

The Recovery  
& **DEVELOPMENT**  
Consortium

**DFID Yemen Social  
Fund for  
Development –  
Impact Evaluation**

**Final Report**

**The Recovery and  
Development  
Consortium**

**November 2010**



**COWI**

**MAXWELL  
STAMP | PLC**



## Table of Content

Table of Content.....	<b>i</b>
Acknowledgements .....	<b>2</b>
1 Executive Summary.....	<b>3</b>
2 Introduction.....	<b>5</b>
2.1 Background .....	6
2.2 Terms of Reference and Objectives of the Evaluation .....	7
3 Methodology.....	<b>8</b>
3.1 Approach and Methodology.....	8
3.1.2 Quantitative Survey.....	8
3.1.3 Qualitative Study.....	13
4 Programme Effectiveness and Efficiency .....	<b>15</b>
4.1 Targeting .....	15
4.2 Consultation, Participation, Ownership & Gender.....	15
4.3 Programme Efficiency.....	19
4.3.1 Operational Efficiency.....	19
4.3.2 Cost Efficiency .....	22
5 Sectors – Main Findings .....	<b>24</b>
5.1 Education.....	24
5.1.1 Results Chain.....	24
5.1.2 SFD's Results Framework.....	25
5.1.3 Outputs .....	27
5.1.4 Outcomes.....	28
5.1.5 Recommendations for the Education Sector.....	31
5.2 Health.....	33
5.2.1 Results Chain.....	33
5.2.2 SFD Results Framework.....	34
5.2.3 Outputs .....	34
5.2.4 Outcomes.....	34
5.2.5 Recommendations for the Health Sector .....	39
5.3 Water.....	40
5.3.1 Results Chain.....	40
5.3.2 SFD's Results Framework.....	41
5.3.4 Outcomes.....	45
5.3.5 Recommendations for the Water Sector .....	48
5.4 Roads.....	49
5.4.1 Results Chain.....	49
5.4.2 SFD Results Framework.....	49
5.4.3 Outputs .....	51
5.4.4 Outcomes.....	52
5.4.5 Recommendations for the Road Sector .....	53
5.5 Microfinance.....	55

5.5.1	Results Chain.....	55
5.5.2	SFD Results Framework.....	56
5.5.3	Outputs .....	58
5.5.4	Outcomes.....	58
5.5.5	Recommendations.....	60
6	Conclusion .....	<b>61</b>
6.1	Overall Conclusions .....	61
6.2	Specific Recommendations for SFD IV .....	61
6.3	Recommendations for Future Impact Evaluations – Questions and Procedures .....	62
	Technical Annex – Methodology and Detail on Targeting .....	<b>64</b>
	Original Method .....	64
	Method 1 – Compares communities who join projects at different times .....	65
	Method 2 – Adjusts for upward drift using recall data.....	66
	Method 3 – Adjusts for upward drift using HBS data .....	67

## List of Tables

Table 1: Sampling frame for projects and households.....	12
Table 2: Proportion of sample with missing data by indicators.....	13
Table 3: Sampling frame for focus group discussions and key informant interviews.....	14
Table 4: Percentage of households in bottom three deciles.....	15
Table 5: Types of contributions made.....	16
Table 6: Community contributions.....	16
Table 7: Perceived state of maintenance of the SFD facilities.....	17
Table 8: Reporting on "excellent" maintenance for sectors and new/old ex-post groups.....	17
Table 9: Perceived quality of work on SFD projects.....	17
Table 10: Perceived quality of work on completed SFD projects, by sector.....	17
Table 11: Summary of Direct and Indirect Beneficiaries of SFD projects up to December 2009.....	20
Table 12: Percentage of Female Beneficiaries by type of project.....	21
Table 13: Costs of SFD completed sub-projects per beneficiary.....	22
Table 14: Comparison of Enrolment Rates 2003,2006 and 2010.....	25
Table 15: Girls Enrolment Rates (Child-Level Analysis) .....	25
Table 16: Boys Enrolment Rates (Child-Level Analysis) - No controls for individual, household and governorate.....	26
Table 17: Percentage reported problems by category and group.....	29
Table 18: Overall Financial Contribution to SFD to the Health Sector in Yemen, 1998-2009.....	34
Table 19: Proportion of sample reporting health problems in past month (%) .....	35
Table 20: Access to Reproductive Health Care.....	37
Table 21: Reason for rarely or never seeking reproductive health care.....	37
Table 22: Proportion of Households reporting change in time taken to collect water over past 2 years/before SFD Intervention .....	41
Table 23: Proportion of Households reporting decreased time to collect water.....	42
Table 24: Average time to collect water (minutes).....	42
Table 25: Water cost reductions.....	44
Table 26: Cisterns, karieff/reservoir, dams, water tanks .....	45
Table 27: Water projects over time .....	45
Table 28: Reasons for not using SFD water facilities .....	46
Table 29: Time to get to nearest market/town/centre (minutes in one direction).....	49
Table 30: SFD roads sector outputs over time .....	50
Table 31: SFD roads improvement, excavation and pavement over time .....	51
Table 32: Reasons provided for dissatisfaction .....	52
Table 33: Microfinance project universe.....	57

## List of Figures

Figure 1 - SFD Investment by Sector.....	9
Figure 2 - Double difference method.....	10
Figure 3 - Flow chart showing stages in selection of Households.....	13
Figure 4 - Cumulative number of direct beneficiaries 2009.....	20
Figure 5 - SFD Contribution to the national stock of educational infrastructure.....	27
Figure 6 - Overall Financial contribution of SFD to the Education Sector in Yemen, 1998-2009 (USD).....	28
Figure 7 - Satisfaction rate with current school.....	28
Figure 8 - Estimated effect of SFD on satisfaction with current school.....	29

Figure 9– Estimated effect of SFD on dissatisfaction with lack of books.....	30
Figure 10 – Estimated effect of SFD on dissatisfaction with toilets/water, girls.....	30
Figure 11 - Estimated effect of SFD on dissatisfaction with quality of teaching.....	30
Figure 12 – Estimated effect of SFD on health sector utilization rates for females.....	35
Figure 13 – Estimated effect of SFD on utilization of pre-natal care.....	36
Figure 14 – Estimated effect of SFD on utilization of pre-natal care by facility and before and after.....	36
Figure 15 – Impact of SFD on household not using natal health care due to the distance to the facility....	37
Figure 16 – Estimated effect of SFD on presence of community midwife at birth.....	38
Figure 17 – Estimated effect of SFD on pregnant mother vaccination rate.....	38
Figure 18 – Monthly water cost, dry season.....	43
Figure 19 - Monthly water costs, rainy reason.....	43
Figure 20 – Estimated water costs, dry season.....	43
Figure 21 – Estimated water costs, rainy season.....	43

**Acronyms**

ANC	Antenatal Care
CLTS	Community-Led Total Sanitation
DFID	UK Department for International Development
DPPR	Development Plan for Poverty Reduction
EmOC	Emergency Maternal and Obstetric Care
ELD	Empowerment for Local Development
FGDs	Focus Group Discussions
GDP	General Domestic Product
HBS	Household Budget Survey
HDI	Human Development Index
IIP	Integrated Interventions Programme
KII	Key Informant Interviews
LPG	Liquid Petroleum Gas
MCH	Mother and Child Health
MFI	Micro-Finance Institute
MIS	Management Information System
MoE	Ministry of Education
MoLA	Ministry of Local Administration
MoSAL	Ministry of Social Affairs and Labour
NGOs	Non-governmental Organizations
PMT	Proxy Means Test
SFD	Social Fund for Development
SFSD	Social Foundation for Sustainable Development
SMED	Small and Micro Enterprise Development
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNCHS	United Nations Center for Human Settlements
YER	Yemeni Riyal

## Acknowledgements

A consortium of international consultants from Maxwell Stamp plc (lead) and COWI A/S designed the evaluation methodologies, reviewed and analysed the data and drafted this report. The bulk of the work was carried out by: Tom Dahl-Østergaard (team leader), Anne Bolster (quantitative specialist), Sana Salloum (qualitative specialist) and Jesper Johnson (project manager). The international team was supported by specialists and interns from both companies. As part of the impact evaluation an institutional evaluation was also conducted by Mary Jennings, University of York.

The Yemen-based organisation *Interaction in Development* implemented the quantitative survey and the qualitative study. Their managing director, Khalid Yasin Dubai, led the fieldwork and data processing, and his management team included: Abdullatif Al-Shaibani (quantitative survey fieldwork manager), Tareq Al-Madhajy (data processing manager), Thabit Bagash (qualitative survey expert).<sup>1</sup> The quantitative survey involved 23 team leaders for rural projects, 64 female enumerators for rural projects, 23 field editors for rural projects, and four male enumerators for urban projects. In addition, the qualitative study involved three fieldwork team leaders, six facilitators and six note-takers.

The team of international consultants, who produced this report, would like to acknowledge the considerable efforts and contributions made by the entire team from Interaction in Development. Sincere thanks and appreciation are due to the following staff members from SFD, who steered and coordinated the process: Lamis Al-Iryani (unit head, M&E), Tareq Al-bass (senior officer, M&E) and Khalid Moheydeen (senior donor relations officer, M&E), and to the unit heads and other officials from the SFD units that were involved in the process. Finally, we would like to acknowledge the continuous support and technical guidance provided by Andrew Long and Rachael Beaven (both DFID), and Julie Van Domelen and Trina Haque (both World Bank).

---

<sup>1</sup> Data processing involved designing the data entry program in Arabic; checking, editing and coding; data entry and quality control.

## 1 Executive Summary

This report presents the findings of a comprehensive impact evaluation of the Social Fund for Development (SFD) in Yemen that began in October 2008. It builds on prior impact evaluations from 2003 and 2006 but has adopted an improved methodology for measuring the net impact of the SFD's interventions.

The 2009 impact evaluation analyses the efficiency, effectiveness, and sustainability of SFD operations, with particular focus on the achieved outcomes and impacts. It also comments on the SFD's institutional contribution at the national, local and community level. The evaluation team has made every effort to ensure that this presentation is useful not only for accountability purposes, providing hard evidence on performance, but also from a learning perspective. Rigorous quantitative statistical analysis, using inter alia double-difference methodology, combined with qualitative analysis provided the evaluation team with a firm foundation for identifying areas where the SFD has made a difference above and beyond what could be expected, and where not. It also enables the team to identify explanatory variables for performance, leading to recommendations for improved procedures or approaches.

Since 1997 when the SFDs began its operations and up until the end of 2009, 7045 projects have been completed with an investment value of over USD 586 million. SFD has covered all of Yemen's 333 districts through its nine branch offices. The four biggest sectors in terms of investment and number of projects have been education, health, rural roads and water, making up 72% of all finished projects. Microfinance has been a rapidly growing area in later years. These five sectors were all analysed individually, and the results are summarised below.

### Overall Assessment of Impact

Providing an overall conclusion on the impact of the work of such a large and comprehensive development organisation as the SFD over a multi-year period is not easy. In the present evaluation, the problem is that there is not a comprehensive baseline against which the performance of SFD could be gauged.

The present impact evaluation has assessed the impact of SFD's interventions in five of its main areas of activity: education, health, water, roads and microfinance. Together, these sectors make up about three-quarters of SFD's investments. We have analysed the net impact of SFD, using the robust double-difference method in all sectors except microfinance. The details are found in Chapter 5 and some of the highlights from this in the sector sections below. On this basis, and also when seeing the results in relation to the SFD Results Framework, albeit with the caveats stated above, it is clear that SFD has delivered a strong impact in each of the five areas covered by this impact evaluation. While it is impossible to highlight some of the achievements over the others, the combined impacts in each of the areas leave us, the external impact evaluation team, with the impression that SFD has delivered a satisfactory impact overall.

Assessments of SFD targeting performance showed some substantial variation in the results. This leads to inconclusive findings regarding SFD targeting. It is therefore recommended that a special study be carried out to assess SFD targeting.

### Operational Efficiency

In general, positive results were recorded in relation to the SFD's operational efficiency, the number of beneficiaries reached and the costs per beneficiary.

All of the five sectors covered by this evaluation (education, health, water, roads and microfinance) have either seen growth or a sustained high number of direct beneficiaries. The total number of cumulative beneficiaries over the 12 year period has been more than 4 million, with women making up 49% of the beneficiaries over the period 2006-2009.



A cross-sector analysis was conducted on SFD performance in relation to the issues of consultation, participation, ownership and gender. Fairly high levels of participation and ownership, also by females, were found, which is expected to contribute towards sustainability of the interventions.

### **Impact at Sector Level**

**Education:** SFD's projects deliver substantial returns on investments in terms of enrolments. While the availability of books and the quality of teaching are not within SFD's control, there are positive results from the investments in school infrastructure on other things that matter for education outcomes in the long term – such as books, quality of teaching and presence of water and toilets. The findings in this evaluation demonstrate that building a school really does crowd-in other educational outcomes; building and rehabilitating schools seem to have an impact on the Ministry of Education (in terms of supplying the school adequately with books) and incentivising teachers.

Since 2006, the SFD's results framework has been more than fulfilled in the area of education. The 2006 impact evaluation stated that progress in enrolment rates for boys and girls aged 6 to 14 by then was 4.5% over the period 2003–2006, from the base enrolment in 2003 of 64.5% (average across boys and girls aged 6 to 14). The increase in enrolments from 2006 to 2010 is 14% on average across boys and girls in the same age group. As in the 2006 report, this figure gives an indication of the large increases in enrolments in Yemen. These increases are particularly observed for girls. The impact of SFD's interventions as estimated through double difference is also appreciable, indicating a high degree of effectiveness. The results on double difference impacts demonstrate that there is a comparatively strong pay-off from investments in girls' schools.

Overall, a clear majority of the 4,550 enrolled students consulted through our survey questionnaires were dissatisfied (57.8%) with the school. However, there is a noticeable difference in satisfaction rates between schools that have benefitted from SFD support and those that have not. The satisfaction rate is highest where SFD interventions were completed a relatively long time ago (1997–2003). In other words, SFD's investments have a strong impact on student satisfaction and the impact seems to be sustainable over time. However, respondents invariably refer more often to issues relating to school management, discipline at school and the availability of good teachers than they refer to the availability of good or new school buildings.

**Health:** the SFD results framework for health aims to increase the use of SFD supported facilities by targeted communities. The gross sample average of the percentage of people seeking health care the last month if feeling ill was 76% for the SFD targeted communities. A total of 87% of the ex-post treatment group answered that they now always or usually seek treatment when they are ill. In the pipeline communities this rate is 84%.

SFD has demonstrated a strong positive impact on the propensity of a female to seek healthcare when she is ill and incapacitated, with the strongest effect recorded in poorer households. In communities where SFD has not yet started implementing projects the probability of using pre-natal care is 43%, whilst where MCHs are present the rate increases to 58%, and health centres increase this rate further to 62%. Women from the poorest household consumption decile go from having a 48% probability of seeking health care without an SFD intervention to 84% with the intervention. Thus, SFD has shown a strong positive impact on the likelihood of females seeking healthcare when ill with the strongest effect in the poorest households.

Respondents believe that access to health facilities has improved due to SFD interventions. Some 64% of respondents believed that the SFD had improved access/made it easier to travel to get treatment at a reproductive health care facility. These findings are also supported by the focus group discussion results, where female and male respondents reported general satisfaction with SFD interventions in the health sector.

**Water:** the SFD has met the targets in the results framework in terms of the stated objectives on availability and time to collect water. Regarding water availability, 86% of households in recently

completed projects report that due to the SFD facility, the availability of water over the last 12 months has increased and 52% of households report reduced time to collect water during the rainy season (43% during the dry season).

The dam, private rooftop water harvesting and piped rural water projects all lead to significant reductions in the time spent to collect water during both the dry and rainy seasons. The public water harvesting systems (tanks) also result in some gains in the rainy season, but results are more significant during the dry season. Using double-difference analysis with controls for household characteristics and governorate shows similar results.

SFD has a net impact on reducing the average cost of water for all types of projects, with the strongest results reported for communal water harvesting tanks.

**Roads:** it is difficult to establish whether the SFD's results framework targets have been met in the area of roads. Across the three dimensions used to measure the objective (time per return trip to market; cost per trip; and frequency of trips) a highly significant positive result showed that SFD reduced travel time to market by 74 minutes per trip (using basic before-and-after comparison) and 43 minutes (using double-difference methodology). The two other dimensions did not show the same clear benefits. The second objective of having 760,000 rural inhabitants paying at least 20% less for their basic commodities was not reached.

The qualitative analysis clearly showed that people perceived the SFD road interventions to have brought many economic benefits in terms of reducing the costs of commodities, but the quantitative and qualitative analysis show that factors outside SFD control have prevented the impact of reduced travel time to affect commodity prices. On issues of community engagement, ownership and sustainability several positive findings are apparent.

**Microfinance:** The SFD's results framework for microfinance focuses on two objectives. The first objective is that 40-50% of micro-finance savers/borrowers should experience an improvement in the living standard of their households. The second objective states that the SFD should have 3-4 major microfinance programs well on their way to reach operational self-sufficiency

This evaluation shows positive outcomes in relation to the SFD results framework. 52% of beneficiaries believed that the loan allowed them to increase their income, and 50% responded that the loan had allowed them to increase their economic activity. Positive answers were equally provided for the other categories covering improvements in living standards. Four MFIs were classified as operationally self-sufficient, several with a large margin to the required threshold. Thus, for both the objectives of the results framework the microfinance programme did well.

Other important outcomes reported on were beneficiary repayment rates, retention rates, and graduation to larger loan sizes. Again, the results were positive overall. Finally, the analysis showed high levels of user satisfaction and operational efficiency.

### **Institutional Aspects**

While SFD alignment and support for national planning at sector levels has been generally good, there remains a need for greater SFD-ministry linkages. SFD has a comparative advantage in supporting institutional development and capacity building at all levels of governance and government, including within specialised departments in ministries, governorates, districts and communities. Details of key achievements at sector level are provided in the main text.

## **2 Introduction**

## 2.1 Background

Yemen is the only low income country in the Middle East and suffers with a high incidence of poverty, poor basic infrastructure and deteriorating levels of governance. It scored 0.545 in the last human development index, placing it as number 140 out of 182 countries.<sup>2</sup> GDP per capita remains low at USD960 and life expectancy is at 63 years. Health conditions are poor with only 36% of births attended by skilled health staff<sup>3</sup> and 46% of children under five years being underweight for their age.<sup>4</sup> More than a third of the population live in poverty and there are considerable disparities in levels of education and health care between urban and rural areas. Gender inequalities exist in all areas of social, economic and political life in Yemen, indicated by its rank of 109 out of 109 countries by the Gender Empowerment Measure index.<sup>5</sup> With regards to education, the primary school completion rate stands at only 49% for females compared to 72% for boys. Only 61% of adults are literate.<sup>6</sup>

Perhaps one of the key concerns for Yemen's future is its high rate of annual population growth, which has been 2.9% for the last four years.<sup>7</sup> By 2050 its population is estimated to reach 60 million compared to the current 22.9 million and this growth could put pressure on improvements that Yemen makes with regards to human development. Yemen also faces problems with water scarcity and has one of the lowest water per capita availability rates in the world. The oil sector currently provides 90% of export earnings and 75% of government revenue but production has passed its peak and output is declining.<sup>8</sup> Political tensions and security concerns in Yemen are long-standing. International attention on the security situation in Yemen has increased significantly during the last year. Much of this attention focuses on problems which have existed here for many years – the Northern al-Houthi rebellion, political tensions in the South and the Al-Qaeda threat. Poverty and the lack of political and economic inclusion has exacerbated the situation and played a role in increasing grievances and sources of radicalisation among some of the population.

The Social Fund for Development (SFD) has become one of the main development actors in Yemen, with the aim of improving access for low income groups to basic social services whilst also acting as an example of a transparent, efficient and participatory social services provision mechanism. Since its inception in 1997, it has completed 7045 projects in various sectors with investments of USD586 million. The SFD currently delivers its work through four main programmes:

- Community Development Programme: aims to increase access to social and economic basic infrastructure;
- Capacity Building Programme: helps build the capacity of local partners, including communities, NGOs, government agencies, consultants and contractors;
- Small and Medium Enterprise Development Programme: provides microfinance services and develops financial and non-financial services for small entrepreneurs;
- Labour Intensive Programme: contributes to reduction of economic shocks within the poor communities.

The SFD is currently in its third phase (operating since 2004) which was extended from finishing in 2008 to 2010. This extension allowed the SFD to synchronize its aims with the Yemeni Government's Five-Year Plan for Economic and Social Development and Poverty Reduction. A fourth phase is planned for which this evaluation will provide recommendations based on the impact evaluation's

---

<sup>2</sup> This HDI score shows some improvement from the one that was reported in the previous evaluation in 2006 (HDI=0.492), indicating some progress in the core areas of well being

<sup>3</sup> World Bank Indicators <http://data.worldbank.org/>

<sup>4</sup> UNDP Statistics <http://hdr.undp.org/en/statistics/>

<sup>5</sup> UNDP Statistics.(GEM=0.135) GEM index takes into account indicators such as gender disparity in income, number of female professional and technical workers and presence of women in politics.

<sup>6</sup> World Bank Development Indicators <http://data.worldbank.org/topic/education>

<sup>7</sup> World Bank Development Indicators

<sup>8</sup> DFID Country Programme Evaluation Yemen, Feb 2010

findings for the current third phase.

## **2.2 Terms of Reference and Objectives of the Evaluation**

The Impact Evaluation was initiated in August 2008. It was originally designed in three phases with the final submission of reports envisaged for the end of 2009. Yemen has proved a challenging environment to work in, not least because of on-going security concerns. This has had a direct impact on the frequency with which international consultants have been able to visit Yemen to move forward the IE and curtailed their ability to visit the field. This has contributed to some delays in the implementation of the field work components of the study. Conflict has also had an effect on SFD's own contributions. For example, some areas were excluded from the sampling as they were known to be in conflict. In other areas when they were conducting fieldwork they were not able to access specific communities.

Prior impact evaluations of SFD were carried out in 2003 and 2006. The Terms of Reference (ToR) state that the present evaluation should be based on the 2006 evaluation with the important proviso that it should provide and employ an improved methodology. This evaluation comprises two components: an institutional evaluation and an impact evaluation. The final institutional evaluation report was submitted and approved in October 2009.<sup>9</sup> The impact evaluation contains two parts that are closely linked and meant to reinforce each other: a large-scale quantitative survey and a small qualitative study. The actual implementation of the impact evaluation came under way just as the institutional evaluation was completed. The bulk of this report presents the findings and conclusions of the impact evaluation, but main points of the institutional evaluation are synthesised within it.

The overall objective of the 2009 impact evaluation is to provide the SFD and its stakeholders with a clear, complete and evidence-based evaluation report of its outcomes, efficiency and effectiveness as well as its institutional contribution at the national, local and community level.

