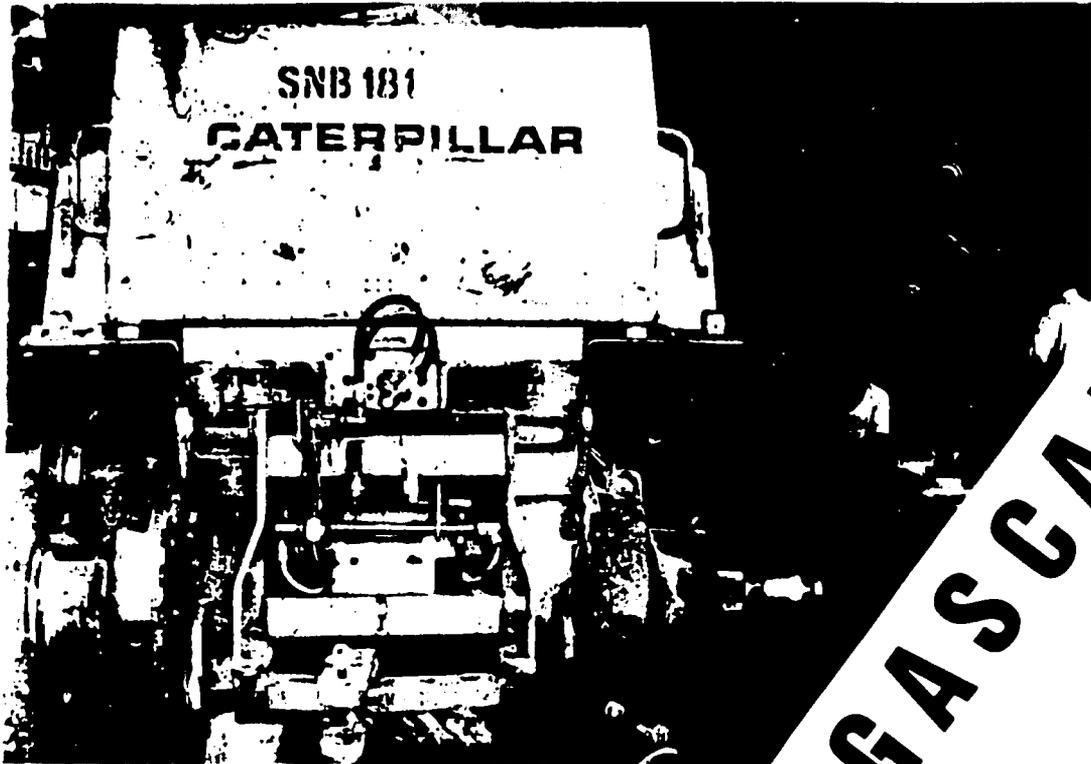


MARS END-USE REPORT

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USAID MADAGASCAR



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PPC/CD/E

Report of End use study of the Commodity Import Component of the

MADAGASCAR AGRICULTURAL REHABILITATION

SUPPORT (MARS) I PROJECT

U.S. Agency For International Development

Peter MacPherson Robinson

Antananarivo, November 1986

The views and interpretations expressed in this report are those of the author and should not be attributed to the Agency for International Development.

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I. EXECUTIVE SUMMARY

The Commodity Import Component of the Madagascar Agricultural Rehabilitation Support project (MARS) has been successful in Madagascar working for the mutual benefit of the country and the United States. Agricultural rehabilitation is underway in Madagascar due to the Malagasy Government's (GDRM) new Public Investment Program (PIP). This started in 1983 and has now been helped by the infusion of foreign exchange and commodities into the nation's economy through the MARS project. As a result of the PIP and the GDRM's liberalization policies associated with it, cultivators are now more confident in the future of agriculture and are thus seeking ways and means to increase their production and yields. The timely arrival of the US commodities meant that more tractors were available for the current season and that some privileged farmers who bought them had these means to increase agricultural production.

All the Ford tractors already in-country are engaged in agricultural production. In nearly every case the purchase has increased the amount of land worked, much of which had laid fallow in previous years. Overall employment has been increased not only among the families involved but also through the creation of new jobs. The importation of Caterpillar spare parts has allowed important work, mainly in the private sector, to continue in road construction (41 % of value of spare parts) and in industrial agriculture and food production (26 %), sectors especially targeted by the project paper. (although this latter sector was dominated by parastatals).

Beneficiaries of the commodity import component, apart from the GDRM and USG, are the local private sector importers, the US manufacturers, the participating farmers, parastatals companies, international and local private enterprises and companies, as well as poor rural farmers and rural communities. These latter under privileged people are already benefiting from a trickle down effect of some increased employment coupled with better access for their products through road construction and other civil engineering projects. In the future small self-help projects, using the funds generated by the sale of the commodities, could further help these people and communities. It should not be forgotten that there is always a danger that short-term "bottom-line" logic leads to decisions that are economically sound but socially disastrous. Already 20 % of the total Malagasy population is urban and it is growing 5.5 % annually. Carefully selected self-help projects which recognize the danger and meet real needs can help stem this tide by improving production and the quality of life of the rural poor.

In the short to medium term it is felt that foreign exchange restraints will continue and that further Commodity Import Program like projects which specifically emphasize the agricultural sector could provide a sound base for economic recovery in Madagascar. This would in turn help the Government continue its' Public Investment Program.

II. TERM OF REFERENCE

The object of this study is to define the direct and indirect beneficiaries and the production related benefits of the commodities imported to-date by the commodity import component of the MARS project.

To achieve this a field survey of end users and end use functions was carried out. Statistics along with other relevant information were gathered from the importers involved. A questionnaire (see Annex I), approved by AID/Antananarivo was the basis used for all interviews with end users and indirect beneficiaries. In addition, Government officials and experts from the international donor community concerned with agriculture in Madagascar were interviewed.

