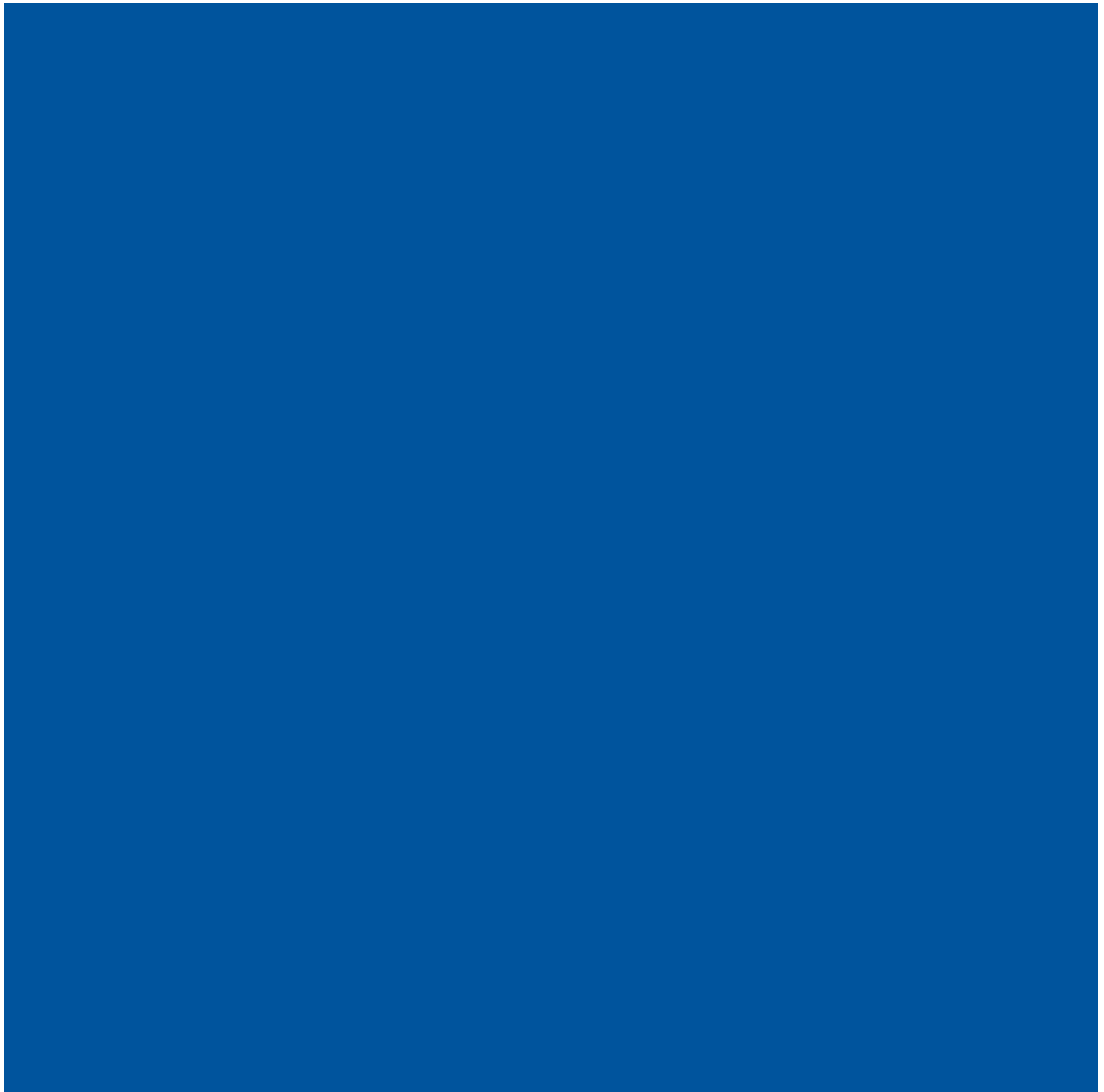


Experience from planning
and implementation

Emergency Road Rehabilitation Project in Nicaragua



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Preface

Hurricane Mitch struck Central America in late October 1998. More than 10 000 people were killed, more than 2 million were made homeless and formidable destruction was inflicted on infrastructure, agriculture and economic life.

The reaction from the world was prompt and generous. A donor conference was held in Washington in December 1998, followed by another conference in Stockholm in May 1999. Sweden pledged to support reconstruction with 1400 mSEK. A total sum of 700 mSEK was allocated to repair of roads and bridges in Nicaragua (200 mSEK for road works) and Honduras (500 mSEK for bridge reconstruction). In Honduras, construction works were initiated in 1999 and were successfully completed within time and budgetary limits in September 2001.

In Nicaragua, construction works were also initiated in 1999 but soon encountered time delays, technical problems and eventually cooperation problems that brought the project to a stand-still. The works contract was re-negotiated. The initial Sida contribution of 200 mSEK had to be increased by approximately 150 mSEK. On the positive side, this allowed a slightly higher technical standard and an extended defaults liability period. Works were completed and a well functioning road was handed over in March 2003.

In order to document experience and to draw conclusions for future projects Sida decided to commission an external consultant to review the planning and implementation of the infrastructure interventions, particularly with reference to the problems in Nicaragua.

It is in the hope that lessons will be learnt from the Mitch interventions that Sida now publishes the report by the consultant Ingvar Spanne Konsult AB. The opinions and conclusions stated in this report are those of the author. Sida does not necessarily share or support them.

August 2008



Anders Hagwall
Ag. Director, Department for
Infrastructure and Economic Cooperation

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Executive Summary

Background

Sweden reacted very promptly and decisively to the needs for reconstruction in Central America that followed the destruction caused by the Hurricane Mitch in October 1998. Infrastructure became one central area for the support and already in November two parallel projects for Honduras (Bridges) and Nicaragua (Roads) respectively were identified. It was from the start a basic condition that the Swedish resource base should be given a chance to demonstrate Swedish quality and competence in the projects. The budget for Nicaragua was 200 MSEK and for Honduras 500 MSEK. The urgency and the policy to use the Swedish resource base were important conditions that limited the available alternatives when Sida was setting up the project and acquired the necessary resources.

Responsibility and funds were quickly delegated to INEC/INFRA and the projects were organised according to the state of the art and normal Sida practice for similar projects. The procurement methods used were competitive procurement between pre selected Swedish consultants and single source procurement with selected contractors for Honduras and Nicaragua respectively. The contracts were in accordance with FIDIC and the selected Consultant in Nicaragua was a joint venture between Hifab and Kjessler & Mannerstråle (KM). The cooperation partners were deliberately given limited roles due to the urgency and the fact that Sida had very little previous experience from them.

During 1999 the projects were specified and construction was procured according to the time schedule. The selected Contractor for Nicaragua was NCC. The project in Honduras with SWECO and Skanska was implemented without major problems while the project in Nicaragua soon encountered time delays, cooperation problems and technical problems that escalated. The Engineer and his Representative on site (ER) and the Contractor were in dispute over claims and the road turned out to have serious damages. In mid 2002 the situation in Nicaragua was untenable in spite of efforts by Sida to solve the situation amicably.

Finally the contract with Hifab/KM was terminated and the contract with NCC was renegotiated. The Consultant was thus relieved from his duties and the construction contract was transferred into a turn key, lump sum contract with the guarantee period extended to three years. The works were thereafter completed with acceptable quality. The project budget, which had already been increased with additional consulting

costs, had to be boosted by some 155 MSEK to cover the extra costs included in the new contract. Some 100 MSEK were related to the implementation problems and the rest mostly to currency exchange rate fluctuations. The total costs for Nicaragua ended just over 400 MSEK, an increase by 100% compared with the original budget.

For the purpose of internal learning Sida has decided to undertake an evaluation, foremost of the Nicaragua project, based on a number of concrete questions pertaining various aspects of the decision criteria and procedure, the organisation and cooperation, the procurement process and lessons for the future. The evaluation has been undertaken by Ingvar Spanne Konsult AB as a desk study in March to May 2007.

Conclusions

Generally it can be concluded that the failure in Nicaragua did not depend on one single factor but on an aggregation of shortcomings and risks that were tolerable in themselves. When these factors combined the untenable situation developed.