### **2.2.1 Key Evaluation Questions**

The ToR state that the evaluation should address the following key evaluation questions:

- Efficiency (SFD operations and processes)
- Effectiveness (targeting the poorest groups and villages, creating temporary work opportunities while executing the basic social infrastructures, access to the services, utilisation and benefiting from the services)
- Sustainability (ownership, priority, community contribution, perception of the work quality)
- Outcomes and impact (enrolment in education, reduction of travel costs and time in road projects, increased water consumption, etc).

---

<sup>9</sup> Jennings, Mary. October 2009. *SFD Evaluation 2009 - Final Institutional Evaluation Report*. The Recovery and Development Consortium / Maxwell Stamp PLC & COWI A/S.

## 3 Methodology

### 3.1 Approach and Methodology

The 2009 impact evaluation combines a mix of quantitative and qualitative methods of data collection and analysis. This section presents first our method for determining impact using quantitative methods and thereafter our approach and methodology for the qualitative study.

#### 3.1.2 Quantitative Survey

Our quantitative method, which is fully described in a separate document<sup>10</sup>, is the result of a reflexive design process that has included regular technical dialogue between the Consultant, the SFD and other key stakeholders.<sup>11</sup> Significant efforts have been made to improve upon the 2006 impact evaluation, while also building on the successes of this.

##### 3.1.2.1 Changes in Methodology from Previous Impact Evaluation

This methodology features improvements over the previous 2006 impact evaluation by:

- Attempting to capture a realistic quantity of data, curbing the unnecessary data collection of previous impact evaluations.
- Using geographical stratification (urban vs. rural areas) of sample projects.
- Offering a more robust approach through an increased number of projects and households surveyed.
- Recognising that income tends to be underreported and is a sensitive issue for many respondents, we attempted to use a consumption proxy model (see Chapter 4).
- Improving the precision of the data collected, e.g. by introducing seasonality into questionnaires related to the water sector in order to generate data on the difference in water usage and demand between dry and rainy seasons.
- Using a "double difference" approach as opposed to uniquely the "before and after" approach of the 2006 impact evaluation.
- Integrating the analysis of the quantitative and qualitative data and the reporting from this into each of the sections on the selected sectors of analysis.

##### 3.1.2.2 Sectors and Indicators

It was agreed to confine the evaluation to the same five sectors that were the focus of the last two evaluations, namely: education, health, water, roads and microfinance. Together, they account for nearly 85% of SFD commitments since 1997 and a slightly smaller proportion of the beneficiaries of SFD activities.

In order to identify the most important results to report on, results chains were developed in collaboration with the relevant SFD units to identify the inputs, outputs and outcomes for the main activities under each sector.<sup>12</sup> It was agreed to use the World Bank Core Welfare Indicator Questionnaire to structure the design of some of the indicators for the survey. Where necessary and possible, all indicators were gender disaggregated.

The survey instruments, which consisted of structured and coded questionnaires, comprised the following: (1) household questionnaires targeting the male or female household head or both as appropriate; (2) beneficiary questionnaires where the intended target is primarily a single person (e.g. borrowers under the microfinance programme); (3) project questionnaires with staff of projects

---

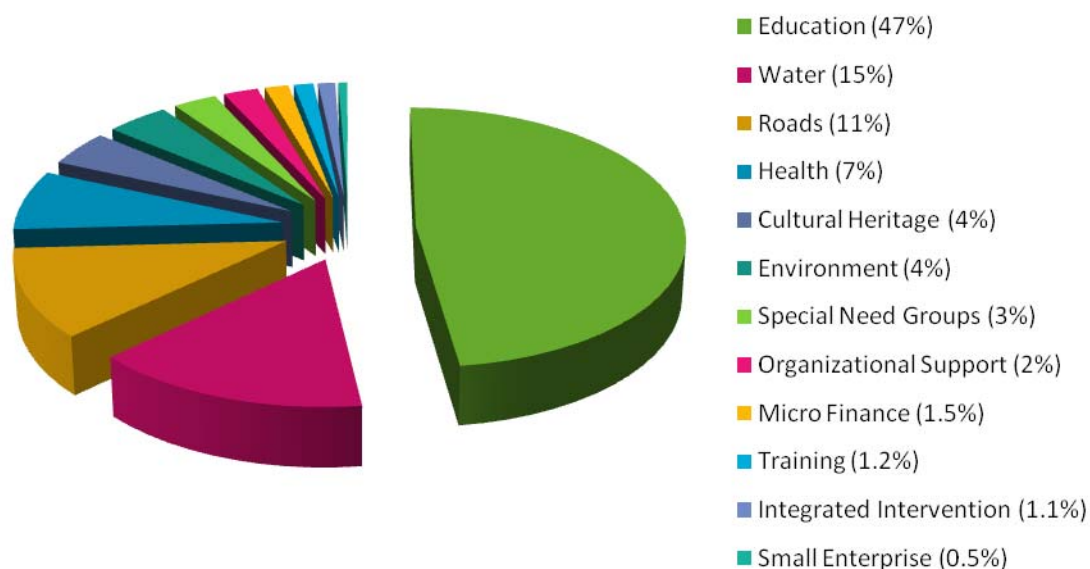
<sup>10</sup> *SFD Impact Evaluation 2009: Quantitative Method*, final version 22 December 2009, Maxwell Stamp PLC & COWI A/S

<sup>11</sup> The 2009 impact evaluation was undertaken with the financial assistance of the UK's Department for International Development (DFID) and the World Bank.

<sup>12</sup> The relevant results chains are summarised under each of the sector sub-headings in Chapter 5.

or committee members; and (4) institutional questionnaires for the microfinance sector.

**Figure 1 – SFD Budgeted Value of Investment by Sector, Grand Total up to December 2009**



### 3.1.2.3 Determining Impact

As already indicated, this evaluation uses two quantitative techniques to determine impact. The first method is the "with and without" approach, which measures the difference in outcomes between the treatment group (SFD beneficiary communities) and a comparison group (benchmark communities). The time period for measuring the outcomes for both groups was in March/April 2010 when the household survey was rolled out to the field. The treatment group are communities where SFD interventions were completed prior to 30 November 2009. In the absence of a true control group, which is not possible, the comparison group was defined as communities where SFD interventions are under implementation and where only up to 30% of total funds had been disbursed by 30 November 2009.<sup>13</sup>

The second method is the "double difference" approach, which measures the difference in outcomes over a set time period for both the treatment and the comparison group. The advantage of this technique is that it nets out any differences between the treatment and comparison group (both differences that existed prior to the SFD project and changes occurring in the comparison group over the time period investigated). In other words, the double difference approach allows us to establish the effect or impact of SFD's activities net of changes over time that has affected all communities across Yemen, not only those supported by SFD.

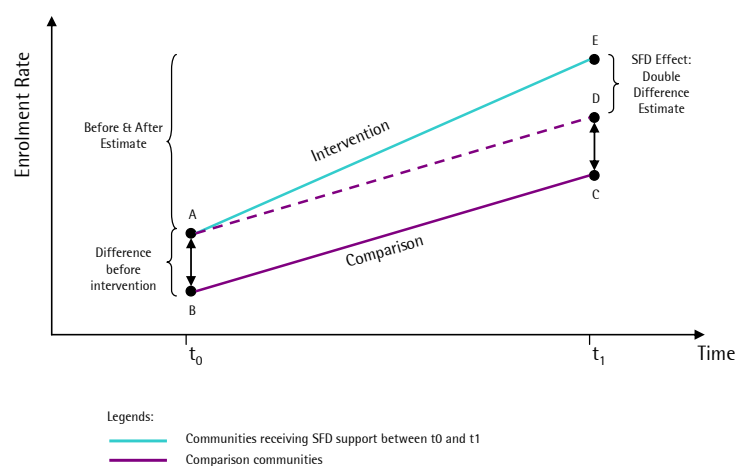
The figure below illustrates this approach for determining SFD impact from time t0 to time t1, using the issue of enrolment rates as an example. A "before and after" approach would estimate the impact to be the difference between values A and E. It is clear, however, that comparison

---

<sup>13</sup> A maximum ceiling of 30% of funds disbursed was set in order to maximise the chances that these projects would still be incomplete at the time of field visits.

communities have also improved over the time period in question – enrolments have increased from B to C, so the true impact of SFD is less than the "before and after" difference. Taking account of the fact that the 'intervention' and the 'comparison' communities have slightly different enrolment rates prior to the intervention, the double difference estimate nets off this difference and also the general improvement in enrolment rates that comparison communities have also experienced. The 'double difference' estimate therefore estimates the impact to be the difference between E and D. This figure is provided for example purposes only, actual results should be consulted in section 5 of this report.

Figure 2 - Double-Difference Method



The double difference approach represents a significant methodological improvement over the 2006 impact evaluation, which only compared the results in the SFD project communities before and after the situation. If other similar communities that have not received similar support have also improved in the outcome of interest, then the "before and after" method will give a misleading over-estimate of the SFD impact. Similarly, if our comparison communities have worsened in the outcome of interest, whereas SFD communities have maintained or improved in the outcome of interest, the 'before and after' estimate would under-estimate the true impact of SFD. Since our comparison group was drawn from projects that have been through the same SFD project selection criteria as the projects in the treatment group, the comparison group is directly comparable to the initial situation of the treatment group. Our double difference approach, therefore, is more robust and capable of yielding more precise measurements of SFD's impact, i.e. the changes that have been produced as a result of the SFD interventions.

In order to use the "double difference" approach, recall questions were asked from the treatment and comparison group on the situation prior to the SFD intervention. Indicators were measured for the current time and two years previously. Two years was chosen as the timeframe for the comparison group as this represents the mean time difference for the treatment group of 2006-2009 for recall questions. All households and projects in the treatment group, which had the projects completed over the period 2006-2009 (after the last impact evaluation), were asked to recall the situation prior to the SFD intervention. This was triangulated with data collected as baseline during the 2006 impact evaluation where the accuracy of the 2006 data was deemed reasonable.

It was not possible to conduct before and after analysis using the 2006 Impact Evaluation survey as the baseline as there was a sample attrition problem. For example for education, of 17 projects that were pipeline projects in the 2006 survey, four were urban schools (not part of the 2009 impact evaluation), five were boys schools (not part of the universe of 2010 evaluation), and three were in insecure areas. In the water sector projects, too, there was limited overlap between the 2006 survey

and the sample used for the 2009 impact evaluation, making it impossible to do before and after analysis.

We report on the "gross" and the "net" impact of SFD. We explain both these terms in turn.

- Firstly, starting with the gross impact, we report on the sample average of the outcome of interest. Taking the difference in the sample average between the treatment group (SFD beneficiary communities) and the comparison group yields the "gross effect of SFD". This gross effect does not control for individual, household or geographic differences that may influence the sample average and that may differ across the treatment group and the comparison group e.g. household income, age of child.
- Net impact of SFD is based on a multivariate regression that attempts to control for other influences on the outcome of interest other than SFD. From this we can get the estimated outcome of a situation with SFD and a situation where the SFD does not intervene for a household or individual with similar characteristics (e.g. age of child, education level of household head). This estimated impact also controls for household and project fixed effects, depending in the sector and outcome analysed.

Note that both the gross impact and the net impact can be found using the "with and without" approach or the "double difference" approach.

#### **3.1.2.4 Sample**

The universe of the selected sectors was 4,571 SFD interventions (excluding microfinance). In order to capture important differences among the beneficiaries of SFD interventions, the sample for all the sectors was stratified according to geographic area (rural or urban). The education projects were also stratified by gender, and the health and water projects by their type. No such stratification was done in the previous evaluations. The sample was also readjusted to give special attention to SFD's emphasis on targeting social, economic and political exclusion of females and poor provision of services to them. The actual sample for the household survey (excluding microfinance) comprised 319 projects. Systematic random sampling across Governorates was used for selecting projects within each substratum, to ensure that the sample was selected in proportion to the number of SFD interventions within each governorate. 20 households were interviewed per project. Sample power analysis was conducted to determine a reasonable margin of error and level of confidence for the eventual results. Table 1 below shows the sampling frame for projects and households.



Table 1: Sampling frame for projects and households

Sector	Projects				Sector	Households			
	Pipeline	Project Type		Total		Pipeline	Project Type		Total
		ex-post 2006-10	ex-post 1997-2005				ex-post 2006-10	ex-post 1997-2005	
Education	32	30	24	86	Education	640	600	480	1,720
Health	16	27	24	67	Health	320	540	480	1,340
Water	36	43	30	109	Water	720	860	596	2,176
Roads	16	15	19	50	Roads	318	300	379	997
Microfinance	0	72	0	72	Microfinance	0	864	0	864
<b>Total</b>	<b>100</b>	<b>187</b>	<b>97</b>	<b>384</b>	<b>Total</b>	<b>1,998</b>	<b>3,164</b>	<b>1,935</b>	<b>7,097</b>
<b>Total excl microfinance schemes</b>				<b>312</b>					<b>6233</b>

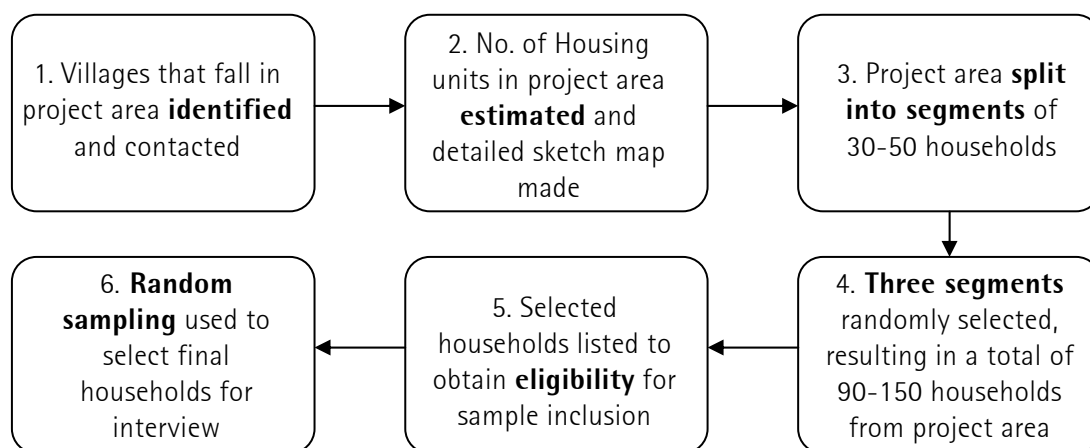
Type of Projects	Projects				Type of Projects	Households			
	Pipeline	Project Type		Total		Pipeline	Project Type		Total
		ex-post 2006-10	ex-post 1997-2005				ex-post 2006-10	ex-post 1997-2005	
Girl school rural	16	15	12	43	Girl school rural	320	300	240	860
Mixed school rural	16	15	12	43	Mixed school rural	320	300	240	860
Rural health units	9	20	18	47	Rural health units	180	400	360	940
Health centers	3	2	3	8	Health centers	60	40	60	160
MCH/EObC rural	4	5	4	13	MCH/EObC rural	80	100	80	260
Dams completed	6	8	6	20	Dams completed	120	160	120	400
Rooftop Rainwater Har	9	11	0	20	Rooftop Rainwater Har	180	220	0	400
Rural Piped water sch	10	12	12	34	Rural Piped water sch	200	240	240	680
Water harvesting tank	11	12	12	35	Water harvesting tank	220	240	236	696
Rural feeder roads	16	15	18	49	Rural feeder roads	318	300	359	977
Microfinance	0	72	0	72	Microfinance	0	864	0	864
<b>Total</b>	<b>100</b>	<b>187</b>	<b>97</b>	<b>384</b>	<b>Total</b>	<b>1,998</b>	<b>3,164</b>	<b>1,935</b>	<b>7,097</b>
<b>Total excl microfinance schemes</b>				<b>312</b>					<b>6,233</b>

### 3.1.2.5 Selection of Households and Data Collection

The selection of households for interviews was done by the survey team in the field. The 6,233 households who benefit from SFD basic service projects (ref. table 1 above) were selected through a systematic process, which may be summarised as follows: (1) SFD provided lists of potential villages for each project; (2) a meeting was held with the beneficiary committee to identify villages that form the catchment area of the project<sup>14</sup>; (3) the fieldwork team leader did a transect walk around the villages to identify the distribution of households. At this stage, a detailed sketch map of the eligible area was made which shows the layout of each village/sub village and how houses are clustered. The number of households in the selected project areas ranged from 90 to 150; (4) using the sketch map, the team leader then defined the village segments of around 30-50 households in each segment. Three segments were then selected randomly. Listing of households then took place across these three segments with the listing form recording the indicators needed to establish the household's eligibility to be included in the sample frame. A systematic random sampling method was then used to select households across the 3 segments.

<sup>14</sup> Except for health centres and MCH centres (where community contributions are not required) this was defined as those villages from which some of the household contributed to the construction of the project

Figure 3- Flow chart showing stages in selection of households



For the 312 rural projects, 19 separate teams (roughly one per governorate) implemented the 6,233 household interviews, spending an average of 35 days in the field per team. Each team consisted of three female enumerators, one male team leader and one field editor. The field editor reviewed and checked the administered questionnaires on the spot, before they were sent for data entry. For the 72 microfinance loan finance officers, four teams collected the data, conducting one interview with each of the seven main microfinance programmes, besides interviewing 864 individuals registered as beneficiaries.

### 3.1.2.6 Data Quality

It is the Consultant's assessment that data reliability is high. In part, this is due to the very low level of missing observations in the datasets. The following table summarises the degree of missing data for the main indicators for each sector.

### 3.1.3 Qualitative Study

The qualitative study was designed to shed light on the causes that led to the outcomes which the quantitative survey was likely to show, and to explain what these impacts mean to the beneficiaries.<sup>15</sup>

The Consultant and the SFD Monitoring & Evaluation Unit jointly developed a sampling framework as a sub-set of the quantitative sample. This comprised 30 projects on which data was collected through 75 focus group discussions. In the case of education, separate focus group discussions were conducted for rural girls and rural boys, and for urban girls and urban boys. In the other sectors, separate focus groups were conducted according to the different types of projects. 46 key informant interviews were also conducted with managers of health facilities, school principals, community

Table 2: Proportion of Sample with Missing Data by Main Indicators

Education	Percentage
Attendance at school (ages 6-18)	0%
Health	
Ill in last month	0%
Ill and unable to engage in usual activities last month	0%
Use of pre-natal care given that gave birth in last year	0.24%
Qualified staff present during delivery given that gave birth in last year	0.48%
Use of post-natal care service given that gave birth in last year	0.48%
Water	
Current time to collect water – rainy season	0.05%
Current time to collect water – dry season	0.40%
Water cost per month – rainy season	0.09%
Water cost per month – dry season	0.18%
Roads	
Current time taken to get to nearest market	0.09%
Cost of trip to nearest centre/town/market	5.76%
Cost of price of wheat in nearest town	0.53%
Microfinance	
Repayment on schedule	0%
Loan has increased economic activity	0%

<sup>15</sup> For various reasons, the qualitative study had to be implemented concurrently with the quantitative survey. The qualitative method is fully described in a separate document: *SFD Impact Evaluation 2009: final version*, 22 December 2009, Maxwell Stamp & COWI A/S.

leaders and some beneficiaries. Table 3 below provides an overview of this.<sup>16</sup>

**Table 3: Sampling frame for focus group discussions and key informant interviews**

Sector	Projects	Before 2006		After 2006		Total	
		FGD	KII	FGD	KII	FGD	KII
Education	8	16	8	16	8	32	16
Health	6	5	6	4	6	9	12
Roads	4	4	2	4	2	8	4
Water	8	6	6	14	6	20	12
Microfinance	4	3	1	3	1	6	2
<b>Actual Total</b>	<b>30</b>	<b>34</b>	<b>23</b>	<b>41</b>	<b>23</b>	<b>75</b>	<b>46</b>

The survey agency assigned three separate teams to cover the 30 projects in 13 governorates. Each team comprised five persons (a male and a female facilitator, a male and a female note-taker, and a fieldwork team leader). This allowed them to split along gender lines during the focus group discussions, which lasted approximately two hours and had 6-12 participants in each. Each team spent on average 25 days in the field.

The field team facilitator was asked to record all the open-ended responses on a flip-chart and then, when all the responses were noted, to ask the participants to indicate which response (only one per participant) best corresponds to their opinion. Similar responses were to be grouped and frequency recorded.

The survey agency delivered data tables and pivot tables from the focus group discussions and the key informant interviews. While it was not possible to undertake statistical analysis on this basis, the wealth of recorded statements is a source of information that has been used to support and explain some of the quantitative findings in this impact evaluation.

---

<sup>16</sup> A more detailed breakdown of the number of focus group discussions and key informant interviews for each sector and type of interventions is shown in the *Survey Report for the SFD 2009 Impact Evaluation*, May 2010, Interaction in Development.

## 4 Programme Effectiveness and Efficiency

### 4.1 Targeting

A key objective of SFD phase III, also reflected as an indicator in the results framework, is that at least 40% of their resources go to the lowest three income deciles. To assess SFD achievements, the methodology used by the Yemen Social Welfare Fund was adopted. This methodology used 22 variables from the 2005 Household Budget Survey (HBS) to predict the consumption decile of the individual, referred to as a Proxy Means Test (PMT) model. These variables include characteristics of the household head (age, gender, education and marital status), housing characteristics, family assets, household member enrolment status and governorate.

The 2006 impact evaluation used reported incomes, and showed 70% of SFD resources going to the bottom three income deciles. In 2010, two different studies were conducted for the IE using the above mentioned PMT methodology and approach. These studies produced a range of findings based on consumption data. It would be inaccurate to use consumption based findings to assess SFD targeting performance against the stated income deciles results indicator. In addition, the PMT approach used has certain limitations and therefore it is not possible to reach a conclusive result or compare targeting performance with 2006 values. Details of the two studies analysis can be found in annexes 1 and 2.

As such, it is recommended that SFD carry out a special study to collect actual data on the living conditions of the its projects beneficiaries and to take into consideration the nature of its interventions (focused on community interventions and not individual households).

For phase 4, SFD and its donors are recommended to consider setting a targeting measurement that is consistent with SFD type of interventions.

### 4.2 Consultation, Participation, Ownership & Gender

#### 4.2.1 Consultation

Consultation with the beneficiaries prior to project implementation is a dimension of community participation. Of 6,233 households interviewed, 80% were aware of an SFD project in their area, while 7% were not aware and 13% did not know. Of those who were aware of SFD interventions, 79% stated that the selection of the project was based on broad consensus, while only 10% responded that this was not the case. A total of 90% of the households agreed that the selection of the project was a priority for the community and they would select the same project again.

SFD has achieved a relatively high degree of direct involvement of beneficiaries: 75% of households reported that male members took part in meetings where the projects were selected, and 34% of households reported female participation in these meetings.<sup>17</sup> After the projects had been selected, 64% of the households report that there was some kind of community organisation process linked to the project (19% did not know). 63% of households reported male participation in the meetings of the beneficiary committees, and 26% of households reported female participation in these meetings.<sup>18</sup>

#### 4.2.2 Participation

With regard to the perceived effectiveness of community participation, responses from 4,009 households reveal that 84% consider the beneficiary committee to be either very effective or effective, while only 7% considers it to be not effective.

---

<sup>17</sup> On male participation, 3,906 households responded, while 3,942 households responded regarding female participation.

