DEPARTMENT OF ECONOMICS

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The Micro Efficiency of Danish Development Aid

A Study Based on Revisiting 37 Projects

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Abstract: Danish development aid is analyzed by visiting a sample of projects five years after their completion. The sample is stratified to nine countries chosen to be main, peaceful recipients in the main regions. The criterion of success is if the projects do what it is meant to. If we think the project would not have been accepted by Danida given present knowledge, it gets 0 to 2 points, and vice versa from 2 to 4 points. The average project obtains 2.16 points, but as our selection process has a couple of small upward biases, it is dubious if the true average is above 2. Projects in Africa, agriculture and parastatals are negative outliers with ¾ to 1 point, while projects in East Asia get 1 point more. There are some indications that Danida is more successful with small projects and NGO-projects. The soft, informal, multi-goal decision process used by Danida is discussed.

I.   Introduction

The micro efficiency of Danish development aid is assessed from a study of a sample of 37 Danida projects.[2] They are revisited 5 years after they were completed to see if they still do what they were supposed to. To obtain the sample I have traveled for 4½ months visiting projects in 9 countries,[3] and read a total of one meter of project documents. The appendix gives a short description of each project. A reference as Zambia (3) is to project 3 in Zambia as found in the Appendix.

The first question about development aid is: Is the typical project worth doing? It is a question fraught with hidden assumptions, but we try to give an answer as for Danida.[4] We hence want to estimate the *true success rate,* β, for Danida's projects. More constructively we want to say as much as possible about the pattern found in the success rate. That is, what are the key factors determining if

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1.   The article is a summary of material, presented in much more detail in the 450 pages of Paldam (1997), written for the *Rockwool Foundation*. Berit Fihl has been research assistent.

2.   Danida, the Danish development aid agency is formally the »South Department« of the Foreign Ministry, even when it has its own minister. I am grateful to Danida for access to project documents and introductions to the people running the projects today. However, it should be stressed that Danida did not choose the projects of our sample, and did not finance any part of the project. Also, I should perhaps state that I had no prior connection to any of the 37 projects visited. I traveled in the spirit of Hirschman (1967), though I have used a more pedestrian approach.

3.   I visited everything together with a travel-companion. It was mostly PhD student Toke Aidt or my wife Conni, who is a former Danida expert. All interviews took place in English, Danish or Spanish, except in China where we had to rely on interpreters, but here I traveled with a colleague, Clemens Stubbe Østergaard, who knows enough of the language.

4.   The macroeconomic literature and the macro pattern as regard our 9 countries is discussed in Chapter I.5 of my book. It will be disregarded at present.

projects succeed? We have defined our success-scale with 2 as the pivotal number: If projects get more than 2, they are worth doing - if they get less, they are not. The scale is defined in Table 2 and discussed in Section II.2.

We follow Danida in defining the projects, even when they are often delimited more by bookkeeping necessity and convenience than by economic logic. The delimitation may be economically arbitrary both ways: Downward, projects often have well-defined *subprojects*, which could as well be individual projects. Perhaps the project consists of 10 schools - it could as well have been 4 or 29 schools. Upward, projects often are parts of a larger *maxiproject*. The larger project might be an NGO-activity, a parastatal or in a few cases a whole sector or policy.[5] Often Danida has had several projects within the maxiproject, and other donors might as well. As explained in the appendix, we try to assess the whole maxiproject.

Section II presents the process by which we have chosen our sample. The section also discusses Danida's soft project selection criteria. Section III considers our assessments: What is the all over success rate, <u>b</u>, for the projects and what is the pattern in the points given to the projects. Section IV discusses some broader experiences of the Danish aid program.

II.   The selection of projects, our point scale and Danida's soft decision process

Danida administrates an aid program of $ 1.4 billion. It is the 9th largest aid program. It is a net transfer with a gift element of 100%. If calculated on a net basis, it would probably be even higher on the list.[6] Below we claim that our project-sample allows us to assess the whole of Danida's large bilateral program. The reader should therefore consider our project selection process, the point system we use, etc.

II.1   *Selecting the projects to get a good sample*

Our estimate of the true success rate β starts from the average, <u>b</u>, of the success measure (points) calculated for the 37 projects. Our sampling process is thus crucial. The 37 projects are reached by a stratified sampling, where the stratification is by country. The 9 countries chosen - listed in the right-hand section of Table 1 - have three characteristics:

1.   All country regions in Danida's program are represented, but not totally in the right proportions, so there is a small sample bias, **B1**. We have not included any country in the Middle-Eastern/Arab country group as it is small in Danida's program.[7]

2.   The countries chosen in each region are large in Danida's bilateral program. Therefore, they are

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5.   Danida is now moving from projects into sector programs - that is, there is a movement from projects into maxiprojects. This is a main reason why we also try to evaluate the maxiprojects.

6.   The reader might know that the largest multilateral program is IBRDs program of 24 bill $. This is 34 times Danida's bilateral program. However, the net transfer of IBRD is only around 2.5 bill $. That is only 3½ times larger than Danida's bilateral program, and 1¾ times Danida's total net aid.

7.   The only country possible would have been Egypt, where the projects are rumored to go much as in Bangladesh. It also counted that the countries in each group could be visited in one journey. The three African countries are thus neighbors.

well-known to Danida. That is, it is easier for Danida to make projects in these countries. That should give a (small) upward bias, **B2**, in our estimate b.

3.   The countries are peaceful in the period from the planning of the projects till to day. Once more that gives an upward bias, **B3**, in the b found.

Table 1. Countries selected

Country group	Our definition	Projects	Fraction[a)]		Countries	Projects	Fraction[a)]	
			%	Rep			%	Rep
Africa	Only »Black« Africa, south of Sahara	13	55.9%	23.5	Kenya	3	5.7%	4.9
					Tanzania	7	12.8%	11.0
					Zambia	3	2.0%	1.7
Orient	East Asia - east of Indian Subcontinent	4	7.1%	3.0	China	2	2.6%	2.3
					Thailand	2	1.4%	1.2
Latin America	Usual	5	4.8%	2.0	Nicaragua	5	2.4%	2.0
Indian Sub-continent	Usual	15	20.2%	8.5	India	8	7.8%	6.7
					Bangladesh	5	7.8%	6.7
					Bhutan	2	0.7%	0.6

Notes: »Fraction« means the expenditure in percent of Danida's total bilateral program 1985/95. Note that 12.0% of the bilateral aid goes to other countries. In the column termed »Rep« they have been proportionally distributed. That is we should have had 23 or 24 projects in Africa, 3 in the Orient, etc to have had full proportionality.

Table 1 shows that the projects are chosen somewhat disproportional to the importance of countries and country groups in Danida's program. The main deviation from strict proportionality is that there should be 23.5 projects in Africa. There are thus 10.5 too few and correspondingly too many in the other groups. This gives a *sample skewness* and consequently a sample bias (B1), but it is easy to control for as done in Table 4 - as the reader may have guessed the sample bias is upward. The sample skewness occurs as there are relatively many sector-programs in Africa, and hence too few projects being completed in any one year.

Both (2) and (3) also give a (small) upward bias in our assessment. While B1 and B2 are typical problems giving »regular« biases, B3 is a more debatable »force majeure« bias. It is arguable that it would be unfair to include project failures due to war. We assume both biases to be small. Nicaragua barely passed criteria (3), but it did pass, as all projects included are decided after the 1987 peace accord.

Danida has since 1987 concentrated its assistance more and more to *20 countries termed the cooperation group*. The list has changed a bit from time to time - 7 of our 9 countries are on the present (1997) list, and the other two used to be. Thailand was deleted for being too rich, and China for human rights' reasons after the (widely published) »Tianmen Square incident«.[8]

8.   The 20 countries are: **Tanzania** (4), **India** (23), **Kenya** (17), **Bangladesh** (13), **Bhutan** (20?), Mozambique (2),

Danida makes an annual *projection completion list*. We have chosen to visit *all projects 5 years after* they appeared on this list in the nine countries chosen. As we visited the projects in 1995/96, the projects were completed in 1990/91. We deleted only the four following projects: two emergency assistance projects, which had distributed perishable goods as food, blankets, etc. One NGO-house, built exclusively for Danish staff, and a small pilot research project, which came to nothing.[9] Apart from this *we found and visited everything*.

Several projects consisted of many widely scattered subprojects: Here we did not see all subprojects, but only a sample. One project in each of the two largest countries was difficult to visit: China (1) was the training part of a large IBRD-project. Those trained were scattered all over China. India (1) was also scattered over much of India. In both projects we only talked to officials, who had participated, but we managed to talk to people, who participated at different levels.[10]

II.2   *Our assessment scale: points from 0 to 4*

As will be discussed, Danida uses soft and multiple decision criteria. Only one project decision was based on a formal cost-benefit analysis, as far as we can tell. And, neither are cost-efficiency criteria systematically applied. However, there is always a description of what the project is supposed to do! In the end I decided to assess the projects on the scale from 0 to 4 as explained in Table 2.

The number 2 has a crucial position on the scale. It is reached by asking if the projects would have been approved given what we learned visiting the projects: Projects obtaining more than 2 points would have been approved - projects obtaining less than 2 would not. There is one qualification to that rule. We have tried to apply the scale the same way in all countries, even when assuming that Danida does not do so. A halfway successful project in a country where most projects fail (as Zambia) is probably deemed better, than a similarly halfway unsuccessful project in a country where most projects succeed (as Thailand). However, if we are to compare, projects have to be compared using the same criteria as much as possible.

