

W+ Feasibility Assessment for ICS Programme of SNV Lao PDR

Executive Summary

The following assessment was conducted to validate the level of viability of the W+ Standard in the context of the ICS Programme in Lao PDR. The W+ Standard is a certification label that endorses projects that create increased social and economic benefits for women participating in economic or environmental projects. Women's empowerment is measured through six Domains of the W+ framework: Income, Time, Health, Leadership, Education/Knowledge, Income/Assets, and Food Security.

The ICS Programme aims to improve the cook stove value chain by supporting producers and manufacturers to develop more and higher quality stoves, while supporting retailers with an effective marketing strategy, and ensuring accurate information is provided to consumers.

The assessment was conducted in three sites: Vientiane capitol and Savanakhet and Champasak provinces of Lao PDR between 2-12 June 2014. Interviews were conducted with 40 women and men stakeholders in the ICS value chain.

The impact of the ICS technology on stakeholders, particularly the large number of women ends users, in the ICS value chain is indeed encouraging. Women end users stated they are benefitting in relation to two W+ domain categories:

- TIME: An average of 312 hours of extra time they save while cooking with ICS stoves over the life-time of a stove, and
- Income/Assets: a 9.32 USD/month savings in income due to the reduced use of charcoal.

Producers (mostly men in this piloting phase of the project) and largely women retailers benefitted from the additional income from sales of ICS and to some extent, from increased knowledge in production technology and product promotion.

Our own preliminary analysis of the potential value of these "W+ benefits" suggests that there would be willing buyers and sellers of W+ units within a price range of 7.8 – 27 US cents/hour saved. At the lowest end of this price range (7.8 US cents), the sale of W+ time units would yield an additional income/cash-flow of 10 USD per cook-stove to the ICS programme (full recovery of the incremental cost subsidy) and a direct payment of 10 USD per cook-stove to women beneficiaries (per cook-stove) (ex-post payment after verification of time-savings). At the highest end of this price range (27 US cents), the sale of W+ Time units would yield a total additional cash flow of 84 USD/cook-stove, half of which should be transferred directly to women beneficiaries.

This analysis demonstrates that the monetization of W+ time units could be highly beneficial for the promotion of ICS. To illustrate this point differently: a cook-stove produces a carbon saving of roughly 1.5 tons over its lifetime and time-savings for women of 312 hours. The total financial value of the carbon saving (to the ICS programme) is 10.50 USD/cook-stove (at 3.50 USD/ton) whereas the total financial value of the W+ time saving ranges between 10 USD (to SNV) plus 10 USD to women beneficiaries and could be as high as 84 USD/cook-stove (to SNV and women beneficiaries, through the sharing mechanism to women needs to be discussed).

In terms of the other W+ Domains, while there is some impact on Education/Knowledge, there is little evidence of impacts of ICS technology on health and leadership. Additional efforts to increasing consumer awareness on the ICS relationship to kitchen smoke and women's health would be an important consideration for the project. Equally, the increased leadership role of women in the household and community groups, such as ICS producer/retailer networks would generate considerable potential for up-scaling ICS.

However, the emerging lessons from the project's pilot period demonstrate that there are key bottlenecks that need to be addressed before up-scaling the technology to other provinces:

- Production is limited, due largely to lack of access to loans with reasonably low interest rates.
- There is also a need to increase the number of women producers
Capacity for business development of producers and retailers is clearly another priority area for up scaling during the next phase

Recommended actions to apply the W+ Standard to the ICS project are proposed in two phases:

- Phase 1: Considering the promising preliminary possible monetary contribution from the sale of W+ time-saving units, we propose to originate and monetize W+ time-saving units - using the existing W+ Time Method (and possibly a simplified/streamlined revised method) - for this project period (2010-2016).
- Phase 2: Considering the needs, this requires a) expanding production and distribution and increasing the number of women producers/retailers, b) improving ICS performance, c) strengthening data collection re: program performance (incl. in relation to time-savings for women), and d) creating a mechanism for the distribution of W+ related income as direct payments to women. We also propose to introduce a new project design element into the ICS program to strengthen women entrepreneurship, leadership and knowledge development.

Introduction

The assessment contains the following sections:

- Background
- Methodology
- Finds of the assessment
Recommended activities

Background

Purpose & Objective of the Assignment

The purpose of the assignment was to validate the level of viability of the W+ in the context of the ICS Programme, with the goal to develop financial opportunities that would facilitate the continuation of the ICS Programme after 2016.

