

# Evaluation Report Supplementary Water Supply System, IFRC, Maldives

by

**Rajan Alexander**

Development Consultancy Group

43, Da Costa Layout, II Cross,

St. Mary's Town,

Bangalore 560 084

Tel: 0091-80-25479457

Mob: 0091-9341322307

e-mail: [devconsultgroup@yahoo.co.in](mailto:devconsultgroup@yahoo.co.in); [rajanalex@eth.net](mailto:rajanalex@eth.net);



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## List of Abbreviations

Australian Red Cross	ARC
Build, Operate, Transfer	BOT
International Federation of Red Cross & Red Crescent	IFRC
Government of Maldives	GoM
Maldives Water & Sanitation Authority	MWSA
Maldivian Red Crescent	MRC
Memorandum of Understanding	MoU
Ministry of Environment, Energy and Water	MEEW
National Recovery & Reconstruction Plan	NRRP
Participating National Society	PNS
Project Cycle Management	PCM
Project Monitoring & Evaluation	PM&E
Reverse Osmosis	RO
Supplementary Water Supply System	SWSS
Terms of Reference	ToR
United Nations	UN
United Nations Children's Fund	UNICEF
United States Dollar	USD
Water & Sanitation	WATSAN

## PREFACE & ACKNOWLEDGEMENTS

After the tsunami on the 26th December 2004, the government of Maldives (GoM) identified 46 islands in need of a supplementary water supply system (SWSS) through the provision of Sea Water, Desalination, Reverse Osmosis plants. IFRC agreed to support this project, to enable the selected communities to have access to safe drinking water at all times of the year.

With the two year project completion by the end of September 2007, an ex-post or summative external evaluation was commissioned by IFRC to process review the project design and implementation. The purpose was to create a strong institutional memory of the achievements, challenges and learning that have taken place in the design, implementation and management of the SWSS project. There were two factors that marked the uniqueness of SWSS. IFRC interventions are basically designed to be delivered through host national societies. Since Maldives did not have a Red Crescent Society with developed links to local communities the situation faced in Maldives Tsunami response was unprecedented. The second was related to the fact that IFRC's experience with large budgeted infrastructural projects was minimal. With the former expected to grow in share of IFRC's portfolio in the future, the learning from this evaluation assumed extra significance.

The evaluation methodology conformed to those outlined in the ToR, found as appendix to this report and this report finalized after incorporating the management's response of IFRC, Maldives Delegation. The responsibility for views expressed however rests exclusively with me. I have been careful in analysis, use of evidence and interpretations, making several revisions before finalizing this report. If despite this there are errors which inadvertently crept in, I request readers to overlook.

I like to thank IFRC, Maldives Delegation, particularly Donna Williams, Recovery Coordinator, for providing me the opportunity to lead this review. The cooperation extended to me at the level of IFRC's Central Secretariat, Regional office and Maldives Delegation was excellent, greatly simplifying my task through their extreme openness and incisive analysis of the project. A special word of thanks is expressed to Kathryn Clarkson, Watsan Coordinator and Melissa Baker, Watsan delegate, for painstakingly going through the draft report for factual errors and comments for improvement and also to Patrick D'Aoust, Regional Watsan Coordinator, and Mariam Asifa, Recovery Officer who comprise the internal team for accompanying me in the island visits.

I also like to thank Jane Edgar, ex official of IFRC's Maldives Delegation and now with UNICEF to making time to contribute to this evaluation study. Last but not least I like to thank members of the community of IFRC's targeted islands and officials of the Government of Maldives at the level of MEEW and local administration, both at the atoll and island levels for the cooperation extended to the evaluation study.

**Rajan Alexander**  
**Team Leader**

## Executive Summary

### 1.0. Appropriateness

#### 1.1. NEEDS

90 percent of Maldivian households living in the atolls were estimated to be dependent upon rainwater as the principal source of drinking water. Despite this, pre Tsunami data suggested that as much as 30% of the atoll population suffers from drinking water shortages. The project accordingly finds strong congruence with this long term development need.

The Tsunami affected 76 inhabited islands in the Maldives. The GoM through their National Recovery & Reconstruction Plan (NRRP) invited partnerships for the installation of RO plants in 46 of these islands. It was estimated that a total of 1,000 community rainwater tanks, 6,000 household rainwater tanks and 20,000 m<sup>3</sup> of rainwater supplies were lost<sup>1</sup>. The reality was that rainwater harvesting capacities were lost mostly in islands totally destroyed by the Tsunami. The 46 islands identified by GoM on the other hand were mostly those wherein the Tsunami's infrastructural damage to these islands was found minimal with little or no impact to the existing rainwater harvesting capacity of the island. Further, the NRRP through another program was seeking to expand rainwater harvesting capacities in these same islands which in the short-term reduces the need for RO water. Within this context, the project's appropriateness to meeting Tsunami specific recovery needs appears weak.

#### 1.2. ALIGNMENT WITH GOVERNMENT PLANS/POLICIES

The project finds strong concordance with the GoM's planning documents and policy of resettling smaller populated islands in "Focus Islands". Provision of emergency drinking water to populations living in the atoll is through barge mobile RO units that the GoM plans to replace through Sea-Water Reverse Osmosis (RO) systems as a long term strategy.

#### 1.3. KEY STRATEGIC AND OPERATIONAL PARTNERSHIPS

Since the MRC was non-existent, the project was unable to derive any significant strategic or operational partnership utility from the latter. This induced IFRC to adopt a partnership model which relied on the government perhaps more than they were normally accustomed to. MEEW is the relevant line Ministry under whose functional ambit SWSS falls under. MEEW and IFRC maintain a strong strategic and functional relationship. Being a new created Ministry, MEEW being hampered by lack of finance, infrastructure and staff capacity accordingly could not deliver on many of their assurances and commitments made under the MoU. To make up capacity deficiencies and shortfalls in MEEW's contractual obligations, IFRC was forced to expand its initial commitment on the software component to improve the sustainability of the project. However, these could not fully compensate the visible gaps in MEEW's expected inputs to the project, adversely affecting the sustainability of the project. There are indications that the situation is improving now. There are now budget lines within MEEW to

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<sup>1</sup> Maldives, Country Review Report On The Implementation Of The Brussels Program Of Action For LCDC, January 2006, Ministry Of Planning And National Development, Male', Republic Of Maldives

fund operator salaries, RO maintenance, consumables and advanced training of RO operators, though most of these are yet to be officially confirmed.

At the operational level, it is the atoll and island administration, particularly their respective chiefs, that holds the key to IFRC's partnership model. Relationships here too appear to be well developed and friendly. The weakest link of IFRC's partnership model is however the community since IFRC's strategies focused more on engaging local governments and their committees rather than engaging the community directly.

## 2.0. Effectiveness

### 2.1 How has the project met its objectives?

Expected result 1: Access to a safe supplementary water supply

Expected result 2: Development of the knowledge for operation and maintenance of supplementary water supply facilities and improved water resource and water quality management

Both stated objectives have been successfully met in all the 15 islands with RO units handed over.