Table 2. Our assessment scale

Uganda (9), Nepal (11), Ghana (33), Zimbabwe (37), Egypt (48), **Zambia** (28), Benin (30), **Nicaragua** (27), Eritrea (5?), Vietnam (12), Burkino Faso (21), Niger (15), Malawi (7), Bolivia (52). The countries are in approximately the order they entered on the list. Though some (as Zambia has been in and out). The (number) gives the position from the bottom on the 1995 IBRD list of the gdp (that is GDP per capita) as much as it is known, cf countries with »?«. The bolded countries are »our« countries. It would perhaps have been better to look at projects in Vietnam instead of China, as Vietnam is still on the list, and in Bolivia instead of Nicaragua, as Bolivia better fulfills criterion (3). However, there were no completed projects the relevant year in the two countries. Also, China is still the main recipient of a special type of soft »mixed loans«, so China is still an important recipient in practice.

9.   Here we could have found the Danish staff, but the Embassy had lost track of the counterpart staff, and nothing tangible had resulted.

10.   In China (1) we talked to the people responsible in the Ministry, including one trainee, and to the sector-people at the IBRD-mission, who was responsible for the present maxiproject. In India (1) we talked to the responsible officials in the Federal Ministry, and at the State parastatal responsible for the largest number of subprojects.

0 points	The activity supported by the project is less than it was before
1 point	The project does a little of what it should, but much too little
2 points	With present knowledge, it is dubious if the project had been accepted
3 points	The project is doing what it should, but it has had no dynamic effects
4 points	The project has started a (positive) development

In Section III we shall run a set of regressions using the points as the left-hand side variable. One group of regressions uses a set of 1-0-dummies at the right hand, another uses more quantitative variables. It is surely problematic how such diverse variables co-integrate, and which linearity assumptions we have assumed.[11]

II.3   Sunday priorities, revealed priorities and the 5-years rule

It is a hard test to revisit projects after 5 years. When time passes, true preferences are revealed. Danida projects are free, and at that price the demand is high. So the negotiators of the recipient try to obtain some, by displaying the right preferences. However, we all know that there are preferences for different purposes. *Sunday preferences* are the more altruistic ones. They are used when negotiating with the donors, in National Plan documents, at the Presidents speech on National Day and such occasions. *True preferences* are revealed when all the political pressures are on in the hard tumble of domestic policy making.[12] Unplanned events and troubles always happen. If the project is not a true priority somehow, nobody takes action, the project falters and eventually fails.

Secondly, the passing of time makes assessments much easier.[13] It is a bit like a traditional marriage: There is a flush of good will and great expectations the great day when the father delivers the bride to the groom. She is at the point of maximum attraction and much can be hidden. Whether things work out is much clearer after 5 years, where everybody knows so very much more. We found that things were clear in nearly all cases. I never disagreed with my travel companion about what we had seen. We often discussed our impressions of the projects afterwards with the Danida officials at the embassies: They were rarely surprised or disagreed very much.

This also meant that we could see only projects that were meant to give permanent effects. This is the basis for disregarding the two emergency assistance projects and the small research project mentioned. However, we did visit a school rebuilding project, where the schools were destroyed by a hurricane.

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11.   The regressions are qualitative anyhow, so we deemed it better just to look at the tests if everything seems to work - we could see no problems.

12.   Most LDCs have a nice basic health program to service people all over the country and also, of course, a central referral hospital in the capital. However, somehow the clinics in the bush are built much slower than scheduled while the central hospital expands well ahead of schedule and budgets.

13.   It would have been impossible to assess 37 projects in 4½ months without the advantage of 5 years of »project clarification«. It goes without saying that we are not experts on the technological details of the projects. We make no claims to expertise on irrigation, road rollers, dairy machinery, orthopaedic medicine, dredgers, etc. Once more we used the rule that things which were working 5 years later had been made as they should.

The results of Cassen (1994) are that projects tend to fall into three almost equally large groups: (A) a are successful, (C) a fail and (B) a neither fail nor succeed. The internal Danida evaluation group told us that their results were much the same. We found that the passing of time had reduced the middle B-group, mainly to the benefit of the C-group.

II.4   The soft, multiple decision criteria of Danida

Danida is - in principle and to a certain extent in practice as well - an integral part of the Danish foreign service. Even if there is some specialization, there is also an increasingly vigorous circulation policy for the staff. Professionalism is not a goal of Danida. However the $ 0.7 billion Danida has budgeted in 1997 for its bilateral program requires many projects, and the 3-400 staff of Danida have trouble spending so much money. Most reasonably well-prepared projects are consequently accepted.

Danida is a *post materialist* institution in the sense of Ronald Inglehart (see his 1977). It means that cost-benefit analyses, cost efficiency calculations etc. are frowned upon and little used. We think we have read all of the reports on which the project decisions were made.[14] One (1) was a formal cost-benefit analysis, and a few others contained cost efficiency calculations. Shadow pricing, adjusting for market distortions and externalities, distribution weights and other »advanced« techniques are unknown. Also, Danida employs few economists. Instead of these hard headed techniques Danida has over the last two decades gone through a process of political consultations, communication with developmental grass-roots to develop another approach. Hereby a set of five goals has emerged as a general policy for the organization:

1   The main goal is the *poverty orientation*: to help the poorest in the poorest countries.
2   The *environmental* goal of sustainability.
3   The *women's* goal of rather helping women than men.
4   The *human rights'* goal.[15]
5   The traditional *economic growth* goal has been retained, but barely so.

Danida has published a great deal elaborating the importance of these goals for mankind. However, it has not developed a methodology describing how the principles should be used and weighted, or - even - a scheme securing that they are systematically considered. Therefore, it is unclear how the goals can be simultaneously pursued.[16] The reader of this paper will surely agree that decision-making based on multiple, unweighted, vague, qualitative goals are almost the same as having no decision criteria. Projects are accepted or rejected based on *judgement* - often by committees. As nobody wants to make

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14.   Danida has been very helpful providing reports about the 37 projects. Since the feasibility reports were about 7 years old, some might have been missing. However, we saw all executive summary on which the final decision was confirmed by the board. Here no rates of return or anything of that kind are reported. The key content is a qualitative description of what the project is supposed to do and a cost estimate.
15.   Below we shall largely disregard this goal as it is irrelevant for projects selection.
16.   The reader may think that the five items sound a bit like five cheers to motherhood, but then Danida has published documents where each cheer goes on for an unbearable long time. Maybe it is a consequence of the altruism of the basic activity pursued. All development agencies - including the multilateral ones - do like to pontificate on their high principles.

projects that fail, it seems that most decision makers use of some sort of informal cost-benefit analysis.

The Danida staff and the consultants preparing the projects all know this state of affairs. The many project-documents of every type we have read therefore largely disregard the goals. They refer mostly to *common sense* and use only (if at all) the goal that is most positive for the project. In my book I discuss the political logic of the soft multi-goal decision criteria of Danida and develop a set of hypotheses explaining what is happening. It is not the purpose of the present article to discuss that theory, so I shall only give a brief summary of the four main ideas:

The political market for aid has a *dual* structure. A Danish political market deciding aid-policy, and a project market between the LDCs and Danida. The two markets are widely separated. A divergence is thus possible and very likely. Consider first the Danish market: Denmark has no national interests in the LDCs. Voters demand development aid as the public good of altruism, that is almost as abstract »goodness«. Altruism is mainly organized politically by the same broad one-issue grass-root movements that exists in all DCs: The (almost extinct) youth's against materialism, the (gradually more moderate) women's liberation movement, the (still very active) environmental movement, etc. Danida has developed a strategy of having a goal appealing to each movement to build a political coalition behind its budget. The movements do not want the goals to be weighted, they would rather like to have their own projects, as they actually have. Also, about 10% of the bilateral program is reserved as support for NGO-projects. Consider next the project market. A project is something concrete and demanded by the LDCs as tangible goods, not abstract altruism. Danish projects are supplied at zero direct costs and hence in high demand. Finally there is, of course, all the usual stakeholder interests, but they are not different from their counterparts in all other sectors.

Most people are willing to contribute a little, but rarely very much, to charity, that is to improve the welfare of others. Few estimates of the extent of altruism exists. The Koran demands that a Muslim gives 10% of his income as alms. That is surely in excess of what would otherwise be given by most people. Gordon Tullock claims that the number is 5%! We hence conclude that the political coalition behind aid has to appeal to the 5%, while aid is demanded well within the 95%. Obviously the two markets are dominated by very different parts of the preference structure.

### III.   Analyzing the results for the 37 projects

This is the section of the statistical analysis. We first consider the distribution of the points. Fortunately we cannot reject that they are normally distributed, so standard statistical theory applies. Secondly, we look at the aggregate results, and discuss how representative the average is. Then the projects are divided according to country-group, sector, etc., for a study of the univariate pattern. Fourthly, the analysis is made multivariate, and then a number of standard macro economic variables are tried, instead of the simple country groups. Finally, we try to see how the multiple goals of Danida are used in practice.

III.1   How are the points distributed?

Figure 1 shows the distribution of the points we have given to the 37 projects. It is drawn as a probit diagram. Ie., as a cumulative frequency distribution against an ideal normal distribution with same average and standard deviation. The distribution of the points does not look perfectly normal. The largest deviation from normality being the concentration of projects with 3 points and the simple fact that we use a scale censored to a closed interval. In short, a formal test for normality is necessary.

The standard skewness-kurtosis-test for normality reaches a p-value of 11%, so it comes close to rejection, as suspected from the probit diagram. However, the test *fails to reject normality*, so we may use the standard tests based on normality.

