PROGRESS REPORT
TO THE NAMIBIAN AGRONOMIC BOARD

Late summer rainfall over Northern Namibia: Predictability using statistical teleconnection analysis

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INTRODUCTION

Summer rains in the January through March season in northern Namibia offer a limited opportunity for dry-land agriculture. Because of high losses of surface water through evaporation and the limited moisture holding capacity of the soils, agricultural activities in northern Namibia require careful management to succeed. This is where predicting climate may be most useful to assist farmers in setting economic targets which are achievable.

The area selected represents the largest proportion of communal or subsistence farming activity in the country as well as the bulk of commercial maize production. The region includes Ondangwa, Etosha park and Grootfontein as shown in figure 1. Most crops such as millet, maize, cotton and sunflower are dependent on rainfall in the period December to March (see figure 2). Grazing of livestock also forms an important agricultural contribution.

Approximately 65% of the population of Namibia reside north of 19°S and depend on agriculture for survival. In the Owambo district the main agricultural activity centres around small-stock farming whilst dry-land crops such as millet provide the staple diet. For practical reasons which can be ascribed to a low level of infrastructure development, the majority of the population are centered around the road between Tsumeb and Ruacana. This concentration of human activity results in environmental degradation owing to outdated methods of land cultivation; aggravated by overstocking and the stripping of natural vegetation cover.

In additional, regional rainfall has seen a decline in the decade since 1981 which has diminished the profitability of agricultural efforts. This unfortunate sequence reached a peak during the 1992 drought, when reduced harvests of maize and millet forced the government of Namibia to import food through international aid programmes. Newspapers reported on suffering due to malnutrition and large stock losses. The land and the farmers utilising it are vulnerable to drought, but equally so to flood.

Because of the mostly uniform nature of the land (flat bushlands), small pans act as focal points where wells are dug to provide drinking water. Heavy downpours cause these pans to overflow and interlink. During extreme wet spells, rapid flooding of the pan surrounds may occur due to the absence of sufficient vegetation buffering runoff. In the 1970s, floods left many homeless and thousands of animals and a few people were drown. This was repeated in January 1994 when heavy rains finally returned to northern Namibia.

Since 1990 the government of Namibia has committed itself to a renewal of the infrastructure of northern Namibia. The success of this programme is dependent on the utilization of available resources to the best advantage of the local population, within climatic limits.

Little attention has been given to the study of climate variability in the Owambo-Otavi area. This project seeks to improve the understanding of meteorological factors underlying extended wet and dry spells and their attendant weather systems. The key questions to be addressed include:

1. How predictable are Namibian rainfall fluctuations with respect to global and regional weather patterns? Are there significant features which foretell the seasonal amount and distribution? How do floods and droughts evolve over a six month period prior to occurrence?
2. What significant rhythms and features distinguish rain-producing weather systems in late summer and what processes are responsible for the irregular or delayed migration of the ITCZ?

In this report, progress on climate predictability for northern Namibia is reviewed based on Climate and Weather Research Lab efforts during 1994. Apart from scientific advances in long-range forecasting, expertise development is outlined.

The study area where much of the grain and agricultural produce of Namibia is derived is centred on 19°S, 17°E. A number of rainfall stations are used to formulate an index of late summer rainfall. Aspects of the temporal variability are studied and the evolution of flood and drought scenarios is analysed.

DATA AND METHODS

Area rainfall indices, temporal analysis and compositing

To filter out day-to-day variations in rainfall which are almost entirely unpredictable at time scales longer than a week, monthly and pentad (5 day) rainfall were utilised for the area of northern Namibia. In a previous study, a seven station index was formulated by averaging the standardised departures of November to March monthly rainfall data in the Otavi-Grootfontein district. Correlations were then performed.

In this study Owambo district data were obtained and a four station index was formulated by averaging January to March seasonal totals for the period 1962-1993. Wet (76,78,85) and dry (81,82,83) summers were identified in the rainfall record.

Work on in-season variability was carried out using pentad rainfall in the December to March period. Various analysis techniques were applied to determine how short-lived wet spells contribute to the overall seasonal total.

Regional weather products and analysis procedure

Assuming that many droughts and floods in northern Namibia are forced to some extent by external conditions, global signals within regional weather data were investigated. At the Climate and Weather Research Lab, monthly data on cloud depth, wind flow patterns at 3 and 12 km levels are available on computer every 5° of latitude/longitude over the Atlantic/Africa/Indian Ocean region in the period 1968-1988.

The regional weather patterns are analysed with respect to rainfall amounts in the summer over northern Namibia. Weather maps can be digitally analysed in groups of months preceding past droughts and floods, to derive common antecedent conditions or precursor signals for long-range forecasting purposes. The monthly data originate from the Climate Analysis Centre in Washington, USA.

In addition, daily weather maps from ECMWF Reading, England provide information at various atmospheric levels every 2.5° latitude/longitude in the period December to March 1986-1994. The range of parameters is considerable and includes pressure, wind, temperature, moisture and derivative products. These are usually grouped into wet and dry phases within past summers, to investigate the forcing of climate of a more localised nature. This work will not be covered in this report, as it forms the next phase of the research.

To look at climate impacts, satellite vegetation data for the region have been obtained and give an indication of agricultural productivity over the region of southern Africa. Again these data are not utilised here, but would form an important component of further studies.

RESULTS

1993/1994 forecast verification

Before discussing progress, it is useful to assess the performance of the summer rainfall forecast issued in October 1993. It should be noted that the forecast applies to the whole of southern Africa; no distinction is made for various regions. A downward trend was anticipated with overall amounts near normal. Early planting of crops was recommended.

Figure 3 compares the forecasted and actual rainfall in the Otavi valley area. The forecast went well in all months except January, where rainfall values were considerably higher than forecast. This lead to an accumulated monthly error of 76% and a mean seasonal error of +15%. The anticipated drying out in the late summer materialised as expected, and March rainfall was particulcarly poor.

In retrospect, the 1993 forecast error is unacceptable for agricultural management purposes. This fact spurned further research efforts and a post-mortem suggested that a new forecast index could be utilised.

Previously identified predictors

In previous work with Namibian rainfall three key forecast indicators were identified. These involved OLR (cloud depth) and surface cyclonic wind flows "downstream" in the South Indian Ocean, sea surface temperatures (SST) in the South Atlantic and upper level winds over the equatorial Atlantic. The respective correlation maps are shown in figure 4. Some work was done on SST to show that a large portion of variability in the South Atlantic is contributed by inputs from the Benguela Current. However this predictor does not appear to offer reliable guidance sufficiently far enough in advance. OLR (cloud depth) was re-examined, but subsequent work could not confirm the usefulness of signals in the South Indian Ocean.

The Atlantic wind index

Attention was turned to the Atlantic winds and promising results soon began to emerge. The equatorial Atlantic upper wind anomaly is extracted from global weather products in the area 5°N-10°S, 35°W-5°W. This zone is well observed from Meteosat, frequent aircraft reports and Ascension Island profiles. Correlations with the Otavi-Owambo rainfall index for various months and seasons were computed (figure 5). Using monthly wind and rainfall, the closest

relationship is between the September wind index and the following January rainfall. If seasonal values of the wind and rainfall indices are used, the relationships are useless for early summer rains. A most significant finding is that late season rainfall (Jan-Mar) can be reliably forecasted using the Atlantic wind index as far in advance as the previous winter (May-July). This represents an 8 month lead time, although correlations are most reliable for the September-November period.

The wind index is closely related with northern Namibian rainfall in the late summer (-0.73) using the spring (SON) index value, which means that over half of the variance is explained. The wind index is also well correlated with South African summer rainfall, particularly in the northern Cape (-0.83). Its linear relationship with Namibian rainfall (Figure 6) suggests that the index works equally well in drought and flood scenarios. From a forecaster's perspective, the "miss" rate is estimated as 2-in-10.

With the prospect of improved summer rainfall forecasts, research on climate impacts was conducted. Maize yields near Gaborone, Botswana were obtained and correlations with the Atlantic wind index were better than for rainfall. Further statistical tests need to confirm similar relationships for northern Namibia. The index appears well suited to assist efforts towards food security.

Based on current knowledge, it is hypothesised that the Atlantic wind flow foretells the strength of the westerly subtropical jet stream which interacts with the Botswana high pressure cell. When the wind is from the west, a feature common to global El Nino events, the high pressure is intensified and dry spells are long-lived. The opposite holds true, when the Atlantic wind is more from the east, moist unstable air invades southern Africa resulting in extended wet spells. It is useful to note that this Atlantic wind index is in-phase with SST in the eastern Pacific and leads the southern oscillation index (SOI) by a month or so.

Further work on this index and the mechanisms underlying cause and effect are in progress. In tests against the other known predictors of Namibian summer rainfall such as OLR and SST, the wind index performs consistently better with correlations 30% higher at lead times 3-4 months in advance. This index will be added to the "mix" of statistical predictors used in managing increased climate variability and its impacts on food and water resources.

Year-to-year rainfall fluctuations

At the outset of this project a re-analysis of year-to-year rainfall variability was conducted. Figure 7 illustrates Owambo rainfall departures which were subsequently used to group wet and dry summers for averaging. The fluctuations for various months between the two areas were inter-compared, and high correlations were found for November, January and February (figure 8). Time series for early and late summer rains using the combined Owambo-Otavi rainfall indices are shown in figures 9 and 10. Prominent in the early summer are 5-6 year cycles, and in the late summer 2.3 and 19 year cycles. The probability of rainfall in different categories is shown in figure 11. This indicates that mild droughts are common and that floods occasionally arise.

Convective forcing of drought and flood

Using OLR data for cloud depth, the unfolding of drought and flood scenarios and antecedent patterns was assessed by candidate Beyers. The dry summers include 1981, 1982 and 1983; the wet 1976 and 1978, and to a lesser extent 1985. Drought is represented by subtracting the mean from the 1981-1983 JFM values as shown in figure 12. Largest departures in the preceding winter/spring (July-September) occur over the Atlantic Ocean 5-20°N, 20-40°W, and refer to increased cloud depth there prior to Namibian drought. During the October-December period, OLR shows that drought builds up over northern Namibia and that increased clouds occur over the central Indian Ocean. During the Jan-Mar season the ocean areas to the east and west experience above normal clouds while the north Indian Ocean is dry. Drought over northern Namibia occurs in sympathy with that over South Africa according to the OLR map.

Wet summer evolution is shown in figure 13. It is interesting that the preceding winter experiences -OLR departures over northern Namibia while the eastern Indian Ocean shows reduced cloudiness. The area of reduced clouds spreads westward to central Africa in the Oct-Dec season and retreats to the Mauritius sector in late summer. Coincidently cloud depths (-OLR) increase dramatically over northern Namibia as expected in a flood scenario.

Evolution of circulation in wet and dry summers

Drought evolution is illustrated within the circulation patterns shown in figures 14 and 15 for upper and lower levels. This work was performed by MSc

graduate Mr K Levey. In the preceding winter upper westerlies cover the Atlantic and easterlies flow over the west tropical Indian Ocean. These flow anomalies from the east persist in the Oct-Dec season. By late summer the intrusion of northern hemisphere westerlies into the equatorial Atlantic is a key feature of drought.

In the lower level the drought scenario is dominated by the South Atlantic anticyclone. Southeasterly winds are particularly strong to the NW of Angola in the Oct-Dec season. Another low level signal is a cyclonic anomaly off Kenya which is strong in July-Sept and again in the late summer. Together these low level circulations deprive weather systems over northern Namibia of rain-producing potential.

The flood circulation for upper and lower levels is shown in figures 16 and 17. A persistent upper level signal is seen in west winds over the tropical Indian Ocean. Other upper level features are more variable from winter to summer. In the lower level easterly winds are evident over the equatorial western Indian Ocean, while over the tropical Atlantic westerly wind anomalies in the Oct-Dec season precede late summer floods in northern Namibia.

It should be noted that some of the patterns for dry and wet summers are not opposing and therefore offer ambiguous forecasting signals. Also these maps are constructed on the basis of two wet summers in the 1970s and two dry summers in the 1980s, on the assumption that they will foretell common features of future drought.

In-season rainfall variations

Seasonal distributions are strongly "pulsed" by wet spells of 5-10 day duration preceded and followed by dry spells of similar duration as illustrated in the catalogue of rainfall departures in figures 18-20. The results indicate that using monthly data sets, whether for rainfall or weather maps, does not capture the isolated nature of the rainfall and causative mechanisms. The mean structure of the seasonal rainfall distribution in northern Namibia is a gradual rise to mid-January, a sudden increase to a peak in early February and a gradual decline after mid-March. Maximum deviations also occur as rainfall increases (figure 21). The cycles of rainfall are commonly around 25 days (5 pentads), although a significant number of wet spells occur at intervals of monthly or longer.

Changes in the seasonal distribution are noted in Figure 22. In the mid-1970s major peaks occurred in January. However in the 1980s rainfall was

generally below the mean and wet spells were of a limited nature. Differences between the seasonal distribution in wet and dry summers are also illustrated. It is clear that November and December do not participate in major changes from year-to-year or decade-to-decade. Of critical importance to agriculture productivity and water resources is the mid-January onset of heavy rains, which then tail off into February and March. In the case of wet years chosen for analysis, a clear oscillation is evident; whereas in the wettest years (ie 1974) heavy rainfall is sustained through the late summer. Early summer rains do not offer an indication of late summer potential and should be discounted for forecasting purposes.

Comparison of 1990 and 1992

Considering the more recent ECMWF data sets which offer greater insights to processes underlying wet and dry spells, it was decided to study the wet summer of January-March 1990 in relation to the disasterous drought of 1992. Differences between the background conditions of the two seasons are listed for 20°S, 17.5°E:

	T850	U70	V70	U20	V20	W50	Dv85	Dv20	Vr500	Td700	Td500
90	22.2	-3.1	-1.5	4.9	-0.9	-.11	-3.6	7.4	2.5	1.3	-16.6
92	25.2	-2.6	-1.0	5.8	-2.3	+.01	-2.7	-.9	6.3	1.1	-17.2

where T850 =surface temperature
U70 =low level zonal wind
V70 =low level meridional wind
U20 =upper level zonal wind
V20 =upper level meridional wind
W50 =mid-level vertical motion
Dv85 =surface divergence
Dv20 =upper divergence
Vr500 =mid-level vorticity
Td700 =low-level dewpoint temp
Td500 = mid-level dewpoint

Largest differences are noted for:
- upper level divergence (greater in 1990)
- mid-level vorticity (more anticyclonic in 1992)
- upper meridional winds (more northerly in 1992)
- vertical uplift (greater in 1990).