Documentation of any decision to exclusively use the Swedish resource base has not been found in the Sida files but this direction has guided and influenced the project from the start. Other decisions have been taken in accordance with the Sida routines, often based on data and proposals from the Sida Technical Advisors Rolf Flogfält (RF) and Charlie Eriksson (CE). The guiding principles for the Swedish Mitch support, that were proposed by Sida and decided by the Government, were only partly applied. The intention was to achieve a fast and efficient project implementation in the existing situation and the general principles were only considered partly applicable for infrastructure.

The organisational and contractual set up was in principle made in line with normal Sida and construction business praxis taking into account the given limitation to the Swedish resource base. The result was, however, a rather complex structure with built in conflicts of interest. The application of the model with a limited role for the responsible recipient ministries forced Sida into an unusually wide and active role when problems arose in Nicaragua. An unfortunate combination of individuals and events successively created a deadlock situation, which could not, in spite of energetic efforts, be resolved amicably.

The procurement situation was complex with few eligible companies, which resulted in problems to create real competition. For the construction contracts single source procurement was used. In the procurement for the Nicaragua intervention it was difficult to establish a relevant price level, possibly resulting in a strained financial situation for the Contractor. Design and supervision was procured through competitive procurement with pre selected tenderers on a very limited market, thus limiting the possibilities to scrutinize the winning Consultants ability to live up to the role of the Engineer.

Recommendations

In order to be prepared for similar interventions in the future Sida is recommended to analyse alternative organisational and contractual arrangements that can be used in various similar scenarios. When a new situation arises it is as important to analyse the project organisation and the risks thoroughly before decisions are taken.

Sida is recommended to limit its role to that of the financier. Strategies to handle problem situations should be included in the project set up. The cooperating partner should be involved as early and much as possi-

ble and be given ample support. Decentralising authority and resources to Embassies should be considered at least for the construction stage.

Fédération Internationale des Ingénieurs-Conseils (FIDIC) today recommend: Avoid pure price negotiation or cost based selection unless the projects are small, simple and well defined. Sida thus is recommended to familiarise with and consider modern approaches to procurement such as Partnering, which is a method that is getting more and more used in Sweden and internationally with a view to achieve cooperative, efficient and commercial performance in projects. The applicability of this method in emergency situations in developing countries needs to be assessed and, if feasible, preparations made.

Background

General

The Hurricane Mitch and the following deep tropical depression with massive rainfall wreaked havoc on Central America in late October 1998. More than 10 000 people were killed, more than 2 million were made homeless and formidable destruction was inflicted on infrastructure, agriculture and economic life.

The Swedish response was prompt and energetic and also involved considerable financial resources. In mid November Sida's Director-General (DG) made a field visit and a team from INEC/INFRA visited both Honduras and Nicaragua in a mission in November. During this early stage a concept for the support for both countries was drawn up and informally agreed. This concept had a few main features:

- Support to reconstruction of major objects in transport infrastructure (roads and bridges);
- Urgent implementation;
- Use of the Swedish resource base to demonstrate Swedish competence;
- Limited role for the cooperation partner (partly a consequence of the previous principles)

Due to very swift action from INFRA the agreed support concept was transformed into a project proposal which was successively specified and decided with the following important milestones:

- Sida letter to the Swedish Government 1998-12-16 which was confirmed 1999-01-28 including project proposals and seven guiding principles (See page 6)
- Decision by Sida DG 1999-02-02 on single source procurement of Swedish Contractors for Honduras and Nicaragua respectively
- Assessment Memo for Nicaragua discussed in an informal meeting in the Sida Project Committee 1999-03-11
- Delegation of Authorities and responsibilities to use the allocated funds for Mitch reconstruction to INEC 1999-03-16
- Specific Agreement with Nicaragua 1999-04-16
- Decision on procurement of Hifab/KM as Consultant for Nicaragua and SWECO for Honduras 1999-04-19 after selective competitive bidding.

During this initial stage a number of fundamental decisions regarding the projects were taken. Thus it was decided to use the FIDIC format for the contracts and to use English as the contract language.

Resources were soon built up both at Sida in Stockholm and at the Embassies. From the very beginning Sida had used two independent consultants as Technical Advisors and their assignments were extended. The Cooperating Partners Ministerio de Transporte e Infraestructura, División General de Planificación (MTI) and Secretaria de Obras Publicas, Transporte y Vivienda (SOPTRAVI) in Honduras, respectively, were deliberately given limited roles and Sida entered as a contract partner with the consultants Hifab/KM for Nicaragua and SWECO for Honduras.

Nicaragua

During the second half of 1999 Sida allocated funds and supported MTI with the services of Hifab/KM for emergency repair works by local contractors of the Yalaguina– Las Manos Road which was selected for Swedish support in order to keep the road open until the reconstruction started.

Regarding the reconstruction of the road Hifab/KM developed Specifications and Tender Documents for the construction contract and NCC submitted their offer on 1999-09-15. The offer was some 50% higher than the Consultant's estimate. NCC was given a possibility to clarify and adjust their offer and submitted a new one where almost half of the gap had been eliminated. After some more limited adjustments it was confirmed through further investigations into the market prices by Hifab/KM that the price level now was acceptable. In order to contain the project in the budget additional financing was planned to be sought by MTI from the Nordic Development Fund (NDF).

In December 1999 the Construction Contract was signed between MTI and NCC. The negotiations had been undertaken by Hifab on behalf of MTI and in consultation with Sida.

When the construction phase started in 2000 the project organisation was basically arranged as shown in Appendix 2.

Initially the main concerns were the processing of the NDF credit, which was slow, and mine clearance which was the responsibility of MTI. However, in the Review Meeting (RM) in May 2000 MTI expressed concern regarding the work intensity of NCC. In July the ER was taken ill probably as a result of his working situation. In the September RM MTI expressed concern both regarding the resources of Hifab/KM on site and the progress of the NCC works but in general the situation was still reviewed as being acceptable by Sida and MTI.

In October 2000 a new ER was assigned to represent the Engineer on site and he took a strict position with reference to FIDIC and the Employer's interests and for instance rejected the claims that were submitted by NCC. The relations on site deteriorated successively and the progress of the works was also insufficient. Problems on site were not resolved and Sida, despite ambitions not to get involved, was referred to by both sides and meetings were held both in Nicaragua and Stockholm. The purpose of these meetings was to give the parties opportunities to resolve their common problems but with no results.

In mid 2001 problems with the asphalt pavement occurred and the consultant and the contractor blamed each other. Sida decided to finance an independent expert who submitted his report in January 2002. The report mentioned a number of causes to the problem but it was not decisive regarding the responsibility, although a considerable part of it was

placed on the Consultant. The reason why this situation could emerge at all is that, as in this kind of projects, the two parties were involved in different activities and roles in the process from specifications to a completed road including design, defining recipes, selection of material, supervision, test methods and equipment, testing and construction.

The parties were unable to find constructive solutions and the situation in the project entered into a limbo with continuing conflicts on site and in April 2002 Sida requested both sides to replace their site representatives. However, even after this measure the situation did not change because the conflict was now also between the head offices. Sida then decided to terminate the contract with the consultant and to support MTI to renegotiate the contract with NCC into a turn key lump sum contract with the guarantee period extended from one to three years. SWECO was hired in a monitoring role... The works were then terminated with a delay and to a considerable extra cost but with acceptable quality.

Honduras

Skanska was contracted for the Bridge construction in a similar way as NCC in Nicaragua. In Honduras SOPTRAVI had a limited role and SWECO designed and supervised the works as the Engineer. The only difference in the setup was that for Honduras a Dispute Adjudication Board was established, but never needed. The project in Honduras was successfully implemented according to schedule and below budget with only “normal” problems that were resolved in cooperation between the Consultant and the Contractor.

This Evaluation

After finalisation of all activities regarding the Mitch reconstruction project Sida has decided to make an evaluation of the infrastructure interventions, mainly related to the problems in Nicaragua, with the purpose to gain experience and draw conclusions for future projects. INEC/INFRA has contracted Ingvar Spanne Konsult AB to conduct a desk study including interviews with available key persons.

The ToR includes a number of specific questions which are discussed in the following chapters with main focus on Nicaragua and references to Honduras when relevant.

Questions & Answers

Decision Criteria and Procedure

- How and on which grounds were the projects selected and defined in relation to the guiding principles for the Swedish reconstruction support?