III. INTRODUCTION

Although the USAID Food for Peace Program (PL 480 Titles I and II) was reinitiated in Madagascar in 1981 it was not until October 1984 that the AID mission in Antananarivo was reopened. The MARS project signed by the US and Malagasy governments in April 1985 was thus the first AID bilateral project in the country since the 1960's. Given the GDRM's critical need for foreign exchange 90 % of the \$5.0 million dollar project was earmarked for quick disbursing commodity import support for spare parts, tractors and bridge-deck components affecting the agriculture and rural transport sectors. The remaining 10% constituted a series of consultancies (18 person months) and short-term training initiatives (approximately 170 person months) which addressed rehabilitation efforts within the context of the governments new Public Investment Program. In an amendment signed in June 1986, a further \$2,844,000 was accorded to the GDRM making the total value of the grant \$7,844,000. Of this total \$6,634,000 was for quick-disbursing commodity imports.

This report was asked to study the end use and the effects of the Caterpillar spare parts and Ford tractor imports already in the country under the original agreement (\$3.46 million of which \$2.5 million was imported at the time of study).

IV. COMMODITY IMPORTS

A. TRACTORS

- i. Tractor imports
- ii. Survey
- iii. End use
- iv. Survey findings
- v. Notes
- vi. Future tractor imports

i. Tractor imports

Both the local dealers for John Deere and Massey Ferguson tractors declined to make official requests for the allocation of foreign exchange as negotiations with their US manufactures failed to produce prices which were competitive with their non US sources for the same equipment. The local Ford dealer, LANDIS MADAGASCAR, was therefore awarded the possibility of importing tractors to a value of \$960,000 along with \$300,000 worth of spare parts. These amounts included freight and insurance charges. They ordered 69 small (47 horsepower) to medium (82 horsepower) units. The first shipment of 26 tractors arrived at the port of Tamatave on April 3, 1986. The second lot (again 26) docked there on August 18, 1986. The remaining 17 were embarked in New York on October 22 and are due to arrive in Tamatave in December 1986. The first of 3 assignments of spare parts was due in late November 1986.

In order to cut transport costs the tractors were boxed (i.e. semi knocked down) and final assembly took place in Madagascar. By October 23 all 52 tractors in the country had been sold.

Table I gives the breakdown of the 52 tractors sold by size (horsepower, HP), the average sales price to the customer in local currency, Malagasy Franc (FMG) with the current US dollar equivalent amount

Table I

<u>HP</u>	<u>Number</u>	<u>Average Sales price</u>	
		<u>FMG</u>	<u>\$ Value</u>
47	8	8,811,000	11,750
62	14	9,563,000	12,700
72	10	11,032,000	14,710
82	20	11,927,000	15,900
<u>Total</u>	<u>52</u>	<u>10,639,000</u>	<u>14,185</u>

Of the 52 tractors, 35 (67.3 %) were sold to the private sector, 15 to parastatal companies, 1 to a group of cooperative farmers sponsored by the state and 1 to the Ministry of Justice (it is being used on a prison farm). Table II gives the breakdown.

Table II

HP	<u>Private Sector</u>		<u>Public sector</u>	
	<u>Units</u>	<u>%</u>	<u>Units</u>	<u>%</u>
47	6	75.0	2	25.0
62	20	71.4	4	28.6
72	4	40.0	6	60.0
82	15	75.0	5	25.0
<u>Total</u>	<u>35</u>	<u>67.3</u>	<u>17</u>	<u>32.7</u>
	=====	=====	=====	=====

The dealer reported that demand far exceeded supply. The company also stated that sales to the private sector would have been even higher if loan applications been dealt with in a more timely fashion by the National bank for Rural Development (BTM). The dealer himself made loan agreements with 10 of the private buyers.

22 tractors (42.3 %) were sold in the Lake Alaotra region in Tamatave province which is the major rice producing area for the central high plateau with 29,000 hectares of irrigated paddy fields. This was a direct result of the dealers marketing strategy which identified a strong demand in the region. Having more tractors in the region will make their after sales services more viable. With the exception of Fianarantsoa tractors were sold in all the 6 provinces. Table III gives these details.

Table III

<u>Province</u>	<u>No sold</u>	<u>Private Sector</u>	<u>Public Sector</u>
Tamatave*	31	21	10
Antananarivo	7	6	1
Tulear	7	7	-
Diego Suarez	6	-	6
Majunga	1	1	-
<u>TOTAL</u>	<u>52</u>	<u>35</u>	<u>17</u>
	=====	=====	=====
*Lake Alaotra	22	19	3

At the time of purchase only 4 buyers indicated that they intended to rent their vehicles while 6 others did not provide information. For a complete breakdown of the type of tractor sold by province and renting intentions see Annex II.

ii. Survey

A questionnaire was prepared in order to carry out this field survey (see Annex I). During the survey owners of 24 tractors (68.6 % of the total in the private sector) and the responsible officials for 16 of the 17 sold to

public sector were interviewed. The answers given in every interview appear in the annex of this report. A statistical breakdown (where possible) is given in Annex III for the private sector and Annex IV for the public sector.

Although sufficient time has not elapsed to enable a quantification of the effects on actual agricultural production, it can already show that the process for increased production begun by the government with donor support in 1983 is well underway in Madagascar. This is due to the liberalization policies associated with the GDRM's new PIP. This is seen most dramatically in the Lake Alaotra region where the rice marketing monopoly of the parastatal company SOMALAC was terminated in April 1986. The result was that farm gate prices rose by 178 % over the previous year (and by 285 % over 1984) for the harvest in June/July 1986. The timely arrival of the US tractors after the harvest meant that farmers could invest in much needed new equipment well before the new season got underway in October. Moreover, the US tractors were not the only ones available on the market and it can therefore be argued that the foreign exchange saved by the Commodity Import Component (CIC) was used economically by the GDRM in order to further promote its PIP. An evaluation of the economical impact of the whole project should be able to verify this and is recommended.