<sup>18</sup> On male participation, 3,649 households responded, while 3,717 households responded regarding female participation.

Of all the 6,233 households, 57% responded that they contributed towards the implementation of the SFD project, 38% of households reported no contributions, and 5% was exempted from contributing. Those who contributed did so in various ways as shown in the right side table.

The estimated value of the community contribution from each household varied tremendously. 25% of the households contributed up to YER 3,000, and 62% of the households made contributions up to YER 10,000. Half of the total community contributions were made up of relatively small donations of less than YER 6,000 as shown in the table below.

**Table 5: Type of contribution made**

<b>% of those households who contributed</b>	
cash / money contribution	51.5
voluntary labour	31.5
stones	40.1
sand	12.5
water	11.5
land	12
other	7.5

**Table 6: Community Contribution**

<b>Percentiles</b>	<b>Contribution (YER)</b>
1%	500
5%	1000
10%	1500
25%	3000
50%	6000
75%	20000
90%	100000
95%	200000
99%	600000

### 4.2.3 Ownership

Community involvement in project selection, implementation, maintenance, and perception of benefit and quality should lead to a sense of ownership of the project. Table 7 shows the perceived state of maintenance of SFD facilities (4,215 completed projects). The table is based on 4,215 completed projects (education 1,080; health 1,020; roads 679; water 1,436). There is little difference in the proportion of households reporting acceptable to excellent maintenance of the SFD facility if one compares recently completed projects (completed 2006-2010) and older projects (completed 1997-2005) as table 8 below illustrates. This would suggest a high degree of ownership of the projects and it points to the ongoing sustainability of the infrastructure in question. Rates are around 3-4 percentage point different with higher rates being reported for recently completed projects for all sectors apart from roads, where older projects have better maintenance report rates among households.

**Table 7: Perceived State of Maintenance of the SFD facilities**

	<b>Education</b>	<b>Health</b>	<b>Roads</b>	<b>Water</b>
Very well maintained	35%	19%	23%	25%
Poor or unacceptable	3%	3%	9%	6%

**Table 8: Reporting on "excellent" maintenance for sectors and new/old ex-post groups**

Sector	Project Completion Date	Obs	% Reporting Adequate-Excellent Maintenance	Difference (recently completed against older projects)	Statistical significance of difference
Education	Ex-post 2006-2010	483	99	4.4	1%
	Ex post 1997-2005	389	94.6		
Health	Ex-post 2006-2010	332	98.5	4.9	1%
	Ex post 1997-2005	313	93.6		
Water	Ex-post 2006-2010	749	94.9	3.3	1%
	Ex post 1997-2005	511	91.6		
Roads	Ex-post 2006-2010	277	88.8	-2.9	11%
	Ex post 1997-2005	326	91.7		

Notes

1. Don't know/no opinion response excluded. Only adequate-excellent response versus poor response
2. T-test is one-sided t-test

Table 9 shows the perceived quality of works carried out on the project by the SFD among those households (3,334) who stated that there is an SFD funded project in their community and such projects were completed.

There is some variation of the perceived quality of work among the sectors. This is illustrated in table 10.

Please note that the above is based on 4,235 completed projects and that the totals do not add up to 100% due to "Don't know/no opinion" responses. All of the above would suggest a fairly high degree of ownership of the SFD interventions among the beneficiaries. This, in turn, would contribute favourably towards the sustainability of the SFD interventions.

#### 4.2.4 Gender

As part of its efforts to advance overall social equity, SFD is committed to promoting gender equality in its projects and programmes. During 2007 SFD developed the *Gender Mainstreaming Strategy (2008-2010)* to improve the quality and effectiveness of poverty alleviation efforts for men and women alike, enhance the status of women in communities and integrate men and women's roles in development. Since then, gender monitoring indicators were incorporated in the SFD's management information system, SFD's progress reports now reflect gender achievements, and all SFD employees and consultants now receive training on gender issues.<sup>19</sup>

One among several possible indicators of achievement in this area is female participation in the beneficiary committees that are established during the implementation phase of some of the SFD interventions. Since the beneficiary committees have five members of which two, as a rule, should be women, it could be argued that our survey sample is too small to test whether this is actually happening. SFD's management information system shows that 662 women have been members of beneficiary committees in the 355 education, health, roads and water projects for which data are available on this over the period 2008-2010. This equals an average of nearly two women and 4½ men per beneficiary committee. However, the average number of women in each beneficiary

Table 9: Perceived quality of work on SFD

	Perceived quality of work			
	Excellent	Moderate	Poor	Don't know
Percentage of households	74%	14%	7%	5%

Table 10: Perceived quality of work by sectors

	Education	Health	Roads	Water
Good to excellent	89%	74%	54%	62%
Poor or unacceptable	Less than 1%	7%	10%	12%

<sup>19</sup> SFD Annual Report 2008, p. 62.

committee indicates a declining trend: 2.3 in 2008, 1.9 in 2009 and 1.7 in 2010.

The beneficiary committees that are established in connection with SFD's projects have a mainly supervisory role during the construction phase. Most of the work, e.g. construction (labour) contracts, is a male dominated area where cultural biases prevent female participation. Women's participation is also affected by the variable nature of SFD's projects; in some projects it is more essential than others. However, women do have a role to play in the operations and maintenance committees that are often set up after project completion, but SFD has no influence on that. The sections on the different sectors in Chapter 5 will look at what role women play in such committees.

#### **4.2.5 Institutional Aspects of Community Engagement**

The Institutional Evaluation showed that whilst a great deal of attention has been paid to the influence of the SFD upon national and sub-national government institutions, attention to the community level is needed. In some instances, for instance, SFD has served to promote dialogue between communities and the state in a process of trust-building which has mitigated conflict vulnerability. Other areas, however, were found to feel a sense of isolation from the government (beyond the scope of the SFD). The SFD should promote a process whereby communities with which it works are linked more closely with government officials – where politically feasible – on the condition that officials are committed to adjusting their policies and strategies on the basis of community input. If local input and participation is promoted but not followed up by concrete action on the part of the government – and by the clear communication of what those actions entail – communities may perceive themselves as less, not more, connected to the State.

The Empowerment for Local Development (ELD) programme is a flagship programme developed by the SFD to mobilise communities to lead their own development, re-balance the planning process from top-down to bottom-up, and to strengthen the links with the district authority. Decisions are based on data collected at community level, and a systematic approach to planning is followed, thus ensuring transparency and accountability. As a result, communities and *us/as* (sub-districts) are able to feed their priorities into a district plan. Greater equity in projects is promoted as they are more evenly distributed across the district, and community involvement makes it easier to follow up on projects. Social auditing committees help to resolve issues which arise. The main constraints to realising the objectives of ELD are that there is limited recognition of the process or support ensuing from the sector bureaus at governorate level, and the lack of fiscal decentralisation such that the plans that are developed cannot be funded. Both of these constraints are giving rise to high levels of frustration and could undermine the process unless they are dealt with rapidly.

The SFD was one of the first donors to provide financial support to the pilot UNDP/UNCHS Decentralisation and Local Development Support Programme which has focused on strengthening local authorities at the district level. The programme has been effective in building capacity of district level staff and strengthening administrative, financial, and technical systems. A high level of awareness has been generated among the different levels of decision making (e.g. governorate, district and community) on their respective roles and responsibilities, which in turn has facilitated improved local planning with defined responsibilities at each level. Planning is based on data collection and has followed a systematic methodology

The Integrated Interventions Programme (IIP) of the SFD is a model of developing inclusive community structures and supporting extremely marginalised groups through the provision of 'integrated' rather than single-project support.<sup>20</sup> The findings from the IIP indicate that it is successful in mobilising remote and marginalised communities to lead and manage their own development, and create representative structures and relationships within and between communities. Sector-specific committees in areas such as health, literacy, agriculture and education

---

<sup>20</sup> SFD Guidelines for Operations, Monitoring and Evaluation Manual, 2008.

have been set up to plan, manage and monitor community development. These communities are bringing development to their areas by running schools, piped water systems and literacy classes, and there appears to be a correlation between provision of water and increased enrolment of girls in schools and women in literacy classes. The SFD is in the process of decentralising the management of IIP from head office to branch level. This will see a further evolution of the model and will facilitate greater technical input, but it will also necessitate greater efficiencies if the model is to be scaled up.

Section 4.2 of this report indicates that the SFD has been effective in its consultation with communities, and in promoting participation and ownership of projects by communities. The Institutional Evaluation provides further insights to the issue of community participation as used in community contracting roads and water projects. The election of committees, the transparent contracting process, the posting of financial records in public places, and the holding of community meetings, all serve to give credibility to the elected committee, encourage households to make a community contribution, and help to diffuse opposition to the project. These findings support the results from the quantitative data, that the vast majority (87%) of respondents perceived beneficiary committees to be effective. The systems of transparency, accountability and equity are new to communities and reputedly have laid a basis for further work to be undertaken by the project committees in relation to good governance practice and to sustainability, though there are few if any examples, as yet.

Whilst the survey analysis found that 58% of households contributed to projects, the Institutional Evaluation indicates that the practice of communities making contributions (labour, materials, financial contributions) to projects is complex, its application is not straightforward, and is controversial for many communities. Community members expressed hesitancy in requiring contributions from low income households and state that in the current economic climate, the SFD needs to reassess its approach to community contributions to ensure that it is not placing undue hardship on low-income households or is not a cause of tension within communities.

### **4.3 Programme Efficiency**

This section will analyse the efficiency of SFD in terms of operations and costs from 1997 to 2009. The data used has been collected from the SFD Management Information Systems (MIS) and from the annual SFD reports.

#### **4.3.1 Operational Efficiency**

From the SFDs inception in 1997 until the end of 2009, 7045 projects have been completed with an investment value of over USD586 million. Of these projects, the four biggest sectors in terms of investment and number of projects have been education, health, rural roads and water, making up 72.3% of all finished projects.

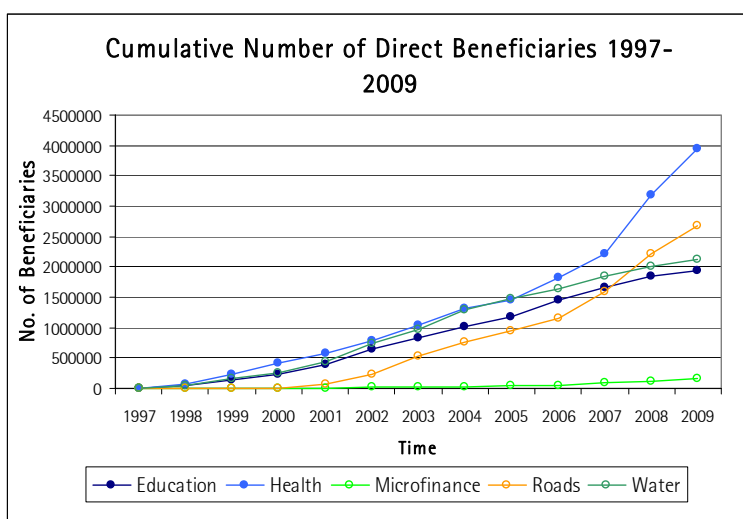
In terms of investment, the education sector has continually received the largest amount of funding, representing around 52.3% of all the completed investment and with a grand total of around USD306 million since 1997. This investment makes up a significant proportion of the contribution to the education sector in Yemen. This was at its peak in 2002, when the contribution stood at 31% of investment at the national level, at USD18.4million compared to the national level spending of USD59 million. Increases in investment in education at a national level meant that in 2009, this percentage had dropped to 9%, but SFD investments have remained high and still make a significant financial contribution to the education sector. USD64 million has been invested in completed water projects with another USD68million in projects currently under implementation. Altogether, this is almost three times the amount that had been put into this sector since the 2006 evaluation, indicating growth in investment from 2006 to 2009. Rooftop rainwater harvesting has been a big growth area for the water sector as well as dams.



A simple measure of the efficiency of the SFD is the number of people who are directly and indirectly benefiting from it. A direct beneficiary is considered someone directly benefiting from services provided by SFD investment whilst indirect beneficiaries are those who are not direct users of SFD services but see some benefit from the projects existence. All of the five considered sectors, education, health, water, roads and microfinance have either seen growth or a sustained high number of direct beneficiaries. The number of beneficiaries from health care projects has rapidly increased in the last few years: in 2008 and 2009, 967,138 and 744,927 were reached respectively whilst the total number of cumulative beneficiaries over the 12 year period has been 4.09 million.

This gives an indication of the large growth in the last few years of the SFD's work in health care, which can be seen clearly on the graph below showing the cumulative number of direct beneficiaries over time. Microfinance is another sector that has seen a large increase in the number of direct beneficiaries, reaching double the number of people in 2009 than it did in 2005,

**Figure 4 – Cumulative Number of Direct Beneficiaries 1997-2009**



from 18,320 to 36,630. For education, the number of direct beneficiaries has remained high throughout the time period.

The number of direct beneficiaries per project depends to an extent on the nature of the project, for example road-building projects have one of the highest numbers of direct beneficiaries at around 7105, as they are large scale and have a large reach in terms of beneficiaries. This contrasts with projects

related to special needs groups (459) or training (166). It is possible that on some occasions the number of direct beneficiaries has been overestimated due to double-counting during data collection. This can occur where a project involves several different types of intervention, and a beneficiary may have benefitted from more than one of them. The SFD has adopted more strict definitions for reporting on beneficiaries for each type of project to try and minimise the effects of this.

Table 11: Direct and indirect beneficiaries by sector, 1997-2009

Year	Benef. type	Agriculture	Business Development Services	Cultural Heritage	Education	Environment	Food Prices Crisis Response	Health	Integrated Intervention	Micro Finance	Organizational Support	Roads	Small Enterprise	Special Need Groups	Training	Water	Grand Total
1997	DB				580			5,755									6,335
	IB				0			1,006									1,006
1998	DB				41,562	1,967		60,808			782			20,000	97	53,041	178,257
	IB				7,379	7,400		5,000			0			0	0	0	19,779
1999	DB				105,108	10,500		164,508		40	442			69	241	105,237	386,145
	IB				24,581	0		27,000		0	0			0	0	0	51,581
2000	DB				79,152	10,770		179,325	9	3,657	2,498	5,000		500	453	87,920	369,284
	IB				6,333	0		9	0	8,040	220	3,000		0	0	724	18,326
2001	DB			14,900	157,311	105,872		169,183	939	1,846	19,560	61,409		8,791	832	198,293	738,936
	IB			0	21,707	0		17,500	0	10,833	4,655	26,494		45,377	0	1,200	127,766
2002	DB			9,420	265,639	277,970		212,465	51	6,232	31,069	172,153		8,854	2,989	288,041	1,274,883
	IB			5,930	26,788	1,000		127,076	12	36,872	2,124	42,980		3,461	52,901	124,465	423,609
2003	DB			8,873	173,678	299,569		245,906	776	4,542	8,006	284,560	130	24,558	2,334	229,039	1,281,971
	IB			9,500	28,205	7,000		23,760	948	29,984	370,292	115,688	0	14,195	24,014	5,337	628,923
2004	DB			13,395	186,281	244,742		270,949	26,896	7,119	26,398	231,371	0	8,681	8,072	327,328	1,351,232
	IB			24,200	18,578	19,240		44,483	165	27,516	12,514	572,883	0	10,307	17,648	3,033	750,567
2005	DB			32,228	178,235	272,413		147,502	4,248	18,320	365,683	186,913	23,100	18,066	6,767	192,263	1,445,738
	IB			2,630	190,158	2,119		100,921	18	98,552	7,717	122,575	14,410	10,504	8,566	21,865	580,035
2006	DB	310	0	124,112	261,081	125,561		360,330	9,763	7,611	38,494	223,539	1,503	24,002	3,838	160,455	1,340,599
	IB	0	0	45,632	664,456	0		3,081	72	38,602	2,038	82,997	5,280	498	3,620	8,789	855,065
2007	DB	206	10,800	62,267	204,761	231,648		407,046	1,387	31,838	8,595	425,640	1,193	18,466	7,642	211,624	1,623,113
	IB	500	20,600	24,026	80,372	9,464		60,902	17,434	180,970	1,317	591,395	20,953	898	140,146	10,002	1,158,979
2008	DB	552	100	29,395	189,391	133,954		967,138	14,459	42,186	2,868	624,450	9,929	15,714	6,559	145,384	2,181,979
	IB	0	300	80	120,655	272,913		160,283	467	118,792	1,094	94,731	36,272	1,248	3,700	2,371	812,906
2009	DB	2,858	10,100	36,621	97,174	47,686	98,188	744,927	30,634	36,630	74,546	464,410		25,638	48,185	132,304	1,849,901
	IB	101,600	30,500	1,004	179,812	200	0	94,196	1,885	191,600	66,577	5,492		2,365	249,833	601	925,665
Total Direct Benef.		<b>8,426</b>	<b>21,000</b>	<b>334,391</b>	<b>1,979,340</b>	<b>1,765,512</b>	<b>132,622</b>	<b>4,093,577</b>	<b>89,513</b>	<b>160,621</b>	<b>580,042</b>	<b>2,728,261</b>	<b>36,505</b>	<b>173,812</b>	<b>90,338</b>	<b>2,178,431</b>	<b>14,372,391</b>
Total Indirect Benef.		103,121	51,400	113,002	1,454,754	319,336	0	665,217	21,001	745,361	594,629	1,658,235	80,815	90,909	500,451	178,387	6,576,618
Number of projects		<b>34</b>	12	140	3168	163	71	662	92	115	413	384	26	379	543	959	7161
DB by project		<b>248</b>	<b>1750</b>	<b>2389</b>	<b>625</b>	<b>10831</b>	<b>1868</b>	<b>6184</b>	<b>973</b>	<b>1397</b>	<b>1404</b>	<b>7105</b>	<b>1404</b>	<b>459</b>	<b>166</b>	<b>2272</b>	<b>2007</b>

Source: SFD-MIS

Table 12: Percentage of Female Beneficiaries by type of project

Sector	Type	1997-2002	2003-2005	2006-2009
Education	direct	43.3	43.3	45.4
	indirect	34.6	45.0	50.0
Health	direct	51.7	57.9	64.9
	indirect	51.6	63.1	78.1
Roads	direct	50.3	48.9	49.5
	indirect	50.0	50.4	48.9
Water	direct	50.1	50.5	50.3
	indirect	49.9	49.8	49.4
Microfinance	direct	51.8	90.3	77.1
	indirect	50.0	55.8	71.8
Other sectors	direct	49.9	48.2	48.9
	indirect	58.5	47.3	52.1
All projects (the rest of projects)	direct	49.9	48.2	48.8
	indirect	58.5	47.9	51.9

Source: SFD-MIS

As per previous findings, health projects implemented between 2006 and 2009 have a high proportion of female beneficiaries at 64.9% (increased from 57.9 in the 2003 to 2005 period). This goes up to 78% when indirect beneficiaries are considered. A possible explanation for this is the significant number of projects that directly target women's health for example improved and expanded reproductive health services. In 2008 this type of projects represented 55% of all

With regards to the number of beneficiaries by gender, it would appear that men and women benefit equally from the SFD's work. In the period 2006 to 2009, women made up 48.8% of the direct beneficiaries for all projects, a very slight increase from the previous evaluation period. Since the SFD's inception, the percentage share of women benefiting from education projects has increased, from 43.3% of direct beneficiaries from 1997 to 2000 to 45.0% from 2006 to 2009. This is important as much of the SFD's work in the education sector focuses on decreasing the gender gap in education levels between males and females and so ensuring new educational infrastructure projects benefit females

healthcare projects.<sup>21</sup> The percentage share of female beneficiaries from microfinance projects has actually fallen since the last evaluation period in 2006, though it still remains high at 77% of all beneficiaries.

### 4.3.2 Cost Efficiency

To judge the cost efficiency of SFD programmes it is appropriate to look at the cost per beneficiary and compare it with figures from previous years. These have been calculated using data from the SFD-MIS for completed sub-projects. The figures for cost per beneficiary party reflect the nature of the project, for example, the roads sector benefits from having a large number of beneficiaries. For the majority of SFD sectors, the cost per beneficiary has increased in nominal terms since the 2006 impact evaluation, with the exceptions of health and microfinance. This is a result of costs per project increasing at a higher rate than the increase in beneficiaries. However in education for example, the number of beneficiaries per project has fallen from 630 in 2006 to 550 while the cost per project has risen. This way of measuring efficiency is naturally one-dimensional and section 5 will add more nuance to these considerations.

Taking into account inflation (the consumer price index rose by 82% over the period 2003-2009), the increase in costs per beneficiary in real terms have risen much less than in nominal terms. For water, the inflation adjustment shows that a nominal increase of 88% from 2003 to 2009 is in fact negligible (3.5%) in real terms.

In the microfinance sector, the cost per beneficiary has significantly fallen since 2006 even in nominal terms, and is at almost a fifth of the cost that was reported in 2003. This improvement in cost efficiency is a result of expansion of the SFD's microfinance sector, resulting in an increased number of beneficiaries per project (the cost per project has actually increased). Health has also seen a relatively significant fall in the nominal cost per beneficiary since 2006 from USD 12 to USD 8, a combination of a slight fall in the cost per project and an increase of almost 2000 in the number of people directly benefiting per project.