The projects were selected and defined very early in the process. In a letter to the Foreign minister dated 1998-11-10 the Swedish Ambassador in Nicaragua mentioned transport infrastructure as a possible area for Swedish support. The INFRA mission in mid November was instructed to look for large projects and did identify the main highway to Honduras as a prime object together with two bridges in Nicaragua and 14 bridges in Honduras. The objective was to support international transport and trade in the region and a number of other alternatives were also considered. The concept was discussed and seemingly agreed on the 17th of November when the INFRA group met with the Sida Director General, the Ambassador in Managua and the Head of RELA during the mission to Nicaragua and Honduras.

The proposed guiding principles for the Swedish support were presented together with comprehensive project proposals in a Sida letter to the government dated 1998-12-16 and the proposals were accepted and incorporated in a Government Decision dated 1999-01-28 where 1.4 billion SEK was allocated and the following principles established:

1. Long term, a comprehensive approach with the target group in focus;
2. Awareness of societal processes and the risks of conflict;
3. Planned with the need for prevention incorporated;
4. The use of instruments and channels that are already known;
5. No walls between “disaster relief” and other forms of development co-operation;
6. A decentralised working mode adapted to the actual country;
7. Use opportunities for re-thinking, reconsideration and innovation.

It appears as the project in fact was defined before the guiding principles were formulated and no active discussion regarding the guiding principles versus the proposed projects has been possible to trace. Principle 5 was however applied when Sida decided to finance emergency repair work with local contractors in order to keep the road open until the permanent works could start. The decentralised working mode was difficult

to apply due to limited resources in the field and little knowledge of local resources as will be discussed later in this report.

In the report, dated 1998-12-18, by the Sida Consultant Charlie Eriksson (CE) the Yalaguina – Los Manos rehabilitation project was identified and recommended for Swedish support. The road project was on the priority list of the Ministerio de Transporte e Infraestructura, División General de Planificación (MTI) and was described in a project file from MTI at a cost of 23.3 MUS\$. As part of the identification process consultations were held with the Danish Embassy, MTI, BID and the World Bank.

The project was at that point of time envisaged for financing by The Banco Interamericano de Desarrollo (BID) but the bank was willing to withdraw in case Sweden selected to finance the planned scheme. ToR:s for design studies for the roads was already prepared. It was mentioned that the selected road is one of the most important ones in the country carrying a large portion of the country's imports and exports. The project was also considered to contribute to socio-economic development of about 40 000 inhabitants in the area.

In the Assessment Memo dated 1999-03-16 the Government decision was referred to and the first guiding principle to keep long term holistic perspective was mentioned. It was however also stated in the memo that this particular contribution was of a pure disaster type with no institutional aspects or other long term components thus not following that principle.

Conclusion: The projects/interventions were selected early in the process and infrastructure was a very evident area suitable for large projects and with effects on economic development. The particular projects were also considered suitable to demonstrate Swedish quality and competence. There was no documented deep analysis of alternatives.

The projects were not formally assessed against the guiding principles. In the Assessment Memo, however, it was motivated why the first principle was not followed.

- How, when and on what grounds was the decision to tie the contributions to Swedish actors taken?

It appears to have been an understanding very early in the project that it should be executed by Swedish actors. This understanding was based on discussions with the Foreign Ministry to keep a high Swedish profile. In the above mentioned meeting in Managua the Sida DG discussed procurement strategies apparently assuming that the principal suppliers were intended to be Swedish. It has also been mentioned that the project should serve as a demonstration of Swedish quality and competence.

In the first half of November 1998 the Sida Consultants started to assess the Swedish market regarding suitable consultants and contractors and contacts were taken with some of them in mid November by INFRA.

In the December 18 Report, CE recommended the use of Swedish consultants and contractors based on the following:

- The complexity and importance of the project
- The urgency of having the road restored in the shortest possible time
- Despite the urgency, the road shall be constructed at a high quality
- Limited knowledge of the local Consultants and Contractors resources quality and organisational strengths

The situation on the Swedish market was analysed by the Sida Technical Advisor Rolf Flogfält (RF) in two reports dated 1998-11-16 and 1998-12-23, where he recommended selected suppliers and procurement methods. The intention to use the Swedish resource base for complex and urgent infrastructure, where competition can be established, was mentioned in the Letter to the Government of 1998-12-16.

The recommendations by the Consultants were followed and in a decision dated 1999-02-02 the Sida DG decided to apply negotiated procurement of the contractors with NCC selected for Nicaragua and Skanska for Honduras, while the consultants were procured by competitive bidding among pre-selected Swedish firms.

Conclusion: The factual decision was evidently taken very early and on a high level, based on informal agreement with the Ministry of Foreign Affairs, while the formal decisions were taken on appropriate levels and times in Sida. The basic intention was to have a high Swedish profile in the region and to create business opportunities for Swedish companies but also to work with well known resources.

- How and on what grounds was the decision to have a Sida project organisation with strong centralisation to Stockholm taken, particularly in relation to the Guiding principles?

The decision to use the Swedish resource base and the limited relevant resources in the Embassies made it natural and even necessary to concentrate work to Stockholm. This applies particularly to the project preparation and design phases which ended with the signing of the contract with NCC in December 1999.

It was judged by Sida that MTI and SOPTRAVI had limited resources and other projects to handle and also constituted a risk for corruption. Thus it was decided to limit their role as much as possible and consequently Sida entered as a Contract Party in the contract for consultancy services with Hifab/KM, which included both design and supervision of construction. This setup has been used before by Sida but is not in line with current Sida procedures, where the Cooperation Partner normally is given a more active role. In an informal Sida meeting with the Project Committee it was concluded that the strong Swedish project management was a consequence of the urgency.

Formally INEC was given mandate to implement the support in successive decisions.

In a PM dated 1998-11-12 RF recommended Sida to mobilise staff that should elaborate action plans, procurement strategies, time schedules, and cost estimates.

This idea was developed and the participants in the mission to Nicaragua in mid November 1998 soon constituted such a group (2 Sida officers and 2 consultants). In a decision 1999-03-12 The INEC/INFRA Project Manager was given increased financial mandate in his role as project leader. In February 18 man extra months for administration of Mitch contributions during 1999–2000 were allocated to INFRA. The project group was later reinforced with a Spanish speaking assistant.

The Embassies were strengthened with extra positions in April 1999 to cope with their role to support the responsible divisions in Stockholm. INEC also contracted a consultant to support locally from Managua in the start up phase (6 months). Although the other programmes in the Mitch support were delegated, the Embassies were not equipped to be responsible for the infrastructure projects since they lacked the technical

competence and previous experience from the sector. This view was shared by the ambassador in Nicaragua.

The mode of work was basically the normal setup for infrastructure projects in Sida with extra resources. The major exception was the consultancy contract where Sida was the contract party but that model had been used previously by Sida. The principle of “A decentralised working mode adapted to the actual country” was not applied since both MTI and the Embassies were not considered to have sufficient competence and resources.

The additional positions had Work Descriptions while those on ordinary positions did not have specific written instructions.

The INEC/INFRA project manager and project assistant were moved to other assignments and replaced in December 1999.

During the implementation stage Sida was more involved than in other similar projects. All formal authorities were in Stockholm and the field staff had only liaison and reporting duties. Signs of problems in the project turned up rather early with the NCC delay and claims and the collapse of the first ER and subsequent personality clashes.

In March 2000 MTI informed Sida that they had not received a copy of the contract with Hifab/KM and in September MTI warned that Hifab/KM had insufficient field supervision resources.

Conclusion: For the project preparation stage there was no realistic option to the centralised solution and when the structure was established there was no discussion to change it. The Guiding Principle “A decentralised working mode adapted to the actual country” was thus not applied.

Organisation

- Could the project work have been decentralised to the embassies in Tegucigalpa and Managua and which reinforcement would that have required?

The Embassies had no capacity or competence for projects of this magnitude and complexity. Even the resources in INEC/INFRA were strained by the fast and massive effort that had to be put in with extremely short notice. The delegation of the projects to the Embassies would have meant that new units would have had to be set up, which would certainly have taken time and caused delays and disturbances for instance at project transfer from HQ. Furthermore two organisations would have had to be set up in parallel thus creating less efficient work and coordination problems.