The objective of the assignment was to assess the viability of the W+ for the ICS Programme in Lao PDR, its projected impact and potential gains; to showcase results to a wider international audience and to use this as a case to advocate for the inclusion of co-benefits in (donor) investment decision making processes.

The W+ Standard

The W+ Standard is a unique certification label developed by WOCAN that endorses projects that create increased social and economic benefits for women participating in economic development or environment projects. These include those that provide renewable energy technologies, time and labor saving devices, forest and agriculture activities, and employment opportunities. The W+ framework quantifies and monetizes the social capital created by women, to recognize and reward their contributions to sustainable environments and communities.

Specifically, the W+ Standard will enable projects to achieve:

- The monetization of social benefits through certification
- A strong revenue sharing mechanism with project stakeholders/beneficiaries
- A strong women-focus
- A strong results-based focus
- A strong monitoring system

The W+ measures women's empowerment in six domains: Time, Income and Assets, Health, Leadership, Education and Knowledge and Food Security. It produces quantified women-benefit units that contribute towards post 2015 Sustainability Goals (SDGs), Climate Financing or Corporate Social Responsibility (CSR) targets.

Overview of the Improved Cook Stove Programme

The aim of the ICS Programme is to contribute to the alleviation of poverty through the development of a sustainable consumption and production chain of fuel efficient ICS which will reduce the use of wood and charcoal and lower greenhouse gas emissions. The initiative began in 2010 with a feasibility study and the development of an implementation strategy.

The ICS Programme aims to improve the cook stove value chain at three levels:

1. Supporting producers and manufacturers to develop more and higher quality stoves
2. Supporting retailers to follow an effective marketing and selling strategy

3. Ensuring that consumers are provided complete and accurate information about the product they are buying

Beyond this support provided to producers, retailers and end users, the overall project components are as follows:

- Package 1: Producer support
- Package 2: Retailer support
- Package 3: Consumer promotion campaign
- Package 4: Improving access to the ICS
- Package 5: Testing agencies
- Package 6: Formal Endorsement of Quality Standards
- Package 7: Multi-stakeholder partnership established

The ICS Programme is currently implemented in three provinces: Vientiane Capital, Savannakhet and Champasak, with plans to expand its marketing areas to Vientiane Province and Khammouan Province in 2014.

Currently, the main recorded results of the project are as follows:

- 15 producers trained (three of whom are women). 4 producers still not engaged in production activities, one of who is a woman. (text and list of producers is different).
- 77 retailers trained (75 women) Retailers: 90% of all retailers in the region are women. 75 retailers already signed for distribution.
- 14 demonstration booths organized by the Lao Women's Union (LWU).

The major project partners in the implementation of the project are: the Association for Rural Mobilisation and Improvement (ARMI), a Lao non- governmental organization formally known as NORMAI, which is responsible for the execution of the ICS Programme; SNV and Oxfam Novib, two international development organizations responsible for undertaking capacity development and support activities; the Lao Women's Union, a governmental body that represents Lao women; and the Ministry of Science and Technology which is charged with oversight of the testing and standard development procedures.

Methodology

The methodology was guided by the measurement of the attributable contribution of the ICS technology on women's lives in all or some of the six Domains of the W+ listed below: Income & Assets; Time; Education & Knowledge; Leadership; Health; Food Security. A list of questions were developed for each Domain and applied through a questionnaire/survey (see Annex).

The questionnaire/survey was accompanied by the application of the following concept and methods drawn from gender analysis, administered to selected informants from the producers, retailers and end users of the ICS:

- Activity profiles of selected women to assess the role of women (and men) in production and retail, and the roles and responsibilities of women in the daily maintenance of the household
- A time line method was also used with selected women in the value chain to determine the amount of time women spend on their daily household activities. This offered a glimpse into the potential activities/chores that would be reduced, and thus result in a savings in women’s time due to a technology intervention.
- A resource access profile was conducted with all women and men in the value chain to determine access to ICS services (training, promotion materials, etc.) and loan institutions
- The discrete but inter-related gender concepts of Condition and Position¹ were utilized throughout the assessment to determine the extent to which women beneficiaries have been impacted by the ICS intervention.

A total of six producers (one female), 10 retailers (six female), and 24 users (female) were interviewed.

Findings of the Assessment

The following assessment is generated from interviews with 40 members in the ICS value chain: six producers, 10 retailers, and 24 end users. Each group of stakeholders is assessed according to the W+ Domain that is most relevant to their present context.