There is also evidence that, unlike last year, the majority of the increase in rice prices is going directly to the producers and with the operation of the rice buffer stock its current price is being held at around 505 FMG per kg to the consumer on the open market in Antananarivo. It should be noted that after drying and milling a kg of paddy for which the farm gate price was 250 FMG is reduced to 600 grams. The cost of a kg of rice on the market is 416.7 FMG to which must be added transport costs and profit margins. While the 40 % loss between harvest and market place is still taken as the norm, studies have shown that this loss can be reduced and the FAO (Food Agriculture Organization of UN) suggests that a post harvest loss of only 32 % is easily obtainable and can be improved.

iii. End use

All tractors were engaged in agricultural production of which 77.5 % were used in agricultural production and related uses only and 22.5 % were used in agricultural production plus other uses. The additional uses were the transport of goods (other than agricultural) and people, road construction as well as rental (but this too was in agricultural production).

The 40 tractors visited were being used to produce the following crops;

Rice (both irrigated and rainfed)	44.7 %
Cassava	14.1 %
Maize	14.1 %
Coffee (plants)	7.0 %
Sugar	7.0 %
Peanuts	5.9 %
Dried beans	3.6 %
Cotton	1.2 %
Soya	1.2 %
Pois de Cap	1.2 %

100 %

(percentages obtained using weighted averages, note that on average each tractor is used for 2 different crops in the private sector and 1.4 crops in the public sector; however rice remains the far most important).

iv. Survey findings

The main findings of the survey of the end use of the tractors are that:

- a) All the tractors are engaged in agricultural production.
- b) In nearly every case the purchase has increased the amount of land worked. Not only that but much of this extra land had previously not been worked.
- c) Employment has increased among the families involved and in the overall workforce. There were several cases where family members returned from the city leaving permanent jobs in order to work the land.
- d) In the private sector the current average seasonal use of each tractor is 66 hours per week while in the public sector it is 87 hours per week.
- e) While it is obvious that only the most privileged farmers can afford to make the massive investment (in their terms) in a tractor, the poorer sections of the rural population have benefited to a certain extent by increased employment.
- f) All private sector farmers interviewed expressed a firm belief and confidence in the future of agricultural production in Madagascar.

v. Notes

To an average US farmer investment in a new tractor represents a small fraction in terms of his capital assets in land, buildings, stock and other equipment. It is bought as a work tool which will be written off through depreciation over a number of years. To his Malagasy counterpart (who is rich) the purchase of a new tractor almost certainly represents the single most important investment of his life, in some cases being greater in value than the total of all his other assets including his home. Hence for the farmer to take this important step is, in itself, an affirmation of his belief and confidence in the future. It is hardly surprising, therefore, that all the private buyers were optimistic about the future of agriculture in Madagascar. Although a difference in age of more than 50 years separated the youngest and oldest buyers interviewed, nothing separated them in their enthusiasm. In real production terms it meant that in nearly every case these farmers were using their new tractor to cultivate extra land most of which in previous years had been fallow.

Their massive investment also explains why in some cases owners wish to limit the working use of their tractors (in one case a farmer sought an assurance during an interview that his tractor would not be damaged if it were used in the rain). Unlike their US counterparts they cannot write off their investment; as well their experience of shortages of spare parts during the past ten years leads them to apply extra care and attention. The value in

real terms to these owners should not be underestimated in any future evaluation of the CIC.

vi. Future Tractor Importations

Although official figures for tractor importations over the past years were not available it is generally accepted that they have been in the region of 300 per year since 1983. It is also felt that there is a demand for at least 100 more each year, (400 per year) and that this demand will grow with agricultural rehabilitation. Among the other donors and Development Banks, the World Bank is providing a credit of \$1.2 million over a two year period (estimated at 30 new tractors each year in 1987 and 1988). The Ford dealer says he will use his allocation (\$150,000 per year) to purchase more US source and origin tractors if US prices are competitive. This will insure some continuity in the market place. In addition the dealer wishes to build up the network so that they have a viable after sales service for which they estimate at least 200 tractors are required. Although both the French aid program (FAC and CCCE) and the FAO intend to import tractors for specific projects, no plans for other CIPs involving tractors have been found, although it is known that the Italian Government is keen to make a grant of Fiat tractors.

B. SPARE PARTS

- i. Spare parts imports
- ii. Survey
- iii. End use
- iv. Survey findings
- v. Notes
- vi. Future spare parts and equipment importations

i. Spare parts imports

Due to procedural delays the \$2.2 million Letter of Commitment for Caterpillar spare parts was not issued until March 19, 1986 and the first shipments began in May. By mid November \$1.8 million had been disbursed. The local Caterpillar dealer, Henri Fraise Fils et Cie praised the operation stating that arrangements had been made so that it could continue its normal commercial procedures. Under these procedures there is no waste in dead stock (i.e. only fast moving items are held in stock, and any others which account for 28 % of the total of items are air freighted from Caterpillar's bonded warehouse in Europe). Although the firm was unable to get foreign exchange allocations for spare parts since June 1986 and it had to totally rely upon AID financing to maintain spare parts supply operations, Henri Fraise Fils et Cie indicated that they did receive allocations for other machinery. It can therefore be assumed that the foreign exchange saved by the GDRM has been used for other productive purposes.

ii. Survey

No real purpose can be served by detailing the types and amounts of spare parts imported under the project. It is of little, or indeed of no,

interest whether 1,000 or 100,000 oil filters were imported and sold. What is important is that provision of these commodities allowed the importer's clients to continue their operations. The study, therefore, looked at these operations breaking down the findings by the sales values of the spare parts.