Figure 1. Probit diagram showing the 37 observations
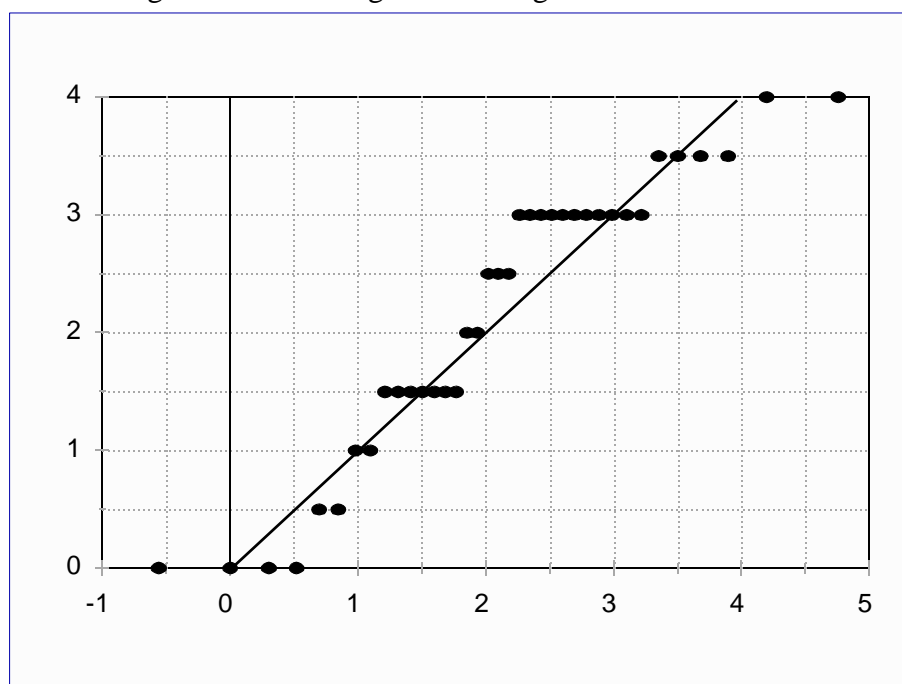
III.2   Our average <u>b</u> *= 2.16. How close is the true success rate,* β*?*

Table 3 gives the main structure in the result. The pattern is hardly surprising, though perhaps the orders

of magnitudes are. The average project obtains $\underline{b}$ = 2.16 points, with a standard error of 0.20. It is thus just above the acceptance line.

From the standard error we get the following confidence intervals: With 50% probability β is in the interval [2.04, 2.28]. With 95% probability β is in the interval [1.82, 2.50]. We are thus unable to reject the possibility that the average project is below 2, especially as the true confidence interval is probably a little larger than the one used.

Table 3. Summary of project assessments

	n	Group average		Residual group		Difference
All projects	37	2.16	(0.20)	-	-	-
a. Country group						
Africa	13	1.35	(0.34)	2.60	(0.19)	-**1.25**
Orient	4	3.25	(0.25)	2.03	(0.21)	+**1.22**
Latin America	5	2.60	(0.53)	2.09	(0.21)	+0.51
Indian Subcontinent	15	2.43	(0.20)	1.98	(0.29)	+0.45
b. Sector						
Agriculture	9	1.39	(0.43)	2.41	(0.20)	-**1.02**
Industry	3	2.50	(1.57)	2.13	(0.21)	+0.37
Transport	8	2.25	(0.49)	2.14	(0.22)	+0.11
Health/social	5	2.60	(0.43)	2.09	(0.22)	+*0.51*
Education	12	2.42	(0.28)	2.03	(0.26)	+0.38
c. Ownership of project						
Ordinary public	20	2.25	(0.28)	2.06	(0.28)	+0.19
Parastatal	8	1.50	(0.40)	2.34	(0.22)	-**0.84**
NGO	8	2.50	(0.35)	2.06	(0.23)	+0.43
Private	1	3.00	-	2.14	(0.20)	+0.86
Size, weighted averages						
Project expenditure	37	2.10	-	-	-	-0.06
Maxiproject (v's)	37	2.06	-	-	-	-0.10

Note: After each average is its standard error in (). In section a-c of the table two averages are given: the first is the group average. The first average is for the 13 projects in Africa. The second average is for the remaining 24 projects. The right-hand column gives the difference, Δ, between the two averages. If Δ is significant at the 5% level it is bold, if significant at the 10% level it is in italics, while insignificant Δs are given in normal type.

However, Section II.1 argues that our average, $\underline{b}$, is likely to have three biases - all upward.[17] It is easy to estimate the effect of the sample skewness, B1. This is done in Table 4 by changing the weight by which the country group averages in section a of Table 3 are aggregated. Instead of weighting with the

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17.   Also, it is arguable (see chapters II.5 and II.6 in my book, dealing with Norwegian and Swedish aid) that we take too little account of cost efficiency. It is easy indeed to argue that β is well below 2.

number of projects, one can use the fractions in the left-hand part of Table 1. This reduces the average from 2.16 to between 1.82 and 1.90. It is much more difficult to assess the sizes of the other two bias' B2 (due to selecting well-known recipient countries) and B3 (due to selecting peaceful countries). However, if we disregard B3 and assume B2 to be very small, we end slightly below $\beta = 2$, but not significantly so.

Table 4. Correcting for the sample bias

	Points	Sample	Repres.	Ass 1	Ass 2
Africa	1.35	35.2%	55.9%	63.5%	55.9%
Orient	3.25	10.8%	7.1%	8.1%	7.1%
Latin America	2.60	13.5%	4.8%	5.5%	7.2%
Indian Subcontinent	2.43	40.5%	20.2%	22.9%	29.8%
Others	?	0.0%	12.0%	0.0%	0.0%
		100%	100%	100%	100%
Weighted sum		2.16		1.82	1.90

Note: The points are from Table 3 and sample average as well. The »Repres.« column are the % fractions from Table 1. The »Ass 1« (for assumptions 1) distribute the 12.0% proportionally to the four groups. The »Ass 2« distribute the 12.0% proportionally to the two least deviating country groups, that is to Latin America and the Indian Subcontinent. We assume that the true weighting is somewhere in between.

As the distribution is fairly normal, and hence symmetrical around the average, this translates into the finding that half the projects fail and half succeed.

III.3   Dividing the projects into groups: a univariate analysis

Table 3 also provides a set of averages covering various groups. In sections a, b & c of the table two averages are given in each line. The averages for the group and the average for the remaining projects, once the group is deleted. The last column to the right in the table shows the deviation between the two averages. It is also indicated if the two averages are significantly different by the standard univariate test. Four significantly deviant groups appear:

Section a of the table looks at the variation across country groups. Two of the significant deviations occur here: The negative deviation of Africa is much more significant as we consider 13 projects here and only 4 in the Orient - when Africa is deleted the remaining 24 projects are significantly above 2. The average project in Africa fails, and it fails significantly, even at the 1% level. That is, it is significantly below 2. As everybody in the aid business know, development aid has a serious *Africa-problem*. It is much harder to make project in the poorest continent than everywhere else, a fact we shall further explore and discuss below. Latin America and the Indian Subcontinent have virtually the same average. It is thus the normal average in the middle once the deviants are singled out.

Section b looks at sectors. Here the delimitation is somewhat arbitrary, and as we have only 37 projects, we can make fewer groups than we would have liked. Agriculture stands out significantly -

again negatively and with 1 point. It also appears that the social sector projects are doing relatively well - though they differ at the 10% level of significance only.

Section c regards the ownership to the project. The main result is that projects at parastatals tend to fail. It looks as if projects at NGOs are doing relatively well. The averages of the other projects are so similar that we can say little. Note that there is one private project only. It came about by a fluke, and does not generalize.

The last (and technically different) section tries to see if it matters to weight the projects by their size. It is done using two sets of weights - both given in the appendix. The first set is project costs. The second is a proxy for maxiproject size. Often we do not have the maxiproject costs, but we have used a simple 5-step proxy. It is not a linear variable, but rather a log-linear one. The second weight set is surely the better one. Both sets of weights reduce the result, so we have found evidence showing that Danida does smaller projects better than large ones, but this effect is small.

The analysis so far is univariate, and the variables are likely to be correlated. Maybe Africa stands out because projects in Africa are mainly in agriculture and parastatals, etc. To explore these possibilities, we have run a set of multivariate analyses, finding surprisingly little multicollinearity.

III.4   Multivariate results: which effects are independent?

Table 5 gives a total of 15 selected OLS-regressions on our 37 observations. Regressions with other combinations of the explanatory variables confirm the picture shown. The variables are scaled to be comparable to the univariate results of Table 3.

The explained variable is always the points each project obtained, while the explanatory variable(s) is one or more dummies.[18] Most of these dummies are 1-0-variables. That is, the Africa dummy is 1, if the project is in Africa and else 0. The parastatal dummy is 1 if the project is in a parastatal and else 0, etc. The only dummy with more steps is the v-dummy for maxiproject size. It is made from the v's given in the appendix simply by removing the v's, so that v3 becomes 3, etc. This step dummy thus has 5 steps.

The top section of the table is given to show that the constant and dummy neatly reproduce the univariate results in Table 3 (as it should). The interesting part of the table is the second section, giving multivariate results. The main point to notice is the stability of the coefficient in the columns, ie., if the variables are stable when other variables are included.

Most columns show that the multivariate estimates are smaller than the univariate one at the top - the surprising finding is how little they fall in most cases. The Africa effect and the agriculture effect are statistically very satisfactory, and even the Orient effect (based on four projects only) is almost stable.

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18.   That is, a constructed qualitative variable.