The W+ Domains relevant to both producers and retailers are: Income/Assets and Education/Knowledge; while Time, Income/Assets and (given the nature of the stove,) to a marginal extent, Health domains are relevant to end users only.

The description of each W+ Domain is assessed according to the stakeholder and based on an understanding of how an increase in each Domain is being utilized by each stakeholder group.

This is followed by a brief narrative description of reported challenges for each of the stakeholder groups.

W+ related Outcomes for ICS Producers

W+ Domain Specific Outcomes

The table summarizes the outcomes across the observed W+ domains.

Relevant Domains	Six producers	Use of gains
Income & Assets	<ul style="list-style-type: none"> • average production 200 -300 	<ul style="list-style-type: none"> • Reinvested in their business,

¹ *Condition* refers to the material situation or well- being of women in society. *Position* refers to the social status of women in relation to men in society. The two concepts are closely related and key to the definition of women’s empowerment: a change in the (material) condition of women could potentially, but not necessarily lead to a change in the social status (position) of women *vis a vis* men and the community. It is important to integrate both concepts in project design, monitoring and evaluation.

	units/month <ul style="list-style-type: none"> • Net profit= 1.5 – 3 million Kip (187-374 USD) / month 	though all reported that they did not keep precise records of how they spent additional income generated from ICS sales
Education/Knowledge	<ul style="list-style-type: none"> • Skills for independent operation of ICS production machinery and • Skills for ensuring quality assurance of the ICS units 	<ul style="list-style-type: none"> • they trained their workers independently and due to high labor turnover, they are constantly training new workers

The total number of producers in the project number is 15, of which three are women. Five men and one woman were interviewed.

All the producers interviewed had previous experience with cook stove production. The ARMI project team reported the need for developing effective selection criteria as most of the present producers were selected for the project based only on their willingness to participate. The absence of any strict selection criteria was perhaps a challenge to the limited production levels.

The majority of producers interviewed manufactured a mixture of cook stove types, while one producer manufactured only the ICS model. The profit margin from the manufacture of old / traditional cook stoves was too low, and there was considerable competition of products already on the market. Manufacturing only ICS models was more profitable for him. Moreover, the consumer demand for ICS models was also higher than traditional models in cases of customers who had information and access to the ICS.

Although the ICS is considerably more expensive than comparably sized traditional cook stoves² , producers reported that consumer demand for the model was significantly higher based on its durability and time saved in cooking.

All producers reported that consumer demand for the ICS model was based on its durability , and the time saved in cooking compared to other stove models. The reduced use of charcoal by the ICS unit was also a key factor in consumer demand.

Producers manufactured an average of 200 – 300 ICS units per month and made net profits ranging from 1.5 – 3 million Kip³ per month (USD 186 – 372) from sales to retailers and occasionally, directly to users. One producer reported that direct sales to customers fetched a higher unit price.

² ICS retails between 40,00 – 45,000 Kip (4.98- 5.60 USD) per unit compared to a comparable sized traditional stove that retails for 15,000 – 20,000 Kip (1.87- 2.49 USD)per unit.

³ 1 Kip = .00012422 USD

All producers reported that they had no precise information to track how they used their income except to state in a general way that they reinvested most of it into their businesses.

They all attached importance to the trainings they attended/received on the use of the machinery to produce ICS and on how to maintain quality assurance of the ICS units during the manufacturing process.

Existing Challenges for producers

Producers cited the following challenges as contributing to the limited production capacity:

- High interest on loans prohibit business expansion
- High labor turnover; many producers cited labor turn over as a common problem they faced, particularly after having spent considerable time and energy training individuals who either left to work with another cook stove manufacturer, or simply went home.
- 3 producers cited the increased amount of time required to manufacture ICS units compared to traditional cook stoves. Extra time was required for the insulation process for the ICS unit.
- The one woman producer reported considerable physical difficulty in lifting the heavy ICS units onto the truck during delivery. She could not afford to hire additional labor for this purpose.
- Limited consumer awareness of ICS, particularly in peri-urban / rural areas was cited as a major reason by producers for limited production
- Some producers mentioned labor shortages during rice planting and harvest times
- At least 4 producers reported interest in expanding into the retail business and requested additional skills such as:
 - Business management
 - Marketing and promotion
 - Accounting and simple book keeping
 - Technical know-how to speed up production

W+ related Outcomes for ICS Retailers

W+ Domain Specific Outcomes

The table summarizes the outcomes across the observed W+ domains.