A visit to the importers' premises determined that the commodities for retail sale were being sold. The company provided complete access to their books and computer printouts of all commodities and their clients. 15 major clients account for 92.04 % (in value) of all commodities (including freight and insurance charges). Of these sales 62.9 % were to the private sector and 37.1 % to parastatal companies (some of which have 30 to 50 % private investment). Interviews were held with 12 of these clients (84.33 % of total imports) as well as with several small local companies to get a boarder view of the projects impact (see Annex V). Field visits were made to 4 of the 6 provinces to get the boardest possible geographical spread.

iii. End use

Spare parts for Caterpillar equipment by sales value were being used as follows for the 15 major clients (92 %)

Road construction	41.11 %
Agriculture and industrial food production*	25.62 %
Mining (mainly chrome and graphite)	25.44 %
Electricity and utilities	3.22 %
Construction/Forage, manutention	3.07 %
Quarry	1.37 %
Prospecting	0.17 %
	<hr/>
	100 %

*Agriculture and industrial food production

Sugar	18.33 %
Farm operations	2.79 %
Fish	2.13 %
Sisal	1.29 %
Salt	1.14 %
Total	<hr/>
	25.62 %

For the other clients (8 %) end use involved feeder road construction, transport and cargo handling, agroforestry and large scale private farming operations.

In total, therefore, 70 % of the spare parts were used mainly for the targeted activities affecting the agriculture and rural transport sectors, while a further 25 % affected exports in the mining sector. This in turn further improved the foreign exchange position. This was a result of AID's decision not to restrict sales to specific types of beneficiaries which would have been difficult to implement and monitor. In addition the project did not wish to change the normal commercial practices of the dealer or to restrict the program to such a degree that monies would not be disbursed.

iv. Survey findings

A breakdown of the findings of the 15 companies (11 private, 4 parastatal) is found in Annex V. The main findings being

- a) In the road construction, civil engineering sector (all private) the state is the major client but funding is from the international donors, IBRD, CCCE, EDF and the ABD being the major sources. There was an increase in the work load and in employment between 1985 and 1986. Short-term prospects were seen as good, while the medium to long term prospects were considered doubtful without continued donor support for the fragile economy. Providing that this support is forthcoming new equipment (Caterpillar) will be needed as well as spare parts. The companies felt that the CIC to-date had been very useful (20 %), had helped (60 %) no real benefits perceived (20 %).
- b) In the agriculture and industrial food production sector, (3 private, 3 parastatal) spare parts were helping exports in most cases (67 %). Major clients were in the private sector and there was donor support (investment) and export earnings with which indirect payment was made for spare parts. Overall production and employment were lower than in 1985. Again concern was expressed about medium to long term prospects and the future was seen in terms of donor aid. Some new equipment would be needed. The companies felt that the CIC was; very useful (16.7 %), had helped (33.3 %), had indirect benefits (33.3 %) and did not help (16.7 %).
- c) Mining sector (1 private, 1 parastatal company) exported 100 % of its production, its major clients being external and private. The state company had investment funding by IBRD, CCCE and the EDF. Both companies paid for their spare parts indirectly with foreign exchange. Overall there had been a slight increase in production and a very small increase in employment between 1985 and 1986. The companies felt that short term prospects were good; in the long term confident (parastatal) while the private company was hopeful. New equipment was needed. The companies felt that the CIC was helpful(the parastatal), not really beneficial(private).

iv. Notes on findings

The survey was conducted to define the end users and end use functions of the CIC. While the 15 interviews did involve 85 % of all the spare parts imported to-date (\$1.8 million) it was not a large enough survey to draw any economic conclusions. The comments mentioned, should therefore only be taken as an indication of some current business thinking in these specific sectors.

v. Future spare parts and equipment importations

Some Kamatsu Corporation equipment has recently been coming into Madagascar through Japanese bilateral programs making Caterpillar particularly anxious to maintain its operations. It must be said that this competition is not unwelcome in all quarters for criticism has been voiced about the virtual

monopoly position of Caterpillar and its dealer in Madagascar. On the other hand it must also be mentioned that most of the dealer's clients praised the first class Caterpillar after sales service in the country both in terms of availability in difficult times and in speed of delivery keeping down-time of machinery to a minimum. It is due to its good reputation for its after sales service that Caterpillar believes it can maintain its market position as long as it has access to sufficient foreign exchange to bring in new equipment and spare parts. The survey findings show that demand exists for new equipment as well as for spare parts.

C. BENEFICIARIES OF THE CIP

Directly (and indirectly)

- 1) GDRM; by the rapid infusion of foreign exchange and commodities into the nation's economy. As has been seen in (B iii) above, some of the commodities were indirectly paid for in foreign exchange either by export earnings and/or external funding by the international donor community thus saving more hard needed foreign exchange. Survey findings suggest that at least some, if not all of these savings were put to productive use.
- 2) USG; by goodwill and creation of future exports for US commodities.
- 3) Local importers;

by having licenses to import and to continue trading in a difficult economic climate.
- 4) Ford Tractor Co. (US);

by the opening of a new export market and the sales of US manufactured commodities and spare parts. Prior to the CIC, only European source and origin Ford tractors had been sold in Madagascar and these were declining. Without this CIC, Ford might have lost its share in the market altogether (less than 5 % of total market in 1985). In order to maintain this market position, the Ford dealer believes that further CIPs will be necessary until the economy recovers sufficiently so that foreign exchange will be available in order to continue more tractor imports. The dealer sees a demand for at least 100 Ford tractors per year in the short term (FY 87-91).
- 5) Caterpillar US and
Caterpillar Overseas;

by being able to maintain its market position by a constant supply of spare parts. The Japanese Kamatsu Corporation has been trying to enter the Malagasy market with similar cheaper equipment. The Caterpillar dealer believes that Caterpillar can retain its market position because of the speed of delivery and after sales services as long as they have access

to sufficient foreign exchange. Due to the CIC there has been a small degree of US Caterpillar import substitution over European manufactured Caterpillar products.

