

## DJIBOUTI ENERGY INITIATIVES PROJECT

Monthly Report

April - May 1986

1. The AID team was here for 7 days at the beginning of May. This was a 5-man team which included Warren Weinstein, Bunyan Bryant, and a Mr. Kline from Washington; and Jim Graham and Hadley Smith from Nairobi. The team reviewed all the AID projects in Djibouti, but since it is the Energy Initiatives Project which is the first of the AID projects to come to an end (in March 1987), it was the future of this project which was probably most widely discussed.

The team was entertained at the highest Government levels, (deftly choreographed by Anis), and the strong Government support for the continuation of the current energy sector projects was made very clear to the AID team.

The AID team consistently affirmed their support for the energy sector development work, and has assured the Government that NPA funding will be forthcoming. Anis strongly supported VITA's participation in future initiatives, and the AID team seemed impressed with the project and with VITA's work in Djibouti.

The big problem is of course money. Even if NPA funds for 1987 are approved in October this year, it seems unlikely that the money will show up before April or May next year. That leaves ISERST with a shut down project, no technical assistance from VITA, and an almost complete disruption of the energy conservation work which is only now gathering momentum.

A number of options were discussed by the AID team and Lundgren. On the assumption that the NPA funds arrive before the PACD in March next year, Lundgren could extend the VITA contract through to that time. We would need to stretch out the money we have left, with perhaps another \$60,000 chipped in by AID/Djibouti (about all that's left out of the original \$4 million). With a bit of belt-tightening here, and John's \$60,000, I think we could manage it.

For instance, 1986 1st-quarter costs were about \$165,000. Of this amount almost \$60,000 was for training, consultants, and equipment. So about \$105,000 was for relatively fixed expenses. Factor out McGoff and I reckon we could run on \$80,000 for 1st quarter 1987. If Lundgren adds \$60,000 to the pot, we need only find \$20,000, and there are a number of ways in which this can be accomplished without too much difficulty.

Remember also that ISERST is due to get \$240,000 from AID, and that this amount is only loosely programmed. By shifting some of our project expenses on to ISERST, I think we can save enough to see us through to March. In fact, the first installment of ISERST's funds from AID (\$110,000) arrived yesterday, much to my surprise (I thought it would take months), so we are on track.

If it is assumed that the NPA funds will not show up in time, i.e. before the PACD--and this seems very likely--other sources of funds will have to be found to support the project over the maybe 5 to 6 month period until the AID money arrives.

Lundgren told me after the AID team had left that the team had actually raised the possibility of extending the VITA contract. Previously, this was considered out of the question by Washington, so it was nice to see that the AID team had been persuaded that the work out here is important and worthwhile. Let's hope this assessment persuades Washington also.

If there is a contract extension I would think that it would be of the order of 6 months or so; enough to keep VITA going until June 1987, by which time the NPA funds should have finally arrived.

My approach at this point will be to curtail some project expenditures such as the library, workshop and lab equipment, and training, and to try and build up a small reserve of funds that could be used to cover possible 1st-quarter 1987 operating expenses. At the same time I will ask ISERST to pay for a number of expenses that we had budgeted for.

I would be interested to see, Donna, VITA's estimate of 1st-quarter 1987 expenses for the project. If you can work these up and pass the figures on to me I would appreciate it.

2. The energy conservation work continues. The six man team is now engaged in helping the public to reduce their energy consumption in the home. Several technicians are based in the booth at EdD where they respond to questions and inquiries from people paying their electricity bills. The technicians review the bills and make a record of what kind of electrical appliances are in use in the home. If requested, a team of technicians will go to the home, look at the way in which electricity is being used, and recommend changes which will save energy and money.

At the same time, a survey is being conducted by the energy conservation team with the aim of trying to assess the effectiveness of the media campaign which finished at the end of April. People in the street are being asked to fill in a brief questionnaire which asks a number of questions about energy conservation principles and practice, and which will show the extent to which the media campaign changed the way in which people think about energy and energy conservation. We should have the results soon.

3. The work with the Commission on Habitat, organized jointly by the Urban Development Project and the VITA project, is continuing. As mentioned in previous reports, 3 prototype buildings will be constructed. These will be:

- i) A two-storey house for the Chef du Quartier 3; a genotype of houses to be built in the quartiers.
- ii) A low-cost house in Balbala; a genotype of houses to be built in the poorest areas.
- iii) An annexe for the dispensary in Ambouli; a simple structure to be built with locally produced pressed earth bricks.

