to the Health and Sanitation of the urban poor

Fact about relocation site
The real situation location seen to locate in the high land average about 215-220 meter compare to the sea level, locate distant far away from Vientiane around 25 km that present the destination supply of water network face to very low pressure.

In fact there is the existing water supply with diameter 150mm of PVC, with distance 3km from the main No 13 north road that deal with location of the existing booster station. Unfortunately that booster station could not be boost the amount of water to the community due to there is lack
of enough pressure from the water treatment plant by small transmission line.

Thus, only the evening time that booster pump can be run depend on the water down stream pressure support enough capability, it seen to only mid nigh to the early morning around 3:00AM duration booster time

Population resettlement zone and insufficient urban infrastructure

In Lao there are no the complex public sewage or any good sanitation system, so the available only single household with their individual septic tank or latrine pit for their owned house, in some case if there are not available water for the sanitary it would be worse to the infected of the squatter disease such as diaries, gorilla etc.

There are some small road line pass nearby community with no asphalt pavement, also face to be spill during both the rainy season and dry season, but the basic need look deal with water supply for household consumed of the cooking, drinking, bathing and etc.

Shortage water supply to the community base

In the real situation the initial funding agency seen to be offering least of the water supply system compare to demand of resettlement population, the main support will be raise to the road, electricity, land acquisition and others need. Therefore, when during peak demand hour the real demand face more than many time with supply, so the far away household must delivery of water by themselves due to the lack of capability to supply water compare to insufficient pipe line system.

Water supply related to the health and sanitation facilities

Water and sanitation services are failing poor people

• Public spending usually benefits the rich, not the poor
• Money fails to reach frontline service providers
• Service quality is low for poor people

Alternative for solving problem on water supply

The strategic plan for increase water supply production in the future of Vientiane water supply as the follows:

• Extension the product capacity up to 140000 m3/day in totally of Vientiane city in 2007 are:
  • Construction the additional capacity which produce 40,000 m3 of Kaolio water treatment plant
  • Rehabilitation of existing capacity which efficiency product of 20,000m3/day
  • To be combination the Kaolio water treatment plant in to 60,000m3/day
  • Maintenance of the Chinaimo water treatment plat which will be improved the storage and supply facilities by to laying separately with distribution system by new 700mm diameter of pipe
  • Construction the new reservoir with capacity 10,000m3 (See Figure 2)
Way forward on human need for reducing poverty of Laos Government policy

The water supply sector already has a sector strategy and five years of experience of application of its strategy and lesson learned in selected zones in Lao P.D.R. The urban water supply sector strategy, developed through a national-led process following through out consultation with stake holders, integrates the following guiding principles: the demand-responsive approach, community-base development with community-ownership, offering informed choice, promoting institutional strengthening, establishing innovative vertical and horizontal linkages, bringing private sector’s involvement, enhancing capacity and confidence building, and instituting learning.

The ongoing need for efficiency gains and creative solutions for improving quality and coverage of basic public services, particularly to the poor, are key priorities in the government’s broad infrastructure agenda. As the solution continues to shift from reliance solely on either the public or the private sector, and given the governments’ competing expenditure priorities, many countries are now turning to partnerships with the private sector to design, build, finance, and operate key infrastructure projects including in the water and sanitation sector.

Solution: Create an Enabling Environment:
1. Community Dialogue and Informed Choice
2. Sanitation/hygiene as priority
3. Closing financing, knowledge, policy, and capacity gaps

Conclusion and Recommendation

In the real world situation now more than one thirds are lack of clean water consumption also two third lack of good sanitation, most of them are located in the least developed countries, the challenging problem when they did not have sufficiency water supply or poor sanitation the huge problem would be infected by the disease to them.

Other, case when they have been sick after that they can not survival by the routine household economic, basic education including chance to upgrade there living life.

In Nongteng area seen face to be relevant to that problem if there are lack of basic support of infrastructure such like water, sanitation etc. However to gain the reducing poverty of the government policy the concerning organization may have demonstration project to develop some of the basic infrastructure such water & sanitation.

To achieve the purpose mention the good occasion would be link with demonstration project donors including local organization and others international to contribute some of the basic fund to conduct the procedure of that project.

Base on discus with the Mr. Yasuhiro KAWASHIMA the JICA expert in Water supply Authority( WASA) face to be have trend to arrange some of good idea to support by JICA site in the suitable level involving the equipment supply or some technical assistant and workshop organize in some suitable time. When the completed project been to raise of the pilot ADP in LAO that have many organizers concern to contribution on water supply and sanitation for better environmental protection for human been.

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