Indirectly

- 6) Poor rural farmers;

by the creation of some employment in rural areas. Moreover, the use of counterpart funds generated by the sale of commodities could be used in small agricultural projects for these farmers. AID/Antananarivo's Evaluation of PL 480 Self-Help Projects (July 1986) showed that these small projects have a large impact on the rural poor.
- 7) Medium to large scale farmers;

by the availability of more tractors which can be used to improve their production.
- 8) Parastatal companies;

both in agricultural production by availability of extra tractors and by use of Caterpillar spare parts.
- 9) International private companies;

by the continued availability of spare parts.
- 10) Local private enterprises;

by being able to continue working through availability of spare parts and new tractors. While some international firms have other sources of supply (external funding, donor pressure to grant import licenses etc.) small local firms can only operate through local dealers or the parallel market.
- 11) Rural communities;

by increased employment, better access through road construction and other civil engineering works. Linked with 6 (the poor rural farmers) counterpart fund projects, particularly in water irrigation and water delivery these communities will indirectly benefit from this project.

V. RECOMMENDATIONS

In addition to the recommendation already made for an evaluation of the economic impacts of the whole project, this reports recommends

- i. The momentum of agricultural rehabilitation started in the country by the GDRM's new Public Investment Program should be sustained by further CIP-like activities. These should include more tractors.
- ii. To safeguard smaller producers small hand operated rotavators (18-25 HP) could be imported under a CIC if such exist in the US at an economical cost to buyers. If not, then they could be part of the project agreement whereby the GDRM would use a portion of the foreign exchange saved by the CIC to grant import licenses and FX to local dealers to import such commodities at economical costs.
- iii. The timing for the above is important, ideally more new tractors etc. should be available after the next harvest (July 87) and before the next season (October 87) if sustained growth is to be achieved.
- iv. New earth moving and road construction equipment is needed in Madagascar if all the access routes for agricultural production are to be rehabilitated and maintained. There comes a time when spare parts are not enough and the cost of patching up old equipment far outweigh their value.
- v. While there is a natural programming tension in any CIP (or CIP like activity) between rapid disbursement rates and targeting commodities to the beneficiaries designated in the Country Development Strategy Statement (CDSS) this project chose to emphasize disbursement rates for reasons already discussed. In future projects with CICs it might make sense to more tightly limit commodity eligibility or restrict sales to beneficiaries that are most directly linked to AID's CDSS strategy.
- vi. Finally, consideration must continue to be given to the rural poor for whom, at the moment, even the possibility of purchasing the simplest mechanical equipment, is out of the question. In order to balance the positive effects on the richer sections of producers by CIPs the use of counterpart fund projects which meet the real needs of the rural sector must be carefully studied and agreed in future projects. Otherwise, although overall production will increase, the pressure on small holders to sell will also increase and the annual exodus (5.5 %) to urban areas will continue and will increase. Small projects which address not only the problems of production and health but also those of the quality of life should be undertaken in order to stem this tide and protect these underprivileged people.

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Peter Robinson

Antananarivo 25 November 1986

SOURCES

The main sources for this report are:

MARS, Project Paper, March 1985.

Madagascar CDSS and Annexes, March 1986.

Tractor Sales Records, Landis Madagascar.

Caterpillar Sales Records, Henri Fraise Fils et Cie.

Reference was also made to

Evaluation of PL 480 Self Help Projects, Madagascar, July 1986.

Abbreviations and Acronyms

ADB	African Development Bank
BTM	National Bank for Rural Development
CCCE	Central Treasury for Economic Cooperation (French development bank)
CDSS	Country Development Strategy Statement
CIC	Commodity Import Component
CIP	Commodity Import Program
DGP	General Direction of Plan (part of Ministry of the Presidency)
DNA	Does not apply
EDF	European Development Fund (of the European Economical Community)
FAC	French Bilateral Aid Program
FAO	Food and Agriculture Organization (of the United Nations)
FMG	Malagasy currency = Malagasy Francs
FY	Fiscal Year (January 1 - December 31)
FX	Foreign Exchange
GDRM	Government of the Democratic Republic of Madagascar
Ha	Hectare (1 hectare = 2.47105 acres)
HP	Horse power
IBRD	International Bank for Reconstruction and Development (commonly called the World Bank)
IMF	International Monetary Fund
Kg	Kilogram (1 kilogram = 2.20462 pounds)
Km	Kilometre (1 kilometre = 0.62137 land miles)
MARS	Madagascar Agricultural Rehabilitation Support (the project)
MD	Managing Director
MT	Metrics Tons
NA	Not available
PIP	Public Investment Program

11

PL 480 Public Law (No. 480) Transfer Agreement - Food loan on concessional terms

PVO Private Voluntary Organization

REDSO/ESA Regional Economic Development Services Office/East and Southern Africa

SOMALAC Regional Development Authority (and Rice Production Parastatal) for the Lake Alaotra region

USAID United States Agency for International Development

USG United States Government

QUESTIONNAIRE

I. GENERALI. Tractors

1. Is this a first time purchase ? Yes ___ No ___
If no,
a) Is it an additional tractor ? Yes ___ No ___
2. If it is first time purchase/additional tractor
a) Has land holding/worked increased ? Yes ___ No ___
b) How was work done before purchase ?
c) By whom ?
3. a) At time of purchase what was intended use ?
b) Is there any difference between intended and actual use ?
c) Has purchase increased work load ?
d) Has purchase increased/decreased employment of his family ?
his workforce ? (by how much ?)
e) Who operates the tractor ? Owner ? Family member(s) ?
Employee ?
f) What add on purchases were made ? (if any).
4. Utilization (1)own use....% (2)rented....% (3)other family....%
a) Since purchase hours/week ?.... purchase date :
b) Current season use hours/week ?....
c) Projected use hours/week ?....
d) Types of use ?
e) Amount of land covered ?
f) If agricultural what crops ?
 % domestic market % export ?
 % self consumption
g) If agricultural what other uses ?
 % transport % road repairs
 % other (quantify)
5. Renting
a) If rented, hours/week ?.... % of total used
b) Types of use ?
c) Geographical radius for renting ?
d) Rental charges
 cash ? Kind ? Payment before or after harvest ?
e) Who operates machine ?
f) If ag production amount of land covered ? Ha
g) If ag production what crops ?
 % domestic market % export
 % self consumption
h) if ag what other uses ?