Relevant Domains	10 Retailers (six women; 4 men)	Use of gains
Income & Assets	<ul style="list-style-type: none"> • Prices of units range from 45,000 Kip(5.60 USD)Vientiane; 38,000 - 40, 000 Kip (4.73- 4.98 USD) Savankhet and Pakse • Profits range from 5,000 – 10,000 Kip (00.62-1.24 USD) per unit • average sales of 30 – 40 units per month • ICS sales comprise 10% to 30% of total retail business 	<ul style="list-style-type: none"> • Reinvested in their existing businesses and on household expenditures. They reported that they did not have precise records of how additional income from ICS sales were used

Education/Knowledge	<ul style="list-style-type: none"> Limited skills on product promotion 	<ul style="list-style-type: none"> The limited knowledge on product promotion had been useful in their ability to sell all their products
---------------------	---	--

Most retail shops sell a large variety of items, ranging from cook stoves, medicines, household items, baskets etc. While the large majority of retailers for cook stoves are women, husbands also substituted for them when women were busy with household chores.

From the four men interviewed, 2 reported working full time as retailers, while the other two substituted for the wives during certain times of the day when she was otherwise engaged. Three women retailers reported working full time in the shop while also taking care of the household chores and caring for children because their husbands had ‘office’ jobs. Husbands do not usually share in household work.

Retailers reported that customers were ‘happy’ with the durability and reduced cooking time provided by the ICS, and were willing to pay the relatively higher cost compared to traditional models. The average lifespan of the traditional stove is six months, while the lifespan of an ICS unit is expected to be 1.5 years. Sales of ICS units comprise anywhere from 10% - 30% of total business for small retailers, and prices range from 45,000 Kip (5.60 USD) in Vientiane to 38,000 and 40,000 (4.73- 4.98 USD) in Savanakhet

Challenges for Retailers

The majority of retailers interviewed cited the following set of challenges:

- Limited capital to increase ICS units for sale combined with limited or no access to loans. The size of the loan correlates to the size of existing assets, which are limited for small retailers. As a result, retailers are reluctant to take loans to expand their businesses.
- Limited business development skills: retailers also acknowledged that their business expansion was greatly hampered by their limited skills for business development, which included book keeping, goods’ promotion, and effective communication. Many had attended a one training promoting ICS, but they all were keen to receive ‘additional’ skills.
- Perhaps the biggest challenge for retailers, particularly women, is that they do not have time to attend trainings. Many a times, women retailers are ‘represented’ by their husbands during trainings. The lack of time for retailers to attend training also proves an interesting challenge to the project: the need to reach many people as possible while delivering on-site training to few individuals.
- Dealing with customer recommendations: a small number of retailers reported that customers’ recommendations to further improve the ICS by enlarging the charcoal base. In another case, an irate customer who had cut his finger on the wire used to lift the ICS wanted to know how to

report a malfunction. In both cases, the retailers lacked information on who was to be contacted.

- Finally, retailers reported that there needs to be more intensive promotion of ICS units for end users. The promotion could include simple information on the various benefits of the ICS, including cooking instructions of various dishes etc.

W+ related Outcomes for ICS Users

W+ Domain Specific Outcomes

The table summarizes the outcomes across the observed W+ domains.

Relevant Domains	24 Users (22 women; 2 men)	Use of gains
Time	<ul style="list-style-type: none"> • Reported time saving (s) ranged from 30 – 40 minutes a day (KPT = 38 mins) 	<p>The majority of users reported that the extra time generated from ICS efficiency was used for a variety of activities:</p> <ul style="list-style-type: none"> • Alcohol production for sale • Dress making for sale • Weaving • Care of small livestock for sale • Home gardens • Flower arrangements for markets during religious fairs • Cooking • Cleaning • Child care • Rest • Going to bed earlier
Income & Assets	<ul style="list-style-type: none"> • 50 % reduction on charcoal purchase. The savings accrued from reduced charcoal use depends on the size of the family and the amount of charcoal requirements. A small bag of coal with an approximate weight of 8-12 kg costs 15,000 – 20,000 Kip (1.87- 2.49 USD); a large bag with an approximate weight of 15 – 20 kg costs 37,000 – 45,000 Kip (4.61- 5.60 USD). The price range depends on the quality of the charcoal. Households use on average 1.15 Kg charcoal per day, the savings are 0.25 kg charcoal per day per household. 	<ul style="list-style-type: none"> • Food for the family • Purchase of animal feed
Health	<ul style="list-style-type: none"> • Only one reported potential health improvement (cough and sore throat) from 	

	<p>reduced smoke generated by the ICS unit. While the majority of respondents were aware of smoke-related illnesses, they did not know of respiratory problems associated smoke emissions from cook stoves.</p>	
--	---	--

There is a considerable range of ICS users that spans the economic class: users are found in rural/and or peri-urban areas, urban areas and among fairly wealthy households. The large majority of ICS users that were interviewed have been participating in ICS trials and are granted one free unit. However, all respondents reported that they would certainly purchase a new one, or have recommended it to other family members and neighbors.