Maintenance is however proving problematic. Operators have been found unable to undertake these repairs and are highly dependent upon the service contractors whose response time to attend to these complaints are far from satisfactory. MEEW attempted to outsource maintenance to the private sector but found bid rates exorbitantly high.

Capacity utilization rates are very low with the exception of a couple of islands. On one hand this may be because most are recent installations. On the other hand, RO water consumption (demand) is confined mainly during the non-rainy season. However, in situations of extreme rainfall scarcity, it is very likely that islands fall back on RO capacities for their consumption needs. Only one island succeeded in establishing a user payment system. 2-3 islands are exploring financial revenue-raising potential in supplying to government buildings (school, health post etc) and fisherman. However, the general attitude is one that treats communal water sources as free for all. The community are however willing to pay for piped water consumption if provided directly to their homes. IFRC's RO system cannot be upscale for this purpose Juxtaposed with the latter are limited resources and capacities of GoM and local (Atoll & Island) administration. Post-project sustainability accordingly emerges as a key problem area.

### 2.2 The strengths and weaknesses in design and implementation

The GoM while inviting relief agencies to partner in this intervention simply stated the expected output-desalination plants installed and operated – suggesting that the nature of partnership sought by GoM was in the nature of turnkey contractor-client relationship. The initial project design reflected such a partnership. The project was initiated without undertaking needs assessment, feasibility studies or inbuilt sustainability and exit plans into its initial design.

It was only during implementation when the issue of sustainability began to receive importance. How the IFRC's WATSAN team approached this challenge was to concentrate on elements that were within their control but basically tactical in nature – introducing innovative community communication programs, water management workshops, promoting operator networking and innovative ways to user payments, increased lobbying with government to increase sustainability of RO plants in islands etc. Despite this, sustainability continues to elude the project as a legacy of irresponsible entry – factors now basically outside IFRC's control and more strategic by nature.

### **2.3. What is the Quality of the Work Plans & Budgets?**

The prevailing tendency was to equate the challenges of project cycle management (PCM) to the task of managing contracts. Accordingly, while the quality of the work plans/monthly reports has been found adequate from the context of a contract management perspective, it nevertheless falls drastically short by PCM yardsticks

Significant in this shortfall was the inadequate attention placed on strategic analysis. Strategic deficiency was noticed by the failure to recognize the potential threat of rainwater harvesting expansion in islands to reduce RO demand (need) which in turn markedly reduces the sustainability of the project. Besides, the strategic question why multi-access community distribution systems are required if RO plants are only required mostly under emergency conditions apparently was not asked until construction reached the last cluster of islands. Internal documents at this stage indicated strong evidence of radical re-think within IFRC on this issue. Dropping of the distribution supply system in favor of a single point access would have enabled substantial cost savings.

IFRC on one hand initially over-estimated its own capacity to undertake implementation through higher participatory inputs by utilizing community labor and Maldivian contractors and on the other hand under-provided input requirements for software components required to ensure sustainability of the project. Community labor and Maldivian contractors were subsequently replaced by giving the contract to a Singapore based contractor. The software component of the project was continually strengthened during implementation. Both these re-designs led to significant inflation of initial estimates of cost of project/per island.

### **2.4. What alternatives to the project design have been considered?**

During the course of implementation, many modifications have been incorporated into the initial project design including downscaling coverage of islands. The experience from the pilot project at Thulusdhoo Island facilitated the re-design of many key elements of the technology package. During the course of implementation the project also strengthened and expanded the scope of the project's software components such as communication and community engagement. All such modifications, innovative as they may be, were carried out without attempting changes to the basic framework of the original project design as formulated by the government.

### 3.0 Efficiency

#### How have management, legal and financial arrangements been facilitated to meet the project objectives?

By resorting to secondments from PNS, the project appears to have produced efficiencies in PCM coordination particularly in relation with the Australian Red Cross who was funding the project. High staff attrition rates had somewhat an unsettling effect on program cycle management. Low capacities of local supervisory and field staff proved problematic in the initial stages. The project demonstrated capacities to adopt mid-course corrections to staffing management by introducing local resident field staff that generated cost savings and more effective community engagement and participation outcomes. However, this realization came too late being introduced only in the last cluster of islands. Initial design of the project made limited staff provisioning to the software component of the project. PCM functions could have immensely benefited if there were a full time project monitoring & evaluation delegate.

Though IFRC's legal procedures have been standardized over time, this did not stand to much advantage in the case of this project since infrastructural projects are not normally implemented by IFRC and as such these procedures and templates did not fully lend themselves to address the complexity and specificities accompanying infra-structural projects. This was despite IFRC having a Logistics Delegate in Maldives. As a result, inefficiencies crept in, that created a few unique legal challenges during the implementation phase. Though all these were amicably resolved, it took some toll on overall budgetary management of the project though in some cases it brought in some cost savings. IFRC is currently revising their legal procedures to make this more amenable to infrastructural projects. There appears to be differing views within IFRC on framing and managing contracts which has the potential of generating internal conflicts due to role overlaps between logistics legal and line functionaries. Accordingly, the revision of legal procedures now being undertaken by IFRC could consider taking within its ambit, a process study that seeks to redress this problem.

Total budget allocation for the project demonstrated huge variations at various time intervals that produced challenges to the project to synchronize PCM to available budgets. Current projections expect cost over-run within the range of 50-60,000 USD viz. within the range of + 2-3% variations, which has been approved by ARC. A closer scrutiny reveals that this was accomplished by reducing the coverage of islands from 20 to 15 and of beneficiaries from 50,000 to 33,000. In one of the last islands, instead of a standard plant house, only a temporary shed was provided to enable cost savings. In the last cluster of islands, the number of access taps was reduced further to enable cost savings.

### 4.0. Review

#### 4.1. Were the interventions appropriate for the relief and recovery phase of the operation?

In situations of extreme rainfall scarcity, it is very likely that islands fall back on RO capacities for their consumption needs. This was amply demonstrated in islands affected by wave surges in May 2007 where stored rainwater harvested capacity was quickly exhausted in a matter of days. Overall appropriateness suffered due to poor need-supply fits; expansion of rainwater harvesting capacities diminishing RO water


demand; inadequate capacities and resources of GoM and local administration to support ongoing system operation.

#### **4.2. Was there pressure to achieve project results quickly and if so did this affect the design phase of the project?**

Interviews with key IFRC personnel indicated that there was immense pressure to spend within the Red Cross & Red Crescent Movement with Participating National Societies emerging as the primary suspects. Indications of pressure to spend include submission of letter of intent without undertaking needs assessment or feasibility studies; execution of the purchase order for RO plant and commencement of the project even before the formal signing of the MoU. However, the most significant design limitation arising out of possible pressures to spend was that the recovery time line had been found primarily dictated by the funding cycle, imposing artificial timing constraints that limited the program's focus on establishing systems of sustainability.

#### **4.3. What roles could the MRC have played in the project?**

Host national societies – Red Cross or Red Crescent are the humanitarian auxiliary of the government and accordingly may not have made much difference to the project in terms of enhancing the appropriateness of the intervention itself. However, given that recovery time lines had been dictated by the funding cycle, the existence of MRC would have provided a phase over option, enhancing sustainability prospects of the project.