Table 13: Costs of SFD completed projects per beneficiary over time

Sector	Costs per project US\$	Beneficiaries per project	Costs per beneficiary 2009	Costs per beneficiary 2006	Costs per beneficiary 2003	Increase in cost 2003-9 (%) - nominal terms	Per Beneficiary Cost Change 2003-9 (%) - real terms
Agriculture	25,890	115	224	208	-	n/a	n/a
Business Development Services	77,386	1,750	44	-	-	n/a	n/a
Cultural Heritage	140,070	2,685	52	34	41	26	56
Education	119,487	550	217	124	84	157	75
Environment	69,980	6,651	11	9	7	45	37
Food Prices Crisis Response	82,648	1,383	60	-	-	n/a	n/a
Health	61,001	6,926	9	13	12	- 26	- 109
Integrated Intervention	49,476	865	57	40	86	- 33	- 116
Micro Finance	121,810	2,628	46	124	220	- 79	- 161
Organizational Support	43,734	769	57	17	53	7	76
Roads	167,902	6,275	27	14	10	176	94
Small Enterprise	194,454	842	231	15	-	n/a	n/a
Special Need Groups	44,981	443	101	124	195	- 48	- 130
Training	14,913	257	58	211	221	- 74	- 156
Water	62,282	1,604	39	23	21	89	6

Source: SFD-MIS

<sup>21</sup> Source: SFD Annual Report 2008

Where possible, it is also helpful to compare the SFD's cost efficiency to other that of other organisations involved in provision of services in Yemen. A World Bank report on the provision of educational infrastructure in Yemen found the SFD to be the most efficient in terms of procurement, better for example than the Public Works Programme. This is attributed to the "decentralised implementation structure with their supporting local branches." Their branches were also found to be well equipped and have well trained supervisors and procurement specialists.<sup>22</sup>

---

<sup>22</sup> "School Construction Costs in Yemen Cross-Sector and Multi-Institutional Assessment Study", March 2008, Prepared by GET German Education and Training GmbH, World Bank

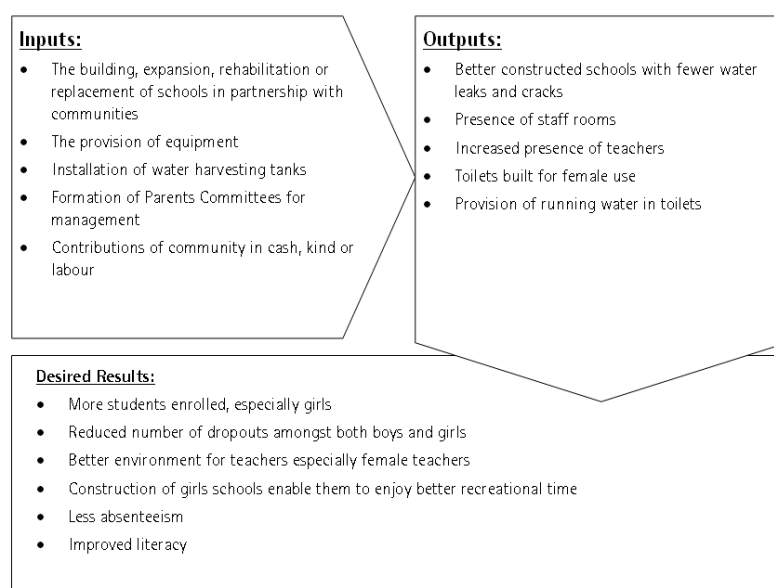
## 5 Sectors – Main Findings

In this chapter we present the findings for the individual sectors analysed: education, health, water, roads and microfinance. Each of the sector sections begin with a short description of the SFD results chain and the key findings of the impact evaluation. A second sub-section then comments on the achievements in relation to the SFD results framework. Thereafter, a third sub-section provides a brief overview of the outputs produced. The fourth and final sub-section presents findings on interesting outcomes.

### 5.1 Education

#### 5.1.1 Results Chain

The SFD's vision for the education sector is to help the Ministry of Education implement the national basic and secondary education development strategies and the globally declared goals represented by Education for All by 2015 and the Millennium Development Goals. Through the provision of equipment and technical assistance, in part funded and constructed by local communities, the SFD improves the quality of school infrastructure through rehabilitation of school buildings and classrooms, provision of better toilet facilities and provision of running water. These outputs should lead to positive results in terms of higher number of enrolled students, improved literacy rates, and lower rates of absenteeism. The primary focus of this evaluation is enrolment levels for boys and girls



#### Key findings:

- Over the period 2006–2009 SFD built 7,685 new class rooms in Yemen. This corresponds to 30% of the number of class rooms built at national level. The proportion of SFD's contribution during this period was slightly higher than it was over the previous four years.
- Enrolment rates have increased between 2006 and 2010 by 14% (6% for boys and 27% for girls).

### 5.1.2 SFD's Results Framework

The SFD's vision for education is crystallised in SFD's Results Framework<sup>23</sup> with the following results indicator to be achieved: *About 7% increase in enrolment rates for boys and girls in the SFD beneficiary communities.* The 2006 impact evaluation stated that progress by then was 4.5% over the period 2003-2006, from the base enrolment in 2003 of 64.5% (average across boys and girls aged 6 to 14). The increase in enrolments from 2006 to 2010 is 14.4% average across boys and girls age 6 to 14. As in the 2006 report, this figure gives an indication of the large increases in enrolments in Yemen. These increases are particularly observed for girls – in both 2006 and 2010, the largest increase in enrolments is found for girls. In table 12 below we present the full set of enrolment rates for children aged 6-14 (to permit comparison with the 2006 Final Report) and also for children aged 6 to 18 which is the new outcome indicator targeted by SFD.

**Table 14: Comparison of Enrolment Rates 2003, 2006 and 2010**

Children aged 6-14	2003 Baseline	2006 Ex-post	% Change	Significance	2006 Baseline*	Ex-post 2010**	% Change	Significance
Boys	76.5	75.8	-0.9	0.43	81.8	86.8	6.1	0.01
Girls	52.4	58.9	12.4	0.08	60.1	76	26.5	0.01
Total	64.5	67.4	4.5	0.17	71.3	81.6	14.4	0.01

Children aged 6-18	2006 Baseline*	Ex-post 2010**	% Change	Significance	Pipeline 2010	% Change***	Significance
Boys	77.3	82.7	7	0.01	82.1	-0.7	0.35
Girls	50.3	67.3	33.8	0.01	68.2	1.3	0.66
Total	64.6	75.2	16.4	0.01	75.3	0.1	0.52

Notes:

- \* Average from 2006 IE Survey for 2006 pipeline communities sampled, note that sample is not the same from 2006 and 2010 – some projects are not sampled in both IE surveys 2006 and 2010. Continuous application of SFD project selection methods should mean however that on average, characteristics of communities selected are similar across 2006 and 2010.
- \*\* Projects completed in 2006-2010
- \*\*\* Comparison of Ex-post 2010 with Pipeline 2010
- \*\*\*\* Figures for 2003 Baseline and 2006 Ex-post enrolments aged 6-14 taken from 2006 Impact Evaluation Final Report

This evaluation also presents separate findings for girls and boys enrolment by the type of school they attend, see table 13 below. For girls in communities where SFD supported mixed schools, enrolment was 7.0% higher in 2010 than before the intervention (rising from 54.6% to 61.5%). Where SFD supported girls schools, girls enrolment was 9.6% higher (rising from 64.1% to 73.7%). These results are based on like for like comparison of the same households using the recall question method and controlling for project level fixed effects. This allows us to control for unobserved characteristics of both households and projects that are fixed over time.

**Table 15: Girls Enrolment Rates (Child-Level Analysis) - No controls for individual, household and governorate**

	Mixed Schools			Girls Schools		
	Before intervention / 2 years ago	2010	Difference Between Periods	Before intervention / 2 years ago	2010	Difference Between Periods
Communities in receipt of SFD support	54.6	61.5	7.0	64.1	73.7	9.6
Counterfactual communities not in receipt of SFD support (pipeline)	59.6	63.7	4.1	68.8	72.3	3.6
Difference between groups	-5.1	-2.2		-4.6	1.4	
<b>Double Difference Estimate</b>			<b>2.9</b>			<b>6.0</b>

P-value (Difference in treatment group mean (mixed school project) from counterfactual mean) = 0.451  
 P-value (Difference of treatment group mean between girl school project and mixed school projects) = 0.292  
 Sample (child x time) = 3960  
 Sample (projects) = 62

For boys in communities where SFD supported mixed schools, enrolment was 20.2% higher in 2010

<sup>23</sup> The SFD Results Framework and Overall Project Development Objectives were formally submitted by SFD to the donors in February 2008.

than before the intervention (rising from 60.4% to 80.6%). Where SFD supported girls schools, boys enrolment was 17.8% higher (rising from 67% to 84.7%).

When controlling for the changes in enrolment in the communities where SFD had not yet implemented such projects (the comparison group), we get the impact (expressing the double difference) of the SFD interventions. For girls in mixed schools the impact was 2.9% higher enrolment; in girls' schools it was 6% higher. For boys in mixed schools the impact was 9.3% higher enrolment; when girls' schools are built the net impact on boys enrolment is 8.4% higher. Table 13 illustrates girls enrolment and table 14, next page, shows boys enrolment rates. The tables also provide further details on P-values (significance) and the samples sizes.

**Table 16: Boys Enrolment Rates (Child-Level Analysis) - No controls for individual, household and governorate**

	Mixed Schools			Girls Schools		
	Before intervention / 2 years ago	2010	Difference Between Periods	Before intervention / 2 years ago	2010	Difference Between Periods
Communities in receipt of SFD support	60.4	80.6	20.2	67.0	84.7	17.8
Counterfactual communities not in receipt of SFD support (pipeline)	69.1	80.0	10.9	74.8	84.2	9.4
Difference between groups	-8.7	0.6		-7.8	0.5	
<b>Double Difference Estimate</b>			<b>9.3</b>			<b>8.4</b>

P-value (Difference in treatment group mean (mixed school project) from counterfactual mean) = 0.013  
P-value (Difference of treatment group mean between girl school project and mixed school projects) = 0.981  
Sample (child x time) = 4297  
Sample (projects) = 62

It can be readily concluded that the SFD has exceeded the target of a 7% increase in enrolment over the period up to 2010. The impact of SFD's interventions as estimated through double difference is also appreciable, indicating a high degree of effectiveness. The results on double difference impacts also demonstrate that there is a comparatively strong pay-off from investments in girls' schools.

Interestingly, as shown by the figures above, investments in girls schools in Yemen also have a strong positive net impact on boys' enrolment. There are several possible reasons for this. First, the distinction between a mixed school and a girls' school is not static over time; the school type is often the result of evolution. A pragmatic, self-regulating mechanism seems to take place at the community level. When a mixed school grows to around 400 students, separate classes for girls are often established or efforts are made to have a separate school for girls. Second, there are examples where districts have changed girls' schools built by SFD into mixed schools. While this is obviously beyond SFD's control, it is clear that this would explain some of the stronger impact on boys' enrolment. Third, when girls' schools are built more space becomes available for boys at the mixed schools.

The above is based on "raw" statistics without taking into account any differences among the households. It is useful to control for the following factors, which are important in connection with school enrolment: educational level and age of the head of household, whether the head of household is male or female, and income. When analysis is done on this basis the responses are more comparable, thus giving a more precise measurement of the net impact of SFD's projects. Using these controls the results are much more apparent, they are stronger and the differences are more significant. The main results are summarised in the following two paragraphs.

For girls in communities where SFD supported mixed schools, enrolment was 11.2% higher in 2010 than before the intervention (rising from 44.2% to 55.4%). Where SFD supported girls schools, girls enrolment was 20.4% higher (rising from 38.5% to 58.9%). Taking account of increases in enrolment that have also occurred for the comparison group, we estimate the net impact of the SFD intervention on girls enrolment rates to be 12.8% where a girls school is built and 3.5% where a

mixed school is built (double difference estimate).

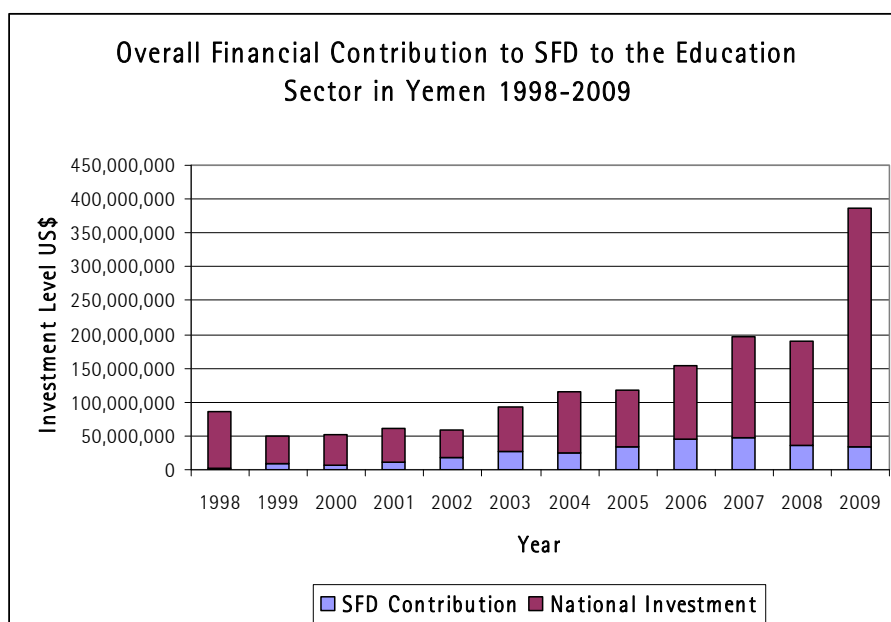
For boys in communities where SFD supported mixed schools, enrolment was 29.1% higher in 2010 than before the intervention (rising from 35.2% to 64.4%). Where SFD supported girls schools, boys enrolment was 31.8% higher (rising from 31.6% to 63.4%). Taking account of increases in enrolment that have also occurred for the comparison group, we estimate the net impact of the SFD intervention on boys enrolment rates to be 17.4% where a mixed school is built and 19.9% where a girls school is built (double difference estimate).

### 5.1.3 Outputs

Up to December 2009 SFD had approved 3,943 projects in the education sector worth USD 474 million. In 2009 alone SFD implemented 435 education projects, which corresponded to 39% of all SFD interventions. Over SFD's entire existence, 41% of all approved projects have been in the area of education.<sup>24</sup> The following two figures detail respectively SFD's contribution to the national stock of educational infrastructure since 1998 and the overall contributions of SFD to the education sector. The numbers behind the figure on the left side below show that SFD built 7,685 new class rooms over the period 2006-2010. This corresponds to 30% of the number of class rooms built at national level.

In brief, the SFD makes a significant financial contribution to the education sector in Yemen as a percentage of the national level of investment, at 19.3% in 2008 and 9% in 2009. Although this figure has fallen since the last evaluation, it is a result of increased national level investment rather than a fall in SFD disbursements, which has remained high at USD34.8 million in 2009.

Figure 5- SFD Contribution to the National Stock of Educational Infrastructure

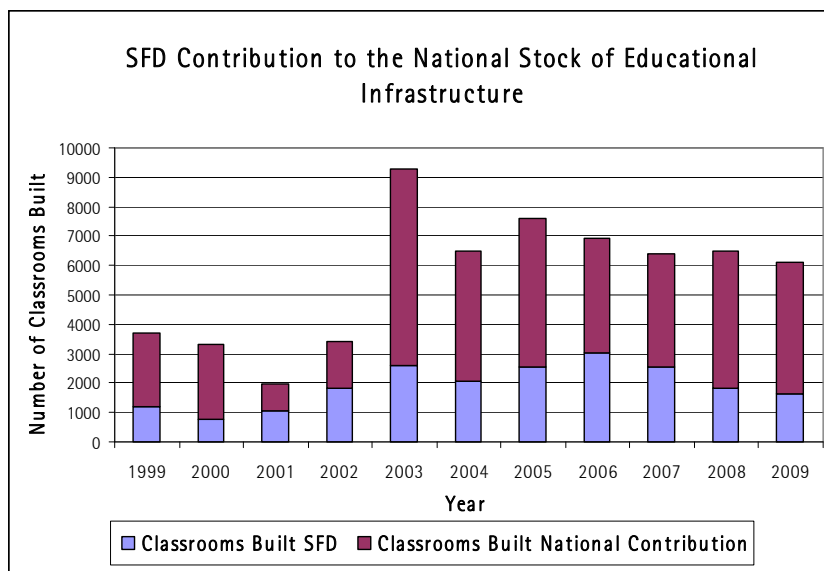



---

<sup>24</sup> See "universe of projects" in Table 1. Data on 2009 taken from *SFD Newsletter - Ed. No. 48, Oct-Dec 2009, p.12*



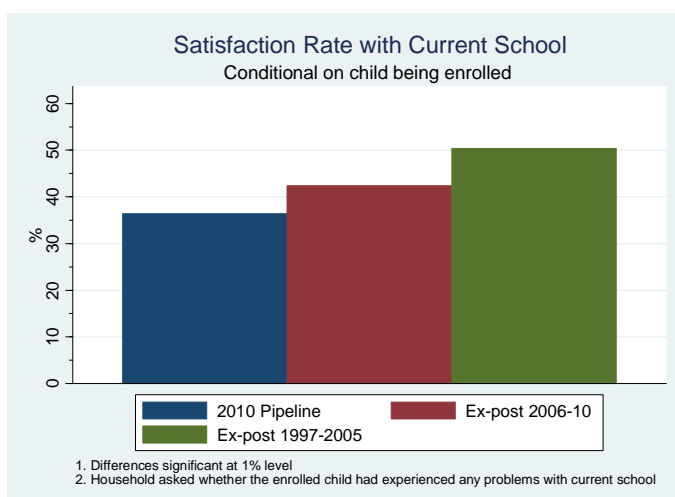
Figure 6 – SFD Contribution to National Stock of Educational Infrastructure



### 5.1.4 Outcomes

When looking at results in the area of education it is instructive to explore the satisfaction rates and to analyse the reasons for dissatisfaction. This will provide information on factors that may influence the enrolment rates and issues that are important for optimising the educational effectiveness of SFD's investments in educational infrastructure. It should be borne in mind, however, that student satisfaction is affected by more than simply the quality of educational infrastructure. In other words, student satisfaction is not wholly within SFD's area of influence.

Figure 7 - Satisfaction rate with current school



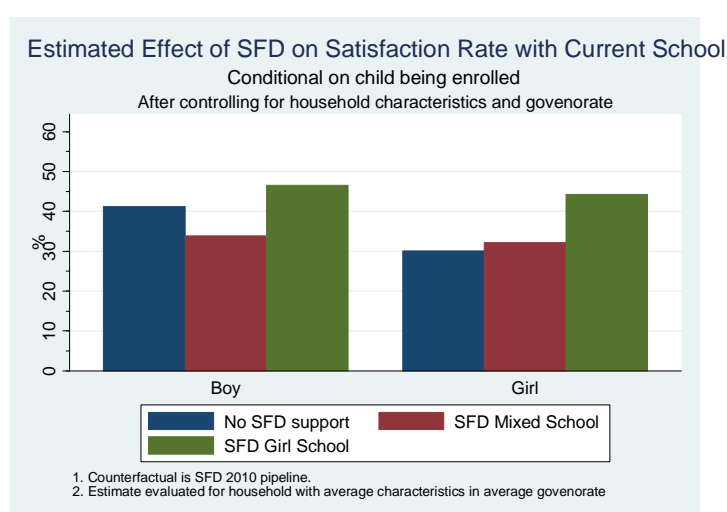
Overall, a clear majority of the 4,550 enrolled students consulted through our survey questionnaires were dissatisfied (57.8%) with the school (42.2% being satisfied). However, there is a noticeable difference in satisfaction rates between schools that have benefitted from SFD support and those that have not. As the following diagram shows, the satisfaction rate is highest where SFD interventions were completed a relatively long time ago (1997-2003), a result which is significant at the 1% level.

In other words, based on this impact evaluation and with the understanding that constructing school buildings is not the only factor, SFD's investments seem to have a strong effect on student satisfaction and this effect seems to be sustainable over time.

There are also some important differences in the satisfaction rates between boys and girls. After controlling for differences in household characteristics and governorates, the strongest positive net

impact is found among girls attending girls' schools; their satisfaction rose by 12% compared to those attending mixed schools (from 32% to 44%), a difference significant at the 1% level. Surprisingly, boys show no improvement in satisfaction rates when mixed schools are built and a limited improvement when a girls' school is built (satisfaction rising from 41% in the comparison group to 47%), again a difference significant at the 1% level. These results are illustrated in figure 8. As our qualitative focus group discussions did not include interviews with boys in areas where girls' schools were built, we cannot provide explanations for this. It is possible, but only speculative, that building schools for girls help in reducing overcrowded classrooms in mixed schools, or boys simply prefer not to have girls in their classes.

**Figure 8 - Estimated effect of SFD on satisfaction rate with current school**



We will now turn to the reasons for student dissatisfaction. In our survey questionnaires students who registered dissatisfaction with school were asked to state what the reasons were for this. The question was open-ended, allowing the students and their parents to say what they felt and to give one or more reasons for their dissatisfaction. Table 17 shows the first problem that was recorded and the percentage of respondents who reported

each reason for dissatisfaction. It should be emphasised that SFD does not control teaching or the availability of books. In other words, all the factors listed in Table 17 - with the exception of the lack of water/toilets - are the responsibility of the Ministry of Education, not SFD.

**Table 17: Percentage reported problems by category and group**

Problem	Project Type		
	Pipeline	Ex-post 06-10	Ex-post pre-06
Lack of Books	24.9	18.5	20.5
Lack of Water/Toilets	19.3	11.8	12.5
Poor Teaching	16.4	12.2	9.1
Lack of Female Teachers	10.6	13.9	8.4
Lack of Male Teachers	11	11.7	6.3

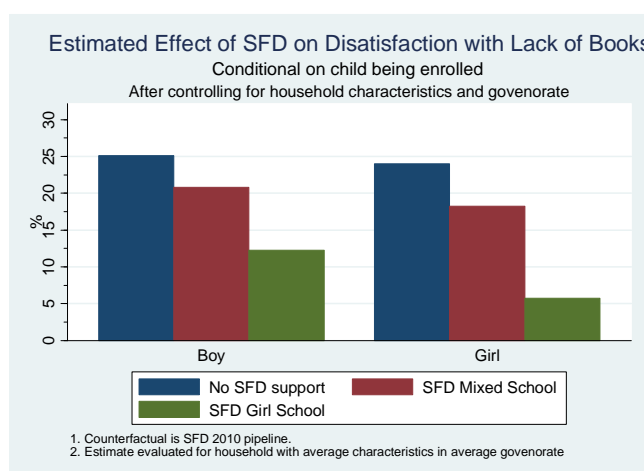
A number of observations can be made from table 17. First, the most common reason for school dissatisfaction is a shortage of books and other educational materials. It should be noted that teaching quality, the provision of teachers and books etc. is the responsibility of the Ministry of Education,

not SFD. Nevertheless, despite the SFD having no responsibility, a drop is noticeable after SFD school projects are completed compared to the pipeline (response rate dropping from 25% where no projects have been completed to 19% after SFD has invested). The problem with shortage of books resurges slightly to 21% among the older projects, indicating that the SFD interventions have a degree of sustainable impact in terms of reducing this problem. Regression analysis controlling for differences in households and governorates indicates that SFD interventions have a strong effect on reducing the proportion of girls citing a shortage of books as the main reason for school dissatisfaction where a girls school is built. The estimate rate of girls reporting this problem falls

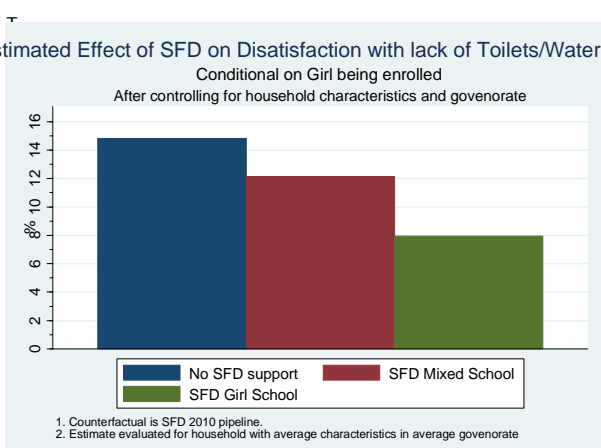
from 24% to 6% as shown in figure 5 below. For girls attending mixed schools the rate falls to 18%. Boys in mixed schools also see improvements in terms of SFD interventions having a positive effect on reducing the shortage of books, particularly those living in communities where a girls school is built.