II. SPECIFIC

6. Ownership

Self..... Private company..... Parastatal.....
Government..... Cooperative users..... Hire company.....
Other (details)

7. Owners

- Is he full time farmer ? Yes No
- Amount of land worked ? Ha
- Is land owned ?....Ha, allocated by state ?....Ha, rented ?....ha and /or share cropping ?....ha
- How was payment made for tractor ? cash....%; loan....%
- What is profitability of tractor ? Cost benefit ?
- Does he intend to buy another tractor ? If yes when ?

8. Parastatal ownership

- Who did the work before ? and how ?
- Has purchase increased/decreased local employment ?
- Amount of land worked ?

9. Relationship with dealer

- How did buyer learn about tractor ?
- Did he buy under purchase scheme ? (quantify)
- Has tractor needed servicing/spare parts ? If yes, where ?
- How has (will) servicing/spare parts delivery been (will be) carried out ? Where ?
- Distance between dealer/agent and tractor

10. Those who rent

- Is he full time farmer ? Yes No
- Amount of land worked ?....Ha
- Is land owned ?....Ha, allocated by state ?....Ha, rented ?....Ha and/or share cropping ?....Ha
- Other source of income ? (quantify)
- Who did the work before ? How ?
- Why did they change ?
- Will they continue to rent ?
- Rental charges
Cash ? In kind ? When ?
- Is he a member of the owner's family ? Yes No
If Yes what is relationship ?
- Period of rental ?
- Project rental for future ? Planting ? Harvest ?
- Does he intend to buy a tractor ? If yes, when ?
If no, what reasons

II. Spare Parts

I. COMPANY OR STATES BUYERS

1. a) Type(s) of activity ?
b) Does activity involve exports ? If yes what%
2. What is the geographical spread of activity ?% by province
3. (For private sector only)
 - a) Who are the major clients ? State.....% ; other private.....%
 - b) % of spares paid by hard currency ?%
 - value of contract paid by hard currency ?%
4. Has work load increased, decreased over past 12 months ?
5. Has employment increased or decreased over past 12 months ?
6. a) How do they see future prospects ?
b) Would they purchase new equipment if available ? (quantify)
7. Does company/parastatal perceive any direct benefits to them by current CIP ? If so, what ?
8. Any comments ?

II. ON SITE SURVEY (Local inhabitants)

1. a) Type of activity ?
b) Is it permanent ? Seasonal ? Once off project ?
Other (details)
2. What changes (if any) have people seen due to work ?
3. Has it increased work prospects for local community ?
 - a) Duration of project ? How much ?
 - b) Created permanent jobs ? How many ?
4. Has it increased/attached sales of consumer goods to the community ?
If yes, by whom ?
5. Distance between community and market place ?
 - a) Has project helped access ? How ? For what ? (quantify)
6. Any comments ?

ANNEX II

Sales by Tractor type (HP) province, sector and renting intentions

<u>47HP</u>	Sold	Private Sector	Public Sector	For rent	Not for rent	No information
TAMATAVE*	8	6	2	2	5	1
<u>62HP</u>						
TAMATAVE*	8	4	4	1	7	-
ANTANANARIVO	1	1	-	-	-	1
TULEAR	4	4	-	-	2	2
MAJUNGA	1	1	-	-	-	1
<u>72HP</u>						
TAMATAVE*	3	3	-	-	2	1
ANTANANARIVO	1	1	-	-	1	-
DIEGO SUAREZ	6	-	6	-	6	-
<u>82HP</u>						
TAMATAVE*	12	8	4	1	11	-
ANTANANARIVO	5	4	1	-	5	-
TULEAR	3	3	-	-	3	-
<u>Totals</u>						
TAMATAVE	31	21	10	4	25	2
ANTANANARIVO	7	6	1	-	6	1
TULEAR	7	7	-	-	5	2
DIEGO SUAREZ	6	-	6	-	6	-
MAJUNGA	1	1	-	-	-	1
TOTAL	<u>52</u>	<u>35</u>	<u>17</u>	<u>4</u>	<u>42</u>	<u>6</u>
	***	***	***	***	***	***
<u>*Lake Aloatra (Tamatave Province)</u>						
47HP	6	6	-	2	3	1
62HP	7	4	3	1	6	-
72HP	3	3	-	-	2	1
82HP	6	6	-	1	5	-
TOTAL	<u>22</u>	<u>19</u>	<u>3</u>	<u>4</u>	<u>16</u>	<u>2</u>
	***	***	***	***	***	***

ANNEX III

RESULTS

Private Sector

35 tractors were sold to the private sector. The owners of 24 of these were interviewed (68.6 % of total). The findings are as follows :

1. First time tractor purchase 7 (29 %)
Additional tractor 17 (71 %)

2. a) Purchase has increased land worked 21 (87.5 %)
No increase or decrease (latter not as a result of purchase) 3 (12.5 %)
b) Of the land worked prior to the purchase, the work was done
Animal traction 18.8 %
Tractor 43.8 %
Tractor and animal traction 37.4 %

Of the land worked in 7 cases the owners were able to confirm that it had not been worked in previous years. Others did not know.
c) The work was done by
Family 75 %
Family and employees 25 %

3. a) At the time of purchase the intended use was for
Agricultural production irrigated cultivation 53.1 %
Agricultural production dry cultivation 25 %
Sub Total 78.1 %
Agricultural production plus.
Transport of goods (other than agricultural) and people 12.5 %
Rental 6.3 %
Road construction 3.1 %
b) Only 2 owners reported any difference between intended and actual use. These were to use their tractors for personal transport in addition to agriculture production.
c) Purchase was seen to have increased the work load in 21 (87.5 %) cases. However many owners spoke of the increase in quantity and quality of work and the ease. 3 (12.5 %) reported a decrease.
d) The purchase has increased employment in 19 (79.1 %) cases, 9 of which only increased employment of the family. The purchases have increased employment for the work force in 10 cases, in only one (4.2 %) did the purchase cause employment to drop. In 4 cases (16.7 %) there was no change.
e) The new tractors are operated by
Owners and family members 54.2 %
Employees 45.8 %
f) No add on purchases were made by 16 (66.7 %) buyers. Of the purchases made there were 6 ploughs, 3 trailers and 3 disc harrows.