Table 5. Regressions explaining the success of our 37 projects by the variables from Table 3

No	Constant	Country group		Sector	Ownership		Size	R^2
		Africa	Orient	Agriculture	Parastatal	NGO	v's	
1	**+2.60**	**-1.26**						0.26
2	**+2.03**		**+1.22**					0.10
3	**+2.41**			**-1.02**				0.14
4	**+2.34**				**-0.84**			0.09
5	**+2.07**					+0.43		0.02
6	**+2.49**						-0.08	0.02
7	**+2.48**	**-1.13**	*+0.78*					0.29
8	**+2.79**	**-1.17**		**-0.88**				0.36
9	**+2.64**	**-0.96**	**+1.15**	**-1.08**				0.44
10	**+2.57**	**-0.97**	**+1.13**	**-1.10**			+0.03	0.44
11	**+2.29**				*-0.79*	+0.21		0.09
12	**+2.47**				*-0.78*	+0.12	-0.03	0.09
13	**+2.53**			**-0.93**	*-0.70*	-0.05		0.19
14	**+2.53**	**-1.04**	*+0.72*		-0.38	+0.01		0.31
15	**+2.79**	**-0.96**	**+1.11**	**-1.11**	-0.25	-0.28		0.45

Note: Estimates in bold are significant at the 5% level and estimates in italic are significant at the 10% level. Estimates in ordinary type are insignificant.

It appears that the Africa-dummy, the Orient-dummy and the agriculture-dummy all give independent effects of about one. That is, if a project is in Africa or in agriculture, they get 1 point *less* than other projects. Agricultural projects in Africa thus get 2 points less! Projects in the Orient give 1 point *more* than other projects. An agricultural project in the Orient will end at +1 -1 = 0, which is at the average.

The two ownership dummies are less stable. However, the parastatal dummy is always negative and mainly significant. So, in my judgement it is reasonably well established that parastatal projects score ¾ less than other projects. However, the relative success of NGO projects is dubious. The same applies to the size effect. Both effects are insignificant and unstable. We shall however argue, that these effects are very likely, so my hunch is that they might have been significant if we have had more projects in the sample.

III.5 *Variables characterizing the economies of the countries*
In tables 3 and 4 most of the explanatory power came from country-group dummies - regression 7 in the table has an explanatory power of $R^2 = 0.29$. This is amazing for a regression containing nothing but two country group dummies. However, these variables are uninteresting policy-wise as they are fully deterministic. If a country is so unlucky as to be in Africa, it is too bad! We would like variables that are susceptible to changes.

Country-group dummies are proxies for a whole *web* of variables. The web is all variables characterizing the economies, cultures, history, natural environments, etc. of the countries. The country

groups further make a *homogeneity* assumption as to the web within each country group.[19] That is, the *relevant* aggregate of the web is so similar within the country groups that we may join the countries of each group together. The high level of significance and coefficient stability shows that the group homogeneity assumptions are justified to a remarkable extent.[20]

Table 6. Explaining the success of projects by variables characterizing the economies

No	Constant	GDP growth	gdp	Log GDP	Export share	Land-locked	Log pop	R^2
16	**1.68**	*0.12*						0.09
17	**1.90**		**0.07**					0.03
18	–2.29			**0.19**				0.13
19	**2.53**				–0.02			0.04
20	**2.23**					**–1.34**		0.15
21	0.98						**0.18**	0.11
22	**1.63**	0.11	0.02					0.10
23	0.82	0.08		0.05		*–1.10*		0.22
24	**2.31**				0.00	**–1.44**		0.15
25	0.71	0.05	0.06	0.05		*–1.18*		0.23
26	1.40	0.06	0.06			*–1.23*	0.03	0.23

Note: See note to Table 3 and 5, and the text for definitions of variables.

We would like to dig deeper and find the true explanatory variables within the net. This is to go for the deepest question of economic development considering 37 observations - we can therefore hope to make little headway only. A first step is made in Table 6, looking at the impact of six next level variables, giving a very crude characterization of the nine economies. That is, I have replaced the variables of Table 5 with the following »ordinary« variables:

1.   GDP growth. The average 1985-1995 of the annual growths rate for real GDP.
2.   gdp, GDP per capita 1990 - in US $ converted at official exchange rate.
3.   Log GDP, the natural logarithm to GDP 1990.
4.   Export share, ie., exports in % of GDP 1990.
5.   Landlocked, 1-0-dummy for landlocked countries, ie., 1 for Zambia and Bhutan, else 0.
6.   Log pop, the natural logarithm to the population 1990.

Except (5) they are all taken from IBRD-Stars (1997). From the table, it appears that the variables tried explain less than the two simple dummies for country group. Also, the variables suffer from strong

19.   The importance of the grouping is obvious once we consider the way economic development has spread in the world. Once one country in a region develops, it has a very strong tendency to spread to the neighboring countries, especially if these countries have a lot in common.

20.   We considered three neighboring countries in East Africa only; but my hunch is that it would only have marginally changed the result if we had included a couple of West African countries.

multicollinearity. The 1-0-dummy variable for landlocked countries is the best one, and it works as it singles out Zambia. The export share should be positive, only when put in together with a variable for country size - this happens, but it becomes very small and insignificant in our sample. We thus conclude that all the measures for country size, economic development and dynamics work as expected, but they are so strongly correlated in our sample that nothing becomes significant when they are put in together. They even »swallow« the constant. All in all, the other variables appear to work less well than the simple country group dummies. This is not a satisfactory state of affairs, but at least we know that there is a simple and highly significant pattern in the data. What we need is to fully understand that pattern.

III.6   Are the »other« goals of Danida taken seriously?

Section II.4 explained the soft multiple goals of Danida. (1) The overriding poverty goal. (2) The environmental goal. (3) The women's goal. (4) The human rights' goal. (5) The economic growth goal. Danida has not developed a methodology, and qualitative criteria are never given. Consequently, we have to be very soft too.

Table 7. The extent to which Danida pursues its goals

Goal		Positive	Weakly positive	Neutral	Weakly negative	Negative
Poverty	gross	27%	11%	48%	3%	11%
	net	**+16%**	**+8%**			
Environment	gross	11%	3%	70%	8%	8%
	net	**+3%**	-**5%**			
Women	gross	3%	5%	73%	16%	3%
	net	**+0%**	-**11%**			

Note: The net figures are calculated from the line above. Eg. 27% of the projects are positive as regards poverty reduction, but as 11% are negative, the net is 27% - 11% = 16%. The same calculation is made by the weakly positive and weakly negative.

Both (1) and (4) are important when it comes to country selection. Danida helps only poor countries (see note 8), and most crises have occurred when countries commit demonstratively undemocratic acts as military coups, massacres, etc. However, Vietnam is on the list and so was China for a long time. There also are a few special human rights' projects. We have no such project in our sample. We have however tried to see, if the poverty, environment and women's goals are reflected in the sample by asking the following question: Is the primary project positive or negative for the goal? It can be positive both as regard the product or the production. We here take the product to be more important.

        Consider the women's goal: The project is positive for women if it is a woman's school, and negative if it teaches boys only. Railway transport is presumably neutral as to gender. However, a project improving the central workshop of a railway, where only men work, is negative regarding production. We hence say that it is weakly negative for the goal.

Table 7 shows the result when we go through all the projects and try to assess if it is positive, weakly positive, neutral, weakly negative or negative. Note that the assessments are short run only. If a project starts a development, there are likely to complex long run effects on all goals, effects that it would require a major research effort to trace.

Our impressions are thus that there are some signs that Danida is somewhat poverty oriented, but we have found no signs that the environmental and women's goals are taken seriously. It is worth mentioning that most of the projects that are oriented toward poverty and women are in India. There is no poverty or women's orientation in the other country groups.

IV.   Discussing the results and experiences

Much could be said trying to interpret our results. We shall however be very brief at present, and concentrate on the pattern shown in Tables 3 & 5. We then make a few observations on technology transfer and two project types: (i) School-buildings and (ii) dairies.

VI.1   Is a success rate of 2 satisfactory?

A success rate around 2 means that it is very dubious if the average project is worthwhile. As we follow Danida's own project descriptions it certainly means that they are too optimistic, and surely if we had used a lower pivot, more projects would have passed. It would have been much clearer, if we could have used cost-benefit criteria and asked: do projects produce benefits larger than their costs. During the work I have often wondered if such an approach would have given other results. We can roughly translate our finding into the claim that about half the projects have failed after 5 years. When we look at other investment projects, it is not unusual, and certainly not surprising given the nature of the task. Private investment projects in LDCs (and in DCs) also have a large failure rate, and it is a well-known rule of thumb that ⅓ of all company mergers fails. The pattern in the projects is interesting to contemplate.

IV.2   Discussing the results

We thus have several results to explain. The least significant results are unfortunately the most easy to explain:

i.   The (insignificantly) better success rates for NGO-projects and small projects are the most easy to explain. They follow from the analytical traditions of Danida. Small projects are easier to grasp at the informal, intuitive level than large ones. Also, NGO-projects are often made in cooperation with a local NGO, who is present at the spot, owning and hence caring about the project.

ii.   It is also easy to understand why projects at parastatals tend to fail. It is due to the abysmal record of LDC parastatals, as recently documented in IBRD (1995).

iii. It is less easy to understand why agricultural projects do so poorly, though two explanations are likely: (ag1) Agricultural projects often demand that the project communicates with large groups of farmers in the traditional sector - this is notoriously difficult. (ag2) Most LDCs have pursued

policies that discriminate strongly against agriculture.[21]

iv. The most difficult to explain is the Africa-problem. I know that everybody in the aid business is aware of this problem, but no easy explanation exists.