## 5.0. Key Lessons Learnt

5.1. Decisions to partner recovery interventions of governments should be carried out only after detailed needs assessment and feasibility studies to ensure tighter need–supply fits and alignment of interventions with local resources and capacities to manage the project post–exit. By the time recovery programs are initiated, detailed community need assessments should already be completed including assessments of capacities of government and civil society so that these findings mold project design during the response phase.

5.2. In relation to specific technological driven interventions like RO, their appropriateness should be determined by their comparative viability<sup>2</sup> offered to different technological options (e.g. groundwater treatment), contextual to the needs and capacities of local communities.

5.3. Sustainability strategies and exit plans should be in–built into the design of the project and their indicators tracked together with those of impact indicators. Rejection of project proposals not conforming to these serves as a counter–balance to donor pressures to spend.

5.4. While seeking alignment to government plans and policies, governments may have their own agendas, either overt or hidden, within the design of interventions that maybe in marked variance with IFRC’s own objectives and principles making it imperative for IFRC to engage governments in negotiations to reduce such variations before deciding to partner these programs.

5.5. While assessing needs, it is important to appreciate that needs of communities are dynamic to changes, influenced by other elements within the external environment. E.g. expansion of rainwater harvesting capacities in islands bring about supply changes that is likely to mitigate, if not, eliminate their drinking water problems.

5.6. Recovery time lines primarily dictated by the funding cycle impose artificial timing constraints that limited the program’s focus on establishing systems of sustainability.

5.7. In projects like RO, it maybe worthwhile to explore the possibility of undertaking a pilot project as a prelude to making a more detailed commitment to host governments. This would facilitate as an early exit strategy if the pilot proves the project non–viable or enable lessons learnt to appropriately modify initial strategies and project design.

5.8. Technological projects like RO, if they are to be based on community driven strategies need to be complemented with adequate provision of software components as an integral facet of the project design. This includes staff provisioning for community organization, participation and capacity building expertise.

5.9. There appears to be differing views within IFRC on framing and managing contracts which has the potential of generating internal conflicts due to role overlaps between logistics, legal and line

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<sup>2</sup> The combined adequacy of the strategy, institutional capacity and other input resources in meeting the stated goals and targets realistically.

functionaries. Accordingly, the revision of legal procedures now being undertaken by IFRC could consider taking within its ambit, a process study that seeks to redress this problem.

## Findings

### 1.0 Appropriateness

1.1 Was the project in line with local needs both at the outset during the design phase and did it respond to needs that changed during implementation?

#### 1.1.1. Long Term Development Needs

With widespread pollution of groundwater sources, as much as 90 percent of Maldivian households living in the atolls were estimated to be dependent upon rainwater as the principal source of drinking water. Despite this, pre Tsunami data suggested that as much as 30% of the atoll population to be suffering from acute drinking water shortages. Partly this was attributed to rainwater harvesting household storage capacities being limited and partly because “many islands do not receive adequate rainfall throughout the entire year to ensure continuous supply of safe drinking water”.<sup>3</sup> The project accordingly finds strong congruence with this long term development need.

#### 1.1.2. Tsunami Specific Recovery Needs

Various international damage assessment studies indicated that the Tsunami accentuated the drinking water problem in the atolls. “Due to the tsunami disaster of 2004, it was estimated that a total of 1,000 community rainwater tanks, 6,000 household rainwater tanks and 20,000 m<sup>3</sup> of rainwater supplies were lost”.<sup>4</sup> “According to the UN, 90 percent of toilets were lost on some islands. The tsunami wave contaminated the ground water with salt and waste from septic tanks and into the freshwater lens on many islands. Freshwater was forced up and out of some wells, whilst others were inundated with flood water”<sup>5</sup>

The Tsunami affected 76 inhabited islands in the Maldives. The GoM through their National Recovery & Reconstruction Plan (NRRP) invited partnerships for the installation of (RO) plants in 46 of these islands. The reality was that rainwater harvesting capacities were lost mostly in islands totally destroyed by the Tsunami and which needed to be completely rebuilt. The 46 islands identified by GoM on the other hand were those wherein the Tsunami’s infrastructural damage to these islands was found minimal with little or no impact to the existing rainwater harvesting capacity of the island. Further, the GoM through another program was seeking to expand rainwater harvesting capacities in these same islands which in the short-term reduces the need for RO water. High incidences of water borne and skin diseases are normally associated with populations depending on unsafe and polluted drinking water sources so much so their reduction is invariably attributed as outcome/impact of WATSAN projects. In contrast, implementation feedback from community engagement and surveys by

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<sup>3</sup> Sustainable water supply solutions for tsunami affected small islands, Republic of Maldives, Kathryn Clarkson and Jane Edgar

<sup>4</sup> Maldives, Country Review Report On The Implementation Of The Brussels Programme Of Action For Ldcs, January 2006, Ministry Of Planning And National Development, Male’, Republic Of Maldives

<sup>5</sup> 30% of Atoll Population Report Water Shortage: UN, Minivan News, September 14, 2005

IFRC indicated low incidence of water borne and skin diseases in the islands, suggesting in turn that drinking water problems in these islands maybe overstated by the government.

Accordingly, within the context of a Tsunami specific recovery intervention, the project may not be fully in line with local needs. Since the MoU signed with the GoM was on a project framework to install RO plants on islands, alternative solutions such as groundwater treatment could not be explored.

## **1.2 How were the appropriate strategic and operational partnerships developed and maintained during the project?**

IFRC interventions are basically designed to be delivered through host national societies. Since Maldives did not have a Red Crescent Society with developed links to local communities the situation faced in Maldives Tsunami response was unprecedented. The project was unable to derive any significant strategic or operational partnership utility from the latter. This induced IFRC to adopt a partnership model which relied on the government perhaps more than they were normally accustomed to. Soon after the Tsunami, the GoM setup the National Disaster Management Center, which included all line ministries, donors, media etc. that facilitated as the coordinating agency during the Tsunami's relief phase. This was where the seeds of forging coordination with the government were first sewn. IFRC during this emergency phase provided drinking water assistance through its mobile Reverse Osmosis units to Madifushi and R. Meedhoo Islands.

The GoM soon published a National Recovery & Reconstruction Plan (NRRP) which invited partnerships for installing 46 Sea Water Desalination, Reverse Osmosis plants across 17 Atolls. IFRC immediately submitted a letter of intent to the Maldives Water & Sanitation Authority (MWSA) for installing and commissioning 20 desalination plants. Project implementation of a pilot project at island Thulusdhoo followed a few months later. An attempt to forge an IFRC-GoM SWSS MoU was initiated as early as July 2005 though it was only signed by December 2006. Subsequent re-structuring of GoM's ministries has apparently been a principal cause for this undue delay. A new Ministry called the Ministry of Environment, Energy and Water, (MEEW) was created by the merging of other Ministries and departments within Ministries such as the MWSA. While the latter kept its functions as the licensing authority for new ROs, MEEW now became the relevant line Ministry within whose functional ambit SWSS fell under. However, protocol dictated that the Finance and Treasury Ministry act as the formal signatory to the MoU on behalf of GoM. The finalization of the MoU therefore involved a complicated and lengthy three way communication process that accounted for much of the delay in signing the MoU.