All these houses will incorporate the passive cooling features originally proposed for Djibouti by Dan Dunham, and now actively promoted by the VITA project.

The designs for the house for the Chef du Quartier 3 are finished and they have been approved by the Commission on Habitat. The Cahiers de Prescriptions Speciales (CPS) has been completed.

Unfortunately, it now appears that the issuance of the appel d'offre will be delayed until AID/Nairobi has approved the CPS. Lundgren had said several weeks ago that he believed that it should be possible to avoid this delay by arguing to Nairobi that the contracts for the buildings were the business of the Government, (in the form of ISERST), and that therefore Nairobi need not and should not be involved. However, it now seems that the Nairobi office has insisted on reviewing the contracts, and this may delay us a few weeks.

In the meantime, the Commission will go ahead with the plans for the Balbala house and the Ambouli dispensary. The site at Balbala has finally been agreed upon (the Government changed their minds several times--apparently someone else had their eye on the site); and the preliminary plans for the Ambouli dispensary have been approved by the Ministry of Health.

4. PIL #17 has been issued. This PIL sets out the accounting procedures to be used by ISERST for the disbursement of the \$240,000 donated to ISERST by AID. PIL #17 seems to have been necessary because Lundgren did not put into PIL #16 all the details which Nairobi considered obligatory. So Nairobi insisted on a revision, and that is the new PIL. It doesn't seem to have curtailed anything too much because, as I mentioned above, ISERST has just received the first \$110,000 advance.

5. The renewable energy team has been busy. A major expedition to Adailou was mounted in an attempt to unblock a tube well there that had been blocked for a number of years. A special lifting rig was constructed, and the team went over with the Geothermal truck and crane. Unfortunately, this well proved impossible to unblock. Part of the problem seems to have been Genie Rural again. They stuffed two pumps down the same well and now the well appears to be ruined. The Commissaire of Obock was disappointed but there is little that we can do. He needs a new well.

The PV pump testing program is developing into a well-organized program. Soulieman does the tests--average daily outputs at 5 different heads, and then maximum outputs at solar noon. He does the calculations, writes up a brief report, and then Abdourahman Nour files it along with all the other tests, and keeps a file on each pump which is then followed in the field. Eventually the group will have an excellent data base.

Based on the quotes provided by VITA the home office, a PV system for Medeho has been proposed to the Commissaire of Obock, and will be written in to their proposal to the American Embassy. The money seems to be available and the project should go ahead. We are recommending the AY McDonald system since not only is it the cheapest but our experience here with this type of pump indicates that it is both rugged and reliable.

I reviewed the Meridian Corp. report on international PV systems, (thanks for getting hold of a copy). I have only looked closely at the section on water pumping so far, (I will take a look at the other chapters soon), but I don't think much of the report at all.

What they have done essentially is to review the literature and then recompile it--not very useful. And much of the data is simply wrong. Exhibit 2-2 on page 2-7, for example, gives performance data and costs for 6 PV pump systems. In my opinion, (based on the results of our tests here which are in line with the results given in the UNDP/Sir William Halcrow studies), only one of the listed PV systems is realistic. All the other systems show mean daily hydraulic energy outputs far in excess of what is possible given their array sizes. What this means is that the Specific Capital Costs are seriously underestimated, and that the economic analyses are way off.

And then they only compare PV's to small diesel pumps. As I have mentioned before, we can buy here off-the-shelf 2 HP gasoline pumps for about \$600. These knock the economic socks off PV's in situations where water demand is very small--precisely the area where, according to Meridian, PV's are supposed to be the most economic option.

Your reviewer friend was right, Donna, this report is definitely not the last word!

6. Abdourahman Farah has been promoted. He is now Chef du section des technologies.

7. Ioan Stancescu, the Team Leader of the international team of energy experts, arrived on May 7 for a 2-week initial visit. Although 75 years old, he has astonished everyone with his sharpness and vigour. The project paid for his first trip since the UNDP, although approving the ISERST proposal, couldn't get their money released. So I called Stancescu in Munich, and UNDP in New York, and set up the trip.