Two easily observable aspects of the Africa-problem are: (A1) There is a *maintenance problem* in Africa. That is, while it is easy to create an organization maintaining a project in Asia, it is remarkably difficult in Africa. Projects therefore tend to deteriorate much quicker in Africa than elsewhere. (A2) There is a relatively large *project ownership* problem in Africa. Many African countries are large and old aid recipients. If a project deteriorates, its donor tends to come back and put it in order, and there is always another donor. We have even seen a case where Danida had tried very hard to create an organization collecting money for the maintenance, but then a representative from Sida (Sweden) passed by and suggested they might pay. When donors appear to compete servicing projects, it would be stupid for local communities to do anything. In addition it should be mentioned that the 1980s were the days where African Socialism was in its decaying phase. Many economies were here stalled in regulation, rent-seeking, inflation and crippling balance of payments crises.[22] This all created an atmosphere of low project seriousness that is a major part of the Africa-problem.

IV.3   Technology transfer - no priority area

One reason why the LDCs are behind is the lack of human capital especially in the fields of technological know-how. One way to transfer the relevant human capital is to transfer technologies. However, this is no goal of Danida, and it is not done very much.

Our best count is that there is an element of technological transfer in 10 of the 37 projects, and an element of organizational transfer in an additional 3 projects. That is, there are some projects within fields where Denmark presumably has special organizational knowledge. The 13 projects are exactly as successful as the rest.

Most of the projects use local technologies and design. There are, eg., rock water catchment projects, using an old (Anglo-Indian?) technology that for good reasons is unknown in Denmark (having no rocks). The same applies to irrigation projects (Denmark needs drainage not irrigation). Danida has also provided several thousand India Mark II hand pumps. They are additional to the many hundred thousand, India is already putting up. In Denmark hand pumps turned into an item of nostalgia. Recently, Denmark has moved into latrines in South India aiming at changing the toilet-habits of the Indians as founded in the caste system. This is recommended by the WHO, but I wonder how such a project should be understood? Is it likely to succeed?

Danida has also financed many school buildings using local design and materials. This is worth the few words of IV.4. The most obviously technological transfers have taken place within the field of

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21. The size of the discrimination has been documented in Krueger, Schiff & Valdés (1991, 1992).
22. This, in particular, applies to our three projects in Zambia. They were made at parastatals that were strangled by regulations at the end of the Kaunda period of »Humanism«. Here some Danida funds were provided for spares at old »Danish« projects. When we saw the projects, they were in shocking conditions, as they were under privatization and all efforts had ceased.

dairies, as discussed in IV.5. Most of the projects are therefore *gap-filling projects*, where a local administration cannot do as much in a certain field as it would like. Then Danida steps in, filling some of the gap. However, with some fungibility added, it is hard to know what becomes the marginal product. The whole country program often comes to look very much like a general supplement to the budget of the LDC.

IV.4   School buildings

A total of 11 projects is basically the building of school buildings. Danida has not developed cost effectiveness criteria so that we can assess if the projects are cheaply done.

Most of the schools in question were working when we visited, often well above capacity. The maxiproject was of course the whole school including the teaching and its relevance for the development of the country. Ideally we should have tried to analyze the return on the human capital build by the school, but this was surely far outside the scope of the project, so we have here just passed by and seen if the buildings were used as they should. This was the case in most projects. And, a great deal of the sum of points obtained by the projects of our sample accrued to such working schools. In fact, if we disregard the 11 school projects, the average project gets 1.80 points only.

So if Danida would build only school buildings, it would give the organization a very easy success by our criteria. However, the replication of school buildings appears a very modest development program, something local communities should be able to do themselves. Danida certainly has other and higher goals.

Also, I am sure that if we could have applied cost efficiency criteria consistently, we would have found that some of the school buildings were too expensive.

IV.5   Dairies and the livestock sector

We have seen dairy-projects in Bangladesh (1), Thailand (2), Zambia (1) and a slaughterhouse in Zambia (2). All these projects are minor parts of a much larger engagement.

Denmark has one of the most advanced dairy sectors in the world, and, as a result, Danida has implemented large dairy programs in a dozen countries. The starting point is the observation that a typical LDC cow produces a few hundred liters of milk a year, and the production has a marked seasonality, while the average Danish cow produces a bit more than 9'000 liters, with little seasonality. So there is a tantalizing potential for an increase of 35 times. Milk is highly perishable, so in many LDCs most milk available in the towns is imported milk even while the country is teeming with cows. So it should surely be possible to make a fine development project here.

However, everything pertaining to the two cows-sectors is different: The race of the cow and the feed of the cow, the health care available, etc. The heavy Danish cow turns out to be a fragile animal, needing much care and the proper feed to produce optimally. A typical LDC cow is a much tougher and agile animal, adept at surviving of the available diet, which it has mostly to find herself. The LDC-animal feed sector is characterized by a lack of believable and controllable indications as to content of the bags available. Danish cows quickly die under such conditions. However, to reap the potential, everything

has to change. This is surely a complex process. It has even proved difficult to break into the production circle in many LDCs.

The projects in Bangladesh and Thailand had worked. Both countries now have a small -but well established and growing - dairy sector. This has taken about 20 years, and much larger efforts and more money than first imagined.[23] The Danish experience is that the development of a viable modern milk sector is a process lasting several decades.

In Zambia the problems were greatly increased as the whole of the milk sector from the cows to the retail level was made into one state monopoly, which worked as badly as any of the Zambian state monopolies.

V.   Summary with a look into the future

The results of the analysis are rather clear and much as other studies of development programs. It appears that the pattern found is close to the one found by the IBRD in their program. The strongest results are:

The first issue is if the average project is worthwhile. We have constructed our assessment scale so that this »translates« in the question: Does the average project obtain more or less than 2 points? The average of our 37 projects is 2.16 - barely above 2. We know that our selection process has a few biases - and that they are likely to be positive. When we correct the result for these biases, we are unable to say if the result ends over or below 2.

In addition, we have found four substantial, independent and significant factors influencing the expected result. The expected project success rate falls by 1 point if (p1) it is in Africa or (p2) in the agricultural sector. It falls by ¾ if (p3) the project is at a parastatal. If either factor is present, the project can be expected to fail. Are none of them present, the project can be expected to succeed. We have found one positive factor that can outweigh one of the negative ones: In the dynamic countries of the Orient projects goes relatively well.

In addition, we have found two dubious results: NGO-projects are relatively more successful, and Danida does small projects better than large ones. Both results are insignificant. My hunch is that they would become significant in a larger project sample.

The analysis deals with Danida projects planned about a decade ago and carried out between 1987 and 91. There are three families of reasons why these results may not be valid anymore: The LDC-world changes and so does Danida. First we shall, however, consider the most elementary reason to expect the success rate to rise.

V.1   Learning by doing

It is well-known that organizations learn by doing. That is, if an organization keeps doing the same, it

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23.   In Thailand it was an additional problem that milk and milk-based products did not exist in the traditional culture. People, who have not eaten any milk-based products since they were weaned off their mothers, cannot digest such products. However, once milk products enter the diets this problem gradually disappears. This surely adds another long lag to the process of an emerging milk sector.

gradually learns. The typical effect in a factory where the capital stock is constant, is only 1-2% per year, but it is cumulative. We have in many cases seen successor-projects to our projects. They are rarely much different, but there are always some improvements. We have not been able to calculate an average annual rate of improvement. And, the Danida project portfolio keeps changing, so the rate is probably small, but it could very well have added 0.1-0.2 points to the expected success rate during the last decade.

V.2   Changes in the LDC-world: increasing the expected success-rate
It is well-known that the LDC-world is going through a period of liberalizations. Discrimination against agriculture is decreasing and parastatals are privatized. Perhaps this movement is particularly strong in Africa. These developments are surely making it easier for projects to succeed.

It is interesting to try to measure how strong these liberalizing changes are. In our nine countries they have been dramatic in China, Zambia and Nicaragua, but mostly talk in India and Kenya. Significant, but gradual in Tanzania, Bangladesh and Bhutan, and weak in Thailand, which was a liberal economy all along.

A few attempts have been made to quantify the size of the liberalization going on. The most comprehensive (and heroic) is the one of Gwartney, Lawson & Block (1996). From the assessments they have collected and coordinated, it appears that the change toward liberalization became visible in the data of the average LDC only after 1985, and it has been fairly moderate. It will probably continue for some time into the future, but the changes are much less than it seems from afar. Also, it will take a great deal of further change to make the average LDC as »free« as the average OECD-country.[24] A liberalization has three relevant effects:

E1: project analysis will become easier. The analysis has to be adjusted for market-distortions and as the distortions decrease, the analysis becomes easier to make, especially by informal methods. In addition, the distortions in the agricultural sector are likely to (continue to) fall - reducing one of the two main reasons why agricultural projects fail.

E2: many projects failed because they were feasible only given some distortions that were made under the old policy regime. When the regime changed, they collapsed. If the main changes have been made, this reason for project failure is gone.

E3: many parastatals are now being privatized, or (at least) forced to operate under something like market conditions. That reduces the project failures due to the failed institution of the parastatal. In section c of Table 3 we have calculated that if there are no parastatals - and hence no parastatal projects, the average success-rate raises from 2.16 to 2.34. It is not a large change, but it still doubles the distance down to 2.

If E1 and E2 have similar effects, the success-rate will change appreciably, and the average project will be significantly above 2.

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24.   Uncoordinated international movements in policies and ideologies as we have seen are likely to be somewhat
          cyclical. The big wave towards regulation and socialism lasted from the late 1970s till the early 1980s. Now we
          see a similar swing toward deregulation and liberalism.