The delay in signing MoU however proved beneficial to IFRC in many ways. During implementation it was recognized that there was "limited island capacity to support SWSS (financial, technical, and managerial)"<sup>6</sup>. Much of the burden to fostering the latter capacity had to lie with the GoM. Consequently the initial MoU was revised to incorporate many clauses designed to enhance sustainability such as those related to water quality, maintenance of the system etc. However, MEEW is hampered by lack of finance, infrastructure and staff capacity. Rapid expansion of rainwater harvesting capacities in the atolls in the meanwhile led drinking water to ceasing to occupy the top rung of GoM's list of priorities. MEEW and IFRC very quickly developed a strong strategic and functional relationship. Due to these internal constraints faced by

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<sup>6</sup> IFRC, WATSAN Poster, Project Information, Installation of SWSS

MEEW, the latter is not often able to act as speedily or pervasively influence policies and implementation related to SWSS as much as it likes too. To make up capacity deficiency and shortfalls in MEEW's contractual obligations, IFRC was forced to expand its initial commitment on the software component to improve the sustainability of the project. However, these could not fully compensate the visible gaps in MEEW's expected inputs to the project, adversely affecting the sustainability of the project.

MEEW nevertheless facilitated the process of obtaining all appropriate clearances and planning permissions, including obtaining information detailing underground services and accordingly this strategic alliance with MEEW has been invaluable to IFRC to successfully meet its core contractual obligations with the GoM. There are now tentative indications that this effort is beginning to bear fruits. There is now a budget line within MEEW to fund operator salaries which enabled 5 islands with RO plants installed by IFRC to take advantage of. Budget lines are also believed to have been created by MEEW to fund RO maintenance, supply of consumables and advanced training of RO operators, though these are all yet to be officially confirmed. On the other hand, IFRC's efforts to engage MSWA on policy initiatives on maintenance of water quality on the islands and formulation of a National Water Management Strategy have not been fruitful.

Another key partnership, which is both strategic and functional, is with SWSS's donor, the Australian Red Cross (ARC). IFRC feels that one of the advantages of maintaining a small delegation in Maldives is that it furthers good coordination between IFRC and partner national societies such as ARC which extends from planning to implementation. An innovative way of ensuring this integration is through staff of ARC being seconded as WATSAN delegates to IFRC and having their salaries paid by ARC. In the Maldives, the GoM complain that they are often confused over the multiplicity of Participating National Societies (PNS) who adopt differing standards<sup>7</sup>. This partnership model between IFRC and ARC is exemplary to the extent it reduces this confusion and enhances coordination with the Red Cross-Red Crescent Movement.

From a project implementation context, a strategic partnership was forged by IFRC with the Singapore headquartered contractor, Aqua Tech Pvt. Ltd. The selection of the contractor had been through an open bid process that was finalized through complying with IFRC's standard procedures. Despite time delays, logistic lapses and minor technical glitches, all ROs have been installed and mostly operational. IFRC appears to be overall satisfied with Aqua Tech's deliverable quality.

At the operational level, it is the atoll and island administration, particularly their respective chiefs, that holds the key to IFRC's partnership model. Relationships here appear to be well developed and friendly. The weakest link of IFRC's partnership model is however the community. GoM cautioned that "the political changes and move from centralization towards greater democracy at a community level need to be handled sensitively and cautiously. Interventions such as community consultation must be used carefully and in full discussion with the government." Implicitly, the GoM's directive meant that both strategically and operationally that consultations and engagement with the community had to be mainly through the Atoll or Island Offices or its committees while avoiding direct community mobilization and engagement. The Atoll and Island Chiefs are nominated positions by the GoM. The Island Development Committee members are constituted of a mix of nominated and elected representatives of the community and collectively lack a fully participatory or representative character. Nevertheless, in practice, IFRC were of the

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<sup>7</sup> IFRC: Maldives Country Strategy

opinion that these constraints did not come in the way of restricting their access and engagement with the community viz. All consultations were driven by IFRC, community meetings were always open, local government authorities did not stand in the way of their direct interaction with the community.

### 1.3 Is the project in line with government strategy?

The project finds strong concordance with both the GoM's National Recovery & Reconstruction Plan (Feb 2005) and Draft Seven Five Year Plan documents. Both were produced by the Ministry of Planning wherein the underlying strategy advocated the use of Sea-Water Reverse Osmosis systems to all the islands as a long term strategy. The Draft Seven Five Year Plan document observed "extreme dispersal of the population combined with slow and inconvenient sea transportation ..... makes the provision of basic infrastructure and delivery of social services very expensive. It is believed that the cost of providing and maintaining socio-economic services in the Maldives is often 4-5 times higher than in other island states". During times of extreme drinking water shortages, the GoM operates barges providing RO water to islands seeking assistance. GoM is extremely conscious that these barges are virtually oil guzzlers in a country where oil as a commodity accounts for more than half of the country's entire import bill. Moreover these barges are old and needing urgent replacement - most needing major repairs. Post Tsunami, the GoM used a boat fleet equipped with mobile RO units donated by UNICEF to substitute these barges, though transportation costs accompanying delivery remained equally high, as admitted by the GoM.

The strategies of the GoM accordingly appeared to be focused on either reducing or totally eliminating the dependence on these barges/boats and in instead geared to promote increased self-sufficiency of islands with respect to all public utilities, particularly their drinking water capacities. The choice of desalination appeared to be guided by the logic that it overcomes the paradox faced by coastal communities, that of having access to a practically inexhaustible supply of saline water but having no way to use it. The project also finds strong concordance with the GoM's aim to resettle populations in "Focus Islands" by providing incentives to people to move out of islands that have populations fewer than 1000. RO seems in line with the development of Focus Islands whose existing drinking water capacities require quantum leaps in expansion if their installed capacity is not exceeded in the event of escalating demands imposed by population growth. This is notwithstanding the contradiction that included in the list of GoM's list of 46 priority islands singled out for RO assistance were those who were apparently candidates for relocation, having population sizes below 1, 000.