The majority of ICS users tend to be women because they are largely responsible for cooking in the household. From the 24 that were interviewed, only two were men, and this was due to family circumstances, where one man stayed home to look after his ailing mother while his wife worked full time in an 'office'; in another case, the woman was unable to cook because she had just delivered a baby.

All those interviewed used a number of cook stoves including the ICS model. During comparisons between the traditional stoves and ICS, all responded that the latter reduced cooking time, saved in fuel costs, was more durable in that it lasted one year over 2-3 months for other cook stoves, and considerably reduced smoke emissions in the kitchen area.

The biggest contribution cited by all users was the reduced cooking time when using the ICS. This was followed by the reduced use of charcoal fuel (50% reduction) which saved costs. The average time saved per household in cooking time ranged from 30-40 minutes: Kitchen performance tests (KPT) run by the project show an overall average of 38 minutes saved per day for each household.

On the question of how the savings in time were used, respondents' recall showed that there were a variety of activities to which they allocated extra time. Many said that they used the allocated extra time to increase their income from going income generating activities such as:

- Alcohol production for sale
- Dress making for sale
- Weaving
- Care of small livestock for sale
- Home gardens
- Flower arrangements for markets during religious fairs

Some respondents also allocated time to household chores such as:

- Cooking
- Cleaning
- Child care

A very small percentage of respondents allocated the additional time to self-care activities such as:

- Mid-day rest
- Going to bed earlier

The biggest contribution of the ICS to users is through time saved during cooking. On average, we find a time-saving of 231 hours per year, or 346 hours over an average life-time of 1.5 years per cook-stove. As 90 percent of users are women, the W+ related outcome in relation to time-saving is 312 hours per cook-stove.

The other relevant outcome is related to income saved from the reduced use of charcoal as fuel. Users reported reduction in charcoal use by 50% when using the ICS. The cost of savings for each household depends on the size of the family and the amount of charcoal that is used. One family of eight reported a savings of 75,000 Kip (9.32 USD) a month after their charcoal purchase was reduced from 10 bags to 5 bags per month. The cost of a bag of charcoal weighing 8-12 kg cost 15,000 – 20,000 Kip ((1.87- 2.49 USD), while a bag with a weight of 15 – 20 kg costs between 37,000 – 45,000 Kip (4.61- 5.60 USD). The price range depends on the quality of the charcoal. This saving amounts to 167 USD over the life of the ICS - a multiple of the cost of the cook-stove. SNV reports consistent fuel savings of about 22% against baseline levels, corresponding to a fuel-cost saving of 73.50 USD.

The additional income benefit resulting from the use of time-saved attributable to the use of ICS for micro-economic activities is not included in the analysis.

Challenges for users

- Limited access to information on ICS value chain: how to link neighbors and family members to retailers
- Limited access to information on the benefits of the ICS, including the range of foods that could potentially be cooked on the ICS

Additional preference (s)

- ICS using wood
- Lighter weight, particularly for women users who have to rely on men to carry them home from the retailers
- Larger size

Valuing user-level W+ related Outcomes

Pricing of W+ time-saving units

W+ units represent “social goods” which are development outcomes that create social benefits for the local as well as global community. A W+ unit can also create private benefits, in addition to these social benefits (i.e. a quality time saving unit also creates a private benefit in the form of being able to use this time for a higher value income activity). The social benefit of a W+ unit has an inherent value as that

benefit would have to be created through an alternative activity otherwise. However, it is challenging to establish a “willingness-to-pay” as well as “willingness-to-sell” or establish a tangible financial value for a unit of this social good as there is currently no market for such units.

Pricing of Social Goods in the Carbon Market

In order to establish a financial willingness-to pay/sell value, we can draw upon the experience of the international carbon market as an analogy: the international carbon market has created a demand for and supply of quantified outcomes in relation to GHG mitigation: carbon credits. Demand for such units has been created via a) binding quantified GHG emission limitations set through the international climate policy process and b) through the use of these units as a “fulfillment instrument” of climate footprint management related CSR targets of an increasingly large number of organizations (the idea of “carbon offsetting”: most organizations have unavoidable GHG emissions; the purchase of a carbon credit is a verified means to “offset” this carbon footprint by financing the mitigation action of a 3rd party that either has no such climate target or is exceeding it).