V.3   Changes in Danida: decreasing the expected success-rate

Two changes are relevant: (i) the deprofessionalization of Danida and (ii) the policy changes of the organization. Both changes point to a decrease in the success rate.

The deprofessionalization of Danida takes place through the increasing integration of the Danida personnel into the normal foreign ministry. Project analysis and diplomacy are both difficult fields, but the fields are not very similar. I doubt there is much cross fertilization obtained by circulating civil servants through both fields. And, it is surely detrimental for the creation of an esprit de corps and the accumulation of knowledge.

Danida is undergoing two policy changes: The concentration to 20 countries and to sectoral programs instead of projects. The concentration to 20 countries is probably fine, though 20 might be too many. However, sectoral programs are nothing but large projects without start and end. Such maxiprojects would appear to demand a very strong analytical tradition. As mentioned, one of the priority sectors is the agricultural sector in Africa. Danida has a couple of experienced experts in this field, but it is the kamikaze sector of economic development, so maybe some more maxiprojects like Tanzania (1) will come to happen.

V.4   The end

When all these likely developments are added, it appears likely that there are more developments allowing for optimism rather than pessimism. Perhaps Danida is moving from a situation where we are unable to say if the average project is worthwhile into one where it is.

Finally, there is a basic dilemma of the aid given by such small, rich countries as Denmark. The Danes demand altruism of their aid program - it is a post materialist activity, which turns against materialism. What the poor countries desperately need are thrift and harsh economizing - in other words: Down to earth materialism.

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Appendix: Summary of the 37 projects

To make everything comparable all money-amounts are converted to fixed 1996-$. That is, we use two assumptions: (i) The exchange rate is 7 DKK to the $, and (ii) the inflation rate is 3% pa. If the project was constructed from 1988-90 costing DKK 35 million, we put it at $ $(35/7) \cdot 1.03^7$ mil = $ $5 \cdot 1.23$ mil = $ 6.2 mil. Ministries are differently divided and named in different countries. We use the abbreviations: »MoW«, »MoA«, »MoH«, etc. are the Ministries of Work (that is public works, infrastructure and communication), Agriculture (that is Agriculture and Irrigation) and Health. »Ex« is project expenditures, while »Bu« is the estimated costs, as allocated in the Danida budget, when the project is approved. We give Bu-figures only when much different from Ex-figures.

In the square brackets we give our impression about the poverty orientation »P«, the women's orientation »W«, and the environmental orientation, »E«, of the projects. We here write »+« if they are positive, »(+)« if they are weakly positive, »?« if we saw no orientation or if the project gets 0 points anyhow, »(-)« if the project appears weakly negative and finally »-« if they are likely to be negative. To indicate the sizes of the maxiprojects, we use a roughly log-linear scale from v1 to v5. »v1« is given to projects below $ 1 mil, while »v5« is given to projects above $ 40 mil.

1.   **Bangladesh (1): Renovation of Dairy (Vita Milk: cooperative/parastatal)**
     Maxiproject: v4. Danida and FAO/UNDP have supported the dairy sector in the country since 1974, mainly by supplying dairies. **Project:** A renovation of the main dairy. Ex $ 0.43 mil. **Point 2½.** [P?, W?, E?]. The sector is, in principle, cooperative, but the dairies were poorly run and accumulated so much debt to the state that it is closer to a parastatal firm. The whole sector was restructured in 1991: milk prices were adjusted, a new management was put in charge of the dairies, they were restructured financially, etc. The dairies are now run as firms, at a high capacity level and pays for itself. The costs incurred in the total project will never be recuperated, but a viable dairy sector has resulted.

2.   **Bangladesh (2): Spares for Dredgers and Tug Boat (BDC: parastatal)**
     Maxiproject: v3. The dredger parastatal BDC. **Project:** New spares to previously delivered dredgers and tug boat. Ex $ 0.3 mil. **Point 3.** [P?, W(-), E?]. BDC is a typical (South Asian) parastatal, run by engineers, who are good at maintaining their very old equipment. The parastatal is not run as a company, but the machinery is kept running. The company management knew everything about their machines and the Danish dredgers were in seemingly fine working conditions. We saw much older dredgers being repaired. It seems that the dredgers were used as much as one could have expected, but BDC was clearly not organized as a company, running along normal lines.

3.   **Bangladesh (3): Support to River Research Institute (RRI: parastatal)**
     Maxiproject: v1. RRI is a consultant parastatal running simulation tests for all major water construction projects in the country. RRIs expertise is large scale physical modeling. **Project:** Danida has run a (long run) training and exchange program between RRI and its Danish sister institution, under ATV, the Danish Academy of Technical Sciences. Ex $ 0.32 mil. **Point 2½.** [P?, W(-), E?]. RRI uses an old, well tested and robust, technique for the analysis of construction projects in rivers. It appears that the cooperation with the Danish ATV has worked well. However, the last 5 years have been a bad time for RRI. (i) The institution was moved across the river to Faridpur 5 hours journey from Dhaka. (ii) A new division of RRI was opened in Dhaka making computer models of rivers. That new division is now becoming independent, leaving the old RRI isolated in Faridpur.

4.   **Bangladesh (4): Road rollers (MoW)**
     Maxiproject: v4. The road roller division at the MoW, Highway Department. **Project:** Supply of road rollers. Ex $ 1.5 mil. **Point 1½.** [P?, W?, E?]. Danida has since 1976 supplied a total of 349 large Danish JM road rollers. They have been supplied under several projects - this was the last. They are solid, and there is an agent for JM in Dhaka supplying spares. All the road rollers appear to be working. There are two problems with the project: (i) The MoW does not have an administrative system keeping track of their road rollers, where they are, what they are doing, etc. So it is not possible to say if they are used as they should. (ii) An evaluation report claims that smaller road rollers would be better for the local conditions. Whether it is true has been disputed by MoW.

5. **Bangladesh (5): Essential medicine - regional project with WHO and Sida (MoH)**
Maxiproject: v3. A WHO-Sida-Danida »pilot« project in one province, ie., for 1.3 mil people. **Project:** The Danida part being 50% of the external costs of $ 14 mil, ie., Bu $ 7 mil, however, Ex $ 2.2 mil. **Point 1.** [P(+), W?, E?]. Bangladesh has for long tried to agree upon and implement an essential medicine policy along WHO guidelines. The main problem for the policy is that Bangladesh has a well-established medicine sector with many links to the international industry. This sector successfully fought the introduction of a public essential medicine scheme. The project did not work well. The counterpart did not manage to approve a policy in the period, and the donors did not feel supported policy-wise. The project consequently faltered, the money was only partly spent, and the project was not continued.

6. **Bhutan (1): Essential medicine - national project with WHO (MoH)**
Maxiproject: v2. The medicine supply of the country. **Project:** A Danida financed introduction of a WHO-type essential medicine scheme. Ex $ 0.6 mil. **Maxiproject (later):** Later Danida and other aid agencies have started on a much larger health sector program. **Point 3½.** [P+, W?, E?]. Bhutan had no sector producing modern medicine when the project started and hardly any distribution of such products. Also, there was nobody with a formal education in the field. People are now being educated, as fast as can be expected, but there are still far too few. The project was delayed a little, but was successfully implemented. It is now running well, given the starting point.

7. **Bhutan (2): Master Plan for the Forest Sector (Ministry)**
Maxiproject: v1. The forest policy of Bhutan. **Project:** The production of the background for a »master plan« for the national forest policy. Ex $ 0.44 mil. **Point ½.** [P?, W?, E?]. The main natural resource of Bhutan is forest. India lacks wood, so the forests have great value. However, the availability of enough cheap (free) wood is the (material) basis for much of Bhutan's traditional culture. There is thus much vested interests involved in formulating a forest policy. It has not happened till this day.

8. **China (1): Assistance to IBRD Road and Bridge Project Nanchang-Jiujiang (Province and Town)**
Maxiproject: v4. The 112.6 km road from Jiujiang to Gan River and across to Nanchang was to be financed 50-50% by the IBRD and the Province and - as regards the bridge - the town of Nanchang. During the implementation it was expanded from a two-lane highway to a four-lane super turnpike. The expansion being financed by the province including access roads, toll plazas, etc. **Project:** A Danish engineering firm was to help running the international bidding, plus training of the local engineers, and provision of a resident engineer to the road and the bridge. Ex $ 1.37 mil. **Point 4.** [P?, W?, E(−)]. Thanks to the large expansion, the project was delayed and costs expanded four times in real terms. Everything was almost finished when we visited. The quality of the road surface was lower than the typical DC turnpike, but the road layout was fine and everything looked like working fine. The province was now using competitive bidding on its own, and its construction company had won contracts in other provinces and even abroad (the first in Kuwait).

9. **China (2): Assistance to IBRD Seed Project (MoA)**
Maxiproject: v4. The seed handling sector in China is being modernized by the Chinese government (MoA) and two IBRD projects. IBRD-1 aimed at modernizing 18 seed handling centers. IBRD-2, now running, aims at modernizing 282 centers. **Project:** The Danish subproject was concentrated on the training aspects. Ex $ 1.75 mil. **Point 3.** [P?, W?, E?]. The project ran much as planned. The main problem being the linguistic ones, as the Chinese participants did not have the grasp of English they should have had according to the agreement.

10. **India (1) Delhi: Orthopaedic Centre (NGO: NDCCW)**
Maxiproject: v1. The centre and its outreach program, as run by the New Delhi Council for Child Welfare. **Project:** The building and some of its equipment. Ex $ 0.58 mil. **Point 2½.** [P+, W?, E?]. The centre is treating and educating children with polio in a poor section of Delhi. Everything was as planned, but the capacity was not fully used. Now polio is being rapidly exterminated in India, so in some years the centre must do something else.