For the first 2 days Stancescu reviewed the background documents: the National Energy Assessment, the Proceedings of the February seminar, the Dunham, Jarmul, and Dhar reports, etc; then he met with Anis, the Minister of Industry and others, and started to set out the work that needs to be done before the Donor's conference. He works in our building in an office with Yacob--the young analyst and planner we are training for the Service de l'Energie.

Stancescu thinks that the Energy Assessment is a very good piece of work (he seemed surprised that it was so good), and he particularly praised the report by Shibu Dhar. Congratulations.

We asked Stancescu to lay out the work plan for the next 10 months leading up to the Donor's conference in March 1987. Stancescu feels that at least 2 other experts are needed: a demand analyst to analyse the energy demand side in more detail (including modelling energy demand using a computer program developed in France), and an economist to do the economic analyses of the proposed projects. We have candidates for both positions, and we hope to bring both experts down to Djibouti at the same time in September and October. In addition we may bring down 3 short-term consultants for 3-4 weeks each to look at the transport sector, to study the use of energy in the rural areas, and to recommend revisions to energy pricing policy and electricity tariffs.

We hope to be able to do all the work for about \$166,000. ISERST will put up \$94,000 (using AID's money), and UNDP (we hope) will cover the rest. Shown overleaf is the proposed budget for the energy planning work.

ENERGY PLANNING BUDGET

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| ITEM                      | <-----LEVEL-----> |                  | SOURCE                          |
|---------------------------|-------------------|------------------|---------------------------------|
|                           | time, m/m         | \$               |                                 |
| Team leader               | 2.5               | 45,000           | ISERST \$36,000<br>UNDP \$9,000 |
| Demand analyst            | 2.0               | 24,000           | ISERST                          |
| Project economist         | 2.0               | 24,000           | ISERST                          |
| Short-term consultants    | 3.0               | 36,000           | UNDP                            |
| Official travel (9 trips) |                   | 18,000           | ISERST \$10,000<br>UNDP \$8,000 |
| Interpreters/Translation  |                   | 19,000           | UNDP                            |
| TOTAL                     |                   | <u>\$166,000</u> |                                 |

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of which: ISERST: \$94,000 UNDP: \$72,000

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The Team Leader is of course Stancescu; the Demand Analyst has yet to be identified although Stancescu has one or two people in mind. The Economist is an Italian proposed by the UNDP (Renato Pugno); the short-term consultants remain unspecified at this point.

We are working with the UNDP closely. The UNDP in New York has approved the project as a Round Table on Energy project, and has set aside \$50,000. The rep here thinks we can get a little more--enough to cover the expenses as indicated in the budget set out above.

We worked up a planning chart with Stancescu in collaboration with Anis and the UNDP representative. It's shown below.

1986/87 PLANNING CHART

<----- 1986 -----> <----- 1987 ----->

| Activity                     | may | june | july | aug | sept | oct   | nov   | dec | jan | feb | mar | apr |
|------------------------------|-----|------|------|-----|------|-------|-------|-----|-----|-----|-----|-----|
| Team leader                  | XX  | XX X |      |     |      | X XX  |       |     |     |     | X X |     |
| Demand analyst               |     |      |      |     | XXXX | XXXX  |       |     |     |     |     |     |
| Economist                    |     |      |      |     | XXXX | XXXX  |       |     |     |     |     |     |
| Analyst<br>(tariffs)         |     |      |      |     | XXXX |       |       |     |     |     |     |     |
| Analyst<br>(transport)       |     |      |      |     | XXXX |       |       |     |     |     |     |     |
| Analyst<br>(rural energy)    |     |      |      |     | XXXX |       |       |     |     |     |     |     |
| Seminar                      |     |      |      |     |      |       | X     |     |     |     |     |     |
| Preparation of<br>documents  |     |      |      |     |      | XX XX |       |     |     |     |     |     |
| Translation of<br>documents  |     |      |      |     |      |       | XX XX |     |     |     |     |     |
| Distribution<br>of documents |     |      |      |     |      |       |       |     | X   |     |     |     |
| Conference of<br>donors      |     |      |      |     |      |       |       |     |     |     | X   |     |
| Evaluation                   |     |      |      |     |      |       |       |     |     |     |     | X   |

Each X = 1 week

As you can see, Stancescu comes one more time to Djibouti in June; then there is a break over August, and then we bring everybody down for an intensive 2-month period of analysis and integration. The conference itself will be in March 1987.

Martin Bush  
Djibouti, 15 May 1986.