Surprisingly, some of the smallest differences are in the low level moisture and wind flow patterns. Dewpoint temperatures at 3 km are only 0.2°C lower during the 1992 drought. It is therefore surmised that the meteorological scenario for extended wet and dry spells depends more on the properties of the circulation in the levels above 5 km, than on the near surface moisture supply. These features are illustrated in figure 23. Largest differences from 1990 to 1992 occur over the SE Atlantic, where in the dry summer the NW wind flow is considerably stronger. In wet summers links between northern and southern hemisphere westerlies are absent.

SUMMARY AND RECOMMENDATIONS

The discovery of a new wind index for the forecasting of summer rainfall in northern Namibia is one of the major findings presented in this report. The Atlantic upper wind index provides useful insights to the coming season's January to March rainfall up to 8 months in advance. It is also likely to control some of the changes in the soil moisture which occur through evaporation and surface temperature conditions.

Further studies are recommended to determine the importance of downstream blocking in the south Indian Ocean, of changes in sea surface temperatures in the South Atlantic and of convective/circulation evolution leading to extended dry and wet spells.

Climate impacts should be assessed through crop yield and water balance studies, including the predictability of temperature.

As most of the rainfall is contributed by wet spells with a duration considerably shorter than the monthly time scale, attention should be shifted to meteorological controls of pentad rainfall variability.

Another project scientist/ MSc candidate with stronger motivation and potential should be sought to continue with the project work.

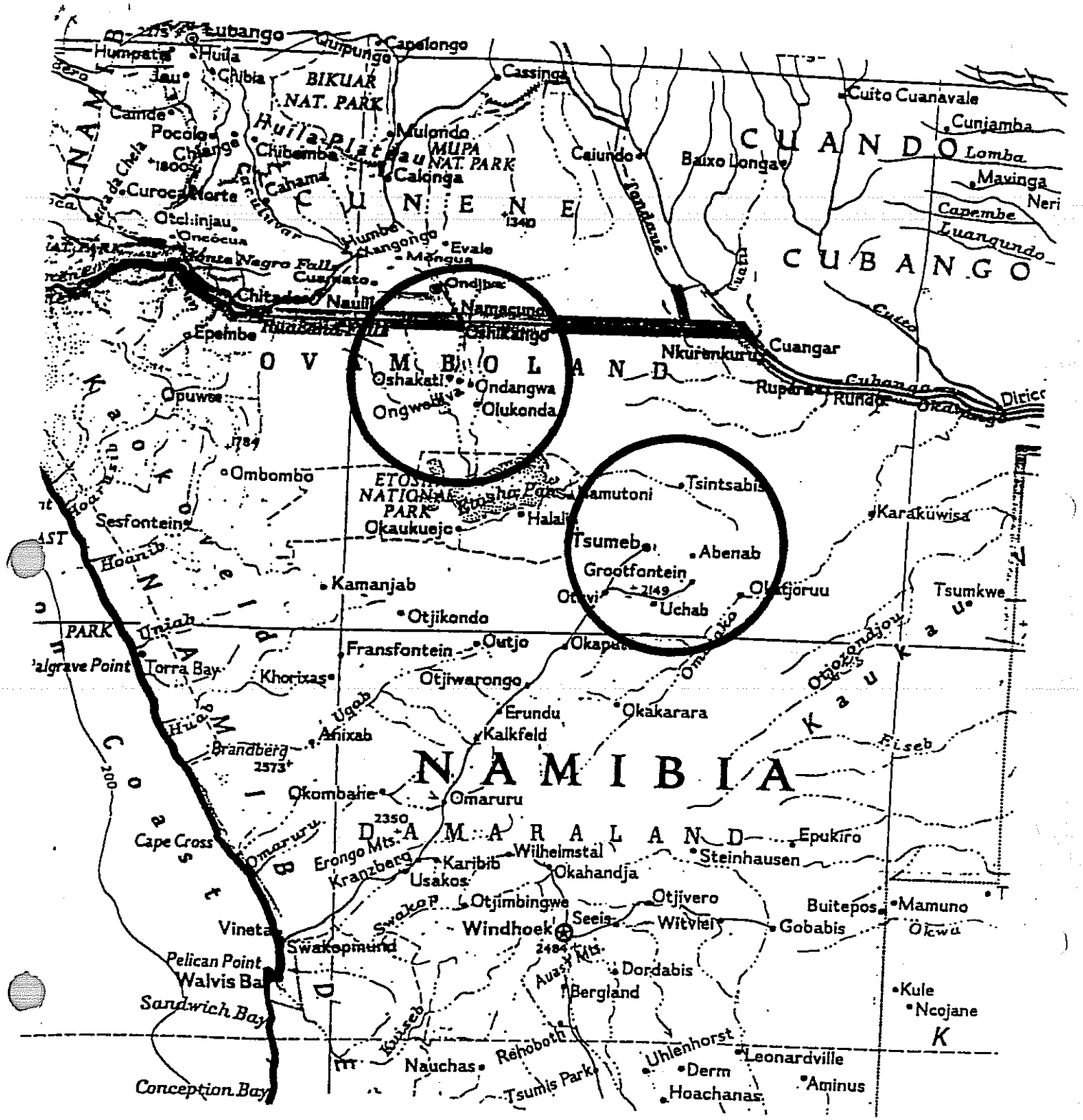


Fig 1 - Map of northern Namibia with rainfall areas circled.

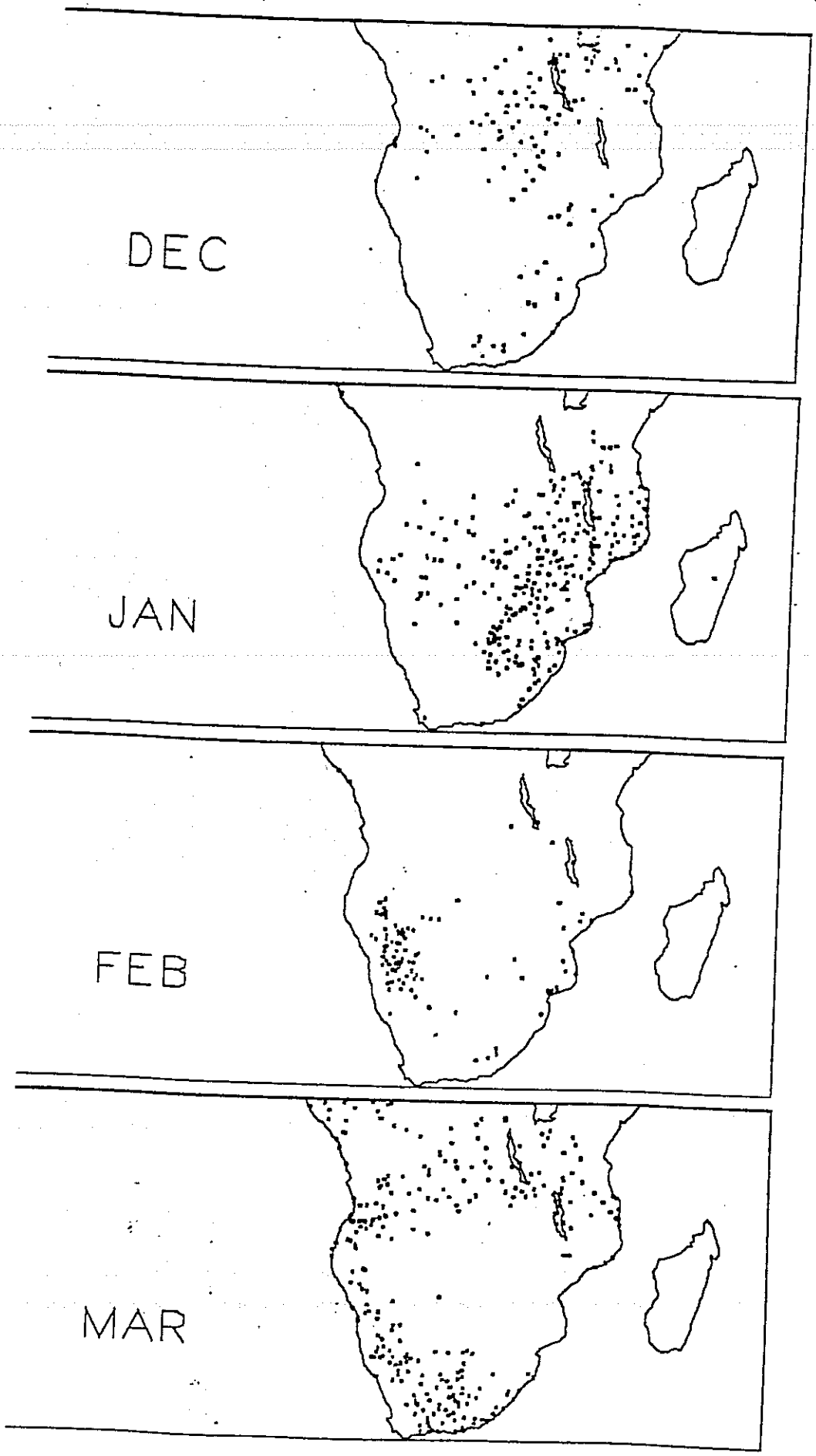


Fig 2 - Stations identified by month of peak rainfall.

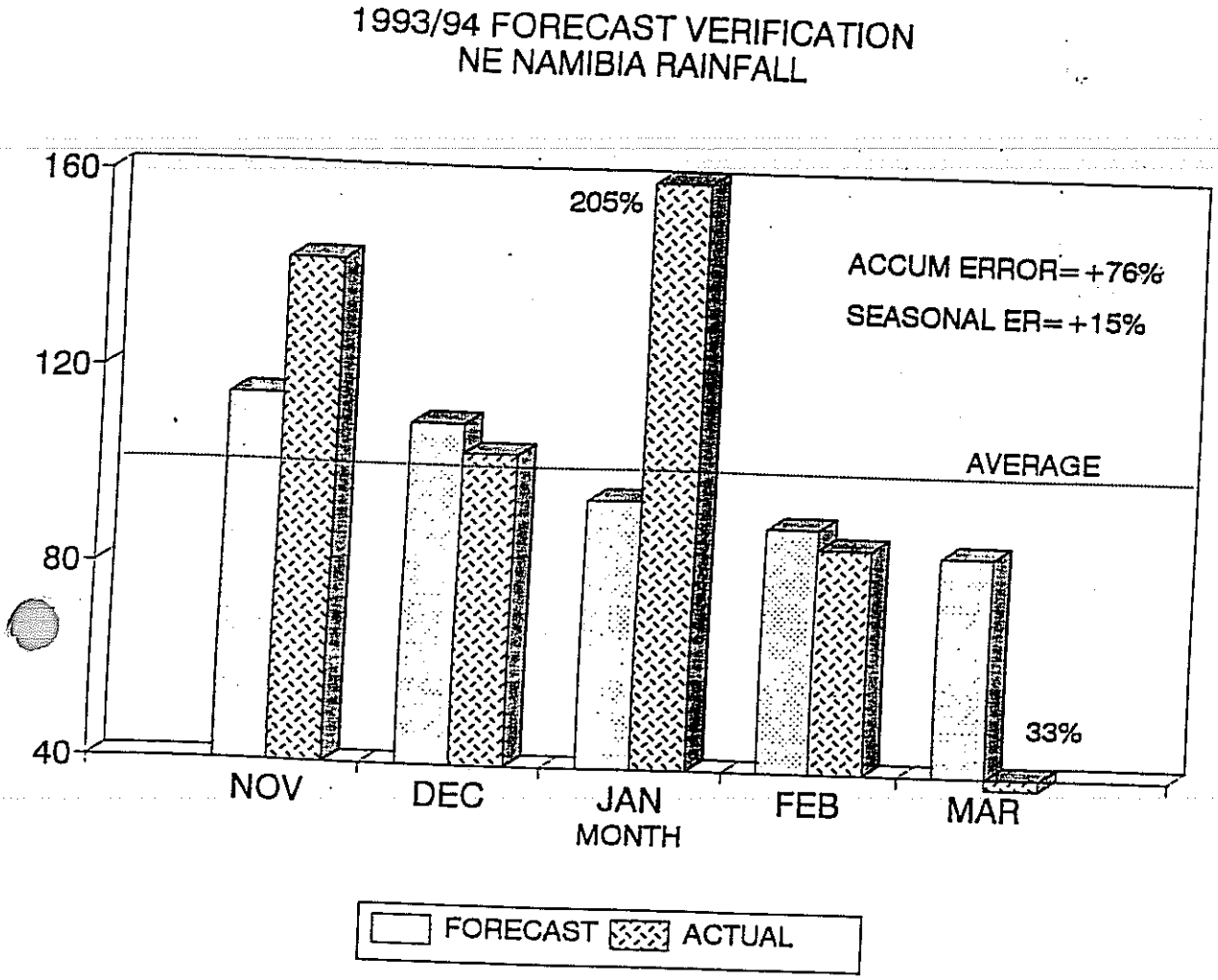


Fig 3 - 1993 forecast verification for northern Namibia.

