

# Community self-financing of water and sanitation systems

by Budi Rahardjo and Dan O'Brien

**A project in Indonesia is proving that rural communities are willing and able to finance their own water and sanitation systems, providing the community is involved in decision-making at all stages.**

CSFW IS A FIVE-YEAR pilot project designed to demonstrate that communities in rural Indonesia are able and willing to finance their own water supply and sanitation systems; to create a community management approach; and to help bring about important changes in government and bank policy that will facilitate community financing.

Communities that participate in CSFW finance, build, and maintain their water supply and sanitation facilities with technical assistance and training from CARE. In special cases, CARE and the Government of Indonesia provide partial subsidy to communities who are willing but too poor to mobilize all of the resources needed to build the system. CSFW is, at the time of writing, being implemented in

thirty-five rural communities in the provinces of West Java, East Java, and West Nusa Tenggara Barat.

Despite the effort and resources that have been put into developing water supply and sanitation facilities for rural communities, approximately two-thirds of the population, or eighty-seven million people, still do not have access to sufficient and reliable sources of domestic water or to sanitation facilities. The government and interested international aid agencies simply do not have enough resources to meet the tremendous need.

A fundamental change is needed. Communities must be encouraged to finance, build, and maintain their own water supply and sanitation facilities. This way scarce government and donor

funds targeted for water supply and sanitation projects can be matched by community resources. This will result in speedier access to and use of improved facilities.

## Evolution

CSFW reflects an evolution of community financing in CARE-assisted water supply and sanitation projects over the past thirteen years. During this time the community's contribution of local materials, skilled and unskilled labour, and cash has steadily increased while cash contributions from CARE and the government have decreased (see Figures 1 and 2).

The evolution of community financing in these projects resulted from three observations:

- Two-thirds of all rural communities in Indonesia do not have access to safe and sufficient water and sanitation facilities. Government and donor resources committed to improving water supply and sanitation are inadequate to satisfy the need.
- CARE has discovered that many communities are able and willing to pay for water supply and sanitation systems rather than wait for subsidized systems from the government or other donors.
- Communities who finance their water supply and sanitation systems develop a sense of ownership, which contributes to improved system maintenance and long-term sustainability.

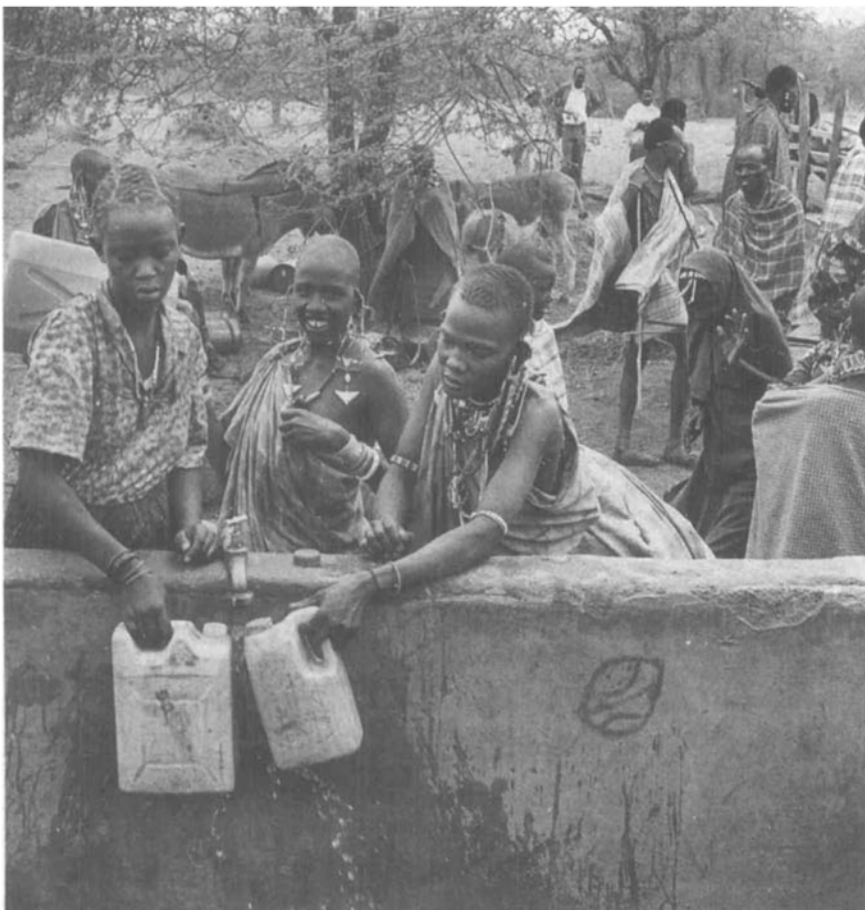
Community financing and cost recovery is not the purpose of the project, but rather part of a broader community management approach intended to strengthen the skills of communities to finance, build, and maintain their water supply and sanitation facilities.

