ISEA

Innovative Services, Engineering and Advisory

ISEA Innovative Services Engineering & Advisory

Project from

GRET Professionnels du développement solidaire

Case Study

ISEA's mission is to support, enhance and develop water utilities in Cambodia so that a greater number of Cambodians have access to competitive, quality, lasting professional water services. It will do so by offering water utility operators and public authorities innovative business and engineering services.

Overview of the drinking water sector

The drinking water sector in mutation

850 million people are still without access to an improved water source in the world and more than two billion water live without basic sanitation, according to the United Nations.

Like other network services, the drinking water sector has undergone profound changes over the past three decades. Socio-political and economic developments that have marked this period favoured the emergence of new principles to represent the sector and reorganize the governance of water services. Through the concepts of commodification, decentralization and public-private partnerships, these new principles have inspired the reform of water services in many countries. In particular, these developments have led to the emergence of new actors (public authorities, decentralized small private companies and regulatory authorities, etc.) now expected to play key roles in the provision of drinking water. These principles have replaced the old model based on public monopolies and the central role of states, the results in terms of access were considered disappointing and economic equilibrium on which it was based, unsustainable.

Access to drinking water: The specific situation of Cambodia

According to a study made by Gret, since the early 1990s, Cambodia has managed to make impressive improvements in reducing poverty, rebuilding the water and sanitation sector, and extending water supply to an increasing number of its population.

Access to drinking water: Figures

Access to an improved water source:

- During the rainy season: almost 80% of households have access to an improved water source (94% in urban areas and 76% in rural areas).
- During the dry season: only 59% of households have access to improved water (87% or urban households and 53% of rural households).

Water sources used by Cambodian households:

- Free water sources like rainwater, water from drilled wells or water that comes from rivers or ponds
- Or bottled, push-cart or piped water that need to be bought.

NB: According to the same Gret study, there is a high demand and a high willingness to pay for home water supply services, especially in the dry season, in urban and small towns.

- The average tariff of water in Cambodia is about 2,200 Riels per cubic meter (0.6 US$).

DPSP's: A specificity of Cambodia

Because of the still low public investment and aside from the public water operators that provide water to Cambodia's urban areas, **numerous** Domestic Private Service Providers (DPSPs) have "**spontaneously**" invested substantial amounts in water supply sector in small and medium-sized towns, taking (for some of them) consequent financial risks.

They are considered nowadays to play a key role in the delivery of water to the population of these areas, filling the gap between real demand for home water service connection and an absence of state supported services.

Their potential for expansion is quite large, service standards and water coverage vary widely, and financial capacities are uncertain.

According to the Gret, unsupported DPSPs' (most of them) run systems poorly designed and built, distributing unsafe water to a low service area (with coverage limited to the more profitable areas). Most of them are uncontrolled, unregulated and remain informal.

NB: Gret's definition of small and medium–sized town:

"Considered as rural areas, there are several agglomerated areas forming medium-sized and small towns that are not considered as urban areas. They often do not have clear administrative boundaries (sometimes they are located across two commune's administrative boundaries) and consist of around 200 to 2,000 households. These 'spaces' are characterized by economic dynamism (presence of small businesses and trades), some kind of urbanization process (asphalted roads, informal water services, electricity supply services, telecommunication coverage, education and health services) but persisting rural-like practices. They are somehow in a transition process from rural towards urbanized centers.In these agglomerations, water services are provided only by the DPSPs."

Focus on the DPSPs

Who are they ?

Three main types of DPSPs have been identified based on the number of HH as follows:

- **Family businesses:**
  - » Home Water Connections: from 50 to 750
  - » Potential for expansion: quite high due to a lack of investment.
  - » They have often recently invested in this business.
  - » Service quality: often bad with the operators distributing untreated water that comes from rivers or ponds.
  - » Profitability: uncertain due to a lack of customers but not impossible.

- **Entrepreneur businesses:**
  - » Home Water Connections: from 750 to 1,500
  - » Potential for expansion: High
  - » Few of them have already been supported by international development programs
  - » Service quality: mediocre but the need for technical assistance and management of capital investment is better understood and shared.
  - » Profitability: clearly proved

- **Professional businesses:**
  - » Home Water Connections: from 1,500 to more than 7,000
  - » These providers are often join-ventures with international capital. The management of the business is more professional than the others. They have official licenses from the Cambodian authorities in order to run their business.
  - » Their capacity to invest is high but they do not require loans as they run their activities as joint ventures.