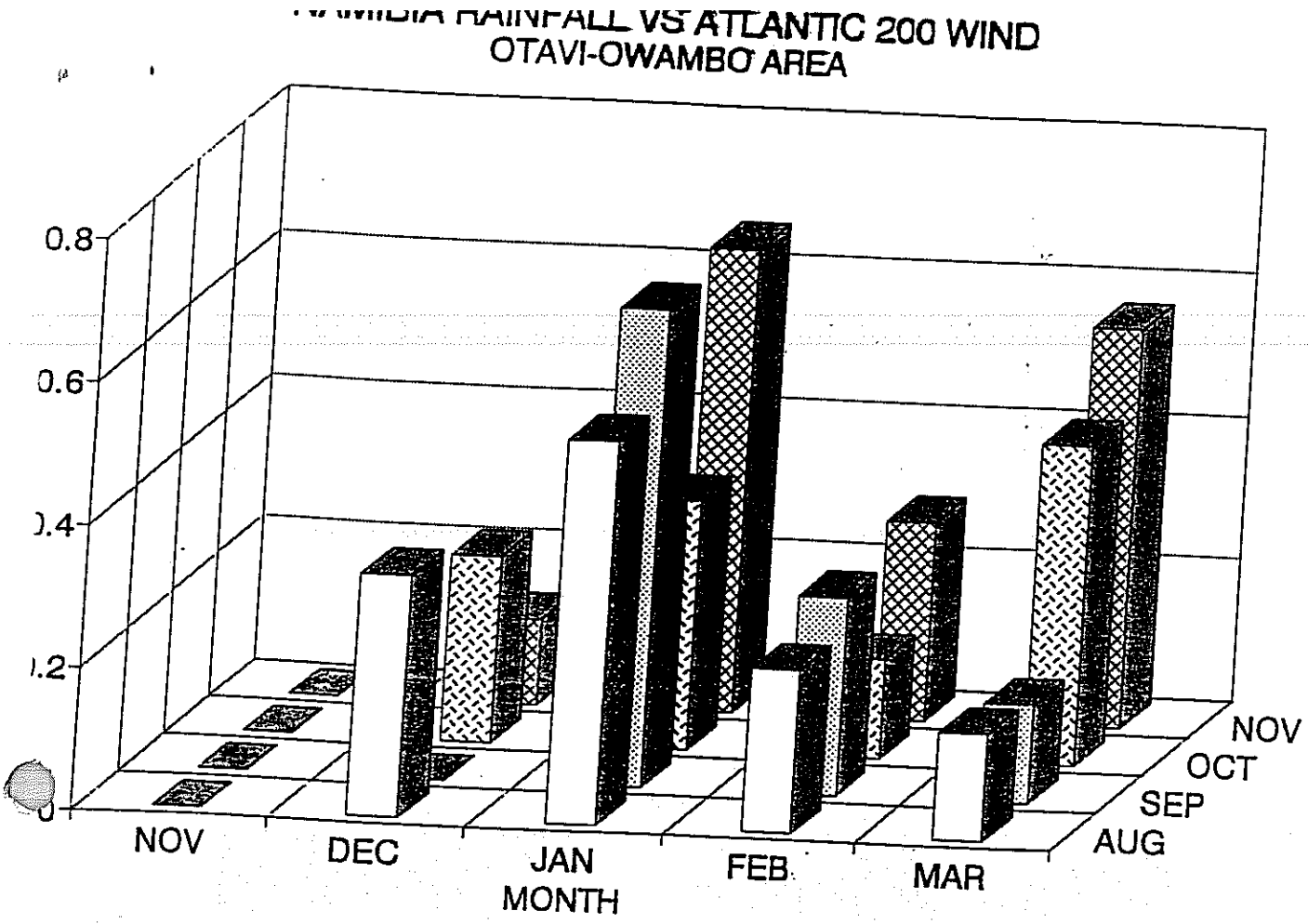
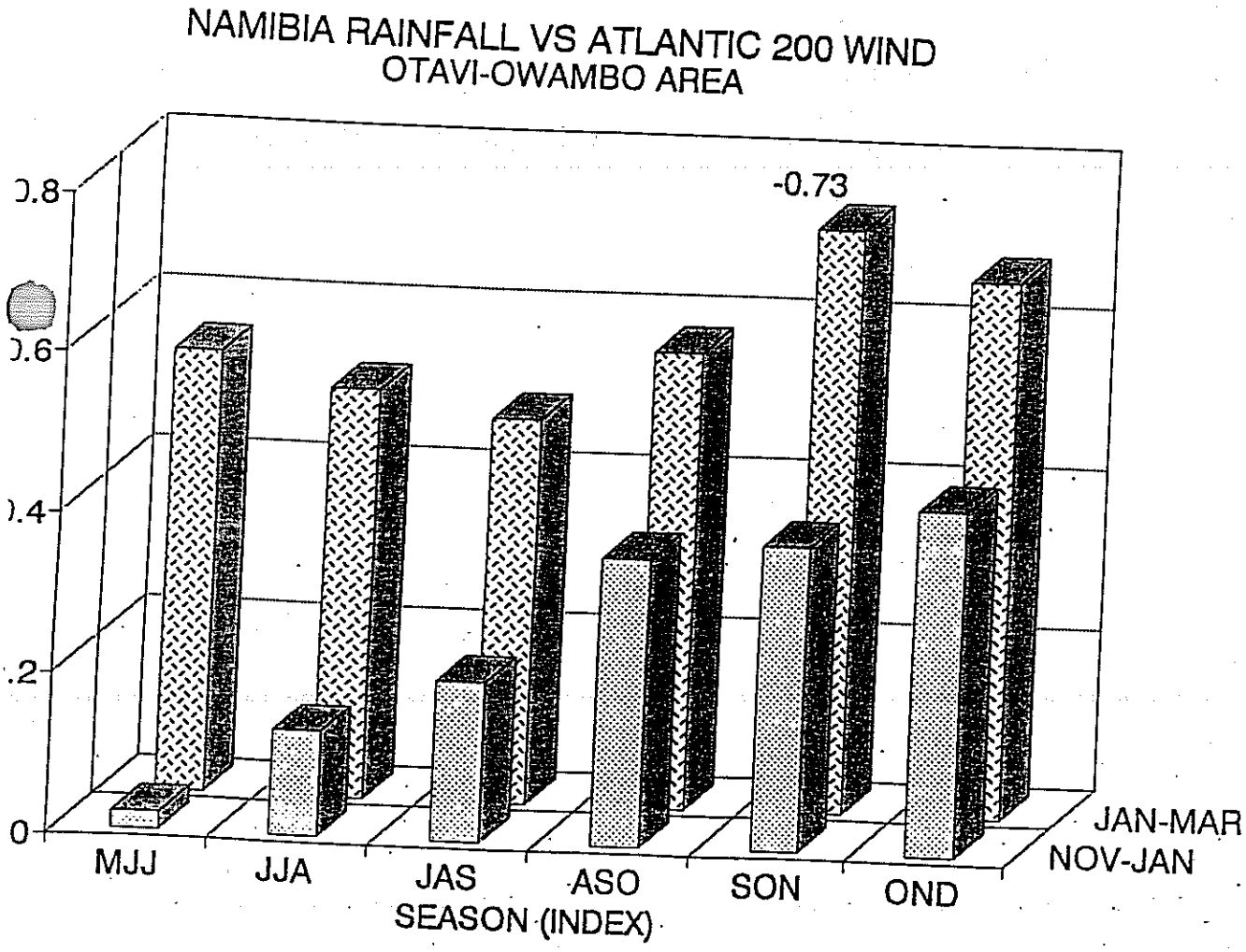


Fig 5 - Relationships between Atlantic wind and rainfall.



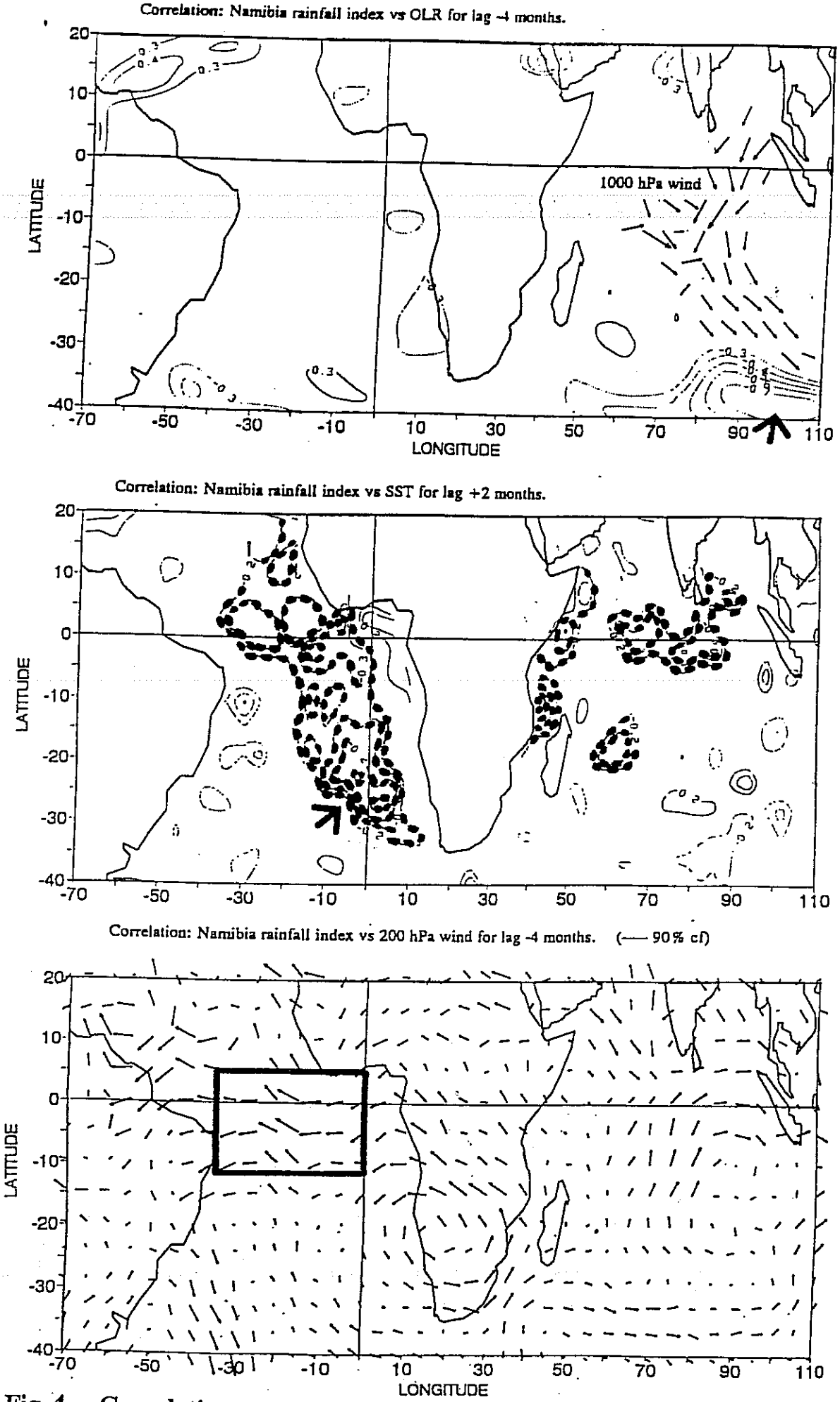
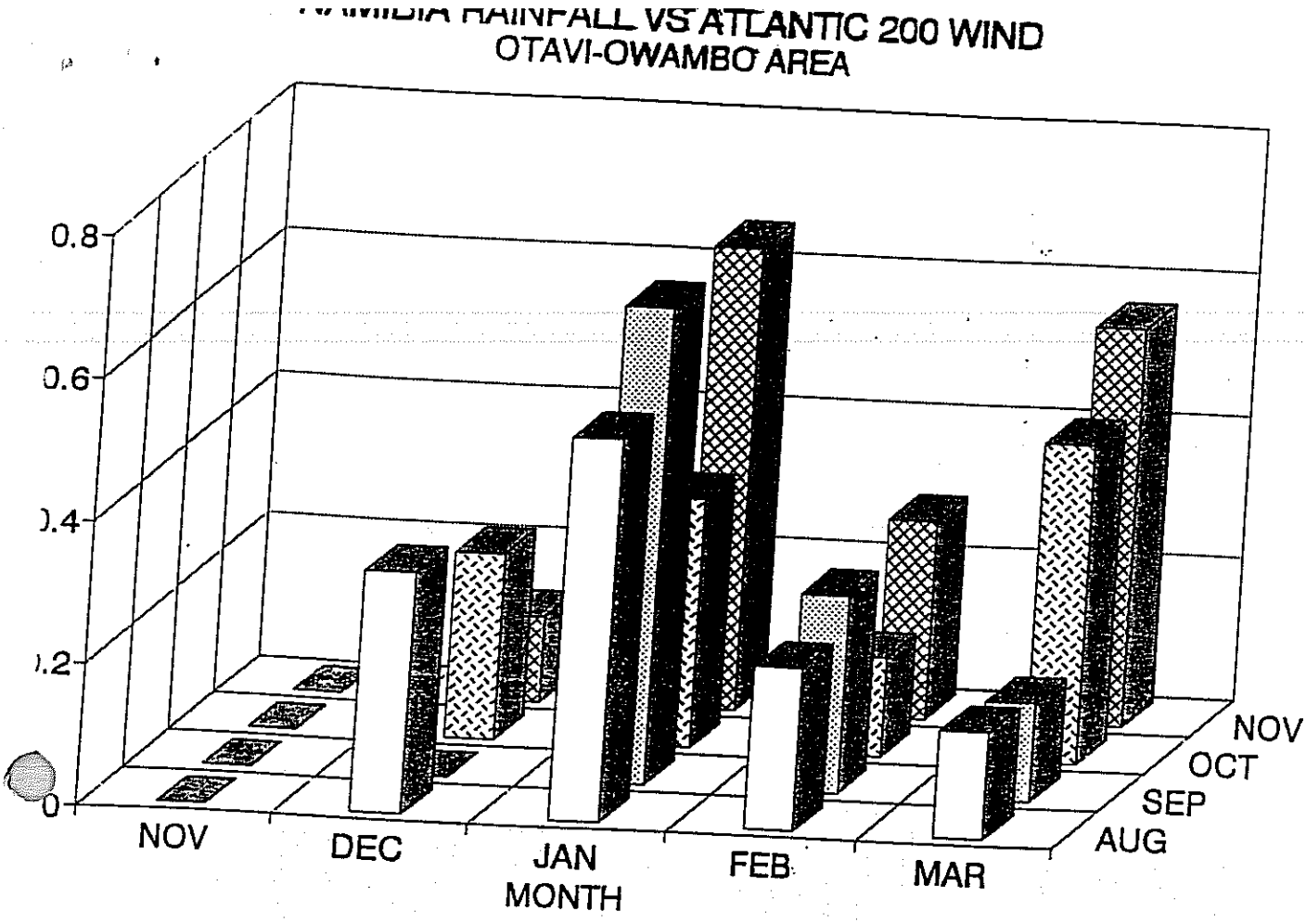


Fig 4 - Correlation maps with northern Namibia rainfall. Top shows downstream blocking in S Indian Ocean by OLR and surface wind, middle refers to sea surface temperature in the S Atlantic, bottom to upper wind where box [illegible]