There are four major components of the CSFW approach:

- technical assistance and training from CARE;
- resource mobilization;
- hygiene and sanitation education; and
- construction of the water and sanitation technologies.

The primary role of CARE is to provide technical assistance and training to CSFW communities. The specific types of technical assistance include:

- choice, design, and costs of the water supply and sanitation system;
- resource mobilization planning (including credit);
- bookkeeping;
- water quality testing;



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*Government officials often assume that rural communities are too poor to finance and manage their own systems, without allowing the community to decide for themselves.*

- water supply and sanitation system construction;
- hygiene strategy planning and back-stopping;
- operation and maintenance procedures; and
- post-project monitoring and problem-solving.

Resource mobilization is the process of organizing unskilled and skilled labour, collecting local materials and in-kind contributions, raising cash within the community, and using credit from banks or vendors to build the water supply and sanitation systems.

Cash can be raised both from inside and outside the community. Inside cash mobilization is usually done by cost sharing or savings and loan groups. Outside cash mobilization occurs through credit from pipe suppliers and banks. Loans from banks are good sources of up-front capital for communities who are able to repay.

The hygiene and sanitation education strategy helps to ensure that the technologies are used appropriately and will bring about the intended health impacts.

Table 1 shows the credit status for bank and pipe supplier loans.

## Technologies

The most common water supply technology used in CSFW is a gravity flow piped system. Water sources are both springs and small rivers. Slow sand filtration is used to treat river water and hydraulic ram pumps are used in certain situations to lift water to reservoir tanks. Handpumps are used in areas that do not have access to springs or rivers but do have ample supplies of groundwater.

In areas where gravity flow piped systems and handpumps are not feasible, rainwater collection tanks have been used. Rainwater collectors have proved to be one of the best sustained technologies in CSFW, because they are used in areas that do not have easy access to springs, rivers, and groundwater.

Although ventilated pit latrines have been used in the CSFW project, the most common sanitation systems are pour-flush water-seal latrines. These are most often installed in public bathing facilities, but are also built in or near houses.

## Education

Hygiene and sanitation education focuses on the proper use of water and sanitation technologies so that health benefits are more likely to occur. The project tries to influence some specific behaviour patterns:

- washing hands after defecating and before eating;

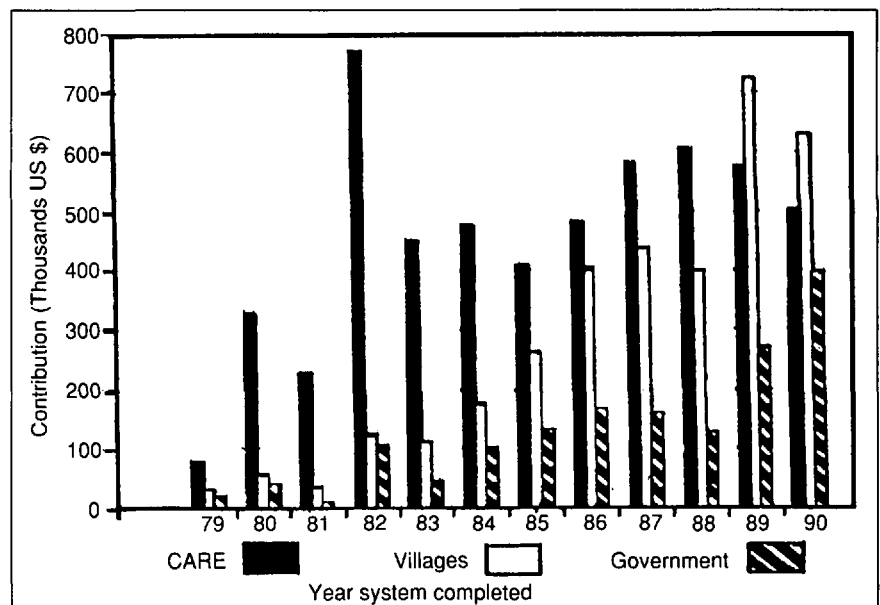


Figure 1. Contribution to cost (including in kind) of CARE rural water systems 1979-90 in US \$.