How many are they ?

In total, 297 DPSPs have been identified

How many could there be in total?

It has been estimated that 398 sites could be profitable for privately implemented piped water supply systems.

Technical parameters

Origin of the water:

- 72% of DPSPs use surface water
- 23% use wells or boreholes
- The remaining 5% use water from friends and public utilities (these are dependent operators).

Energy source:

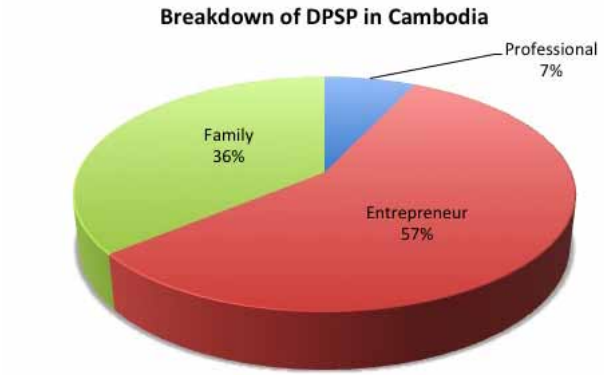
86% of them use fuel as an energy source

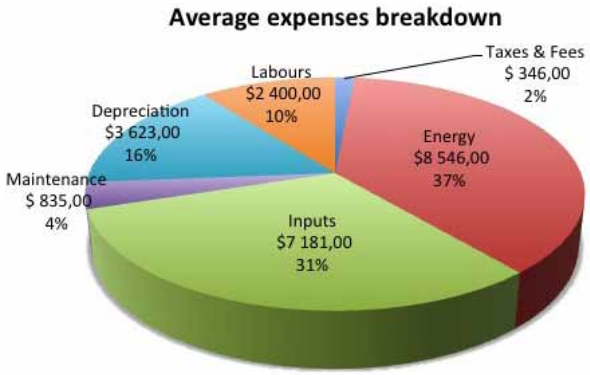
Water purification system:

Water treatment plants are common in Cambodia. They usually use alum, lime and chlorine to treat water.

Economical performances

- The proportion of growing businesses is estimated at 77% (0% are declining) of medium-sized water operators and 75% of large water systems. However, only 34% of small operators are growing and 37% are declining.
- The calculated turn-over (volume sold x unit price) is estimated at:
  - » 125,219 US$ per year for large,
  - » 29,147 US$ per year for medium,
  - » 13,662 US$ for small.
- The operating and maintenance cost are estimated from 23 US$ to 32 US$ per household connection.
- The profit is estimated in average at 26% without clear difference between the types of service.





Problem tackled: Needs of the private water providers

Access to finance constraints

Most of private water operators either do not reach the total target of the coverage area they were licensed with or need to improve their water providing system and great capitals investment are needed to do it.

So in average, you find the following situation:

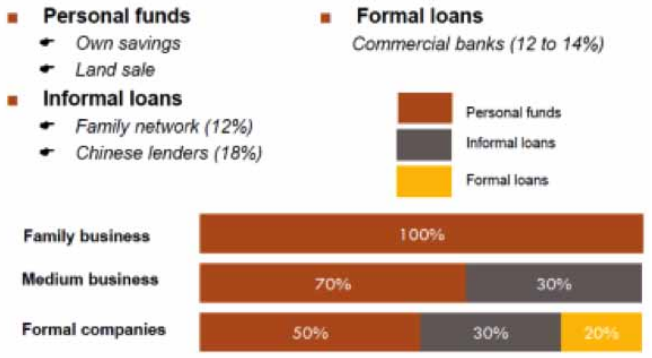
- Family businesses wanting to invest in water network expansion (44%) and water treatment plant installation (22%) and in average needing loans of 74,000 US$
- Entrepreneur businesses wanting to invest half in water network expansion and half in water treatment installation and in average needing loans of 123,000 US$ US$
- Larger businesses wanting to invest in water network expansion or water provision system improvement as they have already water treatment plants and in average needing loans of 264,000 US$ US$. *(1 - 2)*

Although the viability of the water business have been proven over the last 10 years, many private operators find it difficult to access to loans from commercial banks because of the banking sector's lack of confidence and unfamiliarity with the water sector.