As a result of creating demand and supply for such climate mitigation units, a market price emerged by around 2002 that fluctuated between around 4 USD and 30 USD/ton of avoided CO₂eq. (before dropping to around 0.10 USD/ton recently, a result of substantial over-supply and absence of new drivers of demand).

A few early buyers determined carbon pricing in the inception phase of the market (mainly the World Bank’s Prototype Carbon Fund). Market forces took over by around 2005 (driven by multiple buyers and sellers). Early pricing was based on two factors: a) the incremental cost of a carbon credit project compared to the baseline investment was used to establish the willingness-to-sell, which provides a lowest price boundary, and b) the assumed willingness to pay considering the avoided cost to carbon credit buyers, which is the opportunity cost related to the funding of in-house mitigation actions (in case of a private entity with an emission reduction commitment) or the financial cost of a policy (in terms of USD/ton CO₂eq avoided) to incentivize mitigation actions was used to establish the maximum willingness-to-pay, which provided the upper price boundary.

Applying Carbon Market Pricing Approaches to W+ Time Units

We can apply two approaches to pricing W+ Time Units:

- 1. Incremental cost approach:** The incremental cost of an improved charcoal or wood burning cook-stove is about 10 USD. The incremental cost includes the program cost overhead, promotion and quality control. Considering that an ICS delivers about 312 h of saved time for women over its life-time, incremental cost per unit (not taking into account transaction costs) amount to 3.2 cent/hour of time-saved - the lower price boundary.
- 2. Willingness to pay approach:** What is the value of a social benefit created by a saved-time unit to those that “demand” the creation of this “social good” or, in other words, “their willingness to pay” considering the availability of other interventions that could provide this social good? In order to answer this question, one needs to determine **who** actually demands this social good: women’s empowerment is a strategic objective of international development partners as well as national governments in

developing countries who fund projects to promote women’s empowerment. Women’s empowerment is also a relevant category for many private organizations with voluntary CSR commitments (often communicated under the heading of “changing the lives of women”).

However, interventions targeting women’s empowerment usually do not measure outcomes on the basis of a unit-based approach. This means that it is not possible to establish a unit-based price/willingness to pay at this point in time. Only if the use of unit-based metrics has become more commonplace would such data would become available.

We could also apply an “opportunity-cost” based approach, i.e. determining the wage a woman could obtain in the market, i.e. if she worked as a cook in a local restaurant or by valuing the wood that she could have collected and sold, as she does not need to use it anymore.

However, we propose to use the “living-wage” concept as a starting point for quantifying what a willingness-to-pay for time-saved should be. Living wage is defined by the wage that can meet the basic needs to maintain a safe, decent standard of living within the community. The living wage differs from the [minimum wage](#) in that the latter is set by law and can fail to meet the requirements to have a basic quality of life and leaves the family to rely on government programs for additional income. The level of a living wages is highly context specific. This concept is unrelated to other existing economic opportunities but is based on the idea of what should be considered “deserved” to enable an acceptable livelihood. Within the context of Laos, we are using a 4 USD a day rate.⁴

The rationale behind this suggestion is that women should be able to at least earn a living wage from the dedication of their freed-up time to other activities (listed above). In the absence of other income generating activities, entities that seek to support women’s empowerment should be willing to provide compensation at the living-wage level. In reality, this figure will serve as an upper boundary of the willingness-to-pay as women are likely to generate private utility/income during their freed-up time. Assuming an average work-load of 10 hours per day, the willingness-to-pay for an hour of time-saving at a living wage of 4 USD/day corresponds to 00.40 USD/hour - the upper price boundary.

Payment to Whom?

The W+ Standard stipulates that at least 50% of the net profits received from the sale of W+ units shall be transferred directly to women beneficiaries. At the same time, ICS program implementers that subsidize the production or sale of ICS, require income to re-finance these subsidies in order to facilitate the sustainable operation of their businesses.

The rationale for the W+ Standard’s revenue-sharing with women policy is as follows:

1. In many cases, the payment is a form of compensation for unpaid work of women engaged in the project activities and thus rightfully belongs to them. Women’s invisible and unpaid care work has been

⁴ A recent analysis by Label – STEP assessed the living wage of carpet weavers in Nepal at 3.40 USD per day (http://www.label-step.org/uploads/media/Media_20090721_Fair-Wages-Nepal.pdf). Our own estimate is an upper-boundary benchmark.

cited as a major barrier to gender equality and women's equal enjoyment of human rights, often condemns women to poverty and is a barrier to their effective engagement in the market economy.