## 2.0. Effectiveness

### 2.1 How has the project met its objectives?

RO plants were to be established in 15 islands with the following two stated objectives:

**Expected result 1:** Access to a safe supplementary water supply

**Expected result 2:** Development of the knowledge for operation and maintenance of supplementary water supply facilities and improved water resource and water quality management

Both stated objectives have been successfully met in all the 15 islands<sup>8</sup> with all RO units handed over to the community. In the 4 sample islands visited during the study, the evaluation team had satisfied itself of the following:

- a. In each island, an adequate pool of operators has been trained and are confident of operating the system on their own
- b. The Atoll and Island Government authorities and the island community are aware that they now enjoy enhanced drinking water security through a more diversified system
- c. In the dry season, rather than resorting to use of polluted groundwater supply and/or requisitioning government RO barges to supplement their community rainwater harvesting tanks, these islands have been using RO water to tide over their drinking water shortages

Though all units are operationally new, maintenance problems, mostly minor, have already raised their ugly heads in all the 3 ROs inspected. Operators have been found unable to undertake these repairs and are highly dependent upon the service contractors whose response time to attend to these complaints are far from satisfactory. The feasibility of outsourcing this function to the private sector, now mainly servicing the RO plants in the tourist islands, was apparently explored by UNICEF and GoM. A tender released brought disappointing results as the analysis of bids revealed that they were exorbitantly high. According to UNICEF sources, a re-tender is in the offing with an expectation that this will generate more reasonable financial bids. MEEW seem committed to offering technical support to the islands and to utilize/hire the technicians that they normally use for technical support.<sup>9</sup>

Capacity utilization rates are found to be extremely low in all islands visited though in 1–2 other islands, not visited by the evaluation team, are reportedly running the unit as long as 3–5 hours per day. On the basis of 3 islands visited, on an average, utilization rates were around 2.8% of the annual rated capacity of the plant. Since unit cost of production is a variable function of capacity utilization, it remains very high. In the case of Thulusdhoo Island, local government authorities claimed<sup>10</sup> that unit cost per liter production was 5 times more than the estimates of IFRC provided to the community through their information campaign.

High unit cost of production acts as a restraining influence on any effort to stimulate increased RO consumption (demand). However, in situations of extreme rainfall scarcity, it is very likely that islands fall back on RO capacities for their consumption needs. This was amply demonstrated in islands affected by wave surges in May 2007 where stored rainwater harvested capacity was quickly exhausted in a matter of days. The exemptions are islands like Thulusdhoo who have access to cheaper sources of alternative drinking supply including alternative (barge) RO supplies being closely located to Male. Here, the RO plant

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<sup>8</sup> Only in one island, the RO plant remains non-operational, the membrane being deliberately damaged by the community.

<sup>9</sup> Verbally expressed by the executive director of the projects office MEEW who will be responsible for the SWSS programme

<sup>10</sup> The evaluation team has not been able to establish the veracity of this claim through examination of documentation. Since Thulusdhoo Island had been the last island visited by the evaluation, it was not possible to cross-verify this claim in other islands.

provided by the project is treated as an additionally bureaucratic burden on the Island Office, and of little utility to the community.

The project does not so much facilitate a supplementary water supply in the context of enabling greater diversity to existing drinking water supply systems of islands but instead, due to its intermittent utility the project acts more as a safety net in times of emergencies. Financial sustainability remains a pressing problem in all the islands visited. The GoM supporting salaries of one operator in each island is a small but important step to mitigate the sustainability of the project. Two main obstacles to attaining sustainability are briefly discussed below:

a. Though in Maduvvari Island, the woman's development committee has taken steps to charge for water drawn from community pipe stands this applies only during the dry season, where water supply is limited to only 2 hour per days. The potentiality to upscale this model to meet demands of more regular and continuous RO supply is low. Nevertheless, Maduvvari Island remains a case highlighting a community's willingness to pay for their water usage. The Water Management Committee in this island had been enterprising enough to enter an agreement with the island's power plant to supply water for their construction program. They along with a couple of other islands are also exploring financial revenue-raising potential in supplying to government buildings (school, health post etc) and fisherman. In all other islands, communities are not prepared to pay for their consumption from community water supplies. The general attitude is one that treats communal water sources as free for all.<sup>11</sup>

b. The feeling within humanitarian agencies is that currently drinking water is not considered a priority issue by the GoM. If true, this may be an indication that through their Tsunami recovery plans, the GoM may have already succeeded in their objective of expanding rainwater harvesting capacities on all the islands which in turn could generate effects of substantially reducing the drinking water problems in the islands. This in turn could generate effects that lead to reduced demand for RO water in Maldives as a whole though it ironically comes at the same time when GoM is expanding the RO water capacity on the islands. The prospect of islands with RO installed capacity selling to other islanders, without this facility accordingly would be greatly diminished.

## 2.2 The strengths and weaknesses in design and implementation

### 2.2.1 Background

The project was basically identified by the GoM who published this as part of the National Recovery & Reconstruction Plan. Accordingly, both the islands vulnerable to drinking water supply and the solution (RO) were finalized by the GoM. The GoM then invited relief agencies to partner in this intervention. The expected output was simply stated as – desalination plants installed and operated – suggesting that the nature of partnership sought by GoM was in the nature of turnkey or Build, Operate, Transfer (BOT) contractor–client relationship.

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<sup>11</sup> Water from community tanks, ground water, mosque wells are free for all, including those drawn by islanders. In Maduvvari, there are indications that this might be changing as the local mosque has now started charging for water drawn from its well.

The National Recovery & Reconstruction Plan similarly also invited partnerships for supplying and installing rainwater harvesting kits to 68 islands across 17 atolls.

### **2.2.2. Evaluation of Project Design**

Good project cycle management practice recommends that need assessments precede and condition project design. However, no need assessment study was carried out by IFRC. Similarly, no feasibility study was carried out to establish the appropriateness of RO as a technological solution including its technological viability to the targeted islands. Logistic considerations meanwhile demanded that the purchase order be immediately finalized to ensure more reliable delivery scheduling and costs projections. The design phase did not include the formulation of a detailed sustainability strategy and exit plan for the project<sup>12</sup>. IFRC's project proposal to ARC constituted only budget lines. A pilot project phase was in-built into the design, not to ascertain the overall feasibility of the project but more intended to provide feedback on appropriate technological designing such as distribution systems, plant house and also gain a better insight into cost structures. Thus the whole project design process is consistent to treating the proposed intervention as a mere turnkey contract. Yet, from the yardstick of the two stated objectives of the project, the process undertaken by IFRC for designing the project was successful in meeting its expected stated outcomes as earlier elaborated under item 2.1.

### **2.2.3. Evaluation of the Implementation Phase**

Implementation of the first cluster of islands generated warning signals that not only the islands identified by the government may not be drinking water deficient but also the expected technical and financial contractual obligations of the GoM may not be readily forthcoming, casting doubts on the whole sustainability of the project. Meanwhile IFRC came out with a Regional Strategy revision document that gave more emphasis on sustainability which it defined as "The ability of a development initiative to continue delivering on its goals and objectives without continued donor or partner input other than maintaining links to respond to changes outside the control of the program".<sup>13</sup> In simple terms, rather than a turnkey contract, the project was now being pressured to show more evidence of being implemented as a development initiative!

How the IFRC's WATSAN team approached this challenge was to conscientiously concentrate on elements that were within their control but basically tactical in nature – introducing innovative community communication programs, water management workshops, promoting operator networking and innovative ways to user payments, increased lobbying with government to increase sustainability of RO plants in islands etc. Despite this, sustainability continues to elude the project as a legacy of irresponsible entry (as elaborated under item 1.1) – factors now basically outside IFRC's control and more strategic by nature.

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<sup>12</sup> The project proposal prepared by the Australian Red Cross apparently contained outlines of sustainability and exit strategies. Since a copy of this proposal could not be retrieved for verification by the evaluation team, the adequacy of such detailing cannot be commented upon. However, during the evaluation, a detailed exit strategy was found still in the process of finalization.