The use of Swedish Consultants and Contractors is another factor that supports the judgement that in the existing context the project work could not have been decentralised to the embassies at least not during the project preparation phase.

The intention was that the consultant Hifab/KM during the implementation phase should as “the Engineer” supervise the works on behalf of MTI and theoretically the projects could have been transferred. The situation now was however that Sida had been quite deeply involved in the project so far not least through the monitoring consultants while MTI had for different reasons not been very active.

A more decentralised solution could have been to delegate the financier's role to the Embassies and to give MTI a more active role when the construction contract was signed. This strategy should then have been adopted earlier in the project and preparatory measures taken. Such measures should have included to involve MTI more actively in the prep-

arations in Stockholm and to plan to post the original project group at the Embassies during implementation. This would also during the construction phase have required support to MTI with competent project management consultants. The embassies would have needed extra programme officers and support from INFRA and possibly access to Technical Advisors for complicated issues.

Conclusion: During the project preparation stage it was not feasible to decentralise project work to the embassies but it might have been so during the implementation stage with early preparations, staff continuity, reinforcements to the Embassies and support to MTI.

- What significance had the choice of English as the project language? The choice to use English as the project language was made very early and can partly be seen as a consequence of the decision to use Swedish resources and to handle the project from Stockholm. The knowledge of Spanish was poor in INFRA, Hifab/KM and NCC. Since INFRA had limited knowledge of local conditions and Sida wanted to limit the role of MTI the English version of the established contract system FIDIC was selected.

MTI were not able to communicate in English and were thus alienated from the project management and their role became more to be a “project host”. This was a loss of competence and commitment that was taken with open eyes and possibly necessary during the preparation and design stages.

During the implementation it meant that the project became Swedish dominated with the Swedish actors in a very complex structure.

Conclusion: The choice of the English language was a necessary consequence of the decision to use Swedish resources but it alienated the Co-operation Partner MIT from the project.

- Considering Sida’s established presence in Central America, the language problem, and the great distance to Sweden, how should Sida’s project organisation have been set up in order to be able to handle current project monitoring as well as possible crises situations quickly smoothly and costs efficiently.

As has been indicated above, the organisational structure for the project preparation and design phases was efficient and the implementation was launched on time. Maybe the only thing that was not analysed and planned was the centralised Sida organisation and it was apparently assumed that the same structure was the best also for the construction stage, even if this was not in line with the principle of a decentralised working mode. However, the action was now moved from Sweden to Nicaragua and things started to happen not only on paper but also on the ground.

In retrospect it might have been advantageous to prepare for a different mode of implementation during the project preparations. Possibly MTI could have had specialists in Sweden to follow the design and procurement work. The Consultant Contract might have been prepared to be handed over to MIT when construction supervision started. The INFRA team members could have been requested to be prepared to be posted in the field rather than being assigned to other foreign positions. An outline of such an organisation for Nicaragua is enclosed. Appendix 2.

This solution could for Nicaragua have contributed to a closer monitoring of the project from a more local and beneficiary point of view. The warning signals might have come earlier and been more precise. Many of the problems were of a relational character which is difficult to solve from a distance. MIT brought up several problems at an early stage in Review Meetings with Sida while the Steering Committee Site Meetings with MTI, Hifab/KM and NCC were described as “not so useful” by the Sida representative in Tegucigalpa.

Road Construction is in a way a local business since the materials to a large extent are produced on site and have specific characteristics that differ with the locations. Thus an involvement of MIT early in the process might have prevented some of the quality problems.

Conclusion: For the construction stage it might, with appropriate early preparations and reinforcements, have been feasible and even advantageous to delegate responsibility for the contributions to the embassies.

Procurement

- Assess from internal documents the commerciality of division of the consultancy assignments for Honduras and Nicaragua to SWECO and Hifab/KM respectively.

In the Memo from 1998 by RF the Swedish consultants were assessed and three were recommended as qualified namely: SWECO, KM and Scandiaconsult. Hifab is also mentioned but only for Construction Supervision. Important criteria were; wide foreign experience preferably from the area and including roads, strong home office and familiarity with FIDIC.

By the end of February 1999 tender invitations, in accordance with LOU, for both the Honduras and Nicaragua projects were issued to Hifab International AB (in association with KM International AB), SWECO International and Scandiaconsult. The two former submitted tenders and after Sida Standard Tender Evaluation procedures by the INEC team of six persons Hifab/KM was recommended for the project in Nicaragua while in a similar evaluation SWECO was recommended for Honduras.

In the Nicaragua evaluation Hifab/KM had a very narrow edge in all the three technical sub segments design, construction supervision and in the financial proposal. They had however a very low score for knowledge in Spanish.

Hifab/KM was requested to clarify their supervision organisation which was apparently small compared to their Honduras proposal. The clarification was not very convincing but was accepted.

Like in all similar assessments many evaluation criteria are assessed and the evaluation protocols fulfil all formal requirements.

According to FIDIC the Consultant was going to be entrusted, as the Engineer, to represent the interests of the Employer, which gives the money invested in the Engineer a high leverage on the outcome of the total project budget. By choosing competitive procurement Sida decreased their possibility to have a dialogue in order to secure that the consultant was, in all relevant aspects, solid enough for such a confidence. Regarding Hifab/KM there were some doubts and a clarification was requested regarding the Consultants ability for the supervision work. A rather vague response was received but the procurement method did not, together with the urgency, allow a deeper analyses and the contract was

thus concluded. Hifab/KM did defend some of their shortcomings later with references to the limited budget for home office support.

The real options to choose in a competition between two Swedish consultants for two assignments of this character can be questioned. The consultants had to present two parallel teams thus straining their resources considerably and the result in practice was anyway to distribute the assignments between the two available bidders...

In retrospect the business model of Hifab/KM to put together an organisation from different companies turned out not to be stable enough during the construction stage when the role of KM faded. There did not appear to be enough bond, structure and methods for such a difficult project. Still Hifab had a number of relevant references.

With several partners, a strained budget and problems in the project, the incentives might not have been sufficient to mobilise the major effort that was needed in this case. Even after exchange of key persons the policy of Hifab/KM remained the same.

Conclusion: The method of procurement was formally correct but the factual result was that the jobs were divided between the two interested consultants. Given the difficult circumstances and the Engineers key role in the project it might have been more efficient and suitable to use negotiated single source procurement to create a better platform for implementation.

- Regarding the contractors SKANSKA and NCC clarify and comment:
 - On what grounds the specific assignments were given to each contractor,

Both Skanska and NCC were in a Memo by RF dated 1998-12-23 considered to fulfil basic requirements regarding size, organisation, foreign experiences and networks, Spanish speaking employees and familiarity with international conditions of Contract (FIDIC) and norms. The third mayor company Peab was not considered to fulfil the requirements.

Skanska's experience of handling projects spread over large areas gave them the edge in Honduras while NCC was considered to have somewhat larger experience and competence of road projects which made them recommendable for Nicaragua.

- On what grounds the decision not to use competitive bidding was taken,

The decision by the Sida DG dated 1999-02-02 was mainly based on a Memo by RF dated 1998-12-23. The memo seems to have an underlying assumption that the Swedish resource base should be used. The major arguments for single source procurement were the time factor (mobilization during rainy period), the cost for tender preparation and the fact that only two Swedish contractors were assessed to be eligible, making the market too small for real competition. Thus rather than having two contractors compete for one contract it was recommended to negotiate one contractor for each country which would allow the contractors to concentrate on one country.

The risk for inflated prices was considered to be reduced by the fact that the contracts were to be based on detailed specifications and that the opportunity for the contractors to participate early in the design process would lower the costs of construction as the contractor could influence the process and adopt the project to his technology and methods.

In the DG Decision reference is made to the text in the Government letter that use of the Swedish resource base requires that competition and acceptable conditions can be established.

The decision also states that “if this negotiation does not lead to the desired results regarding quality and price as a second step to implement competitive procurement”. It is not known whether this refers to international procurement which was the only alternative for real competition.

- If these grounds were relevant in each respective case.

The grounds to assign the particular works to Skanska and NCC respectively appear to be relevant. A study of the 1998 Annual Report for NCC does confirm the judgements in the Consultant’s memo. NCC was the largest construction company on the Nordic market with a turnover of more than 30 billion SEK and 900 pavement workers as an example. NCC was slightly bigger than Skanska and three times the size of PEAB. It can be noticed however that the pavement resources were placed in the Nordic countries and that the international activities were in other fields of construction. This aspect was not discussed in the Memo by RF where international experience was seen as one factor and experience from road construction as another.