4. To-date only 3 buyers have rented their tractors. 87.5 % of the tractors have therefore being used only for their own production.
- The purchase date varied between only 1 week and 16 weeks. The average is just over 6 weeks. One tractor has worked 24 hours day and night 7 days a week while another has only been working 30 hours per week since purchase. The average is 61.6 hours per week.
 - The current seasonal use is 66 hours per week (average)
 - The projected use on average will be 7.5 months per year but many owners were unsure about their future use. On the one hand they wish to protect their investment while on the other they wish to make it pay.
 - 15 (62.5 %) of the buyers stated they are using their tractors for agricultural production (and related transport) only. The other 9 (37.5 %) are using them for agricultural production and other uses.
 - The smallest amount of land covered is only 10 hectares while the largest is 400 hectares. The average is 77.5 hectares.
 - The tractors are being used to produce the following crops :

		%	%
Irrigated rice	17	35.4	%
Rainfed rice	8	16.7	%
Sub total; rice production		25	<u>52.1</u> %
Maize	7	14.6	%
Cassava	7	14.6	%
Peanuts	4	8.3	%
Dried beans	2	4.1	%
Soya	1	2.1	%
Cotton	1	2.1	%
Pois de Cap	1	2.1	%
	<u>48</u>	<u>100</u>	%

On average each tractor is used for 2 different crops.

In 4 cases the total production will be sold while in another it will held entirely for auto consumption. In only one case will a small percentage (8 %) find its way to the export market. In total nearly 80 % of the harvest will be for resale on the domestic market.

- Only 3 tractors have been rented to-date. 15 (62.5 %) of those interviewed stated that they did not intend to rent their vehicles. Of the others some were still undecided. Because of the above there is not enough data available to give a statistical breakdown (see interviews in annex)
- Ownership in 22 cases (91.6%) was a private individual, however, nearly all were family groups, there was one private company and one PVO.
- Of the owners 15 (62.5%) were fulltime farmers. Another 4 (16.7%), while not being fulltime farmers themselves had families who were. 5 (20.8%) were not fulltime farmers, one was a young farmer who had become a business man. Only one owner was a city business man who was entering agricultural production for the first time.

- b) The total amount of land worked by the buyers (in some cases covered by other tractors) varied between 10 and 500 hectares. The average was 100.4 ha.
- c) The total amount of land owned (but not necessarily all worked) varied between 10 and 1000 hectares. The average was 90.1 ha. A further 24.1 ha (on average) had been allocated by the state. In 3 cases land was also rented and in 2 others farmers had share cropping agreements (see interviews in Annex).
- d) Payment for the tractors was by
 100% cash by 4 (16.6%) owners
 50-85% cash and loan over 1 year by 10 (41.7%) owners
 30% cash and loan over 4 or 5 years by 10 (41.7%) owners; of the latter 3 intend to pay off their loan within one year while another intends to pay within two years if possible.
 11 were purchased with loans by the state agricultural bank (BTM) at 23% real interest rates. 1 over 1 year, 8 over 4 years and 2 over 5 years. For the bank the maximum loan was 70% of the purchase price.
- e) Given the short working time of the tractors (average 6 weeks) no owner was able to give any cost/benefit figures.
- f) 20 (83.3%) owners stated that they intended to purchase another (or more) tractor(s) within a given time frame.

In all the intention to buy was

	Units	%
Within 12 months	13	52
Within 24 months	8	32
Within 60 months	4	16
	<hr/> 25	<hr/> 100

8. DNA

9. a) The buyers learn about the tractors from a combination of sources
- | | |
|------------------------------------------|----|
| I. From neighbours and friends | 13 |
| II. From TV, radio and newspapers | 8 |
| III. From dealers publicity | 5 |
| IV. From dealer contacting them | 5 |
| V. From them contacting dealer | 4 |
| VI. From direct relationship with dealer | 3 |
- b) Special purchase schemes were arranged for 9 (37.5%) buyers by the dealer. In all cases these were for a year at 15% real interest rate. These loans were for;
- | | |
|-------------|----------|
| 15% of cost | 2 buyers |
| 25% of cost | 4 buyers |
| 30% of cost | 1 buyer |
| 50% of cost | 2 buyers |
- c) 16 (66.7%) of the tractors had not required either service or spare parts.
 Of the 8 others, 1 had not needed either but the owner had ordered spare parts which had not yet been delivered (6 weeks).
 In 6 of the 7 cases where service and spare parts had been requested the dealer had delivered to the site. In only one case the owner was awaiting delivery of a spare part (the part was of a minor nature and the delay had not put the tractor out of use).

- d) For the majority of owners (21) the dealer will visit for service of the tractors while they will collect spare parts from the dealer or his agent.

For one owner the dealer will visit for both service and spare parts while the final 2 the reverse will be the case. The greatest distance between a tractor and the dealer was 360 km, the shortest 100 km. The average is 260 km. This average distance will be considerably shortened when the dealer sets up an agency in the Lake Alaotra region.

10. Rented tractors; as only 3 tractors were found that had already been rented it was equally difficult to locate farmers who had rented them. In the event 3 were found and interviewed. The results are given here as an indicator only of the profile of those who rent as the survey was far too small.