Second, the figures in table 17 above show that inadequate toilet facilities and access to water is a strong factor causing student dissatisfaction with their schools: it is the second most commonly cited problem for girls in pipeline communities. In this regard, regression analysis indicates that SFD's mixed school projects only have a minor effect in lowering this cause of student dissatisfaction. SFD's investments in girls' schools, however, have a strong net effect here; almost halving the number of students who cite inadequate toilet and water facilities as the main cause of dissatisfaction, as shown in figure 7 below.

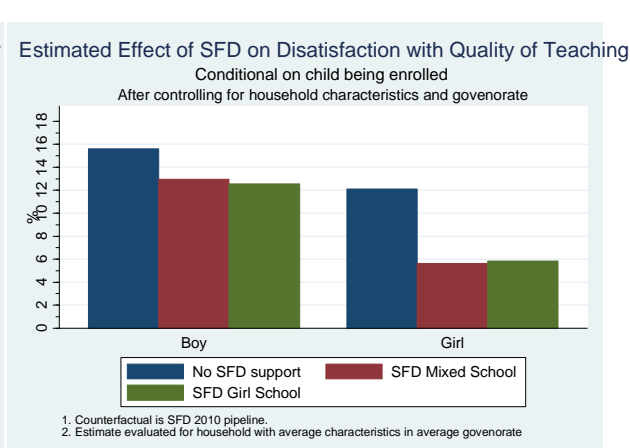
**Figure 9 - Estimated effect of SFD on dissatisfaction with lack of books**



**Figure 10 - Estimated effect of SFD on dissatisfaction with lack of toilets/water, girls**



**Figure 11 - Estimated effect of SFD on dissatisfaction with quality of teaching**



Third, table 17 above shows that whereas poor teaching is the third most important problem where SFD has not completed projects, the lack of female teachers is the second most important reason for school dissatisfaction where SFD has recently completed projects (2006-2010). This indicates that SFD interventions have the effect of improving the standard of teaching, but not in solving the problem of lack of female teachers.

Statements recorded during the qualitative focus group discussions can shed further light on some of the issues discussed above. A recurrent theme during these discussions was the distance to school. The school's proximity to where people live clearly matters, especially for girls. The availability of transport and the cost of this are important factors. Girls are also seen to be particularly vulnerable when they have a long distance to school, citing harassment by boys and wild dogs as major problems in that respect. When looking at the responses relating to girls'

education, it seems that girls' education - in rural areas - is not primarily seen as a means for the girls to get a job. Instead, girls' education is mainly seen in the traditional context of becoming a better mother and to learn religion. Concerning female teachers, focus group responses indicate that there is a preference that female teachers are from the local area where they are going to teach. If they are not, parents are obliged to pay for their food, which is seen as a burden. One of the frequently mentioned constraints for having more female teachers is the limited access to teachers' accommodation. This would be another reason to look for locally based female teachers who could work from home. Finally, in terms of satisfaction with school, respondents invariably refer more often to issues relating to school management, discipline at school and the availability of good teachers than they refer to the availability of good or new school buildings. The latter observation is in line with a recent report from the World Bank.<sup>25</sup>

Statements made during the qualitative focus group discussions indicate that the community contributions affect the way parents feel about the school. These statements, which are translations from the transcripts, are provided in the right side text box.

The Institutional Evaluation reviewed the institutionalisation of some of the specialist programmes that the SFD has developed to the Education Sector, in particular innovative approaches related to students with disabilities, gifted and talented children and girls' education in rural areas. While the Ministry of Education (MoE) has expressed a desire to scale these up and mainstream them within the national education system, it remains unclear whether there are sufficient resources and institutional commitment to do so. External support should be mobilised to ensure that SFD's innovative interventions are taken up by the MoE. Furthermore, the SFD may need to consider internal reorganisation, such as the transferring of its work on inclusive education within the SFD's Education Unit, rather than maintaining the current state of fragmentation (whereby education programming is divided between several of its programmes and units). Doing so would facilitate greater coordination between the SFD and MoE and, in particular, ensure that the SFD's commitment to education for vulnerable and at-risk groups (e.g., girls, the disabled, etc.) is transferred into national education structures.

Statements by women at Abou-zer Al-Ghafari school in Gabal Habashi in Taiz:

*"We felt that the money went in the right place; we felt the school is owned by all, and that the money went to the right place because they built a school, and we felt that we did something for the future of our children for these reasons we felt relieved psychologically with the existence of this school"*

Statements by women at Al-Nahda school in Houaida:

*"Community contribution was small relative to what SFD paid, but it made everyone feel ownership and proud of the school. We felt it is ours as we participated in building it. We will protect it for the sake of our children and we will fix anything that will be broken in the school"*

Statements by men at Al-Zaher school, Albaida:

*"Thank God and then thanks to SFD, because my son is now happy in the school, in the past he was not happy. We feel happy, we love the school, and we take care of it."*

*"We are relieved to see the school completed, and because we contributed we feel ownership and responsible for it"*

### 5.1.5 Recommendations for the Education Sector

- There is evidence that SFD is making a good contribution to increasing the national stock of educational infrastructure and school enrolment rates but the National Basic and Secondary Education Strategy shows there is a continued need for an additional 10,000 new classrooms per year, so SFD's work on building classrooms should continue.
- Alongside the construction and rehabilitation of classrooms there also needs to be close working relations with local authorities and the Ministry of Education to achieve educational impact.

---

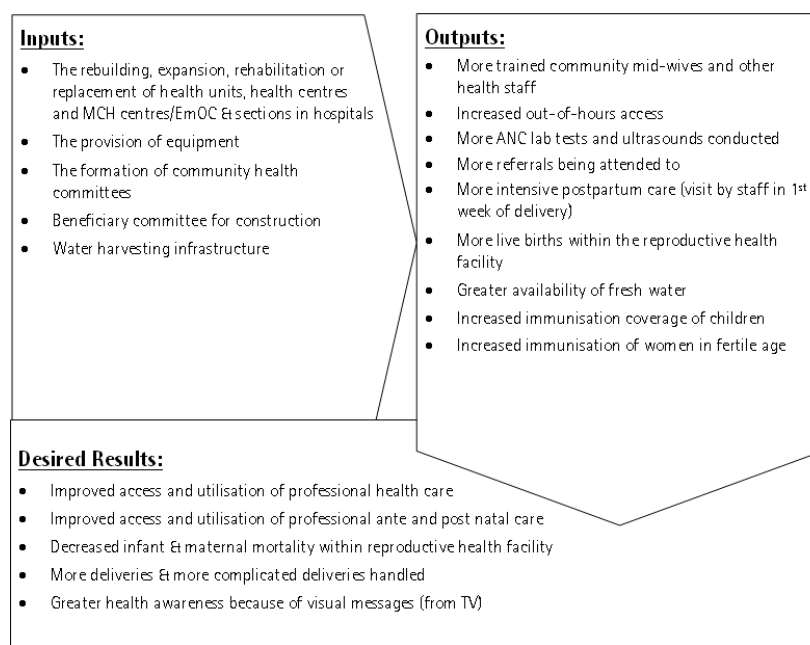
<sup>25</sup> Republic of Yemen - Education Status Report: Challenges and Opportunities. February 2010. World Bank and Government of Yemen.

- Future impact evaluations need to be able to distinguish clearly between what is within SFD's influence and what is beyond their control.

## 5.2 Health

### 5.2.1 Results Chain

In cooperation with the Ministry of Public Health and Population the SFD has initiated programs designed to increase access to the health care, enhance health education, improve and expand natal care, and enhance health system performance.<sup>26</sup> To achieve these objectives SFD interventions have intervened in the healthcare sector through expansion, replacement or rehabilitation of existing health care units and hospitals, formation of community health committees and through provision of water harvesting infrastructure. These interventions aim to create improvements in areas such as quality and number of health facilities, provision of clean water, immunisation levels and the number of staff available in healthcare centres. The interventions will hopefully lead to a general increase in the access to and utilisation of professional health care and to a greater awareness of healthcare provisions.



The analysis below focuses primarily on utilisation of healthcare and in particular access to pre-natal and post-natal care, community mid-wives, vaccinations and sustainability.

#### Key findings:

- There are major improvements in access and specifically in reproductive health, with utilisation rates for pre-natal care rising from 15% to 62% as a result of SFD's interventions.
- Women from the poorest household consumption decile go from having a 48% probability of seeking health care without an SFD intervention to 84% with the intervention.
- Women in SFD assisted communities are more likely to be assisted by community midwives.

<sup>26</sup>

SFD Annual Report 2008, pp.28.

## 5.2.2 SFD Results Framework

The existing objectives in the results framework relate to percentage utilisation of SFD supported facilities by targeted communities. The household survey reveals that the gross sample average of the percentage of people seeking health care over the last month was 76% for the SFD targeted communities who felt ill (74% for females and 80% for males). A total of 87% of the ex-post 2006-2010 treatment group answered that they now always or usually seek treatment when they are ill. In the pipeline communities this rate is 84%. When taking account of other individual and household influences that may affect the probability of people seeking health care, the net difference between ex-post 2006-2010 and pipeline communities is just slightly more than 1%.

## 5.2.3 Outputs

Since 1997 SFD has approved 1237 health and social protection projects worth an estimated USD 82.9 million. The evaluation period 2006-2009 has seen significant growth in the value of the SFD's contributions to health, with 2009 recording the largest SFD contribution to the sector to date of USD 8.7 million. This investment was more twice the level in 2006. As a result of this growth SFD has been able to reach a greater number of beneficiaries; direct beneficiaries rose from 360,330 in 2006 to 744,927 in 2009. The health sector has the largest number of direct beneficiaries, comprising 40% of total SFD beneficiaries.

The SFD aims to support the efforts of the Ministry of Public Health and Population in expanding healthcare resources. As detailed in the table below, the SFD makes a significant contribution to the health sector in Yemen. From 2006 to 2009 SFD's contributions ranged between 3.6% and 7.7% of national investments in the health sector.

**Table 18: Overall Financial Contribution to SFD to the Health Sector in Yemen, 1998-2009 (USD)**

Years	Investment National Level (USD)	SFD contribution Contracted	SFD contribution - Disbursed	SFD contribution Contracted (%)	SFD contribution - Disbursed(%)
1997		54,948	54,948		
1998	36,193,478	375,465	331,741	1.0	0.9
1999	21,586,568	1,627,872	1,498,957	7.5	6.9
2000	34,218,581	1,247,032	1,190,441	3.6	3.5
2001	35,172,087	1,531,326	1,504,344	4.4	4.3
2002	34,388,393	2,993,604	2,956,795	8.7	8.6
2003	48,432,595	4,550,021	4,489,047	9.4	9.3
2004	120,686,778	2,595,088	2,573,166	2.2	2.1
2005	97,104,617	2,396,984	2,353,264	2.5	2.4
2006	92,977,618	3,685,975	3,594,090	4.0	3.9
2007	81,455,452	3,494,785	3,408,563	4.3	4.2
2008	82,813,959	6,380,230	6,299,149	7.7	7.6
2009*	246,486,799	8,914,669	8,704,455	3.6	3.5

Source: Central Statistical Organization and SFD-MIS

## 5.2.4 Outcomes

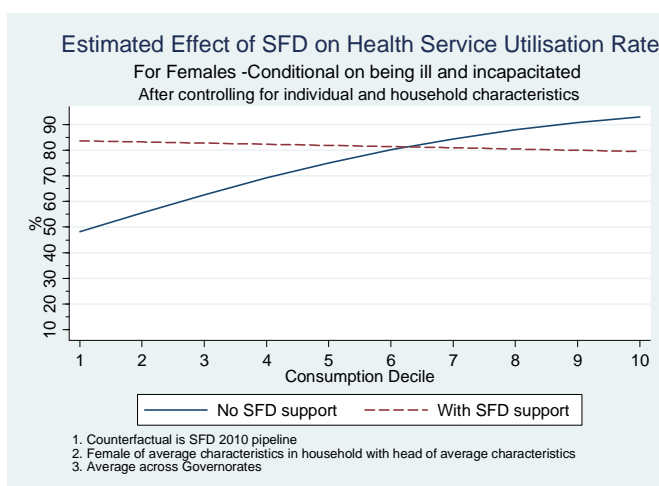
In order to give some context to the results on outcomes presented in this section, Table 17 shows results on the number of reported health problems in the past month among surveyed pipeline, ex-post (2006-2010) and old ex-post (1997-2005) communities.

Table 19: Proportion of sample reporting health problems in past month (%)

	Pipeline 2010	Ex-post 2006-2010	Ex-post 1997-2005
Overall	23	21	20
Male	22	19	18
Female	25	23	21
Number of persons	2302	3525	4045

The figure below gives a more nuanced picture of utilisation rates than the gross rates reported above. It reports the estimated effect of SFD on the propensity of females to seek treatment when ill and unable to undertake normal activities after controlling for individual and household characteristics. It shows that the SFD has a significant impact on increasing the utilisation rates of the poorest women (i.e. the lower consumption deciles). A female living in the poorest household consumption decile is estimated to have approximately 48% probability of seeking health care in communities without SFD interventions. After the SFD has intervened, the same type of woman is estimated to have 84% probability of seeking treatment. The shape of the two estimated lines - with SFD and without SFD - shows that SFD appears to level out differences between female access rates across the poor and non-poor. Thus, the SFD not only has achieved good utilisation rates, but has been successful in ensuring that it is the poorest that benefit equally from the intervention. There is a caveat, however. The statistical significance of the above is below what is conventionally accepted; there is only an 83% probability that the observations are correct for the wider population in Yemen.

Figure 12 - Estimated effect of SFD on health service utilisation rates for females



Our findings are thus that SFD seems to have a strong positive impact on the propensity of a poor female to seek healthcare when she is ill and incapacitated. No significant effect on male utilisation rates was observed from the data set.

In general, the survey results show that 64% of respondents believe that access to health care has improved due to SFD interventions. These findings are also supported by the focus group discussion results, where female and male

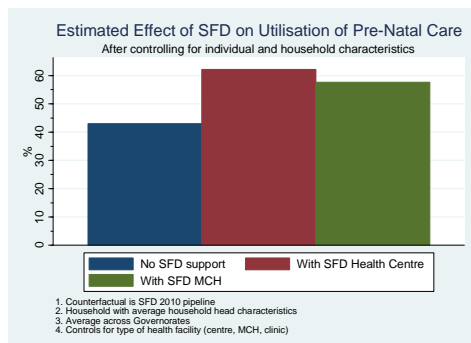
respondents reported general satisfaction with SFD interventions in the health sector.<sup>27</sup> Below, we look more closely into utilisation rates for pre- and post natal care.

<sup>27</sup> Focus group discussions (male and female) in communities where SFD funds construction of health care facilities showed that only 20 out of 79 respondents (8 male and 12 female) found the SFD intervention did not have a positive effect on the quality of the health care services in those areas. Similarly, a smaller group of respondents (15 respondents out of 79) found a general level of health situation in the communities where SFD funds health service facilities to be positively affected.



**Figure 13 - Estimated effect of SFD on utilisation of pre-natal care**

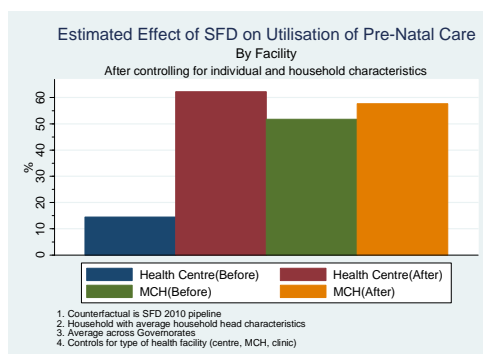
The survey analysis could not find a significant overall impact of SFD interventions on pre-natal care



utilisation. However, when focusing the analysis on the Health Centres and Mother and Child Health (MCH) clinics positive results were found. Figure 13 shows that in communities where SFD has not yet implemented projects the probability of use of pre-natal care is 43%, whilst where MCHs are present the rates increases to 57.6%, and health centres increase this rate further to 62.2%. These are estimated net impacts after controlling for individual and household characteristics that may influence utilisation rates. Thus, health centres have the highest

estimated effect, but also MCH clinics have a positive impact compared to where no SFD support is given. This effect is significant for health centres at the 3% level. Rural health clinics had no large and significant effect on utilisation rates and have therefore not been included. The comparison group in the figure denoted "No SFD support" indicates the average estimated rate for pipeline communities, across MCHs, health centres and rural health clinics pipelines.

**Figure 14 - Estimated effect of SFD on utilisation of pre-natal care by facility and before/after**



The above results can be dissected further. Our analysis indicates that pipeline communities that are to receive a health centre have markedly worse pre-natal care utilisation rates (as shown in the first column in figure 14). After the intervention, estimated rates increase from approximately 15% to 62%. This can be explained by the fact that SFD will only support health centres in areas where spatial analysis indicates that there are no other large health centre in the vicinity that could already be providing services to the local population. It appears

therefore that SFD procedures for support to health centres and choice of location for these centres are well targeted to the most needy areas. The graph shows that for communities receiving MCH, the net impact of the SFD intervention was more modest but still increasing from 52% utilisation rates to 58% after the SFD intervention.

In general, the survey results show that respondents believe that access to reproductive health care has improved due to SFD interventions (table 20 below). Proximity and ease of travel to health care are one of the most commonly reported factors influencing consultation rates. On this dimension, SFD has had the strongest impact. For reproductive health care facilities, 64% of respondents believed that the SFD facility had improved access/made it easier to travel to get treatment.

Statement from female community, focus group on SFD health interventions, Taiz Governorate

*"The situation has improved a lot. Before we used to come here, but we do not have treatment. Now we get treatment in the health facility. The health facility now provides vaccination and antenatal care, family planning. We now have midwives that provide care for us. The midwife measure blood pressure for us, and check weights and if a woman is malnourished she asks her to eat well. The services have now become closer to us, and we only go to Mokha Hospital at the centre of the district for complicated cases. When one of us gets pregnant the midwife gives us a follow-up card from pregnancy to birth, and she writes on nutrition and everything else."*

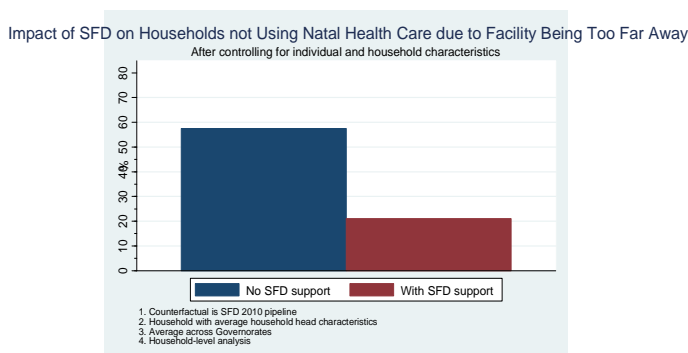
Table 20: Access to reproductive health care

% of Households Reporting that SFD Facility has improved access to Professional Reproductive Health Care	
Facility Closer/Easier to Travel to	63.9
More Health Staff Available	21.1
More Female Health Staff	30.3
Better Provisions for Women	44.4

Notes: 1. Sample based on 435 household respondents  
 2. Missing category is: same/worse/don't know

The above table is based on perceptions by households. However in terms of actual usage of pre- and post natal care, the number of women not using natal health care due to the long distance to the facilities has been positively reduced by SFD intervention. As figure 16 shows, the rate of poor households not using natal health care due to a long distance has been reduced almost by 50% (net effect), as the rate of people that did not use the services in communities without SFD intervention was 57% compared to a rate of 21% in areas with SFD support.

Figure 15 - Impact of SFD on households not using natal health care due to the distance to the facility



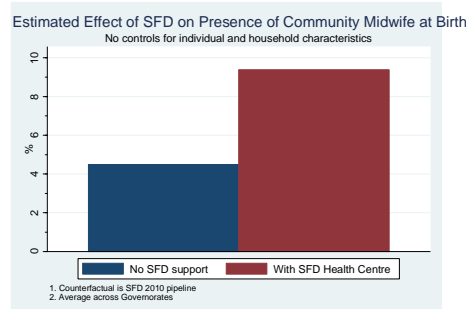
SFD interventions are having less of an effect on other beneficial outcomes such as increased medical staff: only 21% responded that after SFD support more reproductive health staff had been available, though 30% said that more female staff had become available. In general, however, 44% believed that the SFD facility had made better provisions for women, as shown in table 20

above. These responses correlated with the results presented in Table 19, which show the reasons cited for not accessing pre- and post natal health care for those households that state that they rarely or never seek such care. For these households in ex-post communities, 39% of them report that lack of female staff is the main reason for not seeking reproductive health care, showing that this is still an acute issue and there is scope for future returns in the ongoing SFD investment in training community mid-wives. It appears that there is still potential for returns to future health campaigns on pre- and post natal care as 31% of these households report that there is no need for pre and post natal care. Although SFD is having a particular impact on the utilisation of pre and post natal care by households as shown by the preceding tables, the cost of care is still a deterrent for 20% of households.

Table 21: Reasons for rarely or never seeking reproductive health care

Reasons cited for households rarely or never seeking reproductive health care	Pipeline	Ex-post 06-10
No need	22.8	30.5
No female staff	40.4	39
Expensive	29.8	22
Prefer traditional treatment at home	10.5	13.4
Lack of Medicine	8.8	11
Too far	15.8	14.6
Lack of doctors	10.5	18.3

**Figure 16 – Estimated effect of SFD on presence of community midwife at birth**

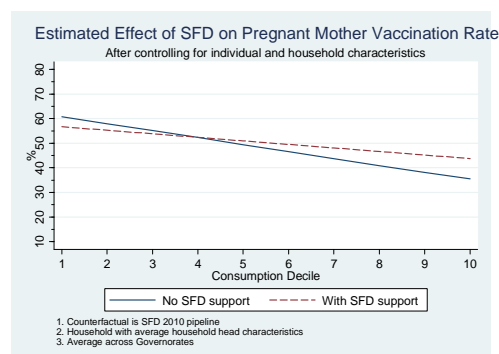


Another outcome is the impact of community midwives on beneficiary health status, particularly ante- and post-natal care. The statistical analysis showed that women in communities receiving SFD support had a higher propensity to be assisted by community midwives during delivery. Of the 253 women in the sample who gave birth within the last 12 months, only 6% of those in pipeline communities were assisted by a community mid-wife during birth whereas the figure was 11% for ex-post communities (projects completed 2006-2010), as shown in the table below. The result

was significant at the 5% level. This finding was only found in the gross statistics however and disappears once individual and household characteristics that influence health care consultation rates are controlled for. The focus group discussions, including both men and women, revealed that the presence of a female community midwife was an important factor to encourage families to visit the health care facility. No significant results are found for MCH and Rural Health Centres in this regard.

Regarding vaccination rates, it appears that the SFD has a significant impact on mothers in higher consumption deciles receiving vaccinations, but the same is not true for poorer mothers where the impact is negligible, as shown in figure 18 below.

**Figure 17 - Estimated effect of SFD on pregnant mother vaccination rate**



The focus group discussions revealed that common concerns in relation with health care facilities and health care staff were the availability of medicine, the equipment of the facilities, the qualification of the staff and the availability of female and male staff. At the same time, responses positively evaluated the increased level of medicine and physical equipment availability in health facilities in general, suggesting that SFD is addressing community concerns.