11. **India (2) Tamil Nadu: Permanent Energy (Ministry, and State Parastatals)**

Maxiproject: v3. The non-traditional energy sector in India, as administrated by the Federal Ministry. **Project:** Pilot projects using wind and solar energy. Ex $ 3.5 mil. **Later:** Much more windmills. **Point 3½.** [P–, W?, E+]. The windmill project led to a thriving private windmill sector, and a large Danish export. There is now a whole set of tax rebates, etc. subsidizing windmills in India, and making them highly profitable in the small parts of the country with enough wind. The solar energy project failed. It seemed that Denmark had no solar energy sector able to support a program in India.

12. **India (3) Karnataka: Rural Development in North Kanara (state MoA and other ministries)**
     Maxiproject: v4. The regional area of North Kanara. **Project:** 49 minor irrigation projects, with corresponding rural access roads and extension. Ex $ 12 mil. **Point 2.** [P?, W?, E?]. North Kanara is a remote, but not particularly poor area in Karnataka. The irrigation projects were all of a local design and locally done. They were poorly done and needed a round of repair, and in the end only half as much as promised were constructed. However, they now work much as all other irrigation schemes in the area. The project ran from 1978 to 91.

13. **India (4) Karnataka: Drinking Water (State MoW)**
     Maxiproject: v4. The Karnataka government has promised its population free and good drinking water. It has a set of workshops, with drilling rigs, etc. providing it. **Project:** Danida has provided extra rigs, etc. for fulfilling the promise quicker. Ex $ 9 mil. **Point 3.** [P+, W+, E(–)]. The project has worked much as planned, drilling wells and providing them with hand pumps of a well-tested Indian type. A few pieces of foreign manufacture was also provided, but it has proved impossible for the Indians to import spares.

14. **India (5) Tamil Nadu: Drinking Water (TWAD: State parastatal)**
     Maxiproject: v4. The Tamil Nadu government has promised its population free and good drinking water. It has a set of workshops, with drilling rigs, etc. providing it. **Project:** Danida has provided extra rigs, etc. for fulfilling the promise quicker. Ex $ 6 mil. **Point 3.** [P+, W+, E(–)]. Very much as its sister project in Karnataka, but with more problems, as the geological conditions in Tamil Nadu are more difficult.

15. **India (6) Tamil Nadu: Water to Girls School (Indian NGO: Seva Mandir, Danish NGO: Porto Novo Mission)**
     Maxiproject: v2. Large girls school with 2000 pupils on the primary and secondary level. Most of the buildings are provided by Danida. The Church is built from funds collected by the Danish NGO. **Project:** The water supply. Ex $ 0.035 mil. **Point 3.** [P?, W+, E?]. The girls school was started by a Danish missionary in 1923. She was an admirer and friend of Mahatma Gandhi who inaugurated the school himself. When Danida entered, it grew dramatically. It has now Indian staff only. The school is impressive to see. We saw it in full use.

16. **India (7) Tamil Nadu: Buildings to School (Indian NGO: SMK. Danish NGO: Foreningen af Frie Efterskoler)**
     Maxiproject: v1. The central school of a small Indian NGO. It cooperated with a Danish NGO running schools for young adults.[25] **Project:** The school buildings. Ex $ 0.14 mil. **Point 1½.** [P(+), W(+), E?]. The Indian NGO broke up due to internal fights during the implementation, so it has been a difficult project, and a much smaller school has resulted than was promised, but there is a school.

17. **India (8) West Bengal: Buildings to Rural Development Center (Indian NGO: SMS, Danish NGO: International Børnehjælp/Child Help)**
     Maxiproject: v2. The sprawling »empire« of an Indian NGO, working with a Danish one. **Project:** Some of the buildings. Ex $ 0.09 mil. **Point 3½.** [P+, W?, E?]. SMS is a self-help NGO in the village of Sonatala app 50 km from Calcutta. It runs several schools, an orphanage, a hospital, some workshops, a skill education program, some shops, etc. It has recently moved into Calcutta. The complex in Sonatala was quite impressive to see. The Danish NGO collects money for the

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25. SMK is Samudaya Munnetra Kendram that is termed SLE, the School of Life Education. It broke off from another small NGO: Sarvadhana Sangam. The Danish NGO is the »Union of Free Schools for Young Adults«, a system of boarding schools for young adult school leavers.

recurrent costs.

18.   Kenya (1): Rural development/drinking water in Mutomo (MoW and local authority)
Maxiproject: v4. USAID/Danida's Rural development Project for Kitui district. **Project:** Danida was to develop Mutomo division, which is about 30% of the area. **Later:** After the project ended, Danida took over the project for the whole of the division running it at a low level, as a general fund supporting municipal investment budgets. Ex $ 5.8 mil. **Point 1½.** [P+, W+, E?]. The original project was a classical rural development project, but is soon changed into a drinking water project, making many small drinking water projects. The water projects are still mostly working, but most of the community based committees are not working, so little is maintained. There are few signs that the broader development goals of the project have been accomplished.

19.   Kenya (2): Main building to Limaru boys school (NGO)
Maxiproject: v1. Limaru boys school is an NGO boarding school for 48 poor boys, who are being trained in agriculture. The school has recently been expanded to cover girls too. **Project:** The main building plus two more buildings. $ 0.3 mil. **Point 3.** [P+, W–, E?]. The NGO covers all cost by collections in Northern Europe. The recurrent costs are mostly borne by Rotary clubs. All was working as planned when we visited the school.

20.   Kenya (3): Two (Danish) industrial skill schools - renovation and upgrading (Ministry)
Maxiproject: v3. Kenya's employer-financed industrial training scheme. **Project:** New equipment and instructors to two schools. $ 4.6 mil. **Point 1½.** [P–, W–, E(–)]. The scheme runs three training schools. The largest and oldest is in Nairobi. Danida built the other two in Mombasa and Kisumo in the mid 1970s. The whole scheme is not functioning properly as the funds are being diverted to other uses, and the schools are starved. Intake hence suffers and the schools are unable to fill their teaching positions. We saw both schools. They ran at less than half capacity, neither had a serious budget for new equipment, and they had only half the teachers needed. The buildings and equipment donated were in good condition.

21.   Nicaragua (1): Renovation of Gracsa Oil Mill (Ministry now private)[26]
Maxiproject: v2. Gracsa Oil Mill is the largest plant for producing edible oils and margarine in the country. **Project:** A renovation of the (then) confiscated mill. Ex $ 1.8 mil. **Point 3.** [P–, W?, E(–)]. The mill belongs to the Gracsa industrial group partly owned and run by the Lacayo-family. During the Sandinist period it was seized by the »workers« and quickly run down. The project renovated the mill. While the renovation was implemented, the Sandinists were voted out of power. The new prime minister Antonio Lacayo handed the factory back and his brother is now the general manager. The factory appeared to be running well.

22.   Nicaragua (2): Brigadists to Alphabetization Campaign (Nicaraguan NGO: AEPCFA, Danish NGO: NK)[27]
Maxiproject: v1. The alphabetization campaign run by the Sandinists along Cuban lines. **Project:** The provision of Danish brigadists to the campaign. Run by Danish left-wing NGO (NK) with a Sandinist NGO (AEPCFA). Ex $ 0.5 mil. **Later:** The two NGOs made a continuation project that is more of a regional development project. **Point ½.** [P(+), W?, E?]. The brigadists arrived after the election, when the new government had sacked the staff running the alphabetization campaign in the MoE. Some of them formed the alphabetization NGO AEPCFA. With the Danish NGO they continued the project. However, the reorganization took time and the project did not work well.

23.   Nicaragua (3): Renovation of Primary School in Ciudad Sandino (Danish NGO)
Maxiproject: v1. The main primary school in Ciudad Sandino - a poor satellite town to Managua. **Project:** The provision

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26.   The projects in Nicaragua were all approved after the peace accord, but before the election where the Sandinist lost and Chamorra government came into power.

27.   NK is the »Nicaragua Committee«, formed in support of the Revolution in Nicaragua. It is now a less political NGO. The NGO behind the project Nicaragua (3) is the »Friendship Union Nørrebro-Ciudad Sandino«. Nørrebro is a working class district of Copenhagen. The Union appears to have disappeared.

by a Danish Solidarity NGO of skilled workers to renovate the school. Ex $ 0.18 mil. **Point 3½.** [P+, W?, E?]. The school was working far above capacity, and consequently run down. The 2 skilled workers and a couple of Danish backpackers did renovate a great deal of the school. It is still heavily used, but the repair done is still very visible.

24. **Nicaragua (4): Renovations of Primary Schools in Bluefields (Danish NGO: Ibis)**
Maxiproject: v1. The Creole school system in the Atlantic Province. **Project:** Rebuilding of schools after the visit of the hurricane Joan. The main project was Beholden Central School, which is the central school of the Creole minority. Ex $ 0.7 mil. **Later:** Minor projects in support of the Creole school program. **Point 3.** [P?, W?, E?]. The Atlantic province has the two main minorities of Nicaragua: (1) The Mosquito Indians was suppressed by the Sandinists and is a very poor minority. (2) The less poor black Creole population speaking a Caribbean-English dialect. Beholden Central School was well built, and pt. under expansion, as it is heavily used. It is now termed the Dinamarca School.