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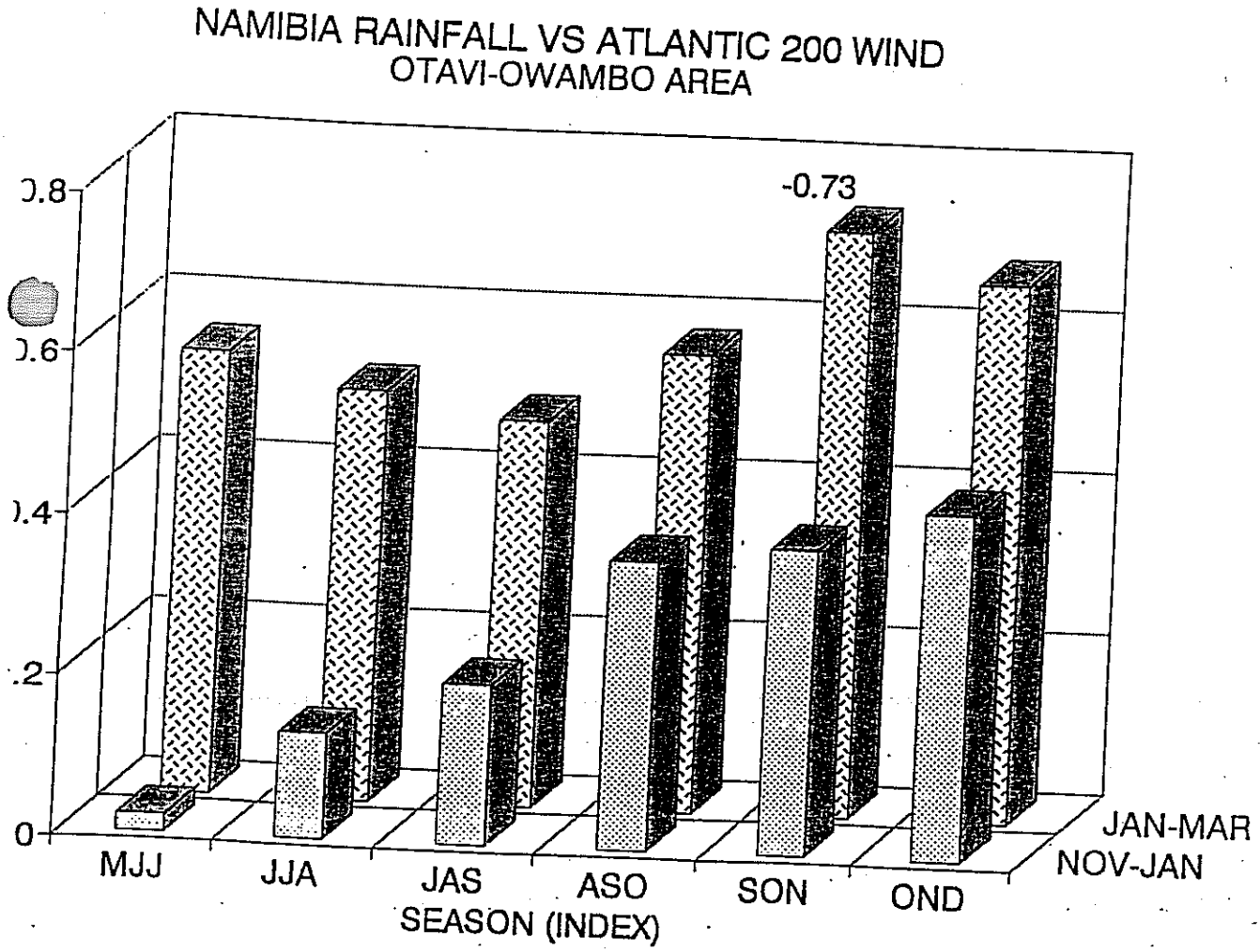


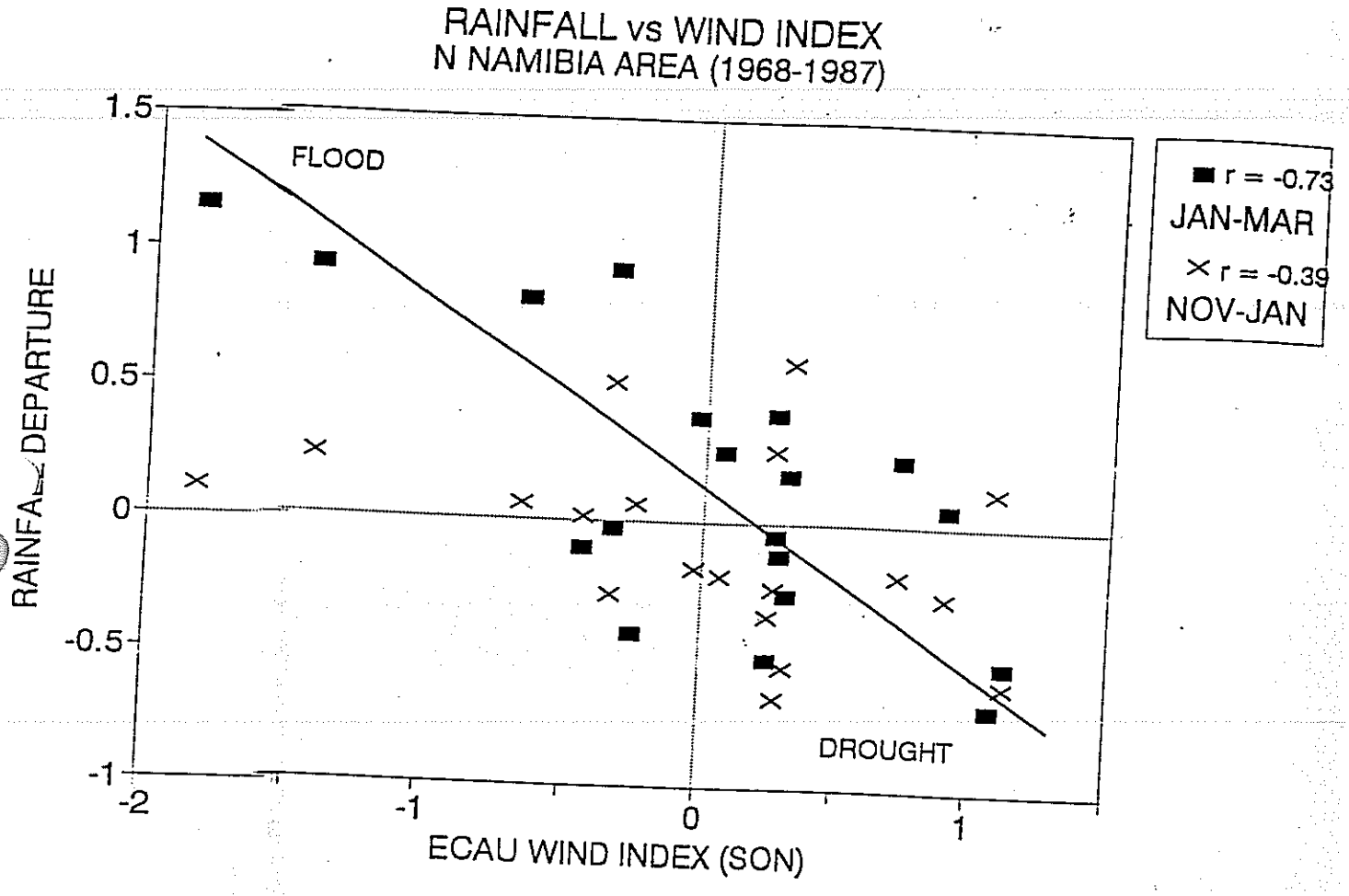


Fig 6 - Scatterplot of Atlantic wind and rainfall.

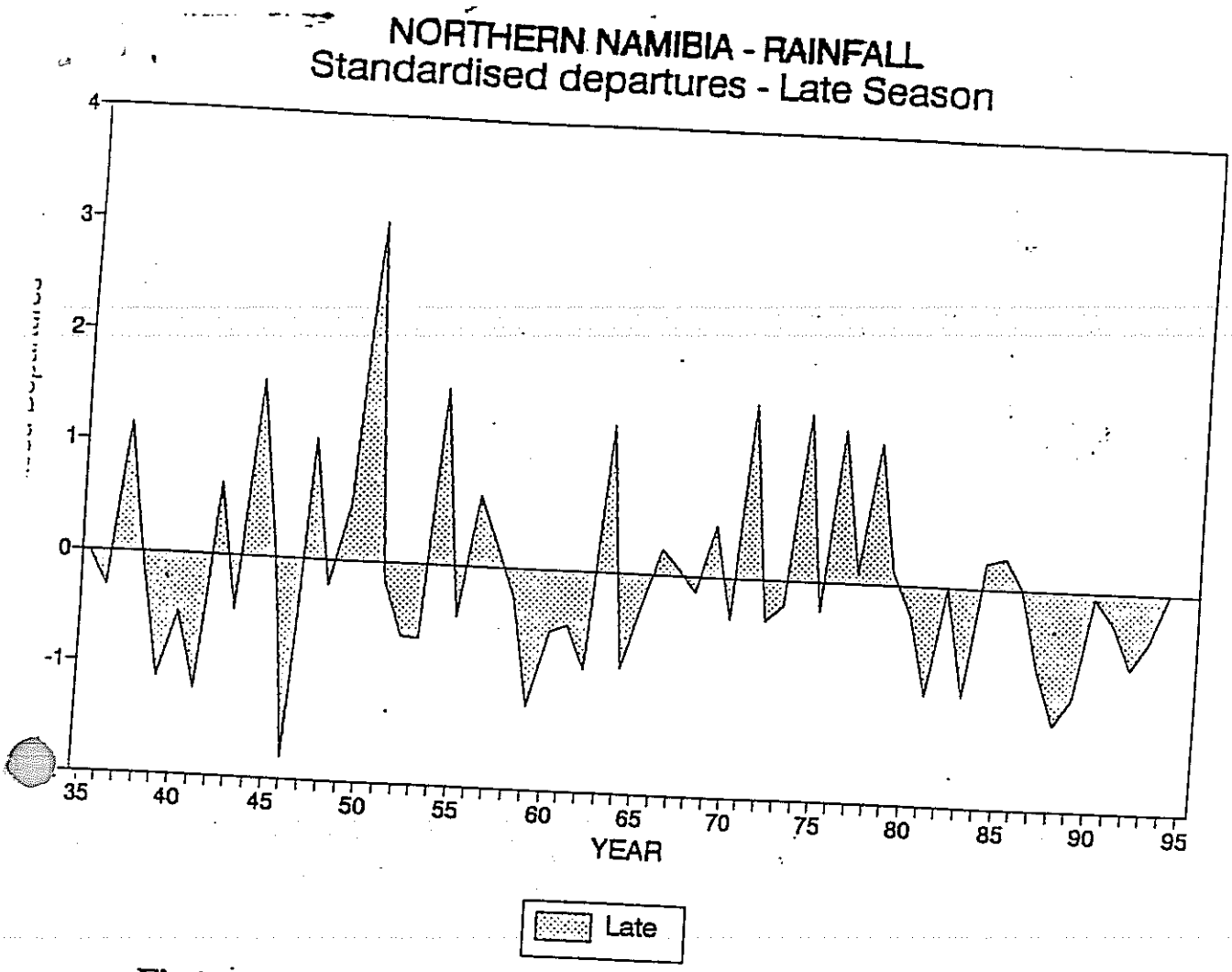
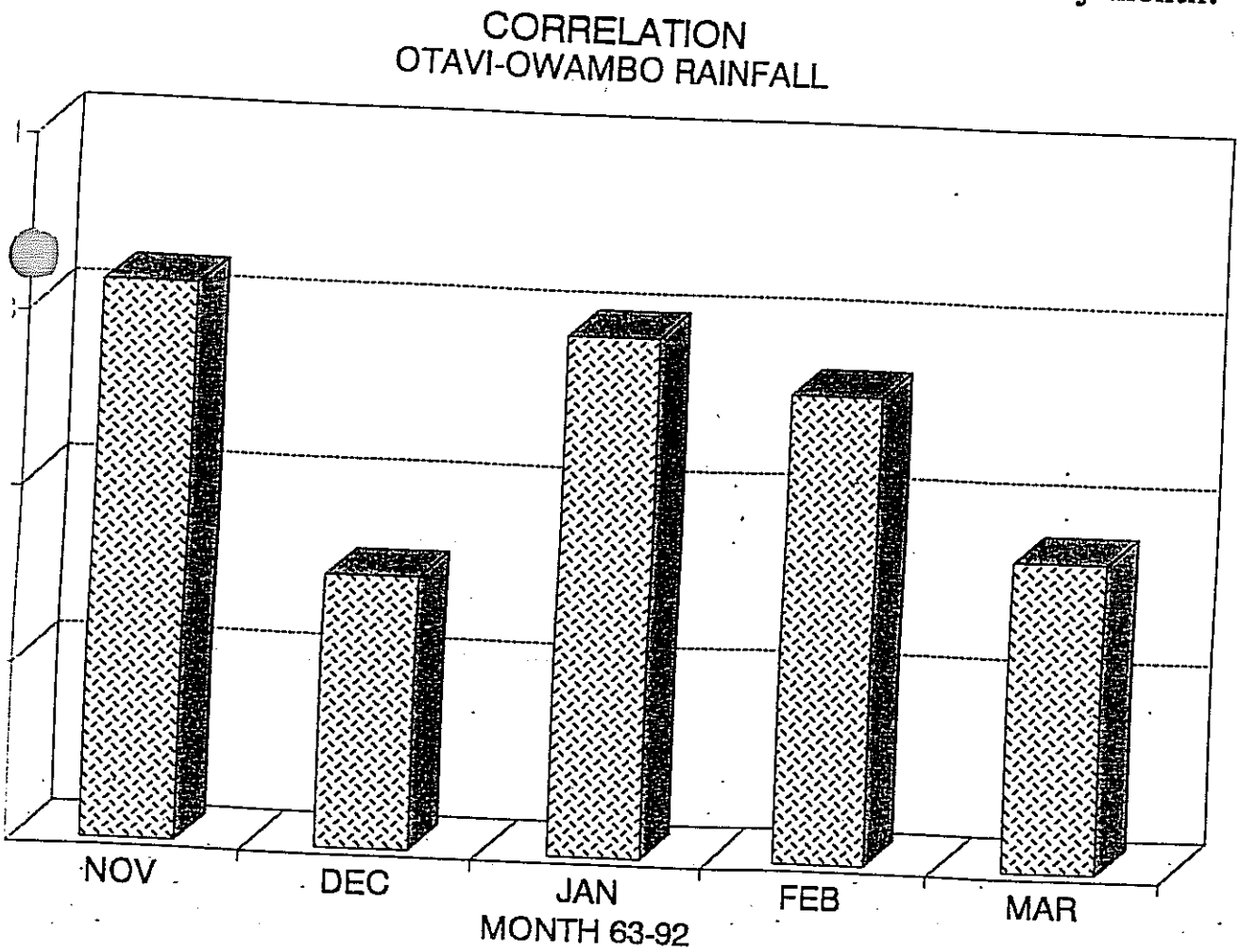


Fig 7 - January - March seasonal rainfall departures.
Fig 8 - Correlation between the Otavi and Owambo areas by month.