In addition to this, the loans offered by commercial banks are not adapted, because of:

- The high level of collateral that is needed from 100% to 150% and that is limited to land tenure;
- The amount of the loan restricted to 70% of the collateral amount
- The short lending period duration (max 3 years)
- The relative high amount of interest (12% to 14%)

For this reason, access to finance is very hard and informal sector lenders ("Chinese moneylenders") with very high interest rates and low amounts are still the main way for water investors in rural areas to find cash.



Institutional constraints

Todays licenses for water operators have their duration limited to 3 years which is a very short period when considering the amount of investment required *(3)*

Technical constraints

The costs of technical and business supports are expensive when provided by international NGOs or consulting firms and ineffective when provided by local organizations. In addition to this, there are no existing specialized business oriented water sector capacity building institutions, although there is a clear need for training and support of many emerging or existing private operators.

(1) World Bank study about 75 DPSPs in 2005
(2) (USAID, 2009)
(3) Discussions are underway to change the time of licensing of 3 to 25 years

Target market

ISEA is essentially a business to business organization and has two main types of markets:

- The first market for ISEA is the upgrading and the development of water projects for water investors;
- The second market for ISEA is audit of water projects in case of an investment in capital for investors or donors.

Within this framework, iSEA proposes business development services to private sector operators involved in water distribution. It will marginally offer business to government services or to public authorities to improve the quality of service provided by existing water utilities or to help them set up new utilities.

At the end, the core target of ISEA is private operators already managing medium sized water utilities (distributing water to 750 to 1,500 household connections) looking for loans to increase service extension, water production or quality of service provided.

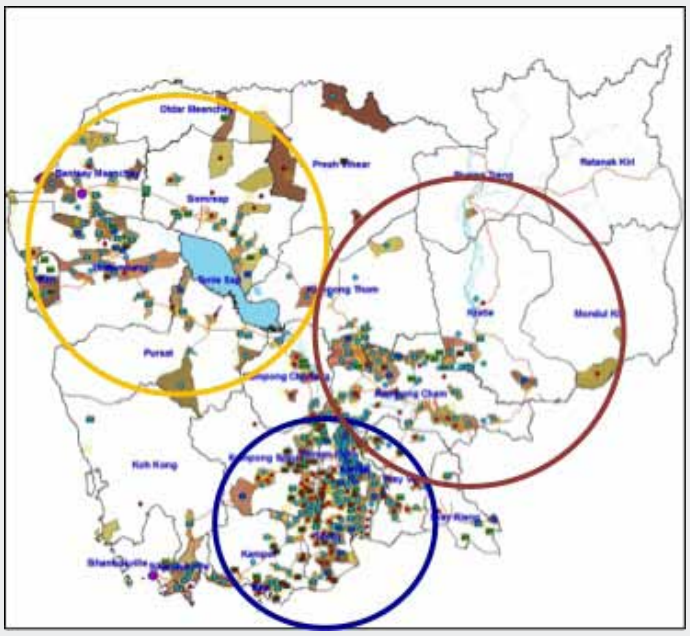
ID CARD

General information

Name & Creation:
- ISEA - Innovative Services, Engineering and Advisory
- Launched the 12/04/2012

Context:
Innovative Services, Engineering and Advisory emerged from an idea that grew among Gret (1) staff along 10 years of work in the water and electricity sectors in Cambodia on how to support through a suitable social business model the development of water supply and electricity services in Cambodia. It was funded at launch by FIND (2), a social investment fund set up by Gret. It will be run the first three years from within the Gret. The precise legal structure of the organization will be defined in the first year. The first years of operation during which the service will be in part supported by donor funds will help understand whether or not this is a realistic hypothesis.

Location:
- **Headquarters:** located in Phnom Penh. During the launch phase, it will be located in the same office as Gret Cambodia.
- **Operating areas :** in the South of Cambodia, near Phnom Penh. It is the area with the greatest density of private providers of water services in the country (blue).