When assessing the decision not to use competitive bidding it is important to reiterate the limitation to the Swedish market which included only two companies with relevant size and resources. Thus a situation with real competition was not at hand. The other factors mentioned in the memo are also relevant. However the international road construction experiences of NCC were limited.

Conclusion: The grounds not to use competitive bidding were generally relevant given the Swedish Resource Base Policy. NCC however was weak on international road construction, which does not appear to have been taken notice of in the evaluation.

- If the difference between the consultants estimate and the negotiated contract sum should have lead to a renewed procurement procedure.

In letters to the selected contractors Sida informed about the DG decision and even specified that a second step with *international* competitive procurement would be undertaken if the result of the negotiation was not acceptable. However, it must have been evident for all parties that such a procedure would have delayed the procurement considerably and thus not a very likely measure. Furthermore, the possibility to revoke the Swedish Resource Base Policy must have appeared unlikely to all involved.

On August 18, 1999, NCC was invited to tender for the Nicaragua project and the Draft Tender Evaluation Report was received by Sida on September 22. By then it was known that the offered price was some 230 MSEK while the previous estimates by MTI, BID, the Sida Consultants and Hifab were in the magnitude of 150 MSEK. In negotiations the price was reduced in a first step to some 195 MSEK and in a second step to 190 MSEK. The Sida strategy was to negotiate the price down to 180 MSEK and then strip some less important parts.

In the process more background information on cost calculations was collected and from that information it became clear that the initial budgets had been underestimated. Possibly the MTI and BID estimates that probably were a basis for the first Swedish estimates had included more

local resources. An effort to check the price level was made by a comparison with price levels at a recent similar procurement in the area. Thus it was found that even the original NCC price was on the same level as some Danish bids. And that the negotiated price with NCC was slightly higher than the winning one in the procurement used for comparison. This was taken as an indication that the negotiated price level of NCC was reasonable.

The Sida consultants recommended INEC not to press NCC harder because it might backfire later. This recommendation was timely or even late because given the developments later in the project NCC was probably already financially squeezed which is likely to have been the root of later claim problems.

The situation for the decision maker was difficult and they were squeezed between budget, time and quality demands as well as the Swedish Resource Base Policy. The available alternatives meant new delays and risks.

Conclusion: Based on the information available at the particular time the procurement procedure was professionally handled.

- Both contracts were procured in accordance with FIDIC 4 (1992) where to the relation between an Employer and a Contractor is regulated and the role of Financier is not referred to. Sida as the Financier had the contract with the Consultant and the cooperating countries had the contracts with the Contractors. Thus the contracts are regulated by different laws, which have consequences in case of a conflict. The possibilities for Sida to make a party that is contracted by a different country accountable are limited. Describe the setup and the effects. Discuss alternative solutions.

The normal procedure for Sida in similar projects is that the contracts are signed by the cooperating partner and are regulated by the local law which means that it is the cooperating partner that can make the parties accountable and in extreme cases sue them. Sida normally does not have this possibility.

In this case Sida had a Contract with the consultant saying that the Consultant should act as the Engineer in relation to MTI in its role as Employer and in relation to NCC in its role as Contractor. This setup is formally clear and has been used by Sida in several earlier projects.

It should be noted here that the Engineer in accordance with FIDIC has a very strong role in supervision and at the same time is responsible for design. This dual role requires a lot in the field of pragmatism, impartiality and professional skills from the Consultant and the designated individuals. The idea is to offload a weak Employer from technical and financial issues with the Engineer securing a professional implementation of the project.

In this particular project the urgency, the complexity, the number of people involved, the distances and the strong role of Sida in the project preparation stage have made things look more unclear than they formally were which has had a negative influence on the cooperation between different involved organisations and individuals.

The Contract Conditions “AB 04” used in Sweden do not include the role of the Engineer and supervision of construction is organised differently with project management specialists in- or outside the Employers organisation and thus the full implications and requirements of The FIDIC role were not fully appreciated by all the Swedish actors in this case.

The procedure for handling of disputed claims is clearly regulated in FIDIC and since the ER had rejected a number of claims preparations for settlement procedures were made in late 2001. The correspondence from NCC regarding this matter was directed to Sida. The positions taken by Hifab were probably made in the interest of the Employer/Financier but tended to become counterproductive. Efforts were made to activate the Engineer to influence his representative on site, the ER, but Hifab in Stockholm did not really engage itself in solving the problems.

When the problems with defective works arose, the consultant and the contractor blamed each other and it was complicated to decide who was responsible. Hifab/KM had been involved in specifications and supervision and NCC in construction and testing. The problems were also a combination of problems with the pavement and the foundation.

The lack of cooperation between the Engineer with his representative on site the RE and the Contractor deepened and Sida had to involve itself actively in consultations with the Swedish Companies in efforts to find a solution. As part of these efforts an independent specialist was called in but his report was not sufficiently conclusive and the differences of opinion and relations between Hifab/KM and NCC did not improve.

The solution that finally had to be chosen meant that the Hifab contract was terminated and the NCC contract was renegotiated to include design and to be based on a lump sum payment. To enhance the quality and thus increase the value of the works a three year guarantee period was also included. This solution did increase the project costs considerably and Sida was looking for possibilities to get compensation for the cost increases. The new Contract with NCC did not formally prevent such procedures but Sida itself was anyway not in a position to act legally against NCC. Consultations were held with MTI but no legal procedure has been started against NCC Sida instead considered suing Hifab and contracted Advokatfirman Lindahl to assess if Hifab could be liable for damages. This process is still ongoing.

Alternative solutions will be discussed later in the report.

Conclusion: The contractual structure has been used before by Sida, and is formally clear. In combination with the urgency and the policy to keep the role of MIT to a minimum it may have caused some confusion about the roles in the project.

Cooperation

- Have differences in opinion between Sida Stockholm and the field offices influenced the implementation of the project.

The formal and informal structures around the project were complex and it is natural that people have different opinions based on their personal, formal and geographical positions. As long as the decision structure is clear and relations good it is more of an asset for the organisation to have an open exchange of views. In this case all formal authorities on the Swedish side were in Stockholm.

Swedish advisors to the parties in the field may come into situations where they understand their counterparts in the field better than they understand head office and this also sometimes took place in this project. The ER apparently acted rigidly but was often understood regarding the matters by the INEC person in Tegucigalpa, while the PM in Stockholm had different views. This might have encouraged the ER but it is more likely that he acted from his own convictions. However a difference of opinion existed between the team in Stockholm and these persons in the

field, which in a critical phase probably took energy from the Sida organisation and created some insecurity about what the Sida position was.

In other situations the advices from the field were followed although not in the procurement of NCC where the embassy in Nicaragua advocated competitive procurement when the offer exceeded the budget.

In the correspondence there are some examples of different opinions but they are generally but not always held in a correct and respectful tone.

Conclusion: Differences in opinion between Sida HQ and the field offices have existed and have been perceived as disturbing especially in crisis situations but it is difficult to judge if they have substantially influenced the project in a negative way.

- Has the many changes of staff on the Swedish side influenced the project implementation?

All INFRA project staff was exchanged approximately when the construction stage started (December 1999) and a lot of experience and knowledge was inevitably lost. On the other hand the monitoring consultants did remain and thus constituted a kind of project memory. The influence of the monitoring consultants on the project has been substantial in all stages.

The Sida organisation is characterised by a very high turnover of staff in the particular positions creating a discontinuity that is seen as natural and inevitable. This project was apparently treated the same way. It can be questioned if Sida should not have taken measures to keep more of the original project group. The situation for the incoming project manager for the construction stage was very difficult especially since his experiences were from other fields.

Conclusion: The influence of staff changes is difficult to specify but certainly constitutes a big risk factor in a sensitive project and should have been minimised.

- Has the conflict between the contractor and the consultant been influenced by individuals in Sida or assigned by Sida.