- a) All three fulltime farmers (one also breeds geese)
- b) Average land worked 14 ha.
- c) 11.7 ha owned, the rest allocated by the state.
- d) All 3 have other sources of income, children, one parent civil servant and geese breeding.
- e) The land was previously worked by the family itself using animal traction (in all 3 cases).
- f) The reasons given for the change over to renting tractors were
 - i. Belief that mechanical methods will improve production
 - ii. To improve yield and ease work load
 - iii. They intend to buy tractors and wanted first hand experience
 - iv. An increase in cattle thefts in their region.
- g) They all intended to continue renting until they purchased their own tractor.
- h) Two paid their rental in cash on completion of work. It cost them 75,000 FMG (\$100) per hectare worked. The third farmer will share the harvest (50-50) with the tractor owner.
- i) One was a cousin of the tractor owner, the other two had no family ties with the owner.
- j) The period of renting was between one and two weeks, in all 218 working hours or an average of 72.7 hours.
- k) One said he would not rent a tractor to help with the harvest, the two others did not know.
- l) All three intend to purchase tractors in the near future if possible. One of them has a loan agreed with the bank while another was negotiating a bank loan.

V'S

ANNEX IV

Public sector

1. Of the 17 (32.7% of total sold) sold to the public sector interviews were held with the 4 responsible officials for 16 tractors. The breakdown was as follows:

- 6 additional tractors for sugar production
- 6 additional tractors for coffee plants
- 3 first time purchases for rice, cassava and maize production on farm operated by parastatal
- 1 first time purchase for rice production on cooperative farm sponsored by state.

The exact details can be found in the interviews in the annex.

2.
 - a) Overall there was an increase in the amount of land worked.
 - b) Not enough details available.
 - c) Not enough details available.
3.
 - a) In all cases tractors were purchased for agriculture production and/or related work.
 - b) Some tractors were also being used to transport the workers to and from the fields.
 - c) The purchase had increased the overall work load.
 - d) Only in the coffee operation has the purchase effected hire of workers (increased). It will also indirectly effect employment among the growers by the provision of plants. Employment in the other 3 operations had decreased due to a policy of not replacing employees who left or retired. It is uncertain whether or not the purchase indirectly caused this decrease as in some cases it was stated that there had not been enough work for the employees prior to the purchase. In the case of the parastatal farm purchase indirectly decreased local employment as they worked a further 300 Ha which had previously been rented to local farmers.
 - e) All the work had been done by the employees, some land had been rented.
 - f) For 9 tractors there were no add on purchases
For 7, trailers, ploughs and disc harrows were bought.
4. No tractors were or will be rented.
 - a) 1 purchased 4 weeks
 - 2 purchased 6 weeks
 - 3 purchased 13 weeks
 - 4 purchased 1 week
 - 6 purchased 4 weeks

The average use since purchase was 82.5 hours per week (lowest 40 hours, highest 120 hours).

 - b) The current seasonal average use was 87 hours per week.
 - c) The average projected use was 11 months per year.
5. As none of these tractors will be rented, this section does not apply.

6. Parastatal companies 15. Cooperative farm sponsors by state 1.
7. Does not apply.
8.
 - a) In most cases the work had been done previously by the parastatal. As has been seen from 3(d) above some land has previously been rented to local farmers.
 - b) See also 3(d).
 - c) The figures for land worked were not all available (see interviews).
9.
 - a) In all cases the dealer bid successfully for government tender.
 - b) State purchase, details not known.
 - c) 13 had not required service or spare parts. Spare parts had been ordered for 3 and had not been delivered at time of interview (they were still all working).
 - d) The sugar operation (6 tractors) has their own trained mechanics who will service and repair. The dealer will send spare parts by air or road freight. Otherwise the dealer (or agent) will visit for service and spare parts.
 - e) The average distance between tractor and dealer (or agent) was 360 km.
10. DNA

ANNEX V

SPARE PARTS SURVEY.: 11 private sector, 4 public sector.

1. a) Activity: i. Road construction, bridges, ports, civil engineering: 5
ii. Sugar production: 2)
Fishery: 1) Agriculture and industrial
Sisal production: 1) food production: 6
Salt production: 1)
Palm oil: 1)
iii. Mining: 2
vi. Transport and cargo: 2
Other activity included housing and agroforestry.
b) Exports: sugar 22%, fishery 100%, sisal 100%, salt 30% and Mining 100%. Also small exports in transport and cargo sector.
2. Activities were spread in all 6 provinces.
3. a) For the private companies only; the major clients were
i. Road construction etc. 90-95% state
ii. Salt 75% state
iii. Transport 70% state
Otherwise major clients were all private.
b) 85% of road construction contracts came from donor funds, (i.e. spare parts were indirectly paid by foreign exchange). Export earnings helped pay for spare parts in most other cases.
4. Workload increased in most cases. However one small construction firm dropped turnover by 80% over previous year. Sugar production dropped as did sisal. Mining production showed slight increase.

5. Following on 4, employment slightly increased with more or less the same fluctuations.
6.
 - a) Overall the short term prospects were seen as good (see interviews) with the exception of sisal (falling world market) and palm oil (result of cyclone damage). For the medium to long term there was concern expressed about the fragile nature of the economy. An almost unanimous view was that further sustained donor support was needed in order that economic recovery could be made.
 - b) Providing that the above support continues then new investment in new equipment will be made by the major companies.
7. On the whole the CIC was perceived as either very helpful or helpful. In only 3 cases was there no perceived benefit, one of these was a small construction company, another was a private company with 100% exports which claimed that because of their export earnings they could have secured necessary spare parts and another was a parastatal who claimed that the state could have supplied them.
8. Amongst other comments:
 - i. The need to invest and reinvest to create a solid exporting base
 - ii. Exports need protection, future CIPs could provide same.
 - iii. A continuing need in the medium term for external funding.
 - iv. Concern over the current IMF and GDRM negotiations and foreign exchange auction system.
 - v. Concern over the lack of highly trained local management both for the private and public sectors.

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