Human Resources

Number of employees: 5 people in total (1 executive director, 1 Marketing and Commercial Manager, 1 Responsible of Socioeconomic assessments and analysis, 1 water and sanitation engineer, 1 Responsible of advisory and training services)

Employees: The staff comes from Gret's water and sanitation department in Cambodia. They have extensive knowledge and experience on working with private operators of the cambodian water the sector.

Conditions of Employment: Labor contract, 13th month salary (annual bonus) + Insurance (accident & health)

International Adviser: ISEA will be supported and advised by international advisors who will focus their support mainly on:
- Building the strategy, vision and the governance mechanisms of ISEA;
- Tools and internal procedures development;
- Financial planning and business plan development.

Main services

1. **For private water operators**

Business brokerage:
In order to certify the bankability of the investment project of the private operator, iSEA realizes a feasibility study, in which it evaluates the socio-economical justifications of such a project, evaluates or proposes technical solutions, lead a legal audit and evaluates or realizes economic and financial projection. When the report presenting a convincing case (socio-economic, technical, legal and financial) is ready, iSEA helps the private operator negotiate with banks an attractive loan with no or less collateral and a good interest rate.

For projects that are sure to get financed, iSEA can offer affordable engineering services:
- **Detailed Study:** The detailed study is developed in order to make an in depth technical and economic study of the DPSP's project. It defines the design principles (detailed plans, sections...), materials and technical installations; establishes the final estimate's forecasting cost of the construction work, broken down into separate lots and consolidates the business plan.
- **Work Construction Supervision:** The objective is to counsel and help the operator select the entrepreneurs for the construction work, prepare and get the constructions works contracts signed, launch the construction work, supervise the compliance of the construction work with technical specifications, acknowledge the end of the construction works and finally produce as-built drawings of the constructed infrastructures.

NB : In case of brokering project, this step is to guarantee the quality of works undertaken and thus to reassure ISEA's banking partners

For operator that already have built water treatment plant or at the completion of the works, iSEA can provide capacity building:
Training & Monitoring: The objective of this service is to guarantee that the DPSPs have the required knowledge to put in operation the constructed water supply system and to reinforce the technical and management skill of the water supply providers so that they can operate, manage and maintain properly their water supply system. Prior to provide field training to the concessionaire of the system, iSEA can eventually start with the commissioning of the whole water supply infrastructures built to ensure that it works properly.

NB: In case of brokering, the objective is also for iSEA to monitor, during the launching phase, key performance indicators and provide the sufficient training to the operator staff to ensure to

banks partners that the system is functioning and will function as projected.

License obtention or renewal:
By helping him to mount the necessary folder, ISEA can help the operator to either get a license or to renew his already existent one."

For each of the previously mentioned services, three levels of support will be offered:
Checking:
For professional water investors that have the skills to manage all of their water investment projects, ISEA will only check the validity of the documents provided and undertake some control checks during the construction in order to ensure the quality of the infrastructure built the service will be lightly monitored when it starts to run

Supervison:
When the investors have some skills but not enough, ISEA will propose supervision support with more involvement from ISEA's staff on the supervision of the feasibility, the design of the water project, the control in the field of the quality of the infrastructure, and the training and monitoring of the water utility service

Full support:
When the water investors have no real skills, ISEA will support in all steps of a water project development and implementation.

ISEA will not apply a standard contract with the water investors. The type of support for each service will be defined with the water investor based on his owns needs and willingness.

2. **For public clients**

ISEA's know-how allows it offer valuable services to public clients, in particular local authorities.
For authorities interested in creating new water services, ISEA will provide complete consultancy services: designing the water service, studying its economic viability, organizing the tendering to identify an interested private operator, selecting a construction company, supervising works and training operator staff.
For those authorities that already have functioning water systems on their territory, ISEA can offer auditing service:. ISEA will verify the state of the water utility infrastructure, check its accounts, analyze its financial state and provide the local authorities with recommendations to improve service quality.

Business Model

iSEA has for now adopted two types of business model.

Brokerage Model:
Through business and broker services that intends to build a bankable project that will be submitted to the bank, iSEA will sell packages offering technical assistance services in order to implement and follow the construction works and an advisory support services in order to train and follow-up the service that need to comply with international standard of water quality and service delivery.