2. The Standard was conceived as a way to provide financial resources to women's groups, as a necessary feature of women's empowerment and to enable them to acquire assets to use to address personal and community development needs as they themselves determine in their best interests. This aspect of self-determination is fundamental to empowerment, which is defined as: *"the process of enhancing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes. Central to this process are actions which both build individual and collective assets, and improve the efficiency and fairness of the organizational and institutional context which govern the use of these assets."*⁵

This means that the distribution of income from the sale of W+ units needs to take into consideration: a) requirements of the W+ Standard as well as b) a payment to either the producer, retailer or ICS user, depending on who ultimately bears its incremental production cost.

In the case of the Lao ICS program, SNV co-funds 50% of the investment costs (up to 5000 USD per producer) (working capital). The other half is financed by the producers (by loans). SNV could recover its co-financing share from the sale of W+ units (here 3.2 US cents/hour of time saved) while women beneficiaries should receive at least an additional 3.2 US cent/hour to satisfy W+ Standard requirements. Additional origination and transaction costs need to be included in the price to the W+ unit buyer and are to be paid to the W+ project developer as well as the W+ Standard.

Pricing of W+ Time Units

As per the above, the retail price for W+ Time units from the Lao ICS program should range between 6.4 – 40 US cent/hour saved. Considering the design of the program the reserve price of the seller (minimum willingness to sell) should be 6.4 US cent / hour (3.2 US cent/hour to SNV plus at least 3.2 US cent / hour to women beneficiaries (to satisfy W+ Standard rules)) **plus** the cost of originating and transacting a W+ unit, which is largely a fixed, program-level cost that is shared between all units.

The ICS Programme is expected to reach 100,000 households by 2016; 10,000 by 2013, 20,000 by 2014, 30,000 by 2015 and 40,000 by 2016.

We estimate W+ origination cost to be 70,000 USD in the first year of operation and 30,000 USD in all subsequent years. Assuming annual distribution of only 10,000 ICS, the average origination cost amount to 1.4 US cent/hour, **resulting in a minimum retail price of 7.80 US cent/hour saved (0.078 USD/h).**

Within the context of a side event at a recent UNFCCC Conference of Parties attended by around 100 individuals engaged or interested in gender equality /women's empowerment, WOCAN made a

⁵ <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/EXTEMPowerment>

preliminary assessment of a ‘willingness to pay.’ This experiment was conducted using a W+ pilot project, which is also measuring women’s time saved as a result of installing domestic biogas reactors that displace the need for fuel-wood collection. This focus group exercise has produced a median willingness to pay of 27 US cent/hour of time saved.

This suggests that there would be a market clearing price with willing buyers and sellers in the 7.8 – 27 US cent/hour range if these units were made available for sale.

Moving Ahead: Recommendations

There are some important factors that need to be considered in attempting to move ahead with plans to apply the W+ Standard to the ICS project. The impact of the ICS technology on stakeholders, particularly the large number of women end users in the ICS value chain is indeed encouraging. Women end users benefited from the extra time they saved while cooking with ICS stoves, and the savings in income is due to the reduced use of charcoal. Producers - mostly men in this piloting phase of the project - and largely women retailers benefitted from the additional income from sales of ICS and to some extent, from increased knowledge in production technology and product promotion.

Overcoming Challenges

The emerging lessons from the project’s pilot period demonstrate that there are key bottlenecks that need to be addressed before up-scaling the technology to other provinces:

- Production is limited, due largely to lack of access to loans with reasonably low interest rates.
- There is also a need to increase the number of women producers and workers
- Capacity for business development is clearly another priority area for up-scaling during the next phase

We would like to propose to discuss with SNV whether the piloting of W+ unit sales from the existing program at prices above the reserve price could be used as a means to fund the expansion of production. This would create an interesting sales story: especially buyers in the “voluntary”/CSR market like the idea of funding new activities instead of making retroactive payments for achieved outcomes.

We would also like to propose to discuss with SNV the set-up of an incentive program for women entrepreneurs in ICS production. Such incentives could be re-financed via the origination of W+ units within the Income/Assets and Education/Knowledge domains.

Last but not least, the origination of W+ units requires a strong involvement of women’s groups within the value chain for purposes of monitoring, reporting, verification of W+ related outcomes as well as financial transfers to women beneficiaries. The implementation of this functionality itself will have relevant impact on capacity and women’s empowerment. We would like to propose to discuss how the implementation of these required functions could be integrated into the design of the ICS program.