Survey results on community participation show that 85% of respondents agreed with the selection of the SFD project as being a priority for the community, and 59% agreed that this selection was based on broad consensus (22% disagreed and 19% did not know).

In terms of sustainability, it is important to assess whether SFD supported facilities are adequately managed after the infrastructure is built. With regard to sustainability, key factors are:

- Whether the council and government health authorities at governorate level supports the investments by allocating sufficient numbers of medical staff and medicines to the facility
- Whether health committees adequately follow up on maintenance, deal with problems in the facility (e.g. understaffing, infrastructure issues) and follow up with the council and government health authorities as appropriate to resolve issues.

Analysis of the facility questionnaires shows that there appears to have been a drop in the number of functioning community health committees, which are responsible for maintenance and supervision of the facilities. According to the facility-level respondents, in the old ex-post (1997-

2005) sample 15 out of 27 projects answered that a functioning committee existed, whereas for the 2006-2010 ex-post group only 6 out of 24 replied positively.

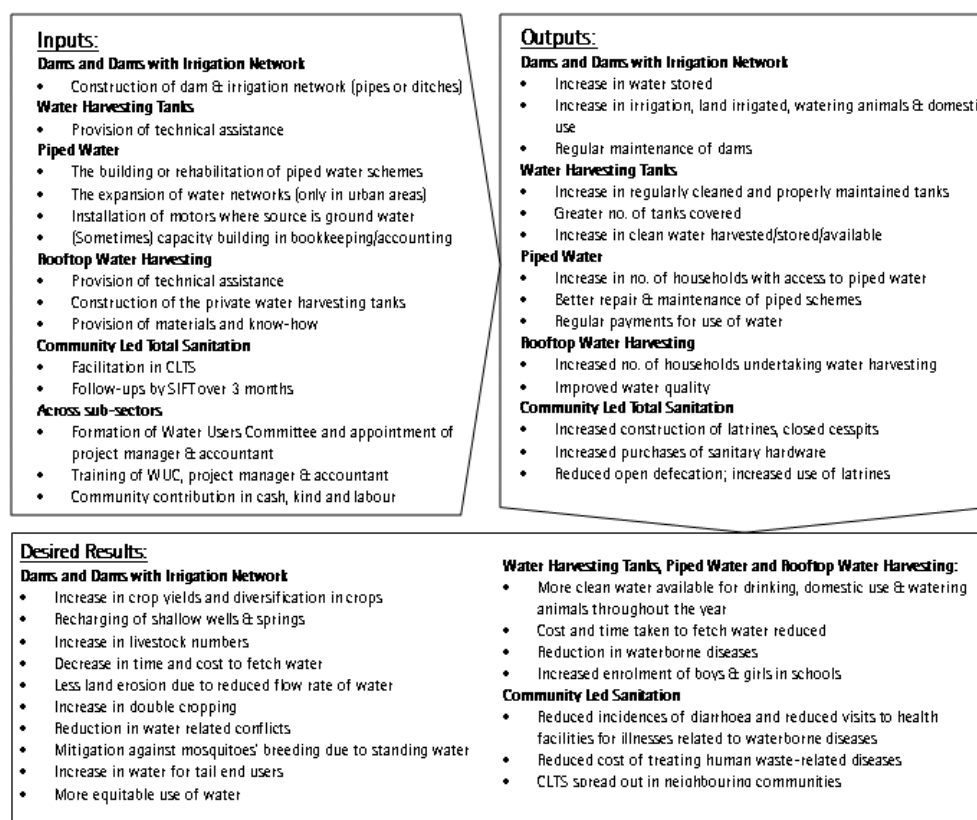
### **5.2.5 Recommendations for the Health Sector**

- The evidence suggests that SFD is having a positive impact, so it should increase coverage of primary health care services through more provision of health infrastructure.
- To further improve the quality of health care, in line with the national objectives, SFD should expand the coverage and depth of training for ministry and community based health care workers, especially for community midwives.

## 5.3 Water

### 5.3.1 Results Chain

Most SFD water projects focus on increasing poor communities' access to safe water, expanding cultivated lands and raising hygienic and environmental awareness. To help undertake the water project, the SFD uses a mainly community based approach by appointing members of the community to a Water Users Association to help manage the construction and maintenance of the project. It also provides equipment and technical assistance. This leads to increased construction of sustainable water sources, for example rooftop water harvesting. The aim of this work is that there is more water available for drinking, domestic use, irrigation and watering animals throughout the year. The Community Led Total Sanitation programs that provide information on sanitation and construction of latrines have the final aim of reducing the incidence and cost of treating waterborne and human waste related diseases. This evaluation has chosen to focus primarily on the cost and time that it takes to collect water.



#### Key findings:

- There are reductions in the time it takes to fetch water and reductions in the costs of water.
- Rooftop water harvesting has been an appropriate and relevant new intervention adopted by the SFD.

### 5.3.2 SFD's Results Framework

.According to SFD's results framework, the target is that 50-70% of households report increased water supply (for irrigation, drinking or other purposes) and reduced time and cost spent in fetching water. Furthermore, about 50-70% of households should report improved hygiene due to awareness campaigns.

Regarding water availability, 86% of households in recently completed projects report that due to the SFD facility, the availability of water during the last 12 months has increased. Only 3% report that availability of water has declined. However, there is a high degree (32%) of missing responses for this question.<sup>28</sup> For older projects completed before 2006, the results are less marked – around 40% report increased availability of water as a result of the SFD facility.

Results from the survey show that 52% of households in recently completed projects (2006-2010) report reduced time to collect water during the rainy season (43% during the dry season). It should be noted that this question relates specifically to perceptions regarding the impact of the SFD facility. This result is consistent with the broader question on actual time taken to collect water as shown in Table 20, which shows that relative to the pipeline group, higher proportions of households in ex-post projects report decreased time to collect water. The impact is particularly experienced during the dry season. For dams, the proportion of households in ex-post project areas that report decreases in time to collect water is 33% higher than in the comparable project pipeline areas. For communal rainwater harvesting tanks, the proportion that reports decreases in time is 48 percentage points higher than in the comparable project pipeline areas. During the rainy season, the differences between the pipeline and ex-post projects show gains in the range of 17-43 percentage points.

Statements from poor males on SFD interventions in Taiz Governorate:

*"Saves time so that boys and girls returned to school after they dropped out for sometime for the purpose of fetching water, my daughters used to go to distant places for fetching water [...] We saved the energy which was spent in fetching water, and our children are back at school."*

Statement from non-poor males on roof top harvesting, Taiz Governorate:

*"The most important benefits: alleviating the suffering and hardship of women who were fetching water from long distance."*

Statement from poor female respondents, Ibb Governorate:

*"Saves time and effort, and creates mental and physical comfort. God has saved my daughters. Honestly, they used to queue together for one and a half hour at the water source. Just sitting and waiting for their turn."*

**Table 22: Proportion of Households reporting change in time taken to collect water over past 2 years/before SFD Intervention by Project Type**

Rainy Season	Pipeline Projects			Ex-post projects		
	Decrease in time	Same	Increase in Time	Decrease in time	Same	Increase in Time
Dam	5	94	1	27	68	5
Rooftop	21	77	2	37	62	1
Piped (rural)	11	75	13	55	44	2
Tank	4	96	1	39	58	3

Dry Season	Pipeline Projects			Ex-post projects		
	Decrease in time	Same	Increase in Time	Decrease in time	Same	Increase in Time
Dam	3	95	2	35	61	4
Rooftop	19	80	1	63	31	6
Piped (rural)	19	67	14	54	42	4
Tank	5	95	1	53	47	1

<sup>28</sup> This may be due to the fact that the questionnaire, for this question, did not contain a "not applicable" response category.

Double difference analysis with controls for household characteristics and governorate show similar results (see Table 21 below). Still, these results should be treated with care because it has not been possible to collect data required to conduct good multivariate analysis on the water projects - e.g. to control for local rainfall variations and other geographical characteristics.

**Table 23: Proportion of Households reporting decreased time to collect water- Net Impact after controlling for household characteristics and governorate**

Rainy Season	Project Type		
	Comparison communities not yet in receipt of SFD support (pipeline)	Ex-post 06-10	Double Difference Impact
Dam	5.7	24.9	19.2
Rooftop	14.6	35.8	21.2
Piped (rural)	3.9	47.2	43.3
Tank	1.6	42.5	41.0

Dry Season	Project Type		
	Comparison communities not yet in receipt of SFD support (pipeline)	Ex-post 06-10	Double Difference Impact
Dam	6.4	38.3	31.9
Rooftop	24.5	57.6	33.1
Piped (rural)	7.7	54.5	46.8
Tank	0.4	52.1	51.7

There is a strong gender impact on investments in water projects: households reporting that SFD has saved them time to collect water state that it is largely women and girls that are benefiting. 89% of households report that women have benefitted more versus only 10% for men. 48% of girls benefit versus only 20% for boys. There is a strong gender response to the time saved: 64% of these women are using the time saved to do household chores whereas for men 84% spend this time to work. For girls the impact on activities is more varied: 32% report that it is used for school, 33% for household chores and 18% for working. For boys 64% report that it is used for school.

Looking at the findings of the qualitative focus group discussions, participants were asked whether the SFD project provided a reliable source of water for the community. A small majority of the participants (63% or 47 out of 75) said "yes" while 28 said "no." These results are remarkably similar to those extracted from the larger household survey, pointing to a consistency in responses on this question.

**Table 24: Average time to collect water (minutes) - Gross Impact of SFD**

	Rainy Season		Dry Season	
	Pipeline	Ex-post 2006-10	Pipeline	Ex-post 2006-10
Dam	46.4	16.2	81.1	41.5
Rooftop	52.2	12.5	92.8	25.4
Piped (rural)	46.9	45.7	68.8	98.4
Tank	57.7	41.8	148.5	79.4

*(Sample 2,176 households / 109 projects)*

Table 23 shows the average time in minutes per round trip that was spent to collect water during the rainy season and dry season, comparing mean household responses between pipeline communities and communities after SFD interventions (gross impact). The data reveals that the dam and private rooftop water harvesting projects both lead to significant reductions in the time that is spent to

collect water during both seasons. The net fall in time taken to collect water is 30 minutes for dams and 40 minutes for rooftop projects in the rainy season, bringing the total time to collect water within the WHO target of 30 minutes per round trip during the rainy season. The result for dams is

significant at the 1% level, whereas the result for rooftop projects is rather uncertain (87% probability to be correct). The communal rainwater harvesting tanks also result in some gains in the rainy season, but results are more significant during the dry season. There is no real difference for piped water projects in rural areas during the rainy season, and during the dry season the result seem odd: SFD's piped water projects *increase* the time taken to collect water. Even when distinction is made between households whose main water source is the piped system/public tap and those who use another system, it still shows increased time for users of piped water. There is a possible explanation for this, however: piped water projects are often implemented using water from springs that may dry up during the dry season, meaning that household members may have to purchase water from tankers or walk long distances to collect water.

The effect of SFD's projects is clearer when it comes to the costs of obtaining water. The household survey demonstrates that SFD has a large impact on reducing the average cost of water for all the four types of water projects during both the rainy and dry season. The relatively low per capita cost of rural piped water is also noteworthy. It can be observed that these outcomes appear to be sustainable over time – reductions in average per capita costs of water are found in both projects recently completed (2006-2010) and older projects completed before 2006. This is illustrated in the two figures below.

Figure 18 - Monthly water costs, rainy season

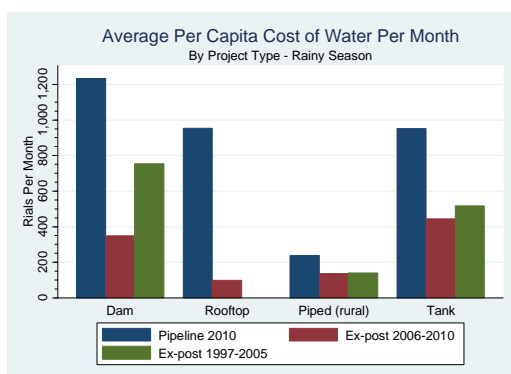
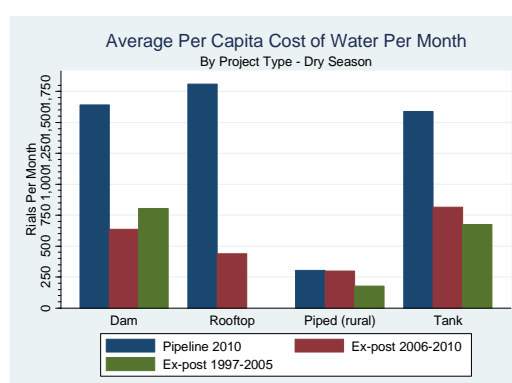


Figure 19- Monthly water costs, dry season



A similar picture emerges when we control for household characteristics that may affect water consumption (size of household, consumption proxies, age and education of household head, governorate). There is a mixed result regarding piped water, however, which suggests that SFD interventions for piped water may actually increase the cost. While this is noted, there are logical reasons why this is the case. Before the piped water projects the households may have had access to water free of charge, albeit with irregular accessibility, low quality and low sustainability

Figure 20 - Est. water costs, rainy season

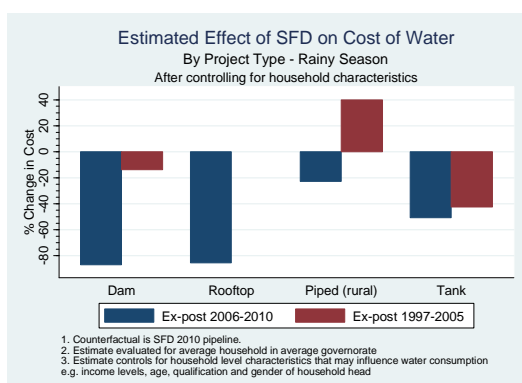
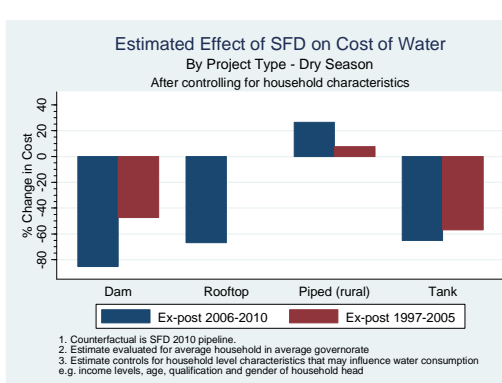


Figure 21 - Est. water costs, dry season





Again, a double difference analysis gives a more precise measurement of the net effect of SFD's projects. The first part of the table below shows the findings for the rainy season and the next for the dry season. They both show a net impact on reducing cost of water across all project types, with the strongest percentage point increase reported for communal water harvesting tanks. The net impact control for household level characteristics that appear to influence water consumption and therefore costs. It should be noted that these results partially, but not fully, control for general inflation – the comparison of results against the pipeline group ensures that general inflation is

Table 25: Water Cost Reductions

Rainy Season	Gross Difference				Net Difference			
	% of households reporting a reduction in costs relative to before SFD Intervention / 2 years ago		Double difference estimate - percentage	Significance	% of households reporting a reduction in costs relative to before SFD Intervention / 2 years ago		Double difference estimate - percentage	Significance
	Comparison Group (pipeline)	Ex-post 06-10			Comparison Group (pipeline)	Ex-post 06-10		
Dam	5.7	23.3	17.5	1%	3.2	23.8	20.5	1%
Rooftop	10	15.7	5.7	20.6%	0.6	19.7	19.1	1%
Piped (rural)	5.7	16.3	10.5	1%	7	21.8	14.8	1%
Tank	5.9	26.8	20.9	1%	1.2	24.1	23	1%

Dry Season	Gross Difference				Net Difference			
	% of households reporting a reduction in costs relative to before SFD Intervention / 2 years ago		Double difference estimate - percentage	Significance	% of households reporting a reduction in costs relative to before SFD Intervention / 2 years ago		Double difference estimate - percentage	Significance
	Comparison Group (pipeline)	Ex-post 06-10			Comparison Group (pipeline)	Ex-post 06-10		
Dam	4.7	30.9	26.1	1%	2.1	25.9	23.8	1%
Rooftop	5.3	21.4	16.1	1%	2.1	20	17.9	1%
Piped (rural)	3.9	18.2	14.3	1%	5.4	25.8	20.4	1%
Tank	5.8	30.8	25	1%	0.2	29	28.8	1%

captured to some extent. The control is only partial, however, as in order to reduce problems with respondents being unable to recall precise costs prior to the intervention, responses only captured whether the cost had increased, stayed the same or reduced over the intervention period. This means that for the ex-post group, some of the respondents reporting cost increases may have experienced less cost escalation than the comparison pipeline group. The above results represent an indication, however, of the general direction of the SFD impact on water costs and can be said to represent a lower-bound estimate.

### 5.3.3 Outputs

Up to December 2009 SFD had approved 1,487 projects in the water sector worth USD 149 million. In 2009 alone SFD implemented 405 water projects. Measured by the number of projects and value of investments, water is SFD's second most important sector after education. Over SFD's entire

existence, 15% of all approved projects have been in the area of water.<sup>29</sup> The following two tables detail respectively SFD's water projects by type and year since 1997 and the overall contributions of SFD to the water capacity of the different systems in Yemen.<sup>30</sup>

All types of water projects have seen growth in the number of completed projects from 2006 to 2009 in comparison to the last evaluation period (with the exception of shallow wells). The SFD has in particular invested more resources into building and rehabilitating dams with over double the amount built from 2003 to 2005. Communal rainwater harvesting tanks is the largest project area for the SFD with 221 completed projects from 2006 to 2009.

**Table 26: Cisterns, karieff/reservoir, dams, water tanks**

Year Interval		1997-2002	2003-2005	2006-2009
Cisterns	new open	87	210	187
	rehabilitation open	162	180	137
	new covered	25	52	131
	rehab covered	1	12	7
	extra capacity m3	202,420	471,221	278,402
Karieff/Reservoir	new	44	26	11
	extended	55	25	99
	extra capacity m3	646,357	189,400	479,995
Dams	new	10	22	40
	rehabilitation	1	2	5
	extra capacity m3	463,000	1,158,950	3,315,238
Water Tanks	new	75	49	64

(Source: SFD-MIS)

**Table 27: Water projects over time**

Completion year	Number of Projects				Number of beneficiaries			
	1997-2002	2003-2005	2006-2009	Grand Total	1997-2002	2003-2005	2006-2009	Grand Total
Dams	8	22	47	77	14736	53030	126877	194643
Irrigation	3	3	3	9	5796	3801	2570	12167
Piped System	81	41	58	180	386090	275225	169842	831157
Rooftop Rainwater Harvesting	0	0	45	45	N/A	N/A	57796	57796
Shallow Wells	2	6	1	9	4269	26765	2309	33343
Training and Awareness	9	12	30	51	40	0	5864	5904
Water Harvesting (Tanks)	147	220	221	588	319383	388981	265313	973677

(Source: SFD-MIS)

## 4 Outcomes

Apart from the results in terms of increased availability of water and the reduced time and cost of accessing water (discussed above), it is relevant to explore issues relating to usage of the water facilities that are provided by SFD, the quality of works, community contributions, user satisfaction and ownership.

<sup>29</sup> Data on 2009 taken from *SFD Newsletter - Ed. No. 48, Oct-Dec 2009, p.12*

<sup>30</sup> A karieff is a reservoir. It is a natural or man-made depression in impervious ground.

Our survey data shows that out of the 860 households who were consulted in relation to 43 water projects completed over the period 2006-2010, 68% report that they use the facilities. For the older projects (1997-2006) the rate of usage was similar (65%).

This immediately begs the question of why the rest of the households do not use the water facilities. We asked the households, through an open-ended question with more than one response allowed, to state their reasons. Table 27 below shows the top reasons why households do not use the water facilities provided by SFD, indicating percentages of the sample giving these responses.

These reported problems vary according to the type of water project. We assume that SFD will have an interest, from a forward looking operational perspective, to examine this at project level. If we look first at the "system broken down" responses the data show that this problem was particularly acute for dams and piped water projects.

For dams, around 38% of the recently completed projects and 66% of the older projects had households reporting this problem. For those dam projects, around 60% of the households in the communities in question were not using the facility due to the system being broken down (recent ex-post). For older ex-post projects the share was 50%.

For piped water projects, 17% of the recently completed projects and 8% of the older projects had households reporting this problem. Within these 17% of piped water projects, an average of 58% of the households in the communities in question did not use the facility due to the system being broken down (recent ex-post). For older ex-post projects the share was 35%.

**Table 28: Reasons for not using SFD water facilities**

	Ex-post 2006-2010	Ex-post 1997-2006
Have alternative water source	15	12
System broke down	7.4	12
Facility is too far away	6.5	3.7
Insufficiency of water	6	3.5
We cannot afford it	0.9	0.2

*(Sample: 860 households / 43 projects (2006-10)  
596 households / 30 projects (1997-06))*

with this issue. In these projects, an average 17% of households reported insufficiency of water as a problem driving them to not use the SFD facility. The problem affects less of the older ex-post projects, with 33% of them having a problem with lack of water. Around 35% of households in those communities reported this problem.

For piped water schemes, the problem affects 25% of the recent ex-post projects, with 25% of households having insufficient water. Only 8% of the older ex-post projects are affected by this problem.

For communal rainwater harvesting tanks, the problem affects 33% of recent ex-post projects, with 22% of households having insufficient water. As with piped water, this only affects 8% of the older ex-post projects.

These findings show that piped water schemes have the highest percentage of projects that meet the water requirements of the users. The provision of dams has the highest proportion of projects with problems while at the same time these projects (recent ex-post) meet with the highest proportion of households who do not find that the provision of water is insufficient.

The responses recorded during the qualitative focus group discussions can add some other perspectives and nuances to some of the above findings.

The above results indicate that there might be specific maintenance issues relating to the older dams, whereas the older projects in the area of piped water appear to have fewer problems than the more recent projects.

The problem of "insufficiency of water" particularly affected dams, piped water and communal rainwater harvesting tanks. For dams, 63% of the projects had a problem

With regard to user fees, all respondents (38) in four different focus groups in Hadhramout and Hodeidah said that the community pays fees for the use of piped water, and they all found that this contribution is acceptable. One of the key informants expressed a fairly typical sentiment during an interview (translation): "people felt that they owned the project, because of the payment of contribution, which was imposed on them, and consequently they have a sense of ownership and preserve the project because it is theirs." And it appears that the responsibility of poor households to contribute is often taken care of by better-off and philanthropic people in the community.

The satisfaction with the recently introduced rooftop water harvesting schemes appears to be high, especially among poor households. All 61 respondents in 8 separate focus groups in Taiz and Ibb answered "yes" to the question of whether the project had provided good value for the invested money. In these focus groups, all the poor respondents (24) said "no" to the question of whether the money that was invested could have been spent on different projects that would have benefitted the community more. Nine of the non-poor males answered "yes" to that question.