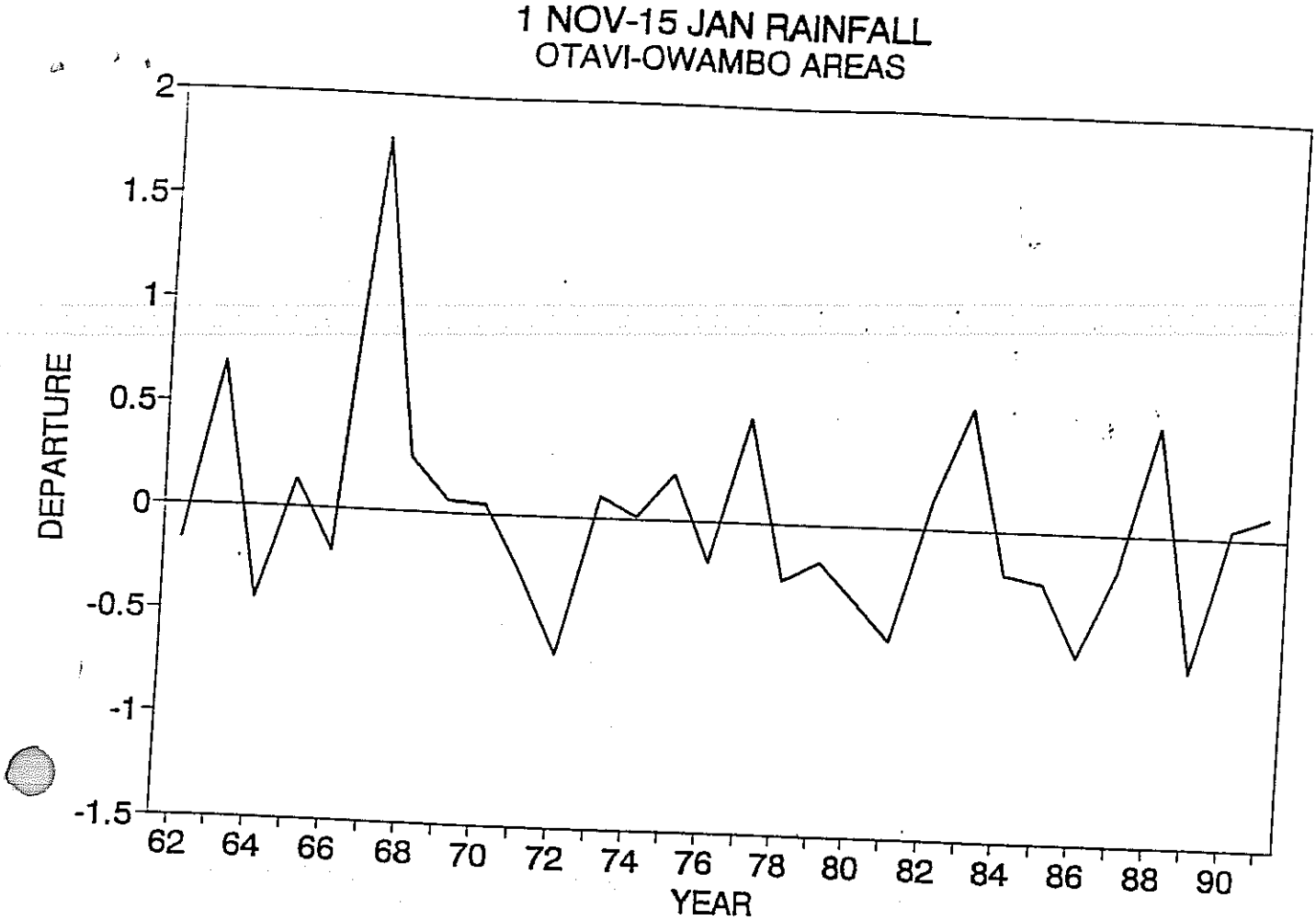
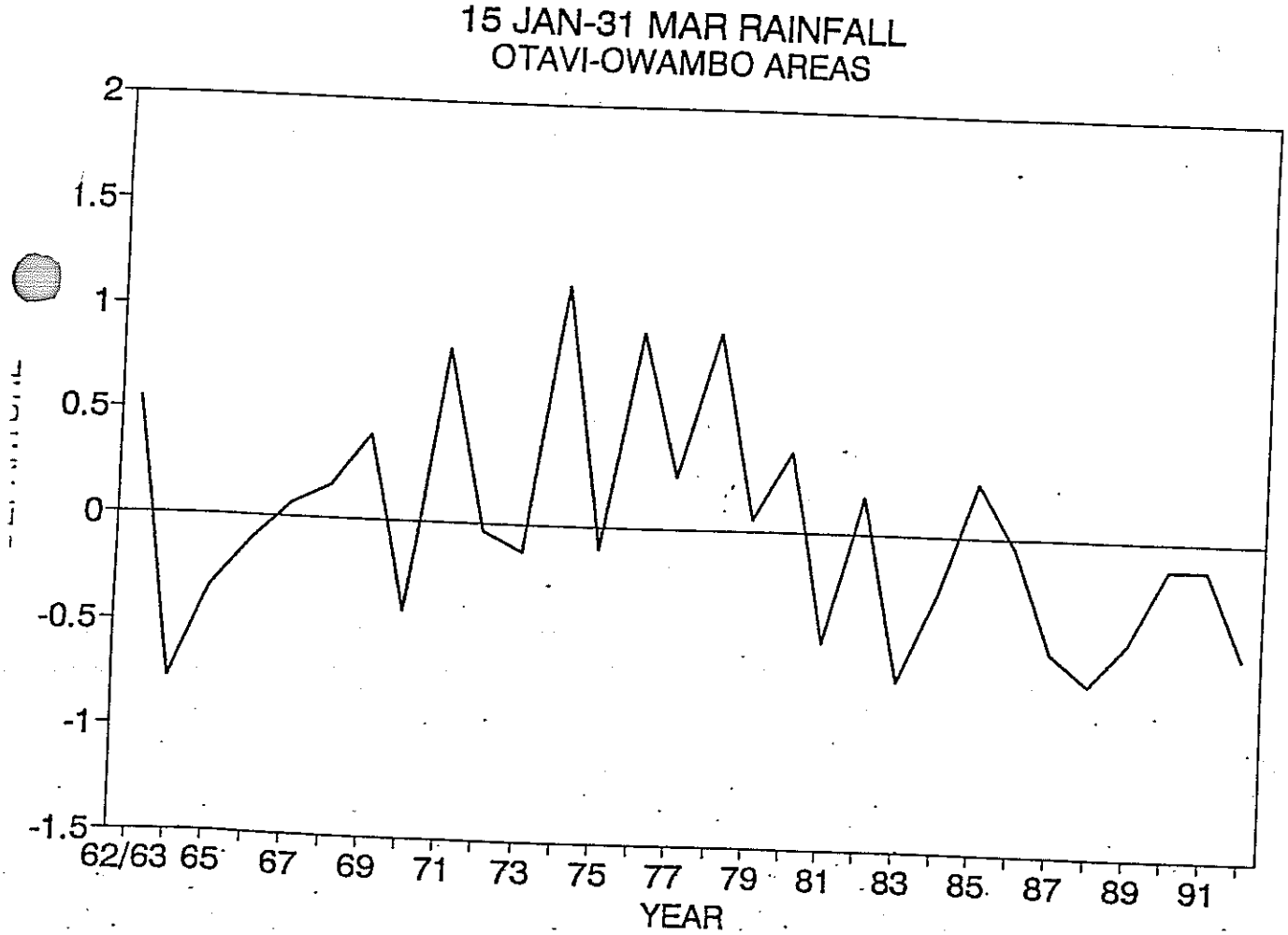


Fig 9 - Early season departures for combined rainfall index.
Fig 10 - Late season departures for combined rainfall index.



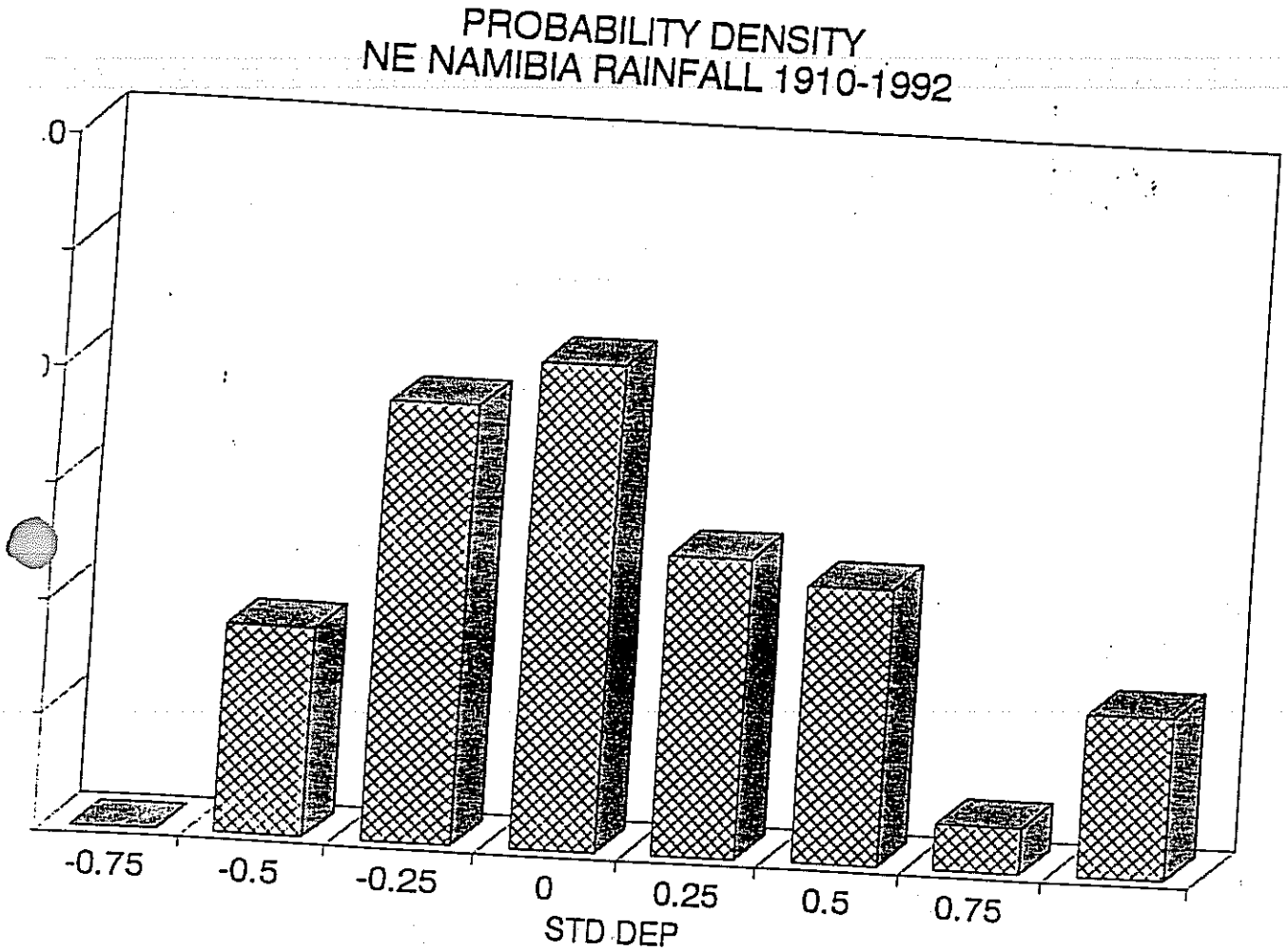
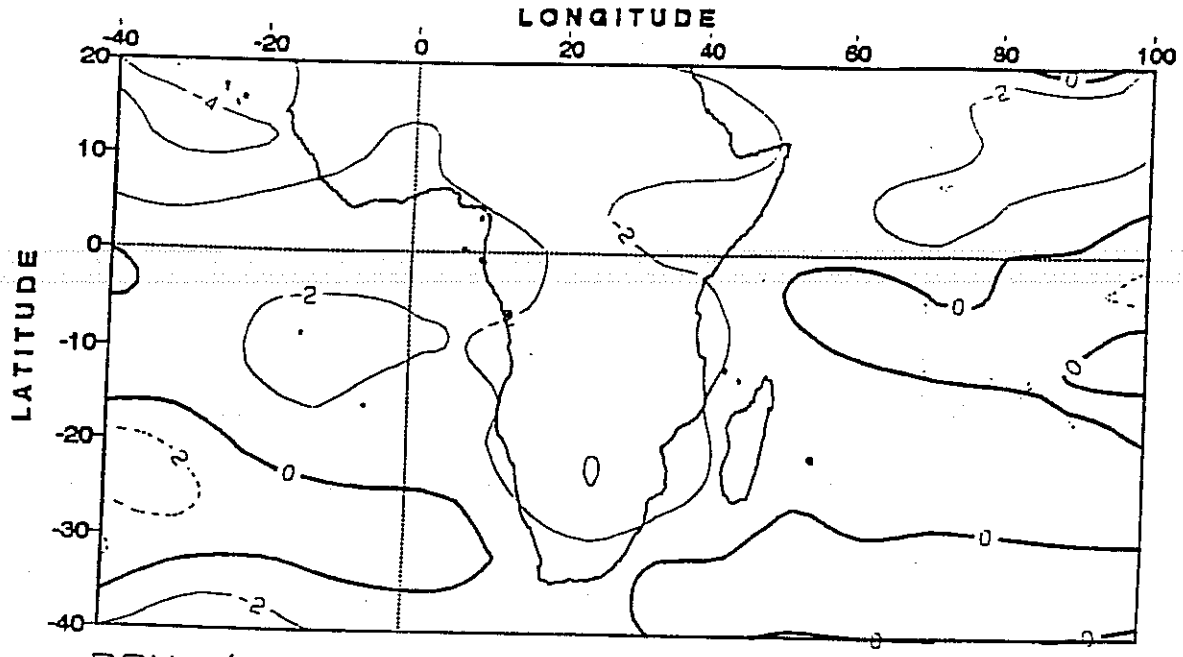
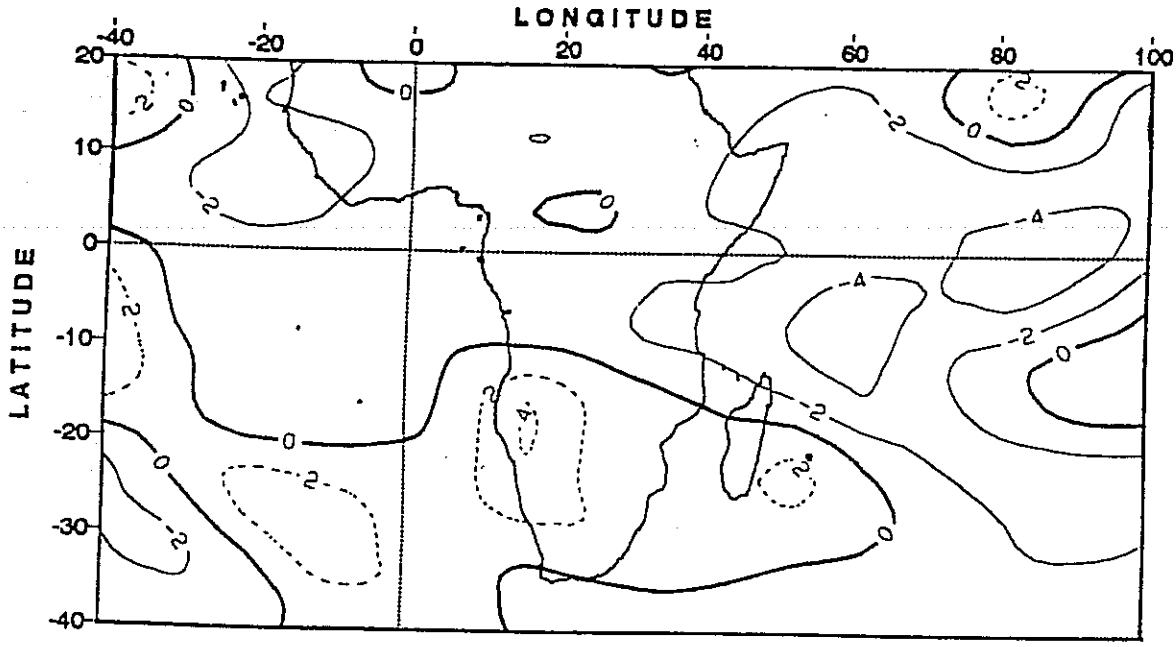


Fig 11 - Probability of rainfall in various departure classes.