25. **Nicaragua (5): Skill Boarding School for Adventist Church (NGO: The two Adventist Churches)**
Maxiproject: v2. Boarding school with high school and skill school of the Nicaraguan Adventist Church. **Project:** The school buildings, by Danish Adventist Church and Danida. Ex $ 2.5 mil. **Point 3.** [P?, W?, E?]. All appeared to work as promised, and was well maintained. The teachers and 40% of the pupils are Adventists.

26. **Tanzania (1): Support for agricultural cooperatives (Ministries)**
Maxiproject: v5. The cooperative sector has since 1964 received almost $ 200 mil in about 10 projects from the Nordic countries, with Danida as the coordinating agency. **Project:** Last Danish project from 1988-90, since then very little support. Today the cooperative movement in Tanzania is smaller than in 1962. Ex $ 5.5 mil. **Point 0.** [P?, W?, E?]. The cooperative/collective »movement« in the agricultural sector has had a turbulent history. It has been the mixture of a true cooperative movement and an attempt of the State to put the party in charge of a collectivized agricultural sector. The Nordic countries have supported the sector even during the Ujamaa-period of the collectivization drive. The support was given without much analysis. After the Ujamaa failure, the Government of Tanzania tried to make a new State/Party-controlled cooperative movement. It utterly failed - the farmer had been through the Ujamaa period and did not want collectivization and state control. This is the period of maximum support. It was reached during the joint Nordic period from 1982-88, where $ 60 mil were spent on advisors (252 man-years), vehicles, the cooperative college in Moshi, etc. The Nordic countries did discover fairly early that things went wrong, but the commitment was strong, and assistance continued to the bitter end, when nothing could be saved. This is Danida's largest failure.

27. **Tanzania (2): Rooms for elementary schools - part of IDA-7 program (MoE)**
Maxiproject: v4. IDA-7 was an IBRD-project to provide school-buildings, furniture, etc. for the UPE project. **Project:** Danish part was **a** of the total project. Bu $ 36 mil, Ex $ 9.5 mil. **Point 1½.** [P(+), W?, E?]. UPE (Universal Primary Enrollment) was put in motion in 1974 - doubling first class intake over three years. UPE soon got in serious trouble due to lack of teachers, classrooms, books, etc., hence the project. The IDA-7 project soon ran into serious capacity problems too. Less than half the projected construction program was completed, even when the project period was prolonged by two years.

28. **Tanzania (3): 5 building units for upgrading of teachers (MoE)**
Maxiproject: v2. Tanzania's scheme for teacher upgrading. **Project:** Construction of 5 retraining units with classrooms, dormitories, teacher quarters, etc., at five existing teacher training colleges. Ex $ 4 mil. **Point 2.** [P(–), W?, E?]. The huge UPE expansion of enrollment caused the appointment of 30'000 emergency teachers without the normal qualifications. The project was primarily meant to help upgrading these teachers. The units still look fine and are working teaching teachers, but they are running at less than half capacity. Also, they mainly work to upgrade the better teachers in the towns.

29. **Tanzania (4): Expansion of Central Railroad Workshop (TRC: Parastatal))**
Maxiproject: v4. The Tanzanian Railway Corporation, TRC, has received about $ 240 mil from all donors 1977-1990,

with the IBRD as the coordinating agency.[28] **Project:** Danida has been the agency responsible for turning the small provincial workshop in Dar es Salaam into a national one. Ex $ 6.6 mil. **Later:** two more phases of project. **Point 1½.** [P?, W(-), E(+)]. TRC was created in 1977 after the collapse of the East African Community. Tanzania then had a fine railway net, but it was run from Nairobi. The donors headed by IBRD gave high priority to the creation of TRC as a company, who could run the net. Responsibility was divided between donors, and Danida got the central workshops as its responsibility. Besides renovating the workshop, the project repaired 1'000 rail wagons. However, TRC soon developed into a typical parastatal, and the traffic is slowly dying, in spite of all donor efforts. That is, personnel grew, fares were kept low, and the resulting deficits are only partly covered. The result is severe cash flow problems, killing maintenance, service, and eventually traffic. When we saw the workshops, they were working very little as there was no oxygen for the welding flames. The supply oxygen flasks was cut when TRC failed to pay. In 1990 the donor club and the government decided to give first priority to the roads, and TRC is now under privatization.

30.   **Tanzania (5): Renovation of Railway Line (TRC: Parastatal)**
        Maxiproject: v2. The Arusha-Dar es Salaam Railroad. **Project:** Improving the tracks on the 188 km Segera-Ruvu link-line. Ex $ 1.6 mil. **Point 1½.** [P?, W?, E(+)]. The trails were repaired as planned, and even below scheduled costs. However, the roadbed on which the trail lies is deteriorating due to lack of maintenance. It is simple, unskilled work, but it is not done, and traffic on the line is reduced to half since the project was completed. However, private bus transport is rapidly increasing.

31.   **Tanzania (6): Team of Experts to Transport Planning Unit (MoW)**
        Maxiproject: v2. Reorganization and expansion of the transport planning unit in the MoW. **Project:** The provision of 4 Danish experts for a 4 years period. Ex $ 1 mil. **Point 0.** [P?, W?, E?]. The experts did come, but they did never become integrated into the work of the unit. Why the project failed is the subject of a fat file where many accusations between the parts can be found. The »chemistry« did not work, the project description with the job definitions was not clear, etc. However, the maxiproject continued with a British team financed from UK.

32.   **Tanzania (7): Road Plan, including design of rural access roads (MoW)**
        Maxiproject: v2. Tanzania's road net. **Project:** To identify and design the 1'600 km's of rural access roads most needed. Done by a consulting firm with some assistance from ILO. Ex $ 3.6 mil. **Point 4.** [P+, W?, E(-)]. The project was completed just when the policy priority shift from rail to roads took place, and the report thus came at the best possible time. It seems that everything proposed has been done.

33.   **Thailand (1): Regional Development Center (NGO: Raindrop Project)**
        Maxiproject: v2. A regional development and social welfare project for young people run by a Thai-born widow of Danish Ambassador. **Project:** Some of the buildings. Ex $ 0.56 mil. **Point 3.** [P+, W?, E?]. The center houses about 50 youngsters, who obtain some training. In addition they goes to ordinary schools. It is a thriving NGO, also receiving money from other Danish sources, private and public. The leader-founder has many connections in both of her countries.

34.   **Thailand (2): Equipment to the King's Demonstration Dairy (King)**
        Maxiproject: v3. The king's agricultural development project is about 20 small subprojects situated at the site of former golf course within the Palace grounds. **Project:** The Danish part is a small dairy, processing milk and cheese. It was given to the king on the occasion of a jubilee. Ex $ 1.3 mil. **Point 3.** [P?, W?, E?]. The maxi-project is a unique mixture of ordinary demonstration plants and a symbolic demonstration of the king's support for agricultural development. All 20 subprojects are supposed to be small, state-of the arts demonstration plants, run by experts with little regards for costs, so all looked fine. However, many visitors are allowed, and the projects are widely advertised. It is difficult to assess its national impact, but it has probably been (much?) larger than the costs.

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28.   In addition, the independent TAZARA railways from Dar es Salaam to Zambia exist. It was donated and built by the Chinese. It is deteriorating almost as TRC.

35. Zambia (1): Spares to monopoly dairy (DPB: parastatal)[29]

Maxiproject: v3. The Zambian State Dairy Monopoly, DPB, is an old Danish project. All 4 small and the large Lusaka dairy were originally provided by Danida. **Project:** Spares provided during the severe foreign exchange crisis of the late 1980s. The project was done in connection with the work of a Danish expert. Ex $ 0.018 mil. **Later:** A major renovation of the dairy. **Point 0.** [P?, W?, E?]. When the new government came into power in 1991, the monopoly was abolished, and DPB went into a deep crisis. When we saw the dairy, it was under privatization. We saw a small underutilized dairy running at half capacity in large Danish-looking buildings. It has now been privatized, selling for a small fraction of the cost of the assistance. In particular, it appeared that the $ 5 mil renovation implemented 1990-92 had been a failure.

36. Zambia (2): Spares to monopoly slaughterhouse (ZCSC: parastatal)

Maxiproject: v2. Lusaka Slaughterhouse, ZCSC, is the cornerstone of the Zambian State Meat Monopoly. It is an old Danish project as well, as the building and all equipment were originally provided by Danida. **Project:** Spares provided during the severe foreign exchange crisis of the late 1980s, in connection with the work of a Danish expert. Ex $ 0.035 mil. **Point 0.** [P?, W?, E?]. When the new government came into power in 1991, the monopoly was abolished and ZCSC went into a deep crisis. When we saw the slaughterhouse, it was under privatization. Nothing was maintained, and rapidly decaying. Only a small fraction of the capacity was used. It has now been privatized, selling for a small fraction of the cost of the assistance.

37. Zambia (3): Spares to fertilizer factory (NCZ: parastatal)

Maxiproject: v5. Large fertilizer factory that is the cornerstone in the State Fertilizer Monopoly. The factory is constructed for national funds. **Project:** Danish manufactured spares to small part of factory provided during the severe foreign exchange crisis of the late 1980s, in connection with the work of a Norwegian expert. Ex $ 0.015 mil. **Point 1.** [P–, W–, E–]. When the new government came into power in 1991, the monopoly was abolished and NCZ went into a deep crisis. When we saw the factory, it was producing at less than 10% capacity, and we were told that this had been the state for several years. There were, however, still about 1'000 workers present drawing salaries. It is now under privatization.

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29.   The three projects in Zambia were all made when the country had terrible economic problems (of its own making). The country was suspended from IMF, the balance of payments was terrible, and the trade and exchange restrictions were very strong. The projects were just trying to keep the maxiprojects alive, while waiting for something to happen, as it did.

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