For dams and communal rainwater harvesting tanks<sup>31</sup>, the largest proportion of the respondents (32 of 83) thinks that the SFD project provided good value for the money, while fewer (16 of 83) feel the opposite. Interestingly, all of the latter were men, and this indicates that women tend to value these projects more. 62 respondents (out of 76) believe that the money could have been spent better on other projects and only 12 (out of 76) indicated that the dams and water harvesting tanks were the best possible investment for the community.

Accidents appear to be an issue in connection with some of the water projects. 74 respondents were asked: "Did any accidents happen while collecting water in your project area?" All of the women (39) and 24 men (out of 35) answered "yes." People falling into the water tank seems to be the most frequent accident. Unfortunately, as it can be seen, the question was phrased ambiguously, making it impossible to say whether the respondents were referring to water projects implemented by the SFD or others. Nevertheless, SFD is aware of the security risk in connection with these projects and certain measures have been taken to improve safety. However, uncovered rainwater harvesting water tanks still constitute a risk in some places and communities (a key informant estimated as many as 50%) might not ask for these to be covered because of the associated costs and requirements of self-contribution.

Statement by poor men, Mesrakh, Taiz on the roles they played:

*"Supervision of the project, supervision of the works, the preparation of financial statements, identifying priorities and monitoring of project activities"*

Statement by men in Kanawess, Houdaida:

*"We push for the follow up of outstanding bills not paid by subscribers. We urge people to pay their bills. However, the project staff is not doing well in follow up and the management of the project is careless in terms of ensuring full operation of the project"*

The Institutional Evaluation observed that whilst the SFD is perceived to be a relatively minor stakeholder in the water sector, it is noted to have contributed to intra-governmental coherence by aligning its activities with the National Strategy on Water and also by influencing the direction of that strategy. The flexibility of the SFD in piloting new approaches, harnessing international good practices and developing implementation-ready programming strategies were noted as particular strengths. Future priorities for the SFD's contribution to the water sector include the following: (i) playing a strong role in the upcoming process of mapping which areas are appropriate for which types of potable water systems; (ii) increasing its coordination with the General Authority for Rural Water Supply; and (iii) enhancing the sustainability of its projects by ensuring community groups are skilled in the operation and maintenance of water supply systems

---

<sup>31</sup> The focus groups on water comprised the following types of projects: 8 rooftop water harvesting schemes, 4 communal water harvesting tanks, 4 dams and 4 piped water schemes.

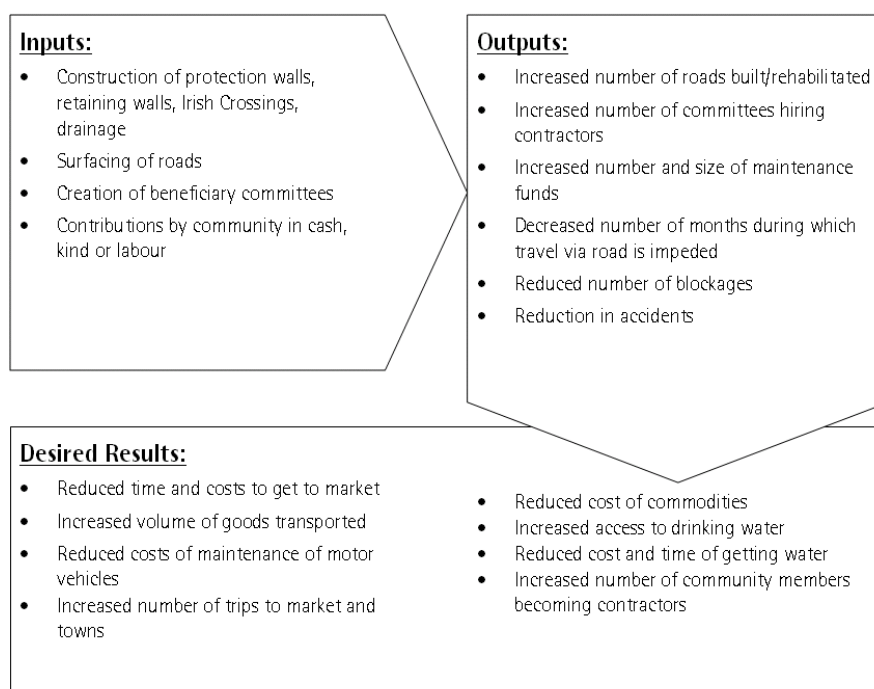
### **5.3.5 Recommendations for the Water Sector**

- SFD should investigate projects and check for mitigation measures to reduce accidents.
- Both the survey and qualitative study yielded positive feedback on SFD's rooftop water harvesting projects, so SFD should positively consider expanding this.
- SFD should continue to align itself with the National Water Strategy and play a strong role in coordinating with government institutions.

## 5.4 Roads

### 5.4.1 Results Chain

Rural roads play a vital role in linking remote and isolated areas to major roads and cities, enabling rural residents to access needed markets and services in order to generate income and improve health and education. With the help of beneficiary community committees, they have provided support to improving rural roads that allows year round use and prevents erosion, improved upon drainage systems and surfaced existing roads. As a result of increasing the number of safe rural roads, SFD hopes that the rural poor will see a decrease in the cost and time it takes to get to market and decrease the time it takes for them to access drinking water. This evaluation focuses on whether SFD feeder road projects have resulted in improved access to markets and social services for the beneficiaries.



#### Key findings:

- Reduction in beneficiaries' travel time by 74 minutes per trip to market (using before-and-after comparison).
- Older projects continue to have a high level of maintenance and user satisfaction.

### 5.4.2 SFD Results Framework

The first objective relating to roads in the SFD results framework stipulates that approximately 70% of households should have benefited from SFD feeder road projects and report on improved access to markets and social services. There is no direct question in the household questionnaire covering objective one. The household questionnaire reports on three dimensions; (i) time per return trip to market; (ii) cost per trip; and (iii) frequency of trips to market. A highly significant positive impact

(using before-and-after comparison) of SFD interventions showed reductions in travel time by 74 minutes per trip to market.

While the double-difference methodology is used throughout this evaluation as the best approach to establish the net effect of SFD's interventions, there are considerable risks inherent in drawing conclusions on this basis when it comes to SFD's rural roads projects. The reason is that the beneficiary villages have very diverse geographical, social and topographical characteristics. None of the roads have the same length, deterioration level, precipitation patterns, transport means, availability of fuel for transporters, etc. All of this makes it extremely difficult to find a comparable (control) group that would allow application of the double-difference method. However, as the pipeline group has been drawn from projects that have been through identical SFD project selection criteria as the treatment group projects, there is still some merit in calculating the double-difference results. The following analysis, therefore, will rely mainly on the before-and-after measurements, but will also show the results of the double-difference method.

As can be seen from the table below the before-and-after comparison of communities shows a 74 minutes travel time reduction. A with-without comparison (between beneficiaries and counterfactual communities) shows that solely reporting these numbers could be misleading, as counterfactuals appear to have lower travel time than beneficiaries (this could be due to selection procedures/bias). The double-difference methodology allows us to show the net effect of impact. As shown below, the double-difference estimate is approximately 43 minutes of travel reduction.

**Table 29: Time to get to nearest market/town/centre (minutes in one direction) – before-and-after, and double difference analysis**

	Period		Difference Between Periods
	Before intervention/ 2 years ago	2010	
Communities in receipt of SFD support	182.8	108.7	-74.2
Counterfactual communities not in receipt of SFD support (pipeline)	133.1	101.5	-31.6
Difference between groups	49.8	7.2	
<b>Double Difference Estimate</b>			<b>-42.6</b>

Significance level = 1%  
 Sample (households x time) = 1236  
 Sample (projects) = 29

Note: estimated evaluated for average household in average governorate  
 Controlling for household consumption/income proxies such as education level of household head allows us to control for possible differences in mode of transport used by households to nearest market

One of the questions in the household questionnaire was designed to provide a snap-shot of community usage of roads. It shows that 59% of the households surveyed used the SFD road within the last week to go to market or town, and that the main reason was shopping (57%) followed by health related trips (21%).

However, no significant impact emerged on the number of trips taken per week, or the overall travel costs for households. The cost per trip was reduced in the analysis comparing sample averages (see section 5.4.4 below), but not when using the double-difference method, even when controlling for project fixed effects, degree of maintenance, or whether training is provided on maintenance. More details on these variables will be provided below under "outcomes". It seems intuitive that the number of trips taken per week should not necessarily change just because roads improve. Whilst the cost per trip has fallen the overall travel costs have not. Travel costs would depend highly on the mode of transport and whether travel providers pass on their savings to customers. These results all use double-difference

Statement from male focus group – Hajja Governorate:  
*"Cars became more available. Instead of renting a car for YER 10,000, nowadays it costs YER 2,000 to 3,000. We managed to bring wheat and gas cylinders faster and cheaper, and we even get animals, and some people opened small shops to sell things"*

methodology and controls for differences between governorates and communities, as well as controls for time (inflation, price of petrol, subsidies).

Objective two of the results framework sets the target of having 760,000 rural inhabitants pay at least 20% less for their basic commodities. The double-difference analysis does not show that reduced travel time has brought benefits of decreased prices in the two main commodities measured through the household survey; wheat and Liquid Petroleum Gas (LPG). For example in areas where SFD has intervened the price of a sack of wheat has actually risen in villages and towns compared to price levels in counterfactual areas. For LPG the same picture (although more varied and not as significant) is showing. This does not suggest that the SFD is not doing a good job, but that elements outside SFD control affect the expected outcomes of their work. At this stage it can only be hypothesised what possible explanations could be. Wheat and cooking gas prices have changed tremendously in Yemen in recent years, so it turned out that assessing impact on these parameters (as the survey was designed to do) was not appropriate. From an economics viewpoint, using the concept of "sticky prices", it is plausible that the suppliers of wheat and LPG have not (yet) passed on their savings to consumers and uphold a universal price regardless of road quality. External sources confirm the assumption that the Yemeni wheat market is monopolised by a few importers and wholesalers who have caused prices to remain artificially high.<sup>32</sup>

Perhaps more importantly than the estimations of the effect on commodity prices, the focus group data shows that 60 out of 86 respondents believe that the road brought economic benefits. The benefits mentioned are: reduced time and cost of travel (hire of car cheaper on good roads); better access to commodities (food, medicines etc.) and savings on transport costs of commodities; saving lives of animals who would otherwise be used as transport and sometimes slip and die; and makes it easier to visit family, friends and relatives. The qualitative data therefore supports the quantitative findings. Travel times are reduced, access to commodities are therefore better and the transport of commodities is cheaper (but the commodities themselves are not cheaper) and a range of non-quantifiable benefits also derives from better roads such as easier travel to visit relatives.

### 5.4.3 Outputs

The provision of rural feeder roads plays a pivotal role in creating access to markets and services for poor people in Yemen. More than 70% of the population live in rural, mountainous terrain and rely on these roads for provision of basic commodities and social/health services. This evaluation focuses on rural roads, but will in this section briefly report on other SFD activities such as urban street paving, and trainings conducted to improve the capacity of road beneficiaries committees.

**Table 30: SFD roads sector outputs over time**

Year	Bridges	Feeder Roads	Street Pavement	Training	Total
1997-2002	1	15	12	0	28
2003-2005	0	56	17	6	79
2006-2009	0	137	106	34	277
<b>Total</b>	<b>1</b>	<b>208</b>	<b>135</b>	<b>40</b>	<b>384</b>

Source: SFD-MIS

**Table 31 - SFD roads improvement, excavation and pavement over time**

Year	Protection and improvement (km)	Excavation (km)	Pavement (square meter)
1997-2002	93	0	146,068
2003-2005	541	27	203,704
2006-2009	940	52	1,061,403

Source: SFD-MIS

<sup>32</sup> Mahmoud Assamiee and Salah Al-Worafi; "Wheat Price Remain High", Yemen Times, published January 19, 2009, accessible at <http://www.yementimes.com/DefaultDEF.aspx?i=1226&tp=local&a=4>, + Srinivasan Thirumalai "Food and Energy Prices in Yemen", The World Bank, July 2008, accessible at [http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/280558-1138289492561/2158434-1215439855252/Thirumalai\\_Yemen.pdf](http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/280558-1138289492561/2158434-1215439855252/Thirumalai_Yemen.pdf)



The SFD has drastically increased their activity on all fronts in the period 2006-2009 compared to previous years, as can be seen from table 29, more than doubling the number of feeder roads projects they are working on, and five times more street paving projects compared to the previous period. This translates into 500 kilometres of road that the SFD has made improvements on, 25 kilometres of road excavated and about 858,000 square metres of road paved since 2005.

The budgeted value of all road project investments at present is USD110 million, approximately 11% of total investments of SFD. The number of direct beneficiaries has been steadily climbing to a total of 624,450 in 2008, which makes the road sector second in terms of reaching direct beneficiaries (health interventions directly reached 744,927 in 2008) accounting for 25% of the total beneficiaries reached by SFD.

#### 5.4.4 Outcomes

The results framework outcomes for the roads sector centre on improved access to markets/social services and price reduction for commodities. To analyse these, the evaluation team has in collaboration with the SFD identified two more specific outcomes: beneficiary travel time and travel costs.

The cost of one trip per beneficiary is on average YER 357 compared to an average of YER 419 for the comparison pipeline group, which shows an average saving for SFD beneficiaries of YER 62 (difference significant at 1% level). This is a gross effect and does not control for individual, household or geographic differences, e.g. for the fact that the pipeline may have richer households than the ex-post sample. When using the double-difference methodology, controlling for differences between governorates and communities, as well as for project fixed effects, time and cost variables (inflation, price of petrol, subsidies), we obtain the net effect, which in this case was that the estimated impact was not statistically significant.

When asked about the total cost per week there is still a small saving of YER 26 per week but this gross result is not statistically significant. In terms of the number of times per week a person takes a trip to market it is clear that SFD beneficiaries take fewer trips than non-beneficiaries (the counterfactual group).<sup>33</sup> However, no significant impact on the treatment group of SFD interventions could be found over time, even when controlling for project fixed effects and household fixed effects.

On commodity prices, a sample average comparison (the gross effect) shows that a sack of wheat is approximately YER 1035 cheaper in SFD intervention areas than counterfactual areas, and that a gas cylinder refill costs YER 59 less in villages/YER 34 less in towns. However, conducting double-difference analysis, estimating the net effect, the SFD does not appear to have a positive impact on prices yet. Results show that whilst LPG prices have increased by inflation the wheat prices have in fact deflated, particularly for pipeline communities. The qualitative data offered insights into unpicking what is a common difficulty for impact assessments in the road sector; whether community expectations distort their answers on actual road quality. The SFD's aim is often not to build "Rolls-Royce" type roads with tarmac and excellent coating (like a highway road). For feeder roads SFD aim for simple roads that are easy for the community to maintain.

Responding to the question whether the new road project funded by SFD improved the beneficiaries' overall life situation 72 out of 86 focus group respondents said "yes", and 51 out of those 72 found their lives to be "much better" now. Most people that

Statement from female focus group, Sana'a Governorate:

*"... since the road is not all paved some of the women deliver on the way to hospital due to the rugged road ... our emergency ambulance only takes us half way and we deliver on the way"*

---

<sup>33</sup> On average the treatment group respondent goes to market 1.45 times per week compared to the counterfactual respondent who takes 2.2 trips per week.

answered "no" provided comments on their disappointment with the type of road (expecting a paved road and getting a non-paved road) or deviations from agreed plans (changing route of road). Only 4 out of 14 say that the state of the road is so bad that they prefer to go by foot rather than road. As illustrated in the right-side text box some women also were dissatisfied out of health concerns.

**Table 32 - Reasons provided for dissatisfaction (households, %)**

Variable	%	No. of HH
Project left incomplete	79.1	53
Contractor manipulated with standards	53.7	36
Contractor Unqualified	46.3	31
Consultant not supervising contractor properly	38.8	26
Beneficiary committee not supervising contractor properly	35.8	24
Project had construction problems	4.5	3

Around 10% of household beneficiaries reported dissatisfaction with the quality of the works carried out on the project by SFD: 67 out of 679 households sampled in ex-post communities. Table 31 shows reasons for dissatisfaction. It is clear that the sentiment that the project was left incomplete is a key concern of many beneficiaries, despite SFD's confirmation that all the selected projects were in fact finished. The communities' perception that projects are incomplete is likely to be linked to a misunderstanding of some communities on what a completed road is with regards to its start and end

points and the final quality (e.g. SFD does not always pave the entire stretch of road, but only critical parts, so some communities might not regard the road as finished). The second and third concern of contractors manipulating with standards or being unqualified could also be attributed to mismatched expectations, depending on how clearly the standards are understood by respondents. SFD may wish to ensure that standards are clearly publicised so beneficiary committees and consultants can supervise the contractor against clear standards. SFD project initiation processes and community engagement appear to produce good results. A total of 91% of respondents in the quantitative analysis agreed with the selection of the project as a priority for the community, and 81% believed that the selection of the project was based on broad consensus. Only around 8% did not regard the beneficiary committees as effective, a similar figure to those dissatisfied with the quality of works reported above. 65% had contributed to the implementation either personally or through the household.<sup>34</sup>

On the issue of sustainability, the survey showed that beneficiaries are highly satisfied with the quality of the work carried out by SFD. A total of 85% find the work acceptable and hereof 54% consider it to be excellent. Maintenance is considered to be very well done by approximately a fourth of respondents, whilst 10% consider it to be poor or unacceptable. Repair committees achieve higher levels of maintenance satisfaction than traditional arrangements.<sup>35</sup> It also appears that projects where training has been provided are more likely to produce "very well maintained" outcomes. Moreover, regression results show that where community payment is required the probability of households reporting very good maintenance is higher. Finally, the analysis shows that road maintenance makes a large significant difference on travel time to nearest market. If the road is adequately maintained the reduction in travel time relative to poorly maintained roads is 41 minutes, and if the road maintenance is very good travel time relative to poor roads is reduced by 54 minutes.

#### 5.4.5 Recommendations for the Road Sector

- SFD should work more with rural communities on expectations management, in particular to

<sup>34</sup> Positively, the poorest people (measured by consumption deciles) were contributing most to the implementation as a proportion, as a total of 88% contributed, whereas the proportion of contribution of other consumption deciles were spread between 53% and 75%.

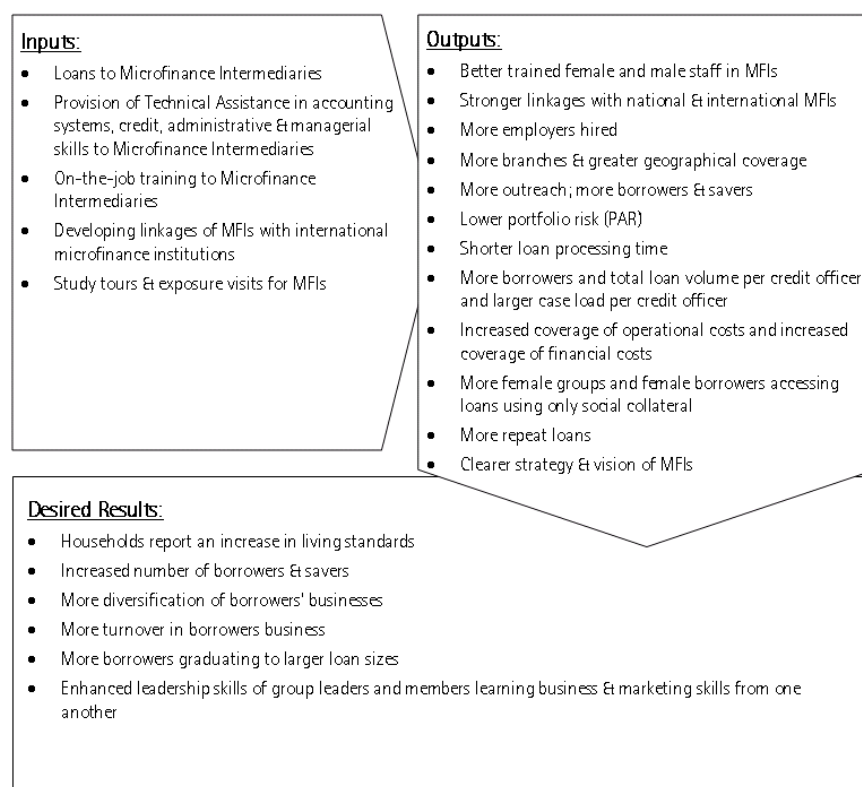
<sup>35</sup> Repair committees receive 37% "very well maintained" and 29% "moderate - acceptable", whereas traditional arrangements only achieve respectively 7% and 16% for the same categories

- ensure that communities understand what is meant by a "finished road."
- For future impact evaluation purposes, SFD needs to consider the most appropriate indicators for measuring the impact of roads projects. If the choice is to measure impact on commodity prices, appropriate measures need to be taken to take into account the context especially of changing prices independently of the existence of the road projects.

## 5.5 Microfinance

### 5.5.1 Results Chain

The microfinance activities of the SFD are managed by the Small & Micro Enterprise Development (SMED) Unit and focus on enhancing their technical and financial capabilities to enable them to expand. The Unit channels loans through NGOs, credit organisations, financial and other institutions including banks. As well as loans, the SFD gives on the job training to microfinance intermediaries and provides technical assistance in accounting systems, credit, administrative and managerial skills. These inputs aim to create a more valuable microfinance sector in terms of the coverage of the programme i.e. an increase in the number of borrowers and savers, the competencies of microfinance staff and the number of women benefitting from microfinance programs. As a result the SFD hopes to see improvements in living standards of those involved in the microfinance programmes and diversification of borrowers businesses. The evaluation focuses on improvements in living standards as a result of involvement with microfinance programs and the operational sustainability of the microfinance programs in Yemen.



#### Key findings:

- Approximately 50% of beneficiaries responded that the loan procured through an SFD Micro-Finance Institution (MFI) allowed them to increase their income and their economic activity.
- Loan types classified as income-generating loans were much more strongly correlated with increased economic activity and income than loans for consumption.
- A significant increase in the number of active borrowers, more than 87% since 2005.
- No significant difference in repayment rates between males and females were found.

### 5.5.2 SFD Results Framework

Due to data constraints a before-and-after evaluation of the microfinance sector was not possible for the results framework and other outcomes. Similarly, it was agreed that a with-without analysis would not be valuable, so the survey focused exclusively on loan officers and beneficiaries. Thus, the microfinance sector has a different methodology than the other sectors. The results in this section are presented so that they can function as baseline figures for future evaluations. A general caveat regarding the results for the microfinance section is that values may have been underreported due to cultural fear of envy and risk of having to pay higher taxes. Before presenting the results below it is also important to emphasise the challenges that work in the microfinance area in Yemen faces, in particular that availability of credit is limited in Yemen, that infrastructure for financial services is scarce, and that skilled professionals in this area are few. Moreover, people are averse to paying interest and the culture of taking loans is limited as people are more used to charity.

The results framework for microfinance focuses on two objectives. The first objective is that 40-50% of micro-finance savers/borrowers should experience an improvement in the living standard of their households. The second objective states that the SFD should have 3-4 major microfinance programs well on their way to reach operational self-sufficiency.