DRY (1981, 82, 83) - LAG-6



DRY (1981, 82, 83) - LAG-3

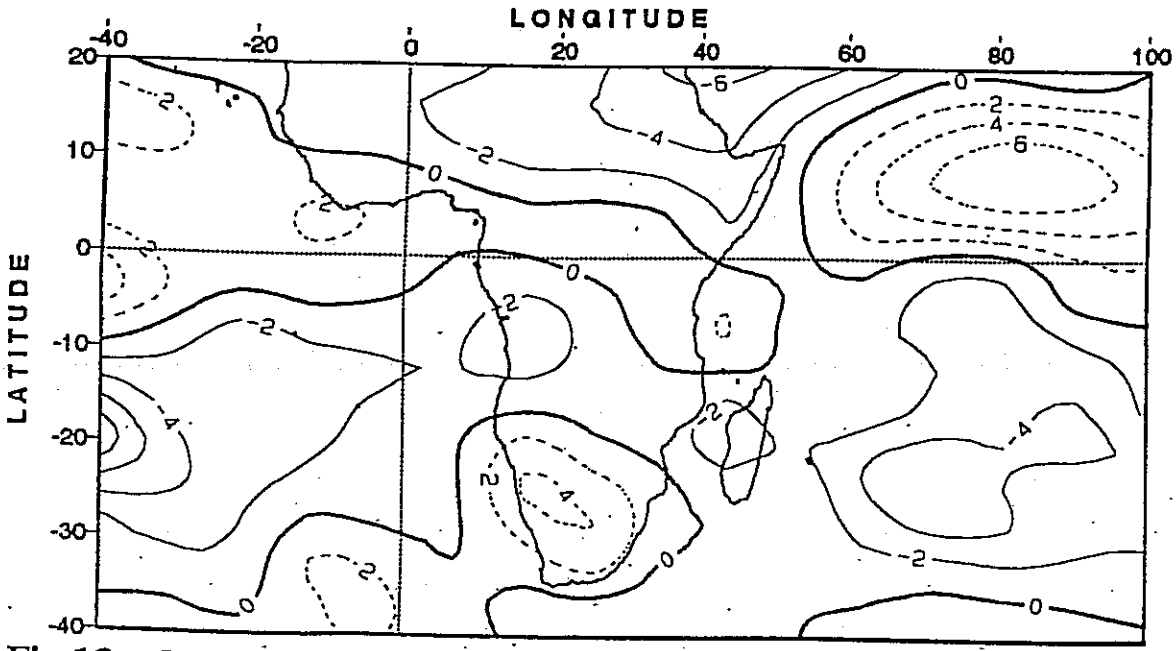
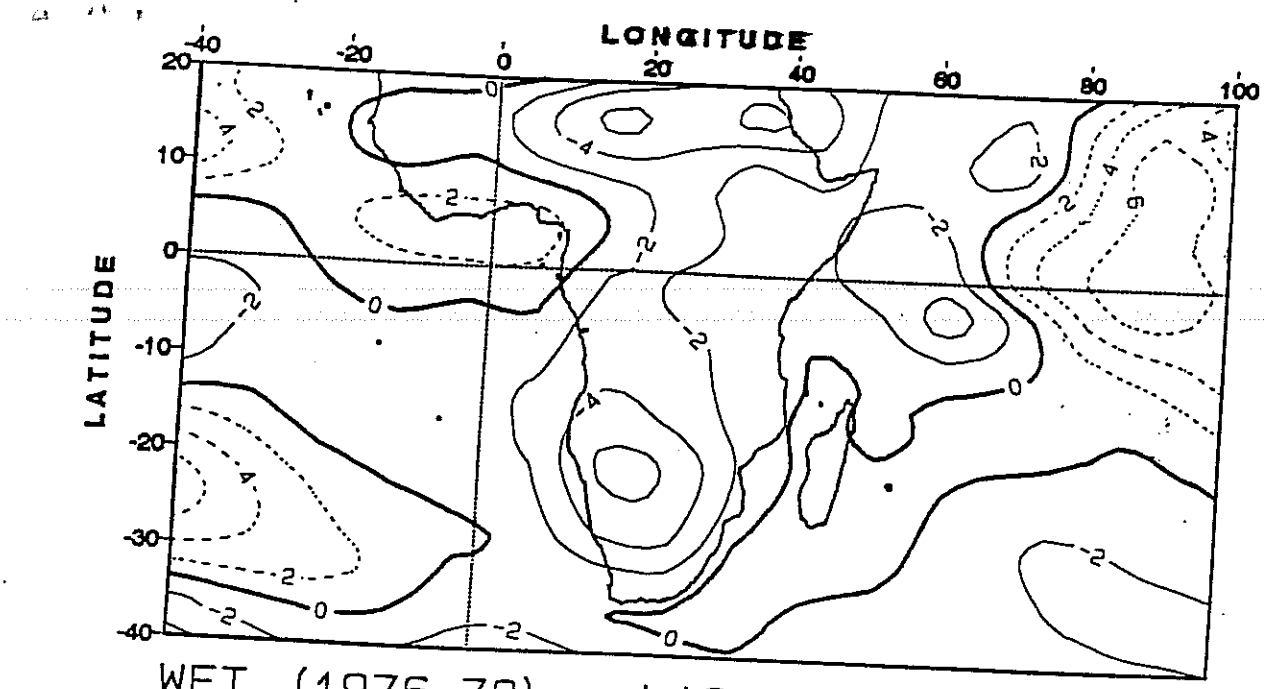
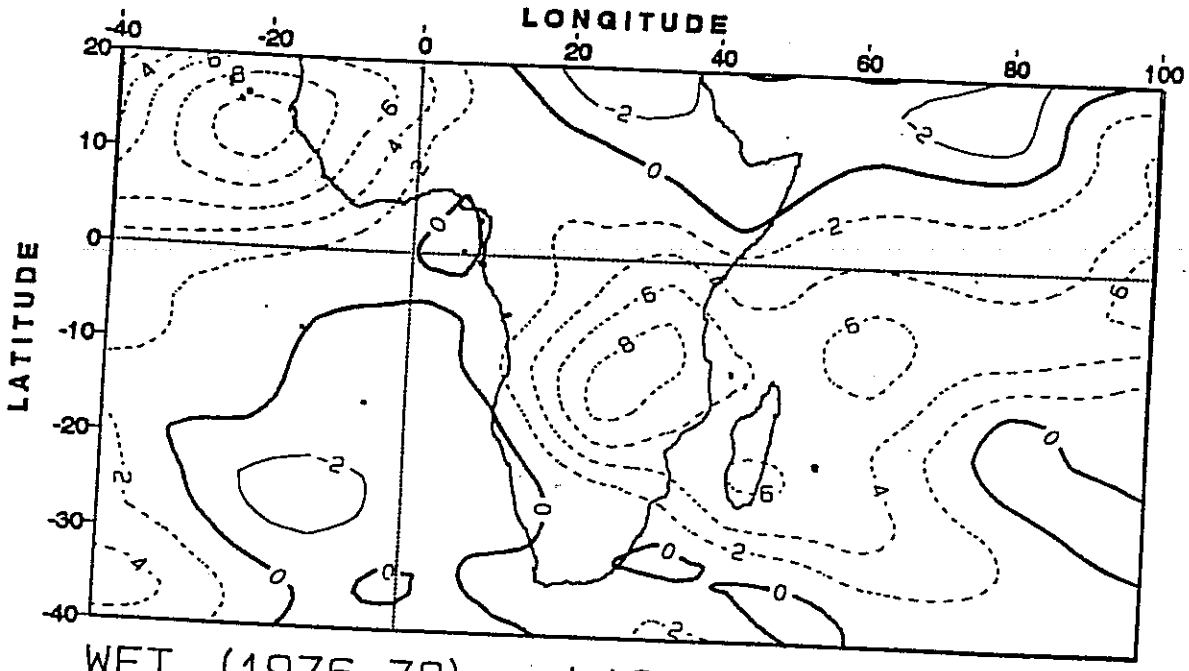