- bathing each day, especially children;
- proper drainage at the waterpoints;
- proper water transport and storage;
- using and maintaining latrines; and
- cleaning public bathing facilities.

The hygiene and sanitation strategy begins with a community survey conducted by the water supply and sanitation committee. Specific hygiene and sanitation problems are identified and prioritized. Next, appropriate messages are developed, and influential community members like religious leaders, teachers, traditional healers, and elected officials are selected and trained to communicate the messages.

The key step in this strategy is having community residents develop their own action plans to address the problems that they identify.

## Implementation

There are six stages in CSFW implementation. Site selection is the first stage, and new villages that are likely to implement CSFW successfully are chosen annually. Once the final CSFW sites are selected, they go through the other five stages. (Figure 3 depicts this process.)

1. *Site selection* CARE and the government select one or more districts in which to market the CSFW project. CARE markets the CSFW project to potential communities and encourages them to apply for the project. CARE conducts willingness and ability to pay surveys in those communities that have applied for the project. Based on the results of the surveys, CARE selects CSFW communities with the most

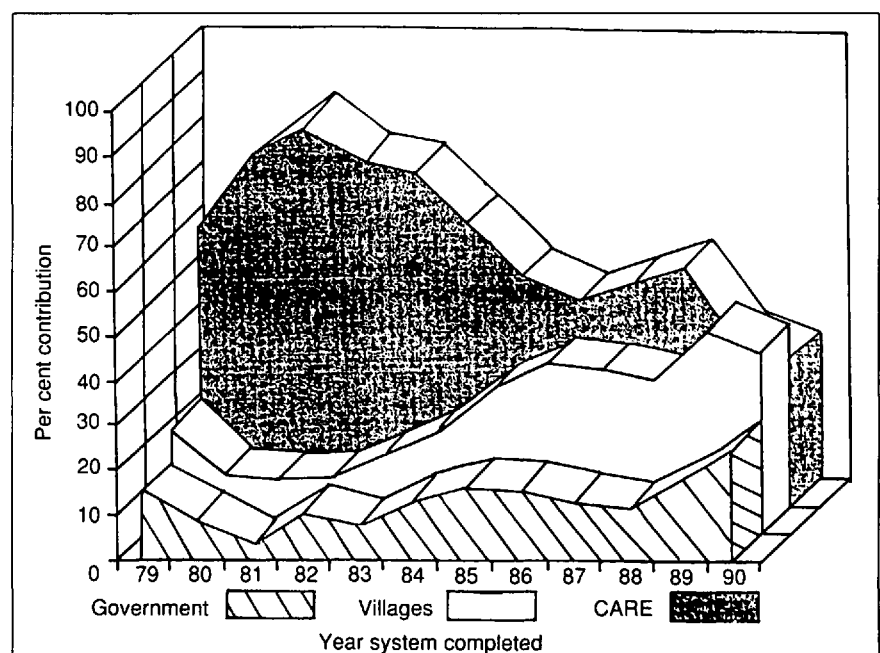


Figure 2. Percentage contribution to cost (including in kind) of CARE rural water systems 1979-90.

**Table 1. Credit status of bank and pipe-supplier loans.**

	Sites	Amount (\$ US)	Lender	Status (\$ US)
West Java	Cikadut	9 500	Vendor	Balance 8 500
	Tegalwaru	n/a	Vendor	n/a
	Mekarwangi	3 500	BANKAP	Balance 3 339
	Nagreg	3 000	Vendor	Balance 2 250
	Jatiroke	1 250	Vendor	n/a
East Java	Pasirhalang	1 000	BRI	n/a
	Pager	119	PPAB	Repaid in full
	Bubakan	325	BRI	n/a
	Wonoanti (Sriten)	1 000	Vendor	n/a
	Wonoanti (Bulih and Krajan)			Repaid in full
West Nusa Tenggara Barat	Sidomulyo	1 250	BRI	Repaid in full
	Lareu	1 750	BPD	Repaid in full
	Sankukun	4 100	Vendor	in process
	Garuda	5 000	BPD	in process

**Notes**

BRI: Bank Rakyat Indonesia (National Government Bank)

PPAB: Water Development Committee

BPD: Bank Pembangunan Daerah (Provincial Government Bank)

n/a: data not available

BANKAP: Bank Asia Pacific (Private Bank)

potential. CARE conducts meetings in each community to explain the project and answer any questions.