For the first objective the household questionnaire focused on four categories relating an improvement of living standards:

- *Economic activity, income increase and income diversification* – three questions were asked to cover this category, relating to potential increases in beneficiaries economic activity, their adoption of new productive activities to diversify sources of income, whether the loan had increased their income
- *Children's education* – the beneficiaries were asked whether the loan make it possible for their children to go to school
- *Debt repayments/loan burden* – two questions were asked relating to loan burdens and whether the loan allowed them to repay expensive debts and switch to better repayment conditions
- *Purchases* – one question asked whether the loan had helped beneficiaries to make purchases and/or repair their houses.

In the design of the questionnaire the SFD thought that respondents would not respond truthfully to the question on whether the loan allowed the borrower to increase his/her income as they might under-report for fear that otherwise future loans could have higher interest payment requirements in order to extract profits. Other more indirect (proxy) questions on education, debt repayment and purchases were therefore included as answers for these were seen to be more reliable. Below, we have contrasted these different responses to build a full picture across all questions.

Several positive findings were derived from the analysis. Regarding improvements related to economic activity, 52% of beneficiaries believed that the loan procured through an SFD Micro-Finance Institution (MFI) allowed them to increase their income. Similarly, 50% of beneficiaries responded that the loan had allowed them to increase their economic activity. There is no direct question in the 2006 Impact Evaluation on income levels, however in 2006, 35% of respondents reported that the loan created job chances and improved living conditions, so the 2010 results indicate improved outcomes for borrowers.

The question in the 2009 impact Evaluation relating to economic activity focused on whether the loan had enabled beneficiaries to engage in new activities. This question is not directly related to improvements in living standards and it can be expected that it is harder for MFIs to achieve an impact here. Therefore, although the reported 39% does not meet the results framework target it is not necessarily a sign of underperformance. Education levels appear to correlate with this indicator, so beneficiaries with higher education levels are more likely to engage in new economic activities. In

general, the programme has had a positive influence on improving economic activity and income and meets the targets set in the results framework. The general increase in real GDP per capita over the period 2006-2009 can have contributed to the increased income and economic activity but would not account for all the changes observed. With baseline data in place from this 2009 evaluation the SFD would be able to conduct a comparison impact assessment in the future to assess progress in attaining the desired outcomes.

Not surprisingly, regression results showed that loan types classified as income-generating loans were strongly correlated with increased economic activity and income. The vast majority of recipients of income-generating loans responded that the loans had increased their economic activity (85%), allowed them to extend into new economic activities (65%), and increased their income (90%). For consumption loans the respective proportions are only 12%, 10% and 11%. Hence, whether or not loans are used for income generating activities is decisive for income generation and diversification. The results are based on analysis of a total of 444 income-generating and 420 consumption loans.

Poor, illiterate and undereducated beneficiaries were less likely to receive an increased income from the loan than those better off. The Awael MFI stood out as having the highest positive correlation with improvements in the economic activities of beneficiaries and diversifying their income.

For education, only 19% of beneficiaries agreed that the loan had made it possible for their children to go to school. However, without knowing whether the beneficiaries (a) have children, (b) desire that their children go to school, and/or (c) procured the loan with the intent of spending it on children's education this figure can not be used to report against the overall target in the results framework. However, it can be used as a useful baseline for future evaluations. The results of the regression analysis suggest that rural beneficiaries are more likely to use loans for children's education than those in urban areas.

On the issue of the loan burden the quantitative data shows that 50% consider themselves burdened by the loan. SFD should further investigate the reasons and potential remedies for this sentiment. It is not unusual that loan repayments are considered a burden, but an assessment could be made as to whether SFD facilitated loans are more burdensome than other types of loans. The multivariate analysis shows no significant difference on repayment rates between different loan types<sup>36</sup> and income-generating versus non-income generating loans. Some 33% of beneficiaries state that the loan allowed them to repay expensive debts and switch to better repayment conditions. Most of these respondents were from the Azal, Awael or Hadhrat MFIs. However, this should not directly be compared against the results framework as some loan takers might have procured the loan purely to increase their economic benefits and not to repay debt.

Finally, 82% of beneficiaries responded that the loan enabled them to make purchases (the different kind of purchases will be specified below using qualitative data) and/or make repairs to the house. This suggests that a large majority of the beneficiaries experienced an improvement in the living standard of their households, irrespective of income, children's education or loan burdens. Differences between the lending practices of different MFIs were reflected by the observation that some MFIs were much more inclined towards giving loans for consumption/purchases than others. Beneficiaries of the Azal MFI were particularly likely to use the loan for purchases or repairs.

Given the differences across these questions, it would not be advisable to aggregate the above findings on improvements in living standards to one figure which could be directly juxtaposed the results framework target. However, the individual numbers show a collective positive progress towards the desired results.

The second results framework objective for micro-finance was, as mentioned above, that the SFD

---

<sup>36</sup> The different main loan types are (i) ordinary fees (annual interest), (ii) profit-sharing (musharaka), and (iii) buying and selling (murabaha)

should have 3-4 major programs with operational self-sufficiency at adequate levels. This has been defined as the organisation having the ability to cover at least 80% of its operational and financial expenses out of fee and interest income<sup>37</sup>

Out of five MFIs which responded to the facility questionnaire there were four with operational self-sufficiency levels above 80%.<sup>38</sup> One organisation was below the results framework target, having 36% operational self-sufficiency<sup>39</sup>, but three organisations were all above 100% self-sufficiency. Even with two missing respondents the SFD achieves the target set out in the results framework. Please note that the reliability of this data depends on the accuracy of the financial statements provided and may vary from SFD records. Overall, the target of having 3-4 major programs with operational self-sufficiency has been fulfilled by the SFD.

### 5.5.3 Outputs

As of April 2010, 10 MFIs were part of the programme.<sup>40</sup> The total number of active borrowers has reached nearly 48,000 of which approximately 72% are women. This is a significant increase from 3,282 in 2002 and 25,588 in 2005 and should stand out as a considerable achievement. The reported percentage of women has decreased slightly from 2005 where 89% of borrowers were women. However, with the increasing total number of beneficiaries it is to be expected that rates of near 90% female borrowers cannot be sustained. Savers now total more than 43,000 people, representing an increase from 24,840 in 2005. More than 310,000 loans have been procured, disbursing YER 12 billion. Governorates covered so far are Sana'a, Taiz, Lahj, Dhamar, Ibb, Hajah, Aden, Abyan, Hadhramaut and Hudaydah. More details are available from the table below.

**Table 33 - Microfinance project universe**

Program	Micro Enterprises							Location
	No. of Active Customers			Loans Portfolio	Loans Portfolio at risk (%)	Accumulative		
	Borrowers		Savers			Loans Amount (Million)	Loans (No)	
	Total No	Women (%)	Total No					
The National MF Foundation	12,036	97	16,542	329	2	2,377	66,910	Sana'a Capital, Taiz, Lahj, Dhamar, Ibb(Ibb, Qaedah, Yareem), Hajah(Abs), Al Hudaydah
Alamal Bank	7,394	58	8,349	237	0	492	10,056	Sana'a Capital, Ibb, Taiz
Namaa Program	5,847	35	1,245	205	2	1,651	35,098	Sana'a Capital, Taiz, Aden
Aden Microfinance Foundation	4,867	98	7,852	83	0	912	27,466	Lahj, Aden (Dar Saad, Alburaiqa, Almu'ala, Altwahi, Khur, Maksar, Keriter)
Abyan C&S	4,756	100	5,573	117	0	671	18,903	Abyan
Altadhamon Bank	4,026	58	0	476	5	1,581	9,089	
Al-Awael MF Company	2,901	98	0	64	1	741	33,491	Taiz
Sana'a Microfinance (Azal)	2,495	64	1,606	97	1	887	22,313	Sana'a Capital
SFSD	2,393	87	0	116	1	701	11,862	Sana'a Capital
Wadi Hadramout C&S	1,252	30	2,050	54	8	460	7,706	Seyun - Hadhramaut gov.
Income-Generating Projects	0			0		1,690	67,495	
<b>Total</b>	<b>47,967</b>		<b>43,217</b>	<b>1,778</b>		<b>12,164</b>	<b>310,389</b>	

### 5.5.4 Outcomes

Besides impact on life conditions, which has been covered above in relation to the results framework, the SFD is seeking to influence outcomes on beneficiary repayment rates, retention rates, and graduation to larger loan sizes.

Remarkably positive answers from credit officers were received regarding the issue of timely repayment. Across all MFIs, 98.5% of loan officers answered that the borrower had been repaying on schedule. There was no significant difference between individual MFI repayment rates; they were all

<sup>37</sup> Loan loss provisioning and depreciation are included in the expenses as well as financial expenditure. Figures on financial self-sufficiency, where adjustments for inflation, grants and imputed costs of capital are made, have not been available.

<sup>38</sup> These were Azal (87%), Abyan (103%), Al-Awael Taiz (116%), and Wadi Hadhramout (119%)

<sup>39</sup> This organisation is the National Foundation

<sup>40</sup> Thus, three MFIs have been included since the data collection took place: Alamal Bank; Altadhamon Bank and SFSD

in the range from 96% to 100%.<sup>41</sup> Moreover, regression results showed that repayment rates have a very strong positive correlation with loans where a salary guarantee is provided, as opposed to commercial or other kinds of guarantees. Positive correlation also exists between provision of group loans and timely repayment of loans, as opposed to individual loans. Thus, borrowers who are taking the loan as part of a group are more likely to repay on time (note that this is at 10% significance level). Similarly, monthly payments have a positive correlation with timely repayments, but only at 21% significance level.

Interestingly, no significant difference in repayment rates is found between males and females. This is supported by the data supplied by the credit officers in the facility questionnaire using multivariate analysis (i.e. no correlation exists between a certain sex and high repayment rates), but is contradicted by the statements of the credit officers in the qualitative data. It should be noted that the qualitative findings rest on few statements and could be expressions of credit officers' conceptions rather than the factual behaviour of beneficiaries. As mentioned above, different types of loans do not appear to make a significant difference for repayment rates either. Group loans and personal guarantees do, however, attract less "seasoned" customers, i.e. customers with fewer previous loans. This might be due to existing procedures in MFIs. Borrowers in the Taiz governorate are more likely to be repeat customers. Anecdotal evidence from the qualitative data collected in the Taiz area suggests that SFD is doing a good job supporting the MFI (see text box to the left). The SFD should review whether any best practices can be distilled in how they have managed the Taiz MFI. The above findings have been found using a 10% significance level.

Statement from qualitative interview, Taiz Governorate:

*"SFD supports us in various ways: first there is the financial support through the money we get and pay to clients. The other support is technical through which we get training courses related to micro-finance and management and admin. of the operations. We also get support from SFD to attend international conferences"*

MFI retention rates were the second important outcome to report on.<sup>42</sup> The evaluation team wishes to voice a strong caveat regarding the interpretation of retention rates used in this evaluation. Retention rates are not easily captured through a household survey. The respondents have answered whether they had previous loans (and how many) which provides us with a proportion of MFI repeat customers, i.e. those who have used the programme before. However, this is not synonymous with retention rates, and if an MFI is successful in attracting new customers this proportion is deflated. Thus, the proportion only gives a 'snap-shot' of the situation. Retention rates should be measured over time through monitoring information deriving from the MFIs tracking individuals, not proportions of all customers.<sup>43</sup>

Regarding the outcome of graduation to larger loan sizes, the main finding from the multivariate analysis is that compulsory saving products, where the lender is obliged to have a minimum savings level, has a significant positive impact on graduation rates. One MFI in particular seem to outperform the others for this indicator, the Azal MFI. Across all MFIs 46% of respondents answered that this loan was the largest they had had. The spread between MFIs was between 28% and 65%.<sup>44</sup>

---

<sup>41</sup> National Foundation = 98.68%, Namaa = 97.46%, Aden = 100%, Abyan = 100%, Azal = 100%, Al-Awaeal Taiz = 96.43%, Wadi Hadhramaut = 95.83%. However, using the facility questionnaire data the results are slightly different: Namaa = 100%, Aden = 95%, Abyan = 98%, Azal = 92%, Al-Awaeal Taiz = 86, Wadi Hadhramaut = 100.

<sup>42</sup> The rationale behind using retention rates as a measure is that recurrent loans are positive, as they indicate that beneficiaries like MFI services and "graduate" to better loans, higher consumption, greater economic activity or similar.

<sup>43</sup> It would be necessary to have records of previous years' customers who have abandoned the programme to obtain a picture of retention rates. Such analysis relying on monitoring data from MFIs would also alleviate the problems experienced by the survey team of people being reluctant to admit taking loans due to religious reasons or shame within their family

<sup>44</sup> National Foundation = 45.81%, Namaa = 38.98%, Aden = 33.33%, Abyan = 56.07%, Azal = 52.63%, Al-Awaeal Taiz = 65.48%, Wadi Hadhramaut = 28.13%



The analysis also revealed interesting findings beyond the above outcomes. As mentioned, a large majority of beneficiaries (82%) responded that they had used the loan for purchases or repairs. The qualitative data sheds more light of how this money was spent. Out of a total of 33 focus group respondents, three males responded that the benefits they had gotten from the loan was to buy something for the house which gave status, two females said the benefits were to cover household daily expenses, six females mentioned furnishing the house as the benefit derived from the loan. In a separate question it is revealed that 10 out of 33 respondents purchased items that are not all related to productive activities (television, washing machine, etc.) Whilst non-productive purchases do not contradict the objective in the results framework of an improved living standard, and some appliances, such as a refrigerator do yield tangible time and costs savings, it would still be beneficial for the SFD to have a policy regarding consumption versus income-generating loans. The need for a policy is even more relevant given that the first expected result in the results chain is "clearer strategy and vision of MFIs". It would also be advisable to align the results framework with the results chain, as the latter focuses on productive and income-generating activities.

Regarding user satisfaction the qualitative data reveals that a large majority of the beneficiaries considered it very easy to acquire a loan. The few respondents who did not consider the process to be easy were mostly men.<sup>45</sup> MFI credit officers were also highly appreciative of the support received from the SFD, which they considered to be relevant and useful. For the average loan processing time there was a significant variance between the MFIs, with answers ranging between only one day for the Aden programme and 21 days for the Abyan programme.<sup>46</sup> The average loan volume/loan per credit officer also varied between institutions (see footnote).<sup>47</sup>

A final observation is that the SFD programmes have had a demonstration effect by encouraging interest in private sector to engage in microfinance activities, as illustrated by the rapid growth in its activities showed under section 5.5.3.

### 5.5.5 Recommendations

- The evidence indicates that there may be more sustainable outcomes from productive loans because they generate economic activity. On this basis, SFD should consider ways to increase the proportion of loans allocated to productive purposes. SFD should share this evidence and analysis with MFIs and relevant entities in Yemen, and develop a policy on the use of non-income generating loans.
- The objective of the microfinance programme achieving improvements in the living standard of households proved difficult to operationalise. The SFD should work with its partners to develop more tangible, measurable objectives.

---

<sup>45</sup> The reasons given by these men are the it took 3-4 weeks before getting the loan (satisfied women say that it took them only one day), and that it was difficult and time-consuming to get a trade guarantor's approval and to get this certified by the chambers of commerce.

<sup>46</sup> Aden = 1 day, Wadi Hadhramaut = 2 days, Al-Awaeal Taiz = 5 days, Azal = 5 days, National Foundation = 5 days, Namaa = 15 days, Abyan = 21 days.

<sup>47</sup> Loan volume: National Foundation = 6,364,750, Namaa = 6,158,406, Aden = 3,575,392, Abyan = 5,588,453, Azal = 2,881,250, Al-Awaeal Taiz = 3,608,931, Wadi Hadhramaut = 50,000. Loan frequency: National Foundation = 30, Namaa = 348, Aden = 468, Abyan = 249, Azal = 127, Al-Awaeal Taiz = 184, Wadi Hadhramaut Program 3024

## 6 Conclusion

### 6.1 Overall Conclusions

Yemen is one of the poorest countries in the world and when adding the topography, harsh climatic conditions and ongoing conflicts, it is not an easy country to work in. Against that background the performance and sustained achievements of the SFD stand out.

Providing an overall conclusion on the impact of the work of such a large and comprehensive development organisation as the SFD over a multi-year period is no easy task. However, the evaluation team assessed that there was a need to elevate the conclusions from sector level to an overall level. The first thing any evaluator should ask is: what is the basis against which the assessment of impact can be made? If there is no clear baseline and if the objectives are not SMART,<sup>48</sup> then drawing an overall conclusion on the impact is a rather hazardous endeavour.

In the present evaluation, there was no comprehensive baseline against which the performance of SFD could be gauged. Moreover, the Results Framework proved difficult to report against as some performance indicators were not specific enough. Finally, the SFD Results Framework was not taken into account when the methodology for the survey was designed; it was only brought to the fore during the analysis and write-up phase of this evaluation. So our overall assessment of impact really cannot be based on the performance vis-à-vis the SFD Results Framework.

The present impact evaluation has assessed the impact of SFD's interventions in five of its main areas of activity: education, health, water, roads and microfinance. Together, these sectors make up about three-quarters of SFD's investments. We have analysed the net impact of SFD, using the robust double-difference method in all sectors except microfinance. The details are found in Chapter 5. On this basis, and also when seeing the results in relation to the SFD Results Framework, albeit with the caveats stated above, it is clear that SFD has delivered a strong impact in each of the five areas covered by this impact evaluation. While it is impossible to highlight some achievements over others given that different sectors face different challenges, the combined impacts in each of the areas leave us, the external impact evaluation team, with the impression that SFD has delivered a satisfactory impact overall.

It was found that it is not possible to determine assess the SFD's targeting performance. Therefore, it is recommended to re-define the targeting measurement by conducting a study that measures the actual performance of SFD targeting.

### 6.2 Specific Recommendations for SFD IV

This section provides general recommendations for SFD IV. It should be noted that sector specific recommendations are provided at the end of each of the sector sub-chapters in chapter 5.

The cost of the fourth phase of SFD is estimated to be more than a billion US Dollars, provided jointly by the Government of Yemen and the donor community. This signals a continued substantial resource commitment to the SFD and its performance should continue to reflect this. Three main recommendations for SFD IV were derived from the evaluation.

Firstly, SFD should in its fourth phase continuously improve targeting mechanisms by taking the lead in updating, developing and refining methodologies and procedures. Whilst the targeting methods are clearly well established at present, the SFD should use its substantive internal resources to further develop these, and pressure government and donor partners to provide updated census data and targeting methodologies. In sum, it should further develop its own capacities in this area.

Furthermore, it is recommended that SFD review the current poverty targeting results indicator,

---

<sup>48</sup> SMART stands for Specific, Measurable, Attainable, Relevant and Time-bound.

which states that 40% of SFD's resources should be spent on the poorest 30% of the households in Yemen. In this connection, it might be considered to change this to 60% of the resources targeted at the poorest 50% (or a similar broadening).

Secondly, the SFD should build capabilities to understand reasons for individual project type success, not just achievement of pre-determined objectives, as a first step to becoming a learning organisation. The first step here is a refinement of the intervention logic (results chain) for the sectors, but also a realisation that learning from failure is sometimes very productive.

Thirdly, it is necessary to consider certain institutional aspects for phase IV. The SFD is crucial in supporting dialogue and institutional development surrounding a number of development priorities within Yemen. It has notably contributed immensely to the decentralisation process and to the MoLA as a result of external support in doing so. The SFD's donors should support the linking of the SFD and line ministries and should recognise that ministries may require not only technical support (from the SFD) but also sufficient resources (at all levels) to implement SFD innovations which they hope to scale up and mainstream. Despite the need for greater SFD-ministry linkages, it will be integral to safeguard the population's perception of the SFD as a neutral service provider, a fact which has enabled it to access nearly all parts of the country. In brief, we argue that the SFD should fully exploit its comparative advantage in institutional development and capacity building of all levels of governance and government.

### **6.3 Recommendations for Future Impact Evaluations – Questions and Procedures**

This evaluation faced some challenges. We list them here in order that the experience may guide future impact evaluations of SFD:

- The concurrent implementation of the quantitative survey and the qualitative study was necessitated due to the tight calendar for the completion of the evaluation. Unfortunately, the consequence was that much qualitative data was collected unnecessarily. A better sequencing of data collection methodologies (i.e. implementing the qualitative study after the analysis of the quantitative survey data) would have allowed a better focus and hence relevance of the qualitative study.
- Comparison with the 2006 impact evaluation involves a certain risk since the focus of the present evaluation is on the net effect/impact that is attributable to the SFD. Hence, the results might seem relatively less impressive than they would have been if the yardstick of the 2006 impact evaluation had been applied.
- The relatively small sample for the qualitative data was fragmented, covering many sectors, project types, urban/rural and poor/non-poor respondents. This and other factors made it impossible to undertake statistical analysis, but the qualitative data still proved useful as a source of systematised stakeholder assessments.
- Translation of questionnaires and data outputs from English to Arabic involved inherent risks

The above challenges and experiences from this Impact Evaluation have led to the recommendations below on how future impact evaluations could be improved.

The results chain for all the sectors should be updated with the sector heads and relevant personnel to obtain a stronger reflection of the intervention logic and prioritisation of the most important indicators. In the quantitative analysis it was not always possible to report clearly on the results framework objectives, so an exercise to align these with the household questionnaire questions as well as the intervention logic of the programme would be valuable. For example, in the roads sector, the evaluation team judges that the results framework should define the intended benefits, just as it is done for the water sector. For health, the results framework should clarify that the target relates to individual level outcomes rather than institutional level outcomes as the currently terminology is ambiguous and could be to relate to either and these have distinctly different meanings. Moreover,

all the results ought to be clearly time-bound (i.e. with indications on when the targets are to be met).

Specific questions for individual sectors sometimes proved difficult. Questions for obtaining cost data for water projects could for example benefit from an additional pilot to ensure the questions are set up properly to cater for households using multiple water sources. For some sectors, survey instruments need to expand the number of recall questions asked of the pipeline group in order to expand the use of double difference analysis across from outcome indicators.

Controlling for a wide range of influences is important for all sectors and particularly for water. A future impact evaluation should assess whether measures of rain-fall can be obtained in order to better control for this important factor. For the present Impact Evaluation, externally sourced data was only available for seven different sites for a single point in time in Yemen, rendering this data unusable for analysis.

If advanced qualitative methodologies are to be used in future impact evaluations, where for example score ranking can be made on focus group statements, we recommend that time in country should be assigned to an international expert for training the local survey team on the qualitative methodology to be used. Moreover, due to the high variety of sectors and project types of the SFD, it is not possible to cover all and obtain representational sample sizes. Hard choices must be made from the outset of which specific sector and project type qualitative information is most needed for.

Finally, improvements ought to be made in the area of measuring SFD's programme efficiency. This could be done in the future by comparing SFD's unit costs with those of other suppliers of similar investments in Yemen (e.g. the Ministry of Education). Ideally, the assessment of programme efficiency should go beyond unit construction costs to include comparisons of the costs of achieving similar outcomes by SFD and other actors in Yemen.