Fig 12 - Cloud depth (OLR) evolution patterns for seasons prior to and



WET (1976, 78) - LAG-6



WET (1976, 78) - LAG-3

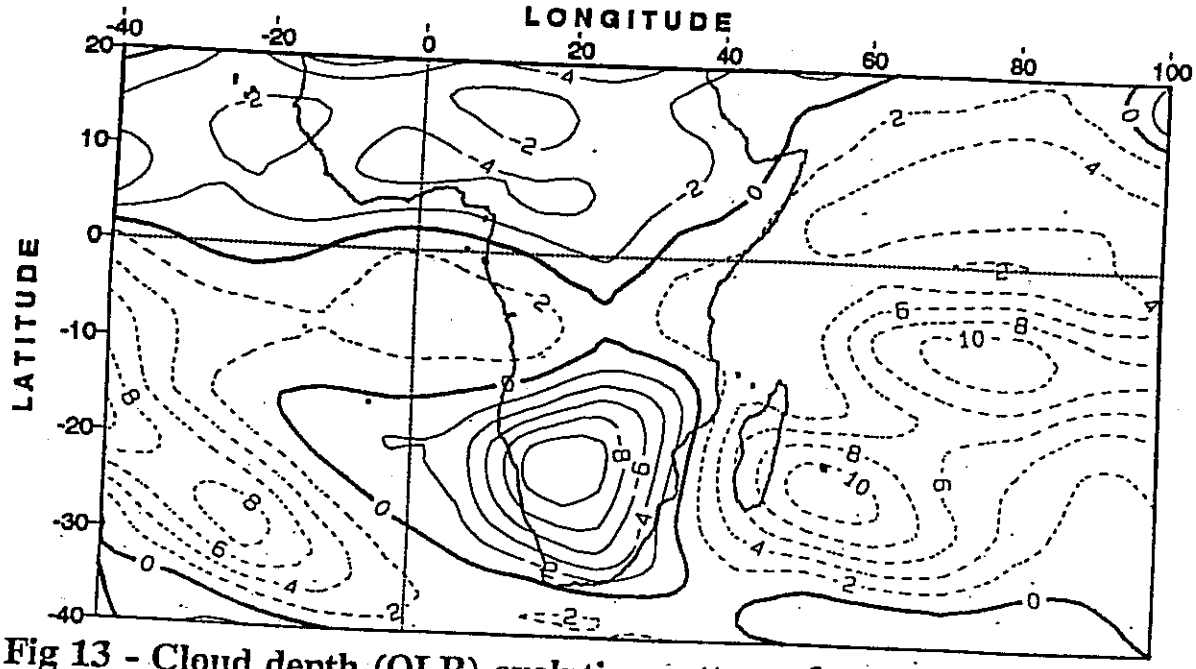


Fig 13 - Cloud depth (OLR) evolution patterns for seasons prior to and

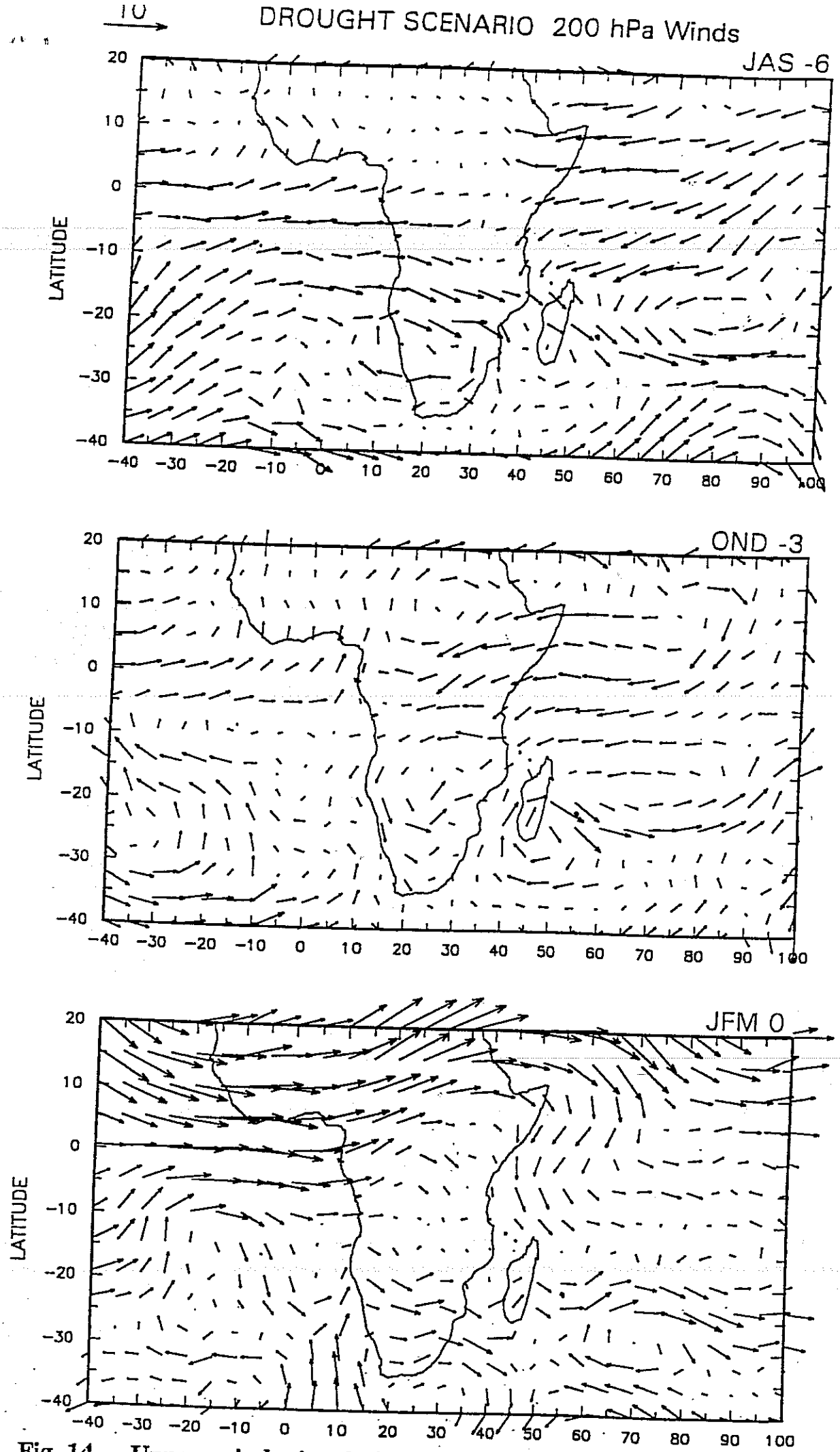


Fig 14 - Upper wind circulation patterns for seasons prior to and

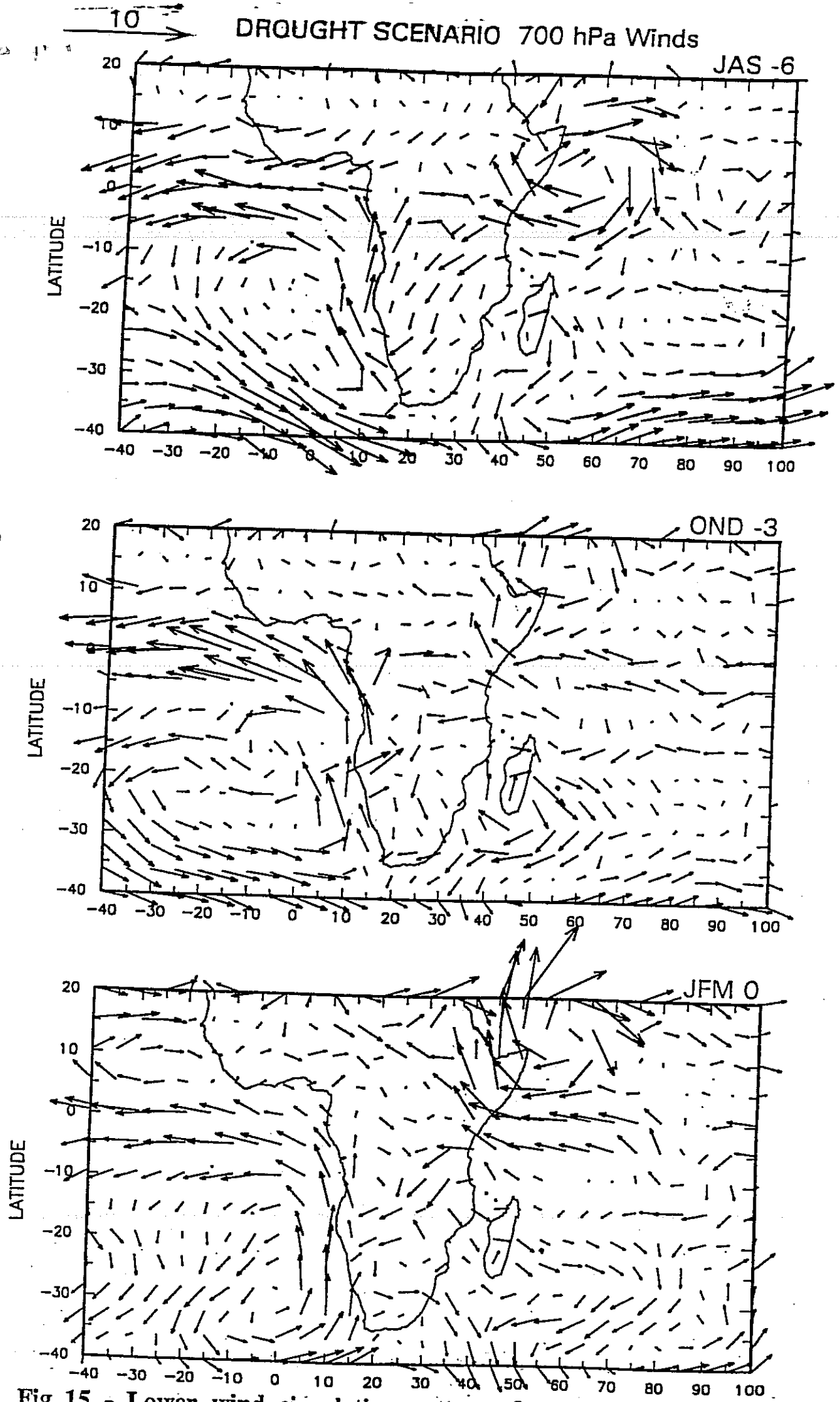


Fig 15 - Lower wind circulation patterns for seasons prior to and

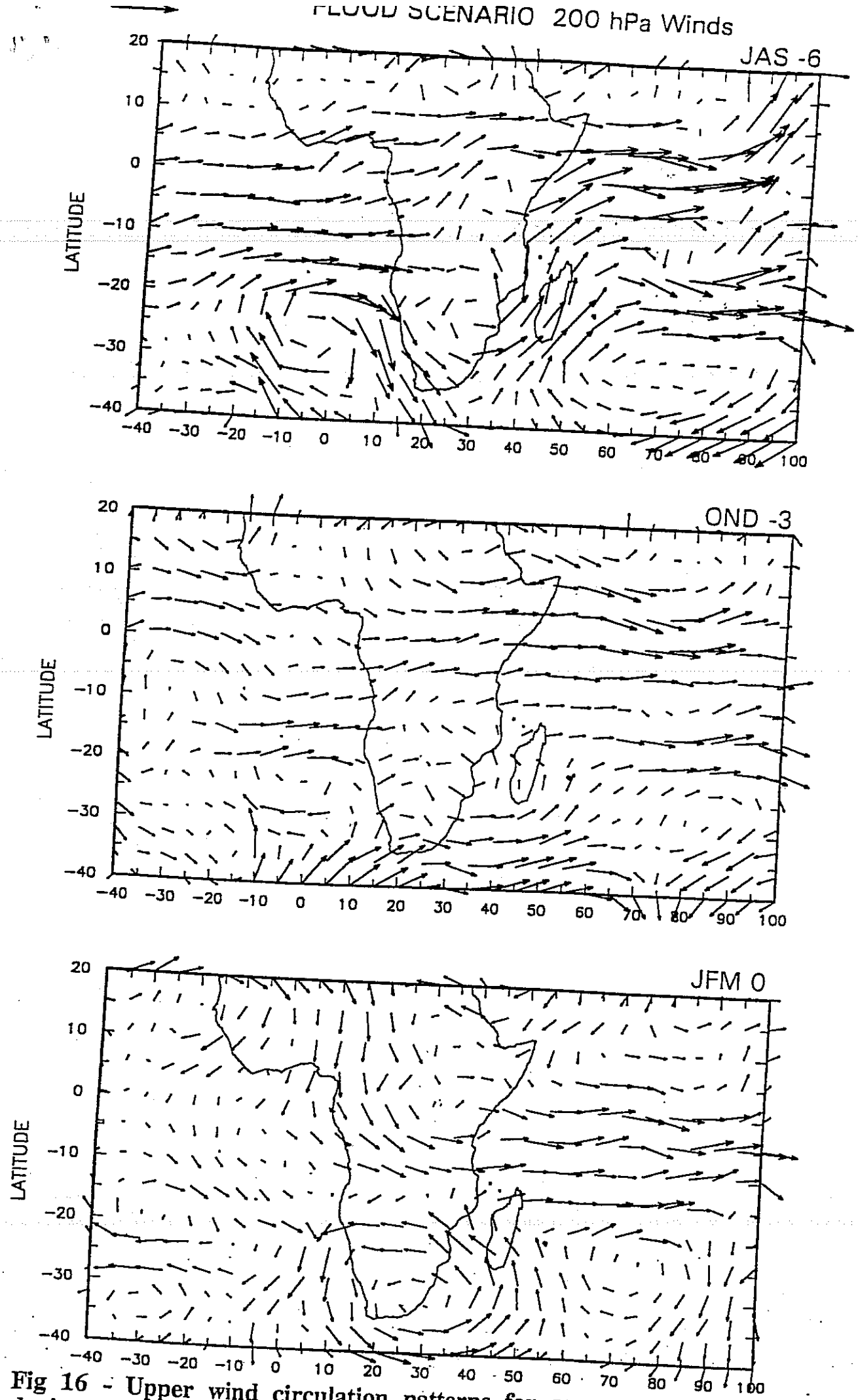


Fig 16 - Upper wind circulation patterns for seasons prior to and during flood. -6 = JAS, -3 = OND, 0 = JFM