According to most of the interviews made by Advokatbyrån Lindahl the responsibility for the bad relations is shared equally by both sides. It started already with the first ER who was taken ill most likely as a consequence of the working situation and relation with the Contractor, where he according to some sources received limited response to his open and cooperative approach. The second RE bluntly refused the claims submitted by the contractor a position that was later supported by the Engineer in Stockholm. The ER also had a number of complaints regarding the general performance of the contractor of which several were shared by other parties.

The lack of a strong and active Employer in Nicaragua meant that there was no instance where the differences could be resolved locally. At one time it was considered to set up a Dispute Adjudication Board (DAB) as was done in Honduras but the idea was abandoned by Sida partly in order not to interfere with the ER. This might have been too considerate.

In later stages the conflict spread to the head offices in Stockholm. Generally there were two main subjects; the claims which were labelled

“unfounded and unprofessional” by the Engineer; and the problems with the pavement quality for which the parties blamed each other. The infected situation is likely to have been triggered by an unfortunate combination of conflicts of interest, roles and personalities, in a difficult environment. The conflicts of interest were partly built into the structure during the procurement procedure.

The Sida representative in Tegucigalpa had a background as a consultant and served as discussion partner to both the Engineers Representatives. His professional views were close to those of the ER.

These views were intended and perceived by them to strictly look after the Employer’s financial interests in relation to the contract, but were in that process disturbing a smooth implementation.

Conclusion: The conflict between the contractor and the consultant has probably not been influenced by individuals in Sida or assigned by Sida to any extent to speak of. Such a deep conflict has its own driving forces which were partly personal and partly built into the project’s organisational structure where Sida’s role to some extent overshadowed strict adherence to FIDIC roles and responsibilities.

- Could Sida have acted differently when the crisis had arisen in order to find a technical solution and avoid the total conflict that led to the separation of Hifab from their assignment?

The conflict between the Engineer and the Contractor was already deep when the technical problems arose. Sida and its Technical Advisors were forced to get quite involved in the project and saw the RE as more responsible for the bad climate, and had some understanding for the Contractors situation, which in the view of the RE was self-inflicted.

One consequence of the technical problems was that the responsibility was to be defined and there were only two parties to carry it and these parties were already in conflict regarding the claims and other issues.

Hifab had problems with their project budget versus the need for supervision of a problem ridden project. They were given some additional financing for resources in the fields but not to reinforce their insufficient home office support, with the motivation that they had undertaken the services in the original contract. Hifab/KM claimed that the amount in the budget was insufficient and refused to reinforce.

Sida’s strategy was to resolve the technical problems first and to postpone discussions of responsibility and financial aspects till a later date. This was the only option to keep things moving because no conclusive evidence was produced in spite of efforts to do so. However, these “fringe” problems did not disappear and it is apparent that both parties were still having them as a background for their actions. During this stage Sida’s role in the project was further expanded with meetings and correspondence with both Hifab and NCC both in Stockholm and locally, apparently of no avail. The parties were not motivated to try to find solutions that were optimal on project level. Not even after the exchange of the Engineer and his ER and the contractor’s site manager did the situation improve.

In order to create a more constructive climate in the project it would have been necessary to change both the contractual situation and the manning in line with what was done later to remove the fundamental causes of the problems. It takes a very brave and experienced financier to do so early enough in the process.

Conclusion: Given the factual situation it would probably not have been possible to motivate sufficiently drastic measures at an early enough stage to substantially change the outcome.

For the Future

- Sida has a general principle that a construction contract shall be signed between the cooperating partner and the contractor while the access to legal, technical and financial expertise is poor within the public sector. Is it under such circumstances wise and reasonable to follow the principle? If so which support measures and particular conditions should be written into the Cooperation Agreement? Can possible conflicts be referred to Swedish Law and Swedish courts?

It is difficult to imagine who the alternative contract party would be. The only conceivable alternative is Sida, and as can be seen from this report Sida can not have the authorities, competence or resources to handle major construction projects. Depending on the contract form the cooperating partner could be given support to set up and train a PIU or support in the Employers role in a Partnering Project (see below).

The conditions of the Cooperation Agreement would have to relate to deployment of resources, support systems, dispute settlement, audits etc.

Dispute solutions in contracts could be related to be Swedish Law and Swedish courts in special situations. This has to be considered from case to case and the normal “no objection” procedure according to SPG constitutes an opportunity to do so.

Conclusion: The Sida principle with contracts between the cooperating partner and the contractor is reasonable but the need for support with competence and the conflict resolution processes should be carefully considered.

- Which conclusions can be drawn for the future in similar situations after disasters and conflicts in other countries when you want to achieve sustainable development effects from the aid simultaneously with replacement of destroyed infrastructure?

As mentioned before the organisational and contractual structure, for recognized reasons, was complex and included a number of anomalies. The application of FIDIC is intended to be as shown in Appendix 3 with clear relations and the Engineer in a very central role.

For instance the cooperation partner was formally Employer but in practice only “project host”. Sida on the other hand, as a State Authority, was sometimes, in spite of efforts to avoid it, very close to the role of operative Project Manager. Sida had a number of consultants in different places, whose roles and mandates were not quite transparent. The Engineer and the Contractor had different interests and driving forces in the project.

Conclusion: In Honduras with its similar project set up the risk factors did not develop into a state of hampering the successful implementation of the project, proving that the set up could be successful under certain circumstances. As a consequence of the failure in Nicaragua it is however necessary to take measures to improve the mode of implementation.

Overall Conclusions

The project had as mentioned above a number of general conditions that were limiting the choices of implementation methods. The urgency gave very little time to analyse and discuss consequences and fast track solutions had to be chosen. The limitation to the Swedish resource base had a profound influence on the number of alternatives available.

Another policy that has guided the project set up was the fact that normal Sida structures and methods with minor modifications were applied to a project which was not normal.

The deployment of Sida resources in general followed well tested patterns with some extra reinforcements. The discontinuities in staff were accepted as inevitable.

The contracting procedures followed as much as possible established market principles. However, on a limited market, insecurity about the correct price levels may have led to extra price squeeze creating extraordinary conflicts of interest. It is also noticeable that the Consultant with a role of trust was procured in competition and was strictly treated regarding home office reinforcements even when the project was in a critical stage requiring much attention from the Engineer.

Thus the project set up had a complex structure with many parties involved in different locations. Sida had or was at least perceived to have an unusually active role. This concept was identical in Honduras but that project did not encounter problems of a similar magnitude as in Nicaragua, and the problems that were encountered were generally solved between the parties – primarily the Engineer and the Contractor. In Nicaragua a situation developed with financial, technical and relation problems. The role of MTI was formally according to normal procedures but it was not applied that way in practice. MTI was actually seen as unnecessarily active compared to the corresponding body in Honduras. How can two so different scenarios evolve from the same structure?

It is established that when something goes wrong in complicated contexts usually there is no clear culprit. Instead most actors may have performed more or less within their “tolerance interval” and the isolated result can be rated acceptable given the conditions. However, when these results aggregate in an unfavourable way, the total result may become disastrous. If there is a quality control or a supervision system that can detect the risks in time or if the factors are not adding to each other but instead counteracting the problems can be resolved.

In Nicaragua the complex contractual and organisational project structure, the tempo, technology, financial interests, the distances, the language problems, staff turnover in several organisations, budget restraints, personalities etc contributed to create a high risk which was triggered and the system was not designed to detect and rectify the situation in time.

The restructuring of the project meant that a new situation was created where there were fewer conflicts of interests and the implementing organisation was focused on a common goal. MTI were also given a more active role and were temporarily reinforced with legal competence. Since the solution was set up in an emergency situation the price was high but unavoidable. In an early stage the price for such an arrangement would have been much more worth while.

This indicates the direction that is recommended to be developed for future similar projects:

- Common goals for the participants
- Simplified structure
- Support for cooperating partner to take a role

Recommendations

General

One important recommendation is that Sida should keep strictly to the role of financier and thus secure an arrangement where the responsibility for implementation is clearly defined and resources for this purpose secured. The setup should encourage a spirit of cooperation and common goals.

In order to minimise the risks in future projects more attention needs to be given to organisational issues in future similar situations. As a preparation it is recommended that Sida investigates and assesses different approaches and methods and evaluates in which situations they are applicable. Then an assessment of the new situation should be made including a risk analyses and the most suitable method be selected.

Frequent experiences, similar to the one in Nicaragua have motivated the construction industry and major public clients in the UK and the Nordic countries to look for alternatives to the traditional ways of implementing projects. The partnering concept as such comes from USA and has been developed for public construction projects in the UK.