<sup>13</sup> Responding to the Asia earthquake and tsunamis, Regional strategy 2, 2006–2010

For example in Thulusdhoo Island where cheaper alternative RO supplies by barges were available, community participation could not be unleashed for want of real need for the project. Even in the case where real needs had existed, the expansion of rainwater harvesting capacities in all the islands had a depressing effect on demand for RO water, limiting its sustainability at least during the short term. Ironically, the relative success of one program of IFRC's WATSAN department (viz. rainwater harvesting) was taking a toll on the sustainability of another program (viz. RO). Consequences of ignoring comprehensive need assessments and feasibility studies were now being felt.

### 2.3. What is the Quality of the Work Plans & Budgets?

The prevailing tendency was to equate the challenges of project cycle management (PCM) to the task of managing contracts. Accordingly, while the quality of the work plans/monthly reports has been found adequate from the context of a contract management perspective, it nevertheless falls drastically short by PCM yardsticks as exemplified by the following:

- Recovery time lines had been found primarily dictated by the funding cycle, imposing artificial timing constraints that limited the program's focus on establishing systems of sustainability. No where in the work plans had this issue been discussed in depth or considered significant enough for time lines to be re-negotiated with the donor.
- Rather than an exit strategy being in-built into the project design, the former was found to be still being formulated weeks before the phase-out viz. not part of the Monitoring and Evaluation Planning Matrix from the outset..
- An impact assessment study is planned during March 2008 though project impact indicators are neither defined or being tracked by the project's Monitoring and Evaluation Planning Matrix. Accordingly, exit strategies and timelines are being formulated without finding concordance with impact indicator, monitored progressions.

Significant in this shortfall was the inadequate attention placed on strategic analysis. An apt example of strategic deficiency was the failure to recognize the potential threat of rainwater harvesting expansion in islands to reduce RO demand (need) which in turn markedly reduces the sustainability of the project. Since the National Recovery & Reconstruction Plan of GoM was concurrently promoting expansion of both rainwater harvesting and RO capacities in the islands, the failure to recognize their strategic inter-links could be considered as major oversight from a PCM perspective. This is notwithstanding the possibility that the expanded rainwater harvesting capacity in islands may still not ensure adequate supply to fully tide over dry seasons.

Another example of strategic oversight was that while IFRC's communication literature promoted RO water as an useful option only under emergency (dry season/droughts) conditions, the distribution system of community taps designed to provide equal access as demanded by GoM was still persisted with as an integral project component. The strategic question why such a distribution system is required if RO plants are only required under emergency conditions apparently was not asked until construction reached the last cluster of islands, where internal documents indicated strong evidence of radical re-think within IFRC on this issue. Rainwater harvesting community storage tanks, used under emergency conditions in the islands are devoid of such a distribution system and instead delivered through single point access.

Accordingly, dropping of the distribution supply system in favor of a single point access would have enabled substantial cost savings.

IFRC on one hand initially over-estimated its own capacity to undertake implementation through higher participatory inputs by utilizing community labor and Maldivian contractors and on the other hand underestimated costs of software components required to ensure sustainability of the project. Community labor and Maldivian contractors were subsequently replaced by giving the contract to a Singapore based contractor. The software component of the project was continually strengthened during implementation. Both these re-designs led to significant inflation of initial estimates of cost of project/per island. However, overall cost over-run is expected to be contained within the range of USD 50–60,000 primarily attained by reducing the scope of the project and number of beneficiaries reached.

#### **2.4. What alternatives to the project design have been considered?**

During the course of implementation, many modifications have been incorporated into the initial project design including downscaling coverage of islands. The experience from the pilot project at Thulusdhoo Island facilitated the re-design of many key elements of the technology package. During the course of implementation the project also strengthened and expanded the scope of the project's software components such as communication and community engagement. All such modifications, innovative as they may be, were carried out without attempting changes to the basic framework of the original project design as formulated by the government.

As elaborated under item 2.2 of this report, these efforts to project design changes were mainly tactical (within the control of IFRC) rather than strategic (less in control of IFRC as the project framework was basically formulated by the government). Consequently, within the context of the final outcome of the project, all these modifications may not significantly impact the eventual sustainability of the project unless until the GoM were to finalize a national strategy for water supply and work plan for island support.

IFRC and UNICEF together have taken the construction responsibility of over 75% of GoM's planned target of equipping 46 islands with RO plants. Collectively, a window of opportunity was lost by not using this leverage to collectively engage the government to re-assess their framework plan from the context of improving the sustainability of RO systems.

Even if the basic framework of the project design could not be changed, IFRC could have attempted to offer a distribution system that combines community and home access that would have enhanced the sustainability prospects of the project. Nevertheless exercising this option comes at the cost of scaling back coverage of islands even further, which may not be a bad thing all together. Implementation experience indicated that even reduced coverage targets exceeded IFRC's organizational capacity as reflected in cost and time over-runs as elaborated under item 3.0. However, here again the strategic leverage to pursue this option was limited as it came into way of IFRC's mandate that restricted provision of drinking water supplies only in times of need. The interpretation of IFRC's mandate needs to be broadened so as to effectively avail the opportunity of a recovery intervention to reduce the long term vulnerability of communities which it targets.

## 3.0 Efficiency

### 3.1 How have management, legal and financial arrangements been facilitated to meet the project objectives?

#### 3.1.1 Management

The WATSAN management positions are secondments from Australian and New Zealand PNS. The Australian Red Cross is incidentally also the donor of this project. This arrangement appears to be working well and provides room for greater efficiencies by eliminating the necessity of having frequent communications, meetings and visits between IFRC and the PNS in respect to coordination of various project cycle management activities. However, in the span of 24 months, high staff attrition rates had somewhat had an unsettling effect on program cycle management. In practical terms, it meant that different individuals had overseen the responsibility for the startup, implementation and exit phases of the project which may not be too conducive for generating work flow efficiencies or consistencies in programmatic thinking.

Meanwhile, low capacities of local supervisory and field staff proved problematic in the initial stages that led to high staff turnover though this situation stabilized later on to support the project effectively. The capacity of the project to change course or readjust the original plans is amply demonstrated by its decision to introduce local resident field supervisors. This led to improved monitoring and implementation besides contributing to reducing travel costs and generating more effective community engagement and participation outcomes. Nevertheless, the realization came a shade late, although a step was introduced when implementing the last seven islands.

Overall, initial staff provisioning in the project proposal did not factor in the expansion of software components carried out in later stages of implementation. The latter had the effect of escalating budget provisioning. Effective Project Cycle Management (PCM) was severely constrained by the absence of a project monitoring & evaluation delegate. A lot of information and data were being generated but very little was processed that enabled better actionable decision making. The provision of an M&E delegate should have been in-built into a country office level, at the very least.

#### 3.1.2. Legal

Though IFRC's legal procedures have been standardized over time, this did not stand much to advantage in the case of the project since infrastructural projects are not normally implemented by IFRC and as such these procedures and templates did not fully lend themselves to address the complexity and specificities accompanying infra-structural projects.