Site selection is probably the single most important step in CSFW, as not all sites are suitable. The primary indicators for selecting communities that are most likely to finish CSFW are:

- effective leadership and organization capability;
- successful completion of other community projects;
- willing to pay;
- ability to pay; and
- affordable technologies.

*Willingness* to pay has proven to be more important in predicting success than *ability* to pay. Many communities who are able to pay have not in fact been able to raise the cash, while some poorer communities who are less able to pay have successfully financed their systems.

The primary incentive that makes communities willing to pay seems to be guaranteed access to an adequate supply of water. Communities that do not have easy access to water are generally willing to pay for improved water supply, regardless of their ability

to pay. Communities also tend to be willing to pay for an increase in quantity and convenience, but not for an improvement in quality.

*2. Committee formation and negotiation* CARE convenes a meeting in each potential community to select the water committee. Once the community selects its water committee, the committee negotiates its responsibilities with the government and CARE.

*3. Planning* CARE presents the water committee with alternative water supply and sanitation technologies that are appropriate for the community. The water committee chooses the water supply and sanitation technologies and CARE helps the committee both to design and cost the systems, and develop a resource mobilization and construction plan. The water committee holds a community meeting to present the selected technologies and resource mobilization (including costs) and construction plans. During this meeting, a formal agreement between the three partners — the community, the government, and CARE — is signed.

After the agreement is signed, CARE trains the members of the hygiene and sanitation sub-committee in the prevention of water-related disease and the conducting of hygiene and sanitation surveys. The sub-committee then conducts the survey and plans activities based on the survey results.

*4. Implementation* This stage consists of hygiene and sanitation education, resource mobilization, and construction.

- CARE trains the hygiene and sanitation messengers to communicate messages and conduct action planning. After the training the messengers begin to communicate messages and work with other community residents to solve hygiene and sanitation problems.
- CARE trains the water committee to set up bookkeeping and control systems. After the training, the systems are set up and the committee begins to mobilize cash, and human and material resources.
- CARE trains the water committee to construct the water and sanitation facilities (depending on the technologies selected). Meanwhile, con-

**Table 2. Average costs and contributions.**

Category	West Java	East Java	West Nusa Tenggara Barat	Total average
System cost	13 396	6 076	12 580	11 021
M & E cost	10 604	4 833	10 851	2 031
In-kind cost	2 791	1 243	1 729	1 424
Beneficiaries	1 845	479	1 769	1 424
Cost per beneficiary (including in-kind)	8	11	8	9
Cost per beneficiary (excluding in-kind)	6	10	7	7
Cost per beneficiary (including CARE cost)*	13	21	15	15
Community in-kind contribution	2 791	1 243	1 729	2 031
Community cash contribution	2 330	1 095	582	2 367
GOI cash contribution	2 959	1 492	3 002	2 543
CARE cash contribution	5 277	2 245	7 267	4 968

**Note**

All amounts are in US\$.

\*Estimate.

struction and hygiene and sanitation activities are monitored and adjusted if necessary.

**5. Operations and maintenance** The community selects its operation and maintenance committee. The committee develops regulations and by-laws and presents them to the community. Next, the committee develops an operation and maintenance budget, a bookkeeping system, and a training plan. CARE then provides follow-up training to the committee as needed.

**6. Evaluation and monitoring** The final hygiene and sanitation evaluation and close-out survey is conducted by the committee and CARE. CARE continues to help the operation and maintenance committee monitor the water supply and sanitation systems for about one year.



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### CSFW and the future

To date the CSFW project has demonstrated that many communities in rural Indonesia are able and willing to finance their own water supply and sanitation system. An effective community management approach has been developed and successfully implemented, but important changes in government and bank policy to ease community management and financing have been slower to come.