Even Fédération Internationale des Ingénieurs-Conseils (FIDIC) today recommend: Avoid pure price negotiation or cost based selection unless the projects are small simple and well defined.

Partnering

For future projects it is recommended to investigate a new approach for complex construction projects called “Partnering”, which since a number of years is being developed on the Swedish market. The concept has been inspired from UK, and is well established there. The concept is based on open and trustful cooperation between the Employer the Contractor and the Consultant from the start of the project till the end with common goals and incentives. “The overriding ethos of any partnering contract is to provide a formal legally binding framework that allows the separate companies and individuals party to a project to form a project team to work together to deliver the project in line with the principles of *‘Best Value’*”.

There are a number of Swedish reference objects including a new enrichment plant for LKAB with a budget of 555 MSEK. Partnering can be applied under the new LOU.

Partnering is suitable for projects with high risk and complexity where many can contribute to better solutions and risk and conflict management is part of the concept.

According to one Swedish contractor, who is marketing the partnering concept, partnering promotes:

1. Budget security,
2. Shorter Project time,
3. Highest possible quality within the given budget,
4. Full transparency about the total project budget and
5. A positive and constructive work environment

It is not known to what extent Partnering has been used in a developing country and in disaster situations. As part of preparations for a future situation it is recommended that Sida investigates the suitability of using Partnering or similar concepts in such situations.

Depending on the competence of the cooperating partner his organisation can be reinforced by a consultant with experience of the Employer's role in partnering. In Nicaragua this consultant might have been Vägverket. This way more local knowledge will be added to the project and the sustainability will also be boosted. More activities during the preparation and specification stages should be located to the field.

Traditional International Procurement

If the Swedish Resource Base Policy is not applied international procurement of resources is the traditional implementation mode. There is a number of contracting and compensation alternatives including FIDIC to choose from and these should be analysed and rated for possible future situations. If FIDIC is used a Dispute Adjudication Board should be established as in Honduras.

For implementation a Project Implementation Unit (PIU) is recommended to be established within the cooperation partner's organisation. If necessary the PIU can be supported by resources financed by Sida. The purpose of the PIU would be to act as the project management resource relevant for the contracting system used. In the case of a FIDIC contract the PIU could be limited. The purpose of the support to the PIU would be to reinforce and train the cooperating partner. Initially the international resources may operate the PIU on behalf of the partner but the objective would be to hand over responsibility for implementation as early as possible.

Järfälla 2007-05-22

Ingvar Spanne

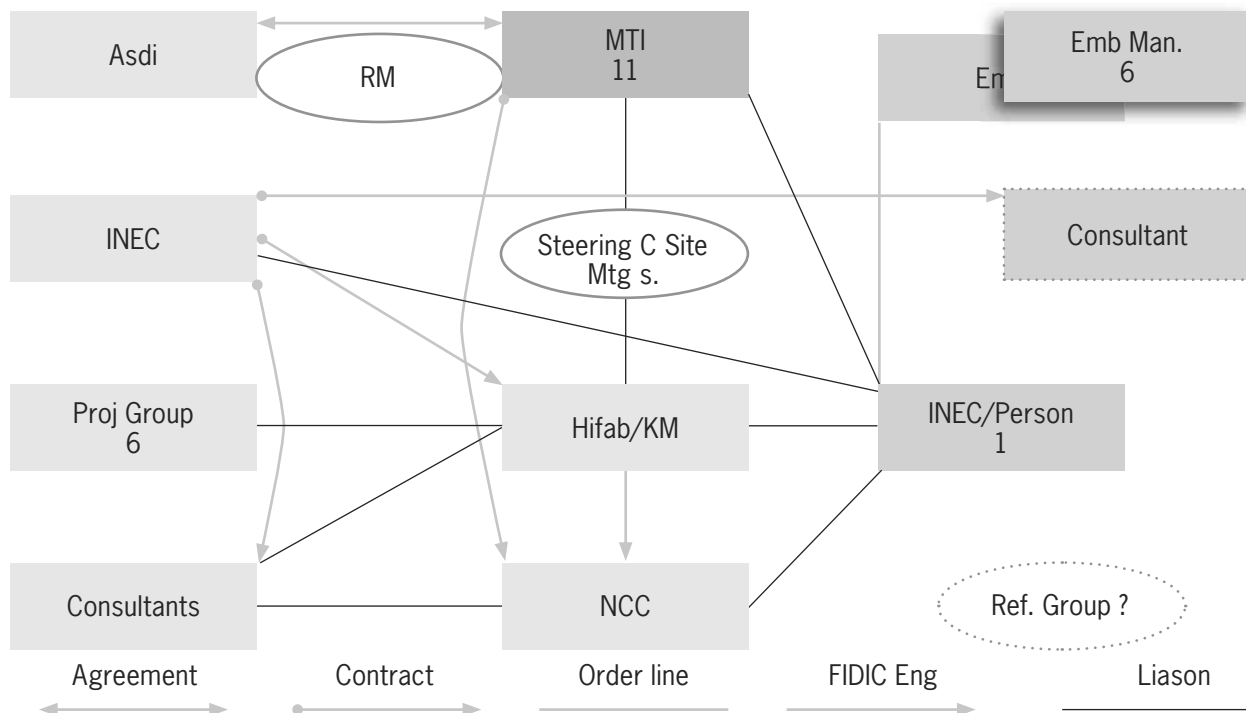
Appendix 1 Important Documents and Events

Date	Document/ Event	Purpose/Comment	Amount
1998-10-30	Heavy Rains in Nicaragua and Honduras	Mitch related	
1998-11-12	Letter to FM from Ambassador in Nicaragua	Proposals for infrastructure reconstr.	
1999-11-15	INEC/INFRA Mission and DG meeting in Nicaragua	Project Identification	
1998-12-16	Sida Government Letter	Project Proposal etc.	
1998-12-22	INFRA PM	Honduras Project	
1999-01-28	Government Decision	Confirmation of Sida Letter	1 400 000 000kr
1999-02-02	DG decision 17/99	NCC Skanska procurement	
1999-02-04	INFRA PM	Nicaragua Project	
1999-02-09	RELA Decision	Add 18 man months to INFRA	
1999-02-10	Request from MTI	Yalaguina Los Manos Road reconstr.	\$13 508 000
1999-02-12	SEKA Decision	Delegating INEC/IF	660 000 000 kr
1999-03-11	Informal project committee	Comments to project memo	
1999-03-12	INEC Decision	Project group/authorities	
1999-03-16	INEC Decision	Contribution Nicaragua	200 000 000 kr
1999-03-26	INEC Decision	Hifab/KM and SWECO selected	
1999-04-01	Specific Agreement	Contribution Nicaragua	200 000 000 kr
1999-04-06	RELA Decision	Position in Nicaragua	
1999-04-19	INFRA Decision	Procurement Hifab/KM	21 000 000 kr
1999-06-02	1st Review meeting	Smooth working relations	
1999-06-23	INFRA Decision	Emergency repair support	7 000 000 kr
1999-11-15	INFRA Decision Payment guarantee	NCC early Mobilisation	
1999-11-18	RM	Agreement on English FIDIC	
1999-12-07	INEC Decision	Procurement NCC Tot. 193 MSEK	170 000 000 kr
1999-12-07	INEC Decision	Add. Financing Nic Tot. 233 MSEK	30 000 000 kr
1999-12-08	INEC Decision	New INFRA Project manager	
1999-12-04	MTI delegation to Stockholm	Final NCC negotiations	
2000-02-17	Construction contract Signed	NCC-MTI	189 000 000 kr
2000-04-11	Amendment 1 NCC Contract		30 000 000 kr
2000-05-22	RM	MTI concerned about progress	
2000-06-09	Letter Sida Hifab/KM	Not satisfied report system etc.	