Fee for service Model:
Like a traditional consulting firm or technical advisory firm, iSEA also provide complete consultancy services (designing the water service, studying its economic viability, organizing the tendering to identify an interested private operator, selecting a construction company, supervising works and training operator staff) on a fee for service model.

Revenue Model

iSEA earns its revenue from:
- Bundled consulting services through brokerage
- Separate consulting services

Pricing strategy:
The pricing of these services will be according to:
- The number of households concerned (a price for systems reaching less than 750 households, a price for those reaching between 750 and 1,500 households and one for those reaching more than 3,000 households);
- The type of infrastructure that needs to be financed (a treatment plant, water storage, network extension).
- The level of support needed by the operator

In the case of a brokering project with bundled services, the water investors will pay for all support based on a contract arrangement between ISEA and the water investors. The tariffs will be based on a % of investment following the type of infrastructure built.

The infrastructures considered are:
- The pumping and water treatment plant
- The water tower and storage system
- The network itself

The tariffs are based on the cost of investment of the project and are on average:
- Checking represents from 5 to 6% of the capital cost
- Supervision represents from 12 to 15% of the capital cost
- Full support represents from 14% to 19% of the capital cost

Magnitude of Billing:
- **For consulting services:**
  - » Feasibility study: ~US$ 3000
  - » Detailed study: ~US$ 5000
  - » Work construction supervision: ~US$ 9000
  - » Training & Monitoring: ~ US$ 8000
- **In case of a brokerage project with the full bundled services (For an investment of US$ 200 000):**
  - » Checking: US$ 12 000
  - » Supervision: US$ 30 000
  - » Full support: US$ 38 000

(1) - GRET is a French development NGO that has been actively fighting poverty and inequalities for 35 years in the field and in policy.
(2) - Find is an endowment dedicated to innovation for development. Founded by the NGO Gret, which put a million in it, it offers companies to support innovative initiatives for development in the South.

Current challenges

Successfully make the transition from a "NGO project" to a "Business":

- Really take into account in the actual project implementation phase, issues such as competitiveness and profitability, as they are definitely the bare bones of business. The challenge for iSEA is to adapt proven methodologies used in Gret projects from the last 10 years to a competitive environment.
- Provide to the management and especially the CEO of the future company the business knowledge and know how.
- Defined clearly the ownership & governance of the company.
- Defined a new company policy that has reasonable standards in comparison to the country's standards.
- Put in place an incentive system for the company's workers and especially for the executive director and its team. The executive director and its team should be motivated to promote and make the business grow, keeping efficiency, low operation costs and increasing profitability.

Find banks or investors with which to partner:

For iSEA to be able to propose attractive loans to the water operator (reduced amount of collateral required, lower interest rates...), it needs to partner with banks, investors or both.

Key factors of success

Based on the current offer from consulting firms in Cambodia, iSEA's key success factors are:

- A high knowledge of water business in Cambodia gained during 10 years;
- All skills are integrated in the same firm in order to analyze all components of a water investment project;
- A middle tariff offer between national and international consulting companies.

In addition to this, the fact that iSEA is being incubated within the GRET and supported financially by the Suez Environment Fund Initiatives and Find, will allow it to prove the concept and verify, with no risk, if the real cost of iSEA's services are affordable for private operators in Cambodia. If the experience shows that the real costs cannot be billed to private operators, the business model will have to be rethought (e.g.: a long-term subsidy for ISEA could be an idea).

The main advantages based on the current offer from consulting firm are:

- A high knowledge of water business in Cambodia gained during 10 years
- All skills are integrated in the same firm in order to analyze all components of a water investment project
- A middle offer between national and international consulting companies
- Few current companies can be identified as a competitors

SEVEA – Synergie pour l'Echange et la Valorisation des Entrepreneurs d'Avenir - is a not-for-profit organisation that strives for an improvement of the answers brought to energy and water issues (from an environmental, a social and a societal perspective) in developing countries by supporting social enterprises from these sectors.

Our partners

Our references

Project from

Contact:

Sevea, Association Loi 1901

172 Chemin de Cugnet
73800 Les marches
FRANCE

www.sevea-asso.org
sevea.blog.youphil.com

@ : contact@sevea-asso.org

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