Other Observations

In terms of the W+ Domains, there is little evidence of impacts of ICS technology on health and leadership.

Health

- While the majority of respondents stated that there was a noticeable reduction in smoke with the ICS model, they were not sure if this could be due to the efficiency of the stove or the quality of charcoal being used
- The majority of participants did not attribute changes in health to less smoke produced by ICS units over traditional stoves

Knowledge

- The majority of users tend to have received free ICS stoves for piloting purposes and hence, had received information related to the ICS model from project staff
- However, these same users were unable to provide additional information for interested neighbors and family members who were interested in purchasing the stoves

Leadership

Leadership pertains to the quality of participation in governance bodies such as user groups, networks, associations, etc. The quality of participation can range from membership to increased decision making roles. There is potential for women's engagement in governance bodies at all the stages of the value chain, particularly amongst producers and retailers and acknowledging women's role in the family-owned business.

Among users, women's increased awareness and decisions to use time savings for their own self-improvement could also result in increased leadership opportunities.

Next Steps

Given the duration of the present project phase (2010-2016), and the need to generate lessons from the pilot phase, moving ahead with the application of the W+ Standard needs to be considered in two phases:

For Phase One (the remaining pilot phase of the ICS project (until 2016)), we propose the following:

- to originate and monetize W+ time units to demonstrate that there is a market and willingness to pay (see table 1); we would like to discuss the commercial basis for this activity (either in the capacity as consultant (for a fee) or project developer (under benefit sharing agreement) or a combination,
- to recycle revenues above the reserve price level into program expansion,
- to create a research initiative to document and assess the overall impact of these activities on program performance esp. in relation to women empowerment.

For Phase Two, which should be considered after the piloting period of the ICS project (beyond 2016) (see table 2), we propose the following:

- to use additional revenues from W+ unit sales for program expansion,
- to design an incentive scheme for women producers that is re-financed from W+ unit sales within the Income/Assets and Education/Knowledge domains (requires the preparation of an additional W+ project design document and W+ method development).

Activities Required for Application of the W+ Standard

Expected ICS units produced in project period 100,000 units. Baseline sample will be for 10% of estimated 100,000 users/customers?

Objective	Activities	Estimated Costs
Application of baseline and measurement to determine impact of ICS technology on <u>Time</u> and <u>Income</u> savings for women end users	<ul style="list-style-type: none"> - Outline a benefit-sharing mechanism - Adapt baseline questionnaire on relevant domains for ICS context - Conduct baseline survey - Develop monitoring mechanism 	\$ 8000 for W+ consultant
	<ul style="list-style-type: none"> - Select survey sample (10% of total ICS users) ⁶and non-users for baseline (100,000 units to be developed in project period. - Code baseline survey for statistical analysis - 	Cost of statistician for 2 days to code baseline = \$500
	<ul style="list-style-type: none"> - Train enumerators (10) for 3 days - Implement survey - Field supervision of enumerators 	US \$ 30 per day x 10 persons x 30 days + travel costs and perdiems) (approx. \$10,000)
	<ul style="list-style-type: none"> - Compile raw data - Aggregate data - Analyze data - 	To be done by project staff at no cost \$1000 for W+ consultant

⁶ The sample size for a baseline is 10% of the total amount of women for which w+ units are being claimed. The 100,000 ICS users is an estimate derived from SNV's anticipated number of units it expects to produce and sell by 2016. However, a smaller sample could be used for the baseline if the estimated size of the claim for W+ units is adjusted to more manageable numbers

and retailers			Knowledge	
Producers & Retailers				
Users	Limited access to information on ICS Poor understanding of women users to gender issues			
ARMI	Need to enhance technical skills for quality assessment Need to enhance communication and facilitation skills			

Assessment Team:

Dr Barun Gurung (WOCAN Associate, gurungbarun@yahoo.com)

Ms. Phanlany Khampoui (WOCAN Associate, phanlany_khampoui@yahoo.com)

Dr Jeannette Gurung (WOCAN Executive Director, jeannettegurung@wocan.org)

Ingo Puhl (W+ market assessment and monetization, South Pole Group)

Ms. Ladaporn Khunikakorn (local data collection, l.khunikakorn@southpolecarbon.com, South Pole)

Ms. Tanushree Bagh (W+ time method expert, t.bagh@southpolecarbon.com, South Pole Group)