One of the primary obstacles to the CSFW approach has been the belief of some government officials that rural

*If bank lending policies do not change, people will have to rely on supplies of unknown quality.*

communities in Indonesia are too poor to finance and manage their own systems. This prejudiced view must be overcome if the CSFW approach is to be applied throughout Indonesia.

Another obstacle is credit terms from banks. High interest rates of 22 per cent and unrealistic requirements discourage many communities from using bank credit. Without up-front capital from banks, the capital must be raised from

inside the community. This can be a very long, slow and discouraging process. Access to acceptable credit must be improved if progress towards community financing is going to occur. ●

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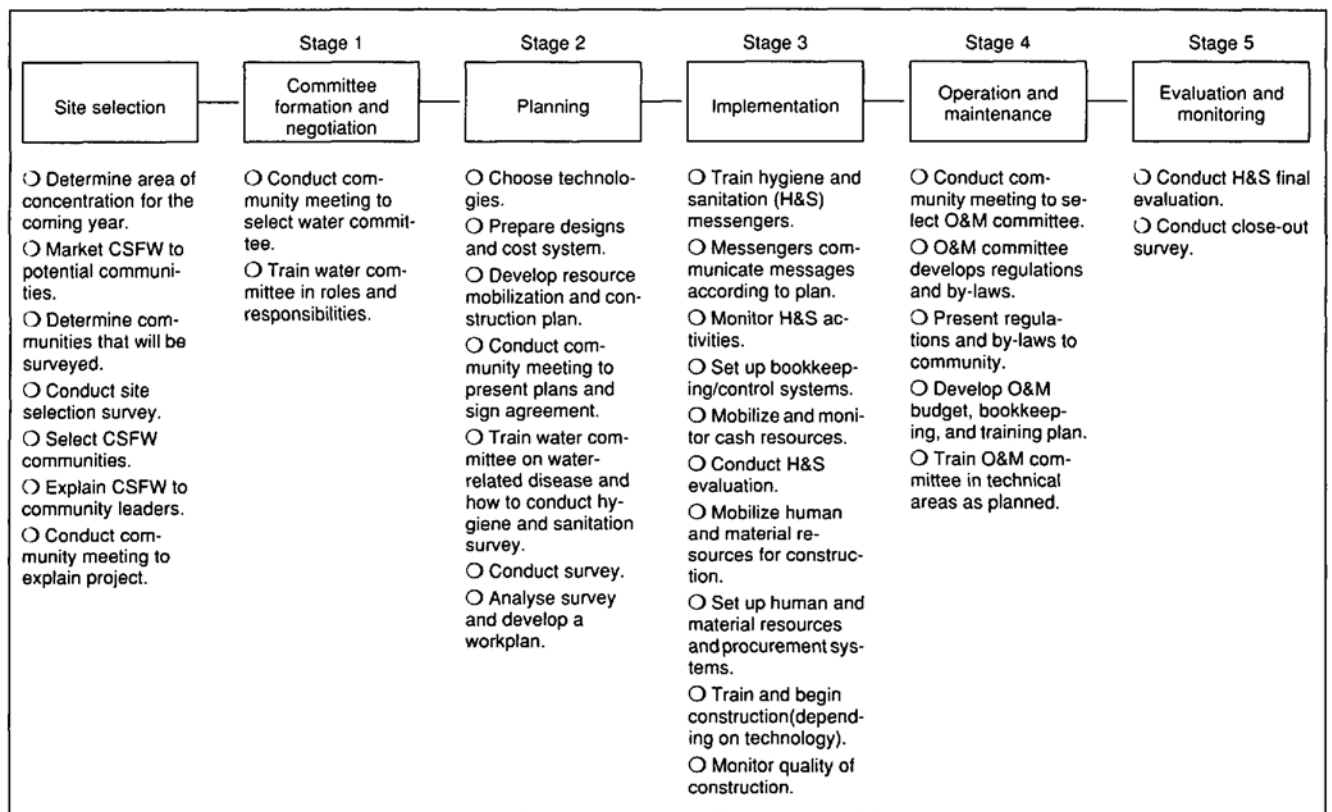


Figure 3. Stages and steps in CSFW implementation.