Accordingly, drafting issues of contracts generated some challenging legal problems, until the tsunami, unaccustomed by IFRC. For example, the decision to scale down the scope of the project demanded that the initial purchase order (PO) for 20 RO units now required to be reduced to 15. The contractor claimed

that contract clauses disallowed such scaling down of purchase commitments and demanded penal compensation. The PO was found to be drafted too rigidly which didn't allow for changes in scope, so IFRC had no choice but to buy out units. The problem took almost one year to be resolved amicably. However, IFRC in the end had to pay for all the 20 RO units, though 4 of these were delivered unassembled to be used as extra spare parts. One RO plant was donated to Komandoo Island, in agreement with the community for facilitating two Water Management Workshops, where an RO reticulation system had been operation since 2004 - entirely initiated and run by the community. The moot question is whether the remaining 4 RO units are more effectively to be used as spare parts or could be more effectively gifted to the government of Maldives for use in any other island where they deem appropriate?

Another major legal problem related to the Framework Distribution contract. The Logistic Department of IFRC wanted POs issued only on firm measurements while the project was able to provide firm measurements only on completion of work. An impasse resulted, causing time delays to framing the contract.. The problem was traced to the reason that normally before a PO is released, the services of a consulting engineer is retained to conduct design specifications including material measurements on the basis of which a PO is drafted. The contractor then went ahead with implementation on the basis of the design. In the specific case of Maldives, WATSAN staff took on the roles of consultants, estimating quantity of materials, and often initiating design changes during the course of construction.

The result was that this system according the Regional Legal Delegate did not permit either firm measurements or permit IFRC to penalize contractors for any time over runs because the process adopted in many occasions meant that time over runs were caused by the WATSAN team themselves. However, in the opinion of the Watsan Coordinator in Maldives, "The main issue here with the Framework Agreement was that it was too weak and ambiguous. With regards to the materials ordering, and meeting construction time frames, the way it was structured was so that the PO had to be issued before the quantities of materials could be determined." Ultimately, the impasse was broken when the WATSAN team negotiated an arrangement with the contractor to release the PO only at the time of completion of the contract, permitting firm measurements, though this caused cash flow problems to the contractor.

While contracts are usually drafted by Legal Delegates in Geneva or Regional offices, POs are usually drafted by Logistic staff in the Maldives. In this case, the framework agreement so drafted was recommended by Logistics Dept, which was also cross-checked with the Tsunami Legal Delegate at the time of drafting. According to the Regional Legal Delegate what was noticed were inconsistencies creeping in between the contract and PO drafts that weakened IFRC's options to seek legal recourse in executing penalty clauses in case of time overruns or failure to adhere to agreed quality standards. The Watsan Coordinator, Maldives had a different point of view. "Such an opinion is slightly misplaced. It was because the PO stated a 6 week period to finalize construction, but this could only be issued at a late stage and therefore the contractor had plenty of time to meet the construction timeline. There was no connection between islands that would penalize the contractor for delay. This also worked to our advantage in the end as we wanted to slow the project down at different times with the contractor in order to add in software components"

With infrastructural projects increasing their share in the implementation portfolio of IFRC, legal procedures and processes are being reviewed to align them to meet complexity and specificities accompanying infra-structural projects. There appears to be differing views within IFRC on framing and managing contracts which has the potential of generating internal conflicts due to role overlaps between logistics, legal and line functionaries. Accordingly, the revision of legal procedures now being undertaken by IFRC could consider taking within its ambit, a process study that seeks to redress this problem.

### **3.1.3. Financial**

Initially, the British Red Cross (BRC) was identified as the potential donor for the project as indicated in the Letter of Intent to the GoM. However, BRC dropped out and the Australian Red Cross (ARC) stepped into its place. The letter of intent only committed USD 1,000,000 viz. costs of the RO plants and their installation but excluded costs related to the distribution system. By the time, ARC stepped in, total budget including costs of distribution were estimated to be around USD 2,400,000. Current projections expect cost over-run within the range of 50–60,000 USD viz. within the range of + 2–3% variations, which has been approved by ARC. The Maldives Finance Delegate feels that overall the project adhered to the budget with the range of permissible variations. A closer scrutiny reveals that this was accomplished by reducing the coverage of islands from 20 to 15 and of beneficiaries from 50,000 to 33,000.

Excluded from costs of the project were salaries and related expenses of international delegates seconded by PNS such as the Australian Red Cross or New Zealand Red Cross. Yet, average cost per island went up considerably from initial projections indicating that the project proved more capital intensive than initially envisaged.

### **3.2. What factors would have contributed towards greater efficiency in achieving objectives?**

Greater application of strategic thinking would have ensured greater efficiencies in objectives of sustainability.

In terms of project cycle management, the absence of need assessment and feasibility studies emerge as the most significant factors that would have contributed towards generating greater efficiency in achieving the objectives. This would have not only ensured better need–supply fits but also improved community participation and ownership of the project which in turn could improve sustainability prospects of the project. In addition it would have enabled cost savings and avoidance of time over runs.

Field officers either selected from the community or locals based in targeted islands would have improved awareness and participation levels.

18–24 months project cycle in projects like RO is not conducive for fulfilling participation and sustainability objectives. Longer cycles of at least 3–5 years are required.

Provision of a Monitoring & Evaluation Delegate and PM&E support staff could have brought about greater efficiencies in project cycle management.

Legal procedures being available that lends themselves to the complexities and specificities of the infrastructural sector.

## 4.0. Review

### 4.1. Are there lessons about how we move from response to recovery work?

The transition from response to recovery work involves changing to higher gears. By the time recovery programs are initiated, detailed community need assessments should already be completed including assessments of capacities of government and civil society so that these findings mold project design during the response phase.

Expected outcomes of recovery projects should at least lay the foundation for sustainable development. All recovery proposals should have clearly in-built exit and sustainability plans.

The appraisal process of recovery project proposals should be made more stringent within IFRC to avoid donor driven interventions.

While seeking alignment to government plans and policies, it is imperative to appreciate that governments may have their own agendas, either overt or hidden, within the design of interventions that maybe in variance with IFRC's own objectives and principles. In such instances, it is recommended that IFRC engage governments first in negotiations to reduce such variations before deciding to partner these programs.

### 4.2. Were the interventions appropriate for the relief and recovery phase of the operation?

Mobile ROs were found appropriate as the program targeted Internally Displaced People (IDP) camps during the immediate aftermath of the Tsunami disaster.

The appropriateness of the recovery operations is reflected in situations of extreme rainfall scarcity, it is very likely that islands fall back on RO capacities for their consumption needs. This was amply demonstrated in islands affected by wave surges in May 2007 where stored rainwater harvested capacity was quickly exhausted in a matter of days. However, the following factors reduced its overall appropriateness:

- Environmental impact & socio-economic need assessments including in-depth hydro-geological investigations were not undertaken prior to program development which could in turn have established RO's comparative viability with other alternatives, such as groundwater treatment
- Over-estimation of capacities and resources of GoM and local administration to support ongoing system operation (technical, managerial, financial)
- Initial project design did not adequately provide for inputs related to community empowerment, mobilization, organization and awareness building

- The strategic inter-links between GoM's rainwater harvesting and RO capacity expansion plans in islands and its short-term consequences on the demand for RO water were not comprehended

#### **4.3. Was there pressure to achieve project results quickly and if so did this affect the design phase of the project?**

No documentary evidence was come across during the evaluation study that indicated that there was undue pressure to achieve project results quickly. However interviews with key IFRC personnel indicated that there was immense pressure to spend without specifying the actual sources where this was emanating.