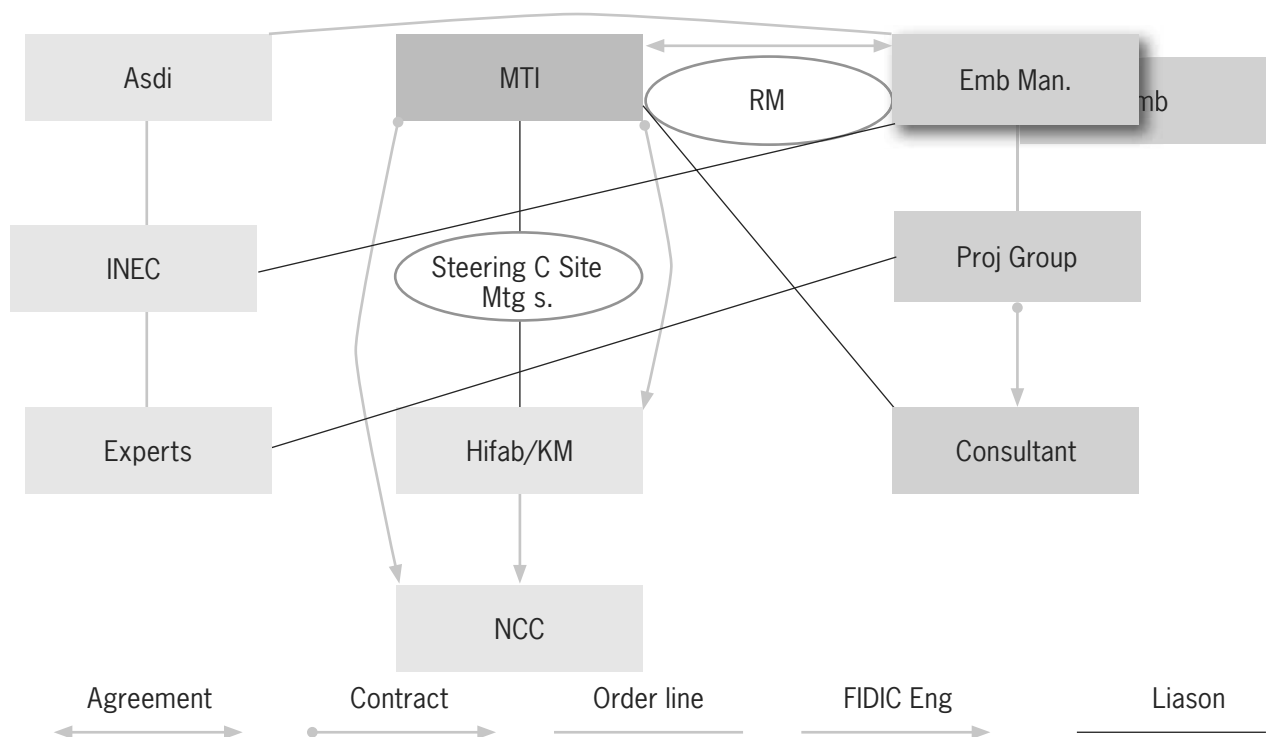
Date	Document/ Event	Purpose/Comment	Amount
2000-06-29	ER taken ill		
2006-09-27	Letter Sida Hifab/KM	Too many changes in key persons	
2000-09-24	RM	MTI concerned about Hifab resources	
2006-10-09	New ER in place		
2006-10-26	Site Meeting	MTI concerned about Quality assurance	
2000-12-04	RM	Progress still concern	
2000-12-20	Internal Sida PM	CL has expressed concern to Hifab/KM	
2001-03-26	RM	Quality OK	
2001-05-30	Monthly report 22 May from NCC	Admits work not to be finished in time	
2001-06-12	INFRA Decision	Total NCC cost for Sida 230 MSEK	60 000 000 kr
2001-07-10	Amendment 2 NCC contract		10 000 000 kr
2001-08-16	Letter from NCC to Sida	Arbitral proceedings on refused claims	
2001-09-30	Monthly Report 24	Asphalt damages in >20 locations	
2001-11-21	RM	Sida:" Solve technical problems 1st!"	
2002-02-18	Memo from RF	Problems still not sorted out	
2002-04-03	INEC Decision	Contract TRL for review of quality probl.	22 000 kr
2002-04-05	Letters to NCC and Hifab/KM from Sida	Replace site representatives!	
2002-04-26	Sida letter to NCC	Considers new contractual arrangement	
2002-05-07	INFRA Decision	Legal expert support to MTI	146 000 kr
2002-06-24	Sida letter to Hifab/KM	Contract terminated	
2002-07-11	Amendment 3 with NCC	Total NCC contract 257 MSEK	117 000 000 kr
2002-07-11	DG Decision	Additional financing Nic	117 000 000 kr
2002-09-16	New construction contract	Signed MTI NCC	
2003-03-12	Works completed	Handed over to MTI	
2003-04-15	INFRA Decision	Additional services TRL	241 000 kr
2006-02-17	INFRA Decision	SWECO to perform guarantee insp.	

Appendix 2 Actual Organisation Chart Nicaragua

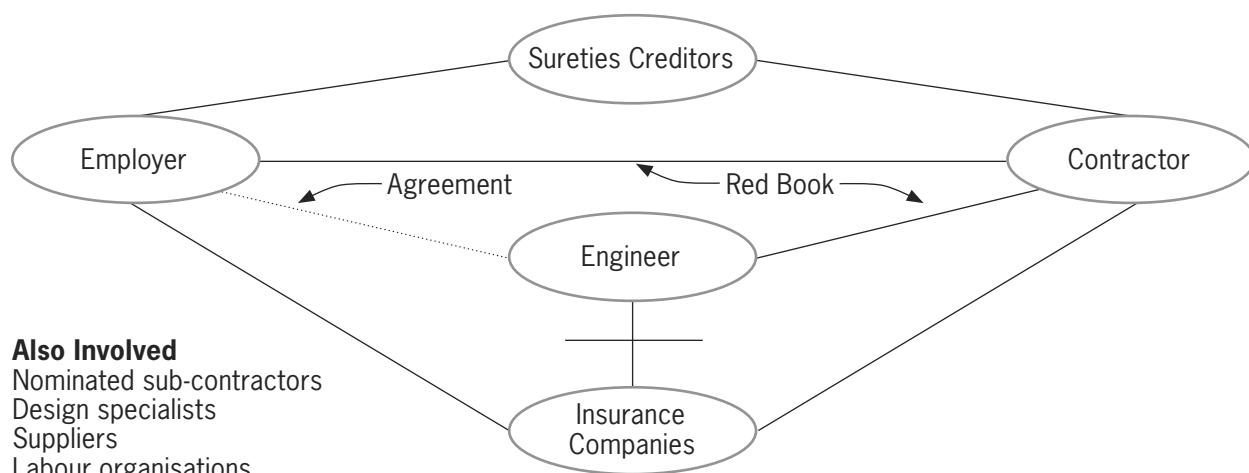
Note: Figures in boxes represent number of different persons from organisation that participated in Review Meetings.



Appendix 3 Proposed Organisation Chart Construction stage Nicaragua



Appendix 4 Proposed Structure According to FIDIC Intentions



Red Book – FIDIC's International Conditions of Contract for Works of Civil Engineering Construction

Appendix 5 List of Persons Interviewed

Sida

Mr Jan Bjerninger (*Head, Department for Natural Resources and the Environment, NATUR; formerly Ambassador to Nicaragua*)

Mr Anders Hagwall (*Head, INEC/INFRA*)

Mr Göran Engstrand (*Counsellor Swedish Embassy in Zimbabwe, formerly Project Manager 1998–1999*)

Mr Claes Leijon (*INEC, formerly Project Manager 1999–2002*)

Mr Göran Larsson (*INEC/INFRA, formerly Project Team member 1998–1999*)

Mr Lars Olof Eliasson (*Independent consultant, formerly INEC in Tegucigalpa 1999–2001*)

Ms Mirjam Palm (*Environmental Policy Division, formerly assistant to the PM*)

Mr Gösta Werner (*Formerly Project Manager 2002–2006*)

Others

Mr Charlie Eriksson (*Independent Consultant, Technical Advisor to Sida*)

Halving poverty by 2015 is one of the greatest challenges of our time, requiring cooperation and sustainability. The partner countries are responsible for their own development. Sida provides resources and develops knowledge and expertise, making the world a richer place.



SWEDISH INTERNATIONAL
DEVELOPMENT COOPERATION AGENCY

SE-105 25 Stockholm Sweden
Phone: +46 (0)8 698 50 00
Fax: +46 (0)8 20 88 64
sida@sida.se, www.sida.se