In the Maldives there was no intense competition between different sets of relief players as their numbers were very small. Accordingly, these pressures appear to be generated within the Red Cross & Red Crescent Movement with Participating National Societies as the primary suspects. IFRC providing a letter of intent to the GoM within days the National Recovery & Reconstruction Plan was published without carrying out detailed need and feasibility studies; commencement of the project including executing the purchase order for RO plant even before the formal signing of the MoU maybe all indicative of pressures to spend and achieve results quickly. However, the most significant design limitation arising pressures to spend was that the recovery time line had been found primarily dictated by the funding cycle, imposing artificial timing constraints that limited the program's focus on establishing systems of sustainability.

#### **4.4. What roles could the Maldivian Red Crescent (MRC) have played in the project?**

Typically, IFRC is accustomed to work through host national societies. Accordingly, where national host societies existed, IFRC's interaction with the government was always indirect as national host societies were expected to mainly shoulder this responsibility of direct partnership and engagement with local governments. Consequently, skills pertaining to the latter can be assumed as not being within the core competence of IFRC. However, the absence of MRC implied that despite this limitation, IFRC was forced to assume these responsibilities. Inexperience led IFRC to initial demonstrate a blanket faith in governmental assurances and commitments which when not fully forthcoming during implementation led to feelings of being let down by the government. Within this context, would the existence of MRC have made a difference? Host national societies – Red Cross or Red Crescent are in effect the humanitarian auxiliary of the government and accordingly may not have made much difference to the project in terms of enhancing the appropriateness of the intervention itself.

However, given that recovery time lines had been dictated by the funding cycle, imposing artificial timing constraints that limited the program's focus on establishing systems of sustainability, the existence of MRC would have provided a phase over option. Phase over refers to the transfer of responsibility for activities aimed at accomplishing program goals (current activities, or other activities aimed at achieving the same outcomes) to another entity. In this instance, the phase over option involves the transfer of responsibility for achieving program outcomes to MRC viz. the existence of MRC would have given IFRC's exit strategy greater teeth.

The question what role MRC could have played is a hypothetical issue. In context to project design, the absence of MRC has to be considered as one of the operational constraints within which an IFRC intervention had to be planned. It created a situation wherein IFRC in Maldives needed to find an alternative strategic and operational partnership model to effectively deliver their program interventions that factored in the absence of a local host society. . It is perhaps the failure to find an alternative strategic and operational partnership model, which induced IFRC to adopt a partnership model which relied on the government perhaps more than they were normally accustomed to.

## APPENDIX 1

### Terms of Reference

#### Review and Evaluation of Supplementary Water Supply System (SWSS)

#### IFRC – Maldives

### Background

The primary source of drinking water for the people in the Maldives is rainwater. All islands in the Maldives rely on a regular rainwater supply to provide an adequate supply of drinking water. Many islands, however, do not receive adequate rainfall throughout the entire year in order for them to have enough drinking water to sustain them throughout the dry season (typically January–April). In addition to this, many island communities currently do not have adequate storage capacity for their drinking water supply.

After the tsunami on the 26th December 2004, the government of Maldives (GoM) identified 46 islands in need of a supplementary water supply system (SWSS). The GoM requested that the supplementary water supply systems were provided in the form of reverse osmosis (desalination) treated water, distributed to community taps located throughout the island, with particular attention given to equitable access. The International Federation agreed to support this project, to enable the selected communities to have access to safe drinking water at all times of the year.

The International Federation originally intended to implement the supplementary water supply programme on 20 selected islands (as allocated by GoM) but this number was later reduced to 15 islands. The project will improve the access to safe drinking water for an estimated 24000 beneficiaries. Implementation on the pilot island of (K. Thulusdhoo) began in July 2005, where a contractor was engaged to supply and install the reverse osmosis unit. The construction of the plant house utilised community labour and local Maldivian contractors. Based on the outcomes of the pilot island programme, the programme was redesigned to include installation of a plant house, distribution system and associated infrastructure in addition to the reverse osmosis unit to make up the supplementary water supply system. A contractor was engaged to undertake all these works on the remaining 14 islands in January 2006.

There are two phases to reviewing the SWSS project. A review of project design and implementation will take place in August 2007. This will be followed by an impact and sustainability assessment in March 2008.

### Purpose

To create strong institutional memory of the achievements, challenges and learning that have taken place in the design, implementation and management of the SWSS project and to assess the impact and sustainability of the project.

### Phase 1 Review

## Objectives

- To provide a brief assessment of the progress of the program against programmatic and strategic indicators
- To identify key success factors contributing to the success of the project

## Focus

### Appropriateness

- Was the project in line with local needs both at the outset during the design phase and did it respond to needs that changed during implementation?
- How were the appropriate strategic and operational partnerships developed and maintained during the project?
- Is the project in line with government strategy?

### Effectiveness

- How has the project met its objectives?
- The strengths and weaknesses in design and implementation
- What is the quality of project work plans and budgets?
- How developed and functional are partnerships with key stakeholders?
- What alternatives to the project design have been considered?

### Efficiency

- How have management, legal and financial arrangements been facilitated to meet the project objectives?
- How did the resources (human and financial), allocated to the project enable the expected outcomes to be achieved?
- What factors would have contributed towards greater efficiency in achieving objectives?

### Review Themes

- Are there lessons about how we move from response to recovery work?
- Were the interventions appropriate for the relief and recovery phase of the operation?
- Was there pressure to achieve project results quickly and if so did this affect the design phase of the project?
- What roles could the Maldivian Red Crescent have played in the project?

### Methodology

- Interviews with key informants including:

- IFRC Secretariat Watsan Coordinator
- Tsunami Watsan Coordinator
- IFRC Maldives Head of Delegation
- IFRC Legal Delegate
- IFRC Finance, Admin and Logistics Team
- Watsan Delegate
- Watsan Coordinator
- Program staff
- Finance, Administration and Logistics Teams
- Water Committee members
- Beneficiaries and/or potential beneficiaries
- Government and community partners and stakeholders
- UNICEF
- Review of key documents and records

### **Outputs**

- An evaluation report of no more than 12 pages including an executive summary. The review team should produce the report in the format provided. See appendix 1.
- A Divehi translation of the report's executive summary that can be shared with communities and the government, (responsibility of IFRC Secretariat).
- A one hour to two feedback session outlining the review findings and proposed recommendations with key International Federation Secretariat stakeholders.
- A management response with arrangements for implementing and monitoring the response, (responsibility of IFRC Secretariat Watsan Team).
- A full copy of the report will be available to everyone interviewed

### **Timeframe**

- The review should take place in between mid-August and the end of September 2007