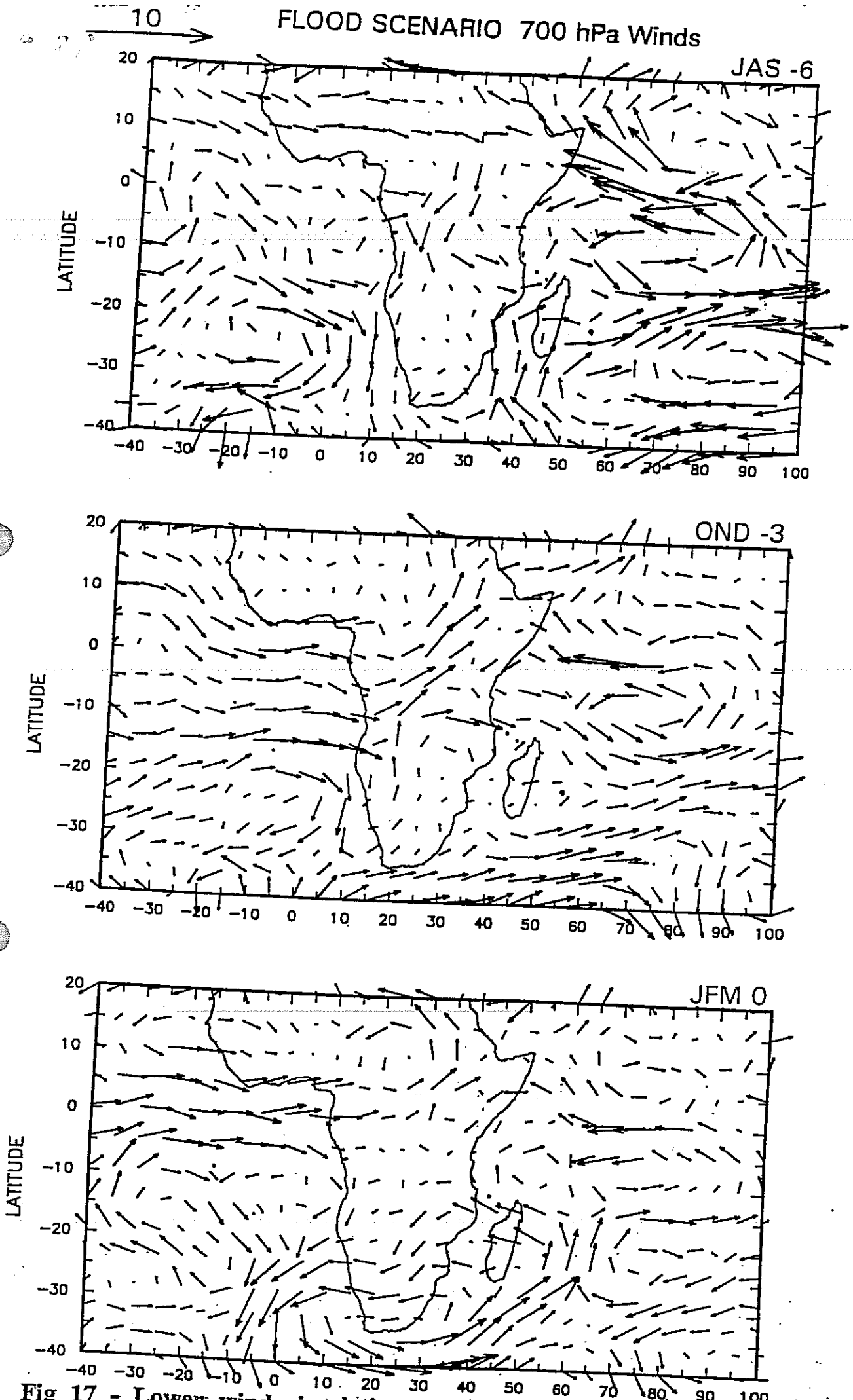


Fig 17 - Lower wind circulation patterns for seasons prior to and

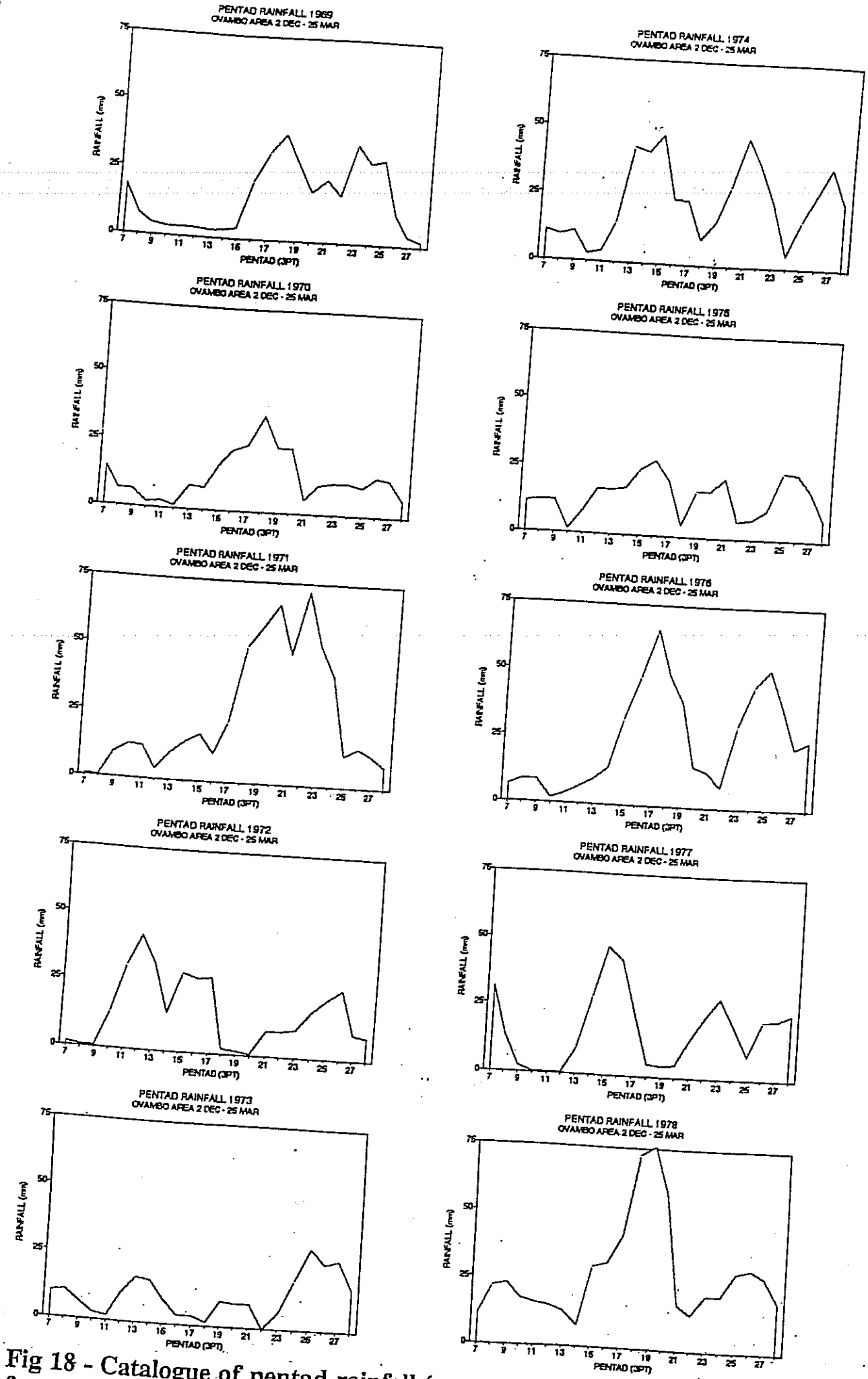


Fig 18 - Catalogue of pentad rainfall (smoothed 3 pt) for Owambo area for the 2 Dec-25 Mar season for the years 1969-1978

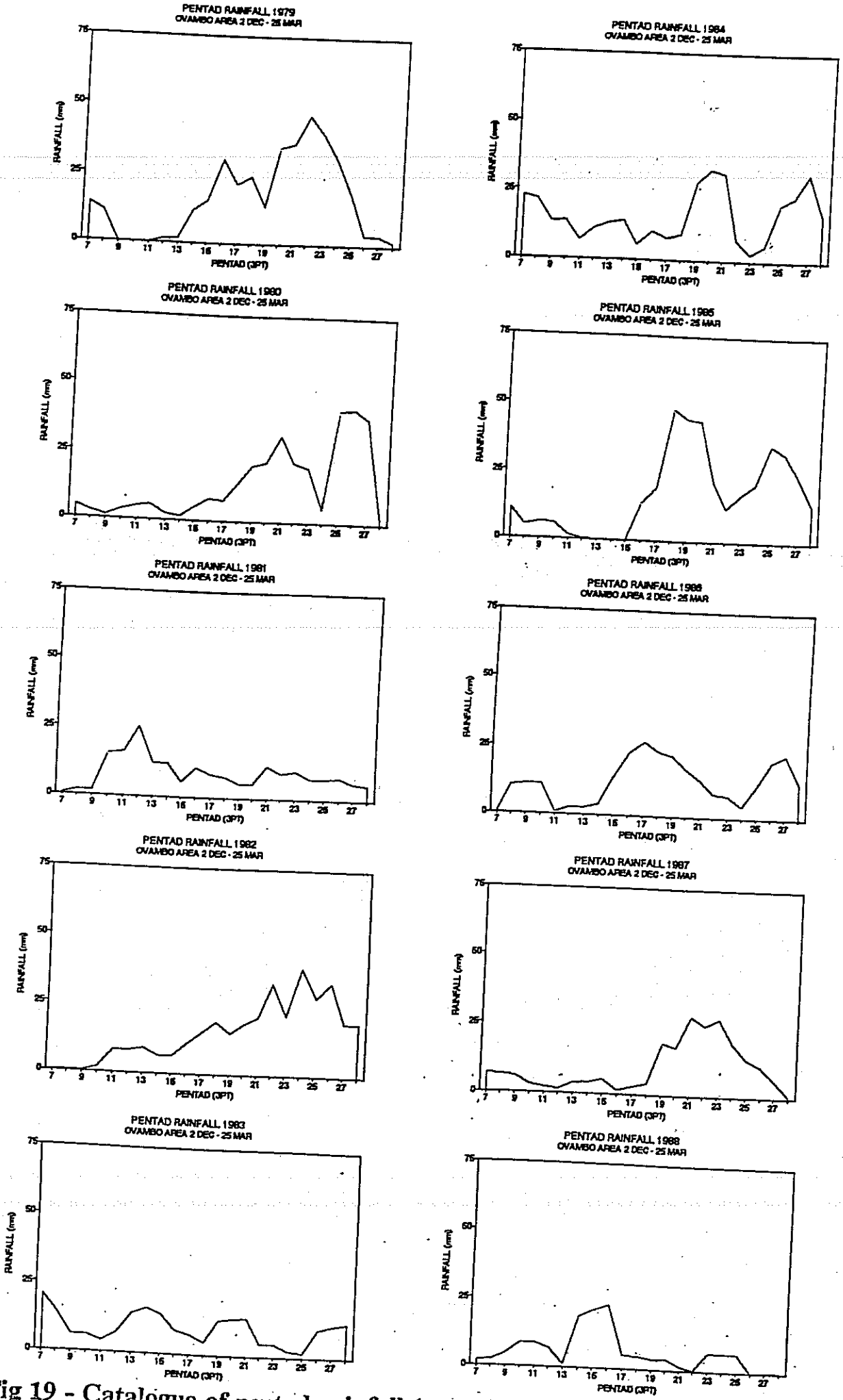
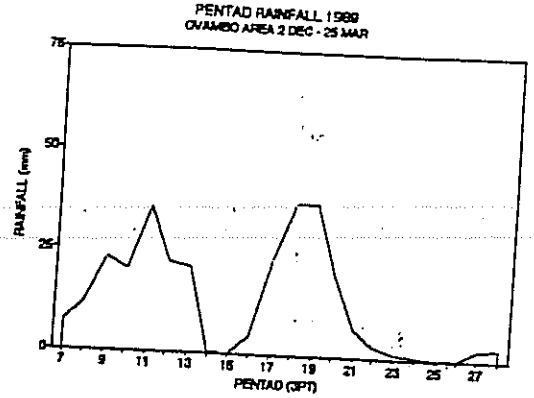
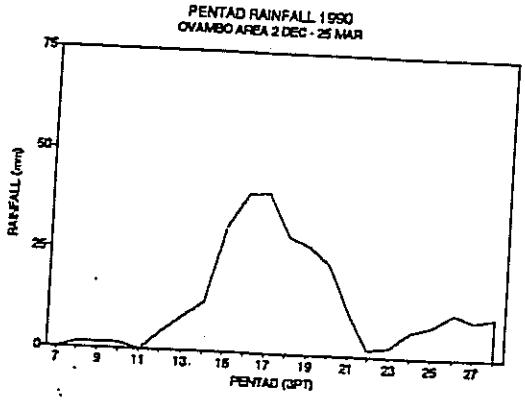
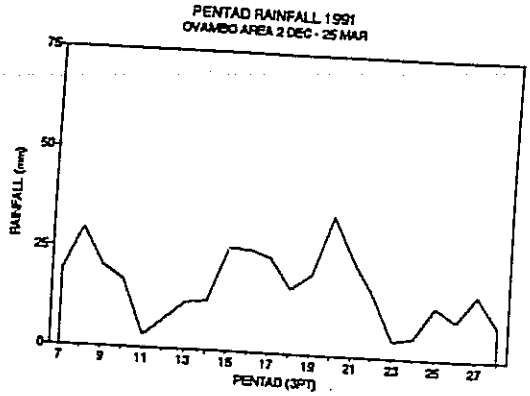
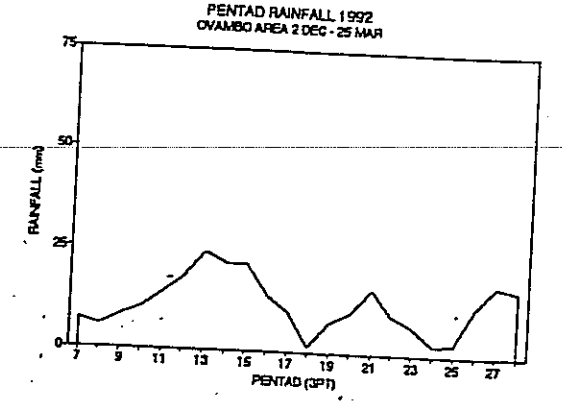


Fig 19 - Catalogue of pentad rainfall (smoothed 3 pt) for Ovambo area









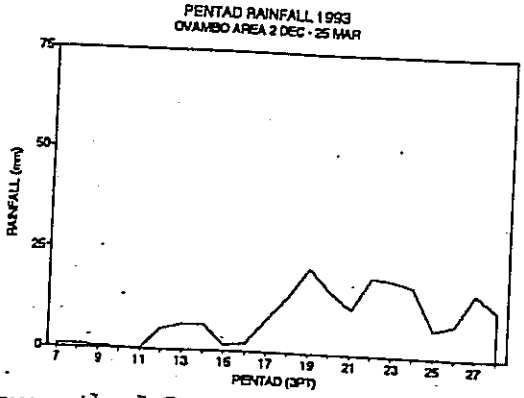


Fig 20 - Catalogue of pentad rainfall (smoothed 3-pt) for Ovambo area

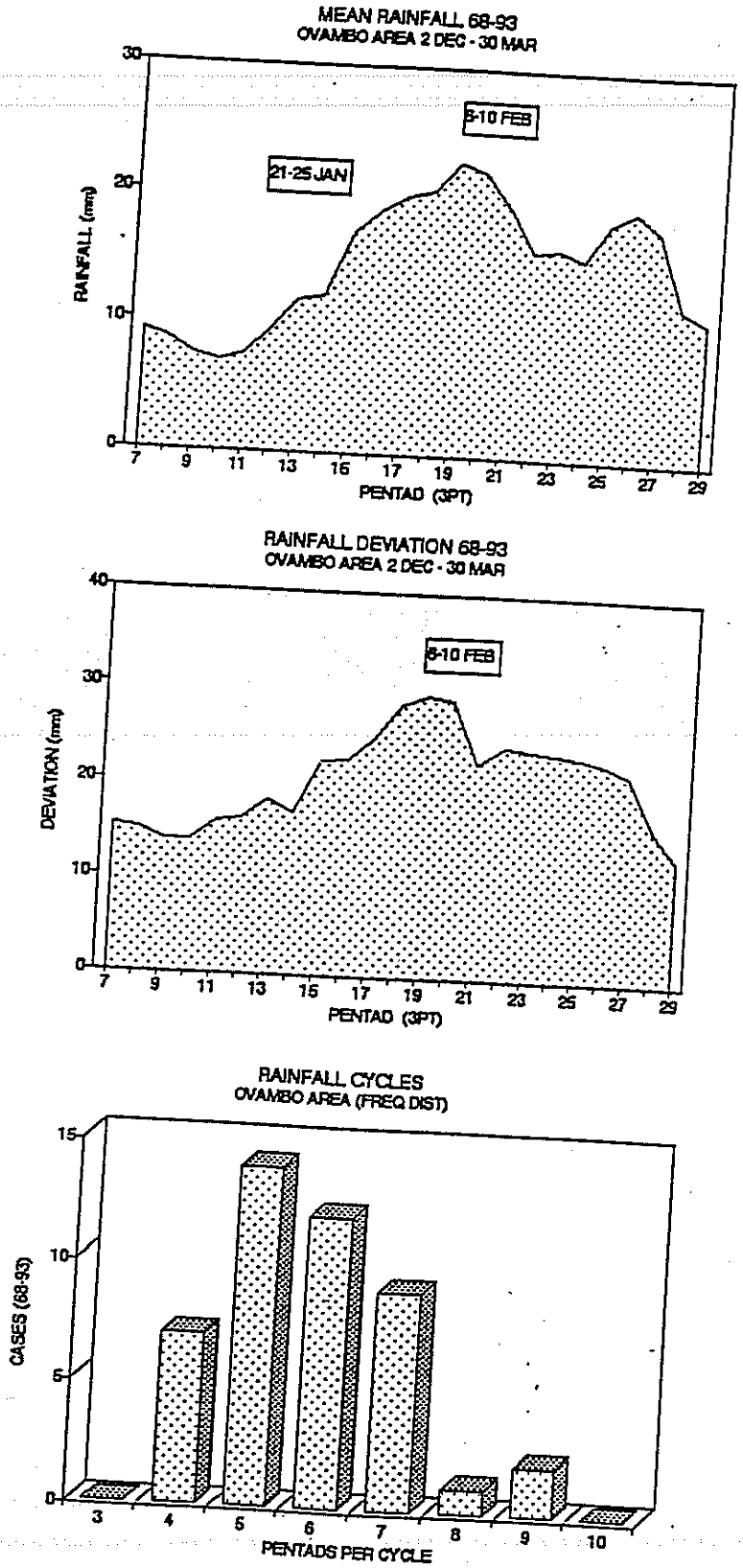


Fig 21 - Pentad historical mean rainfall distribution for 2 Dec-25 Mar season (top), standard deviations (midddle) and rainfall cycles determined from seasonal pentad rainfall over the 1969-1993 period (bottom). Wet spells with a minimum deviation of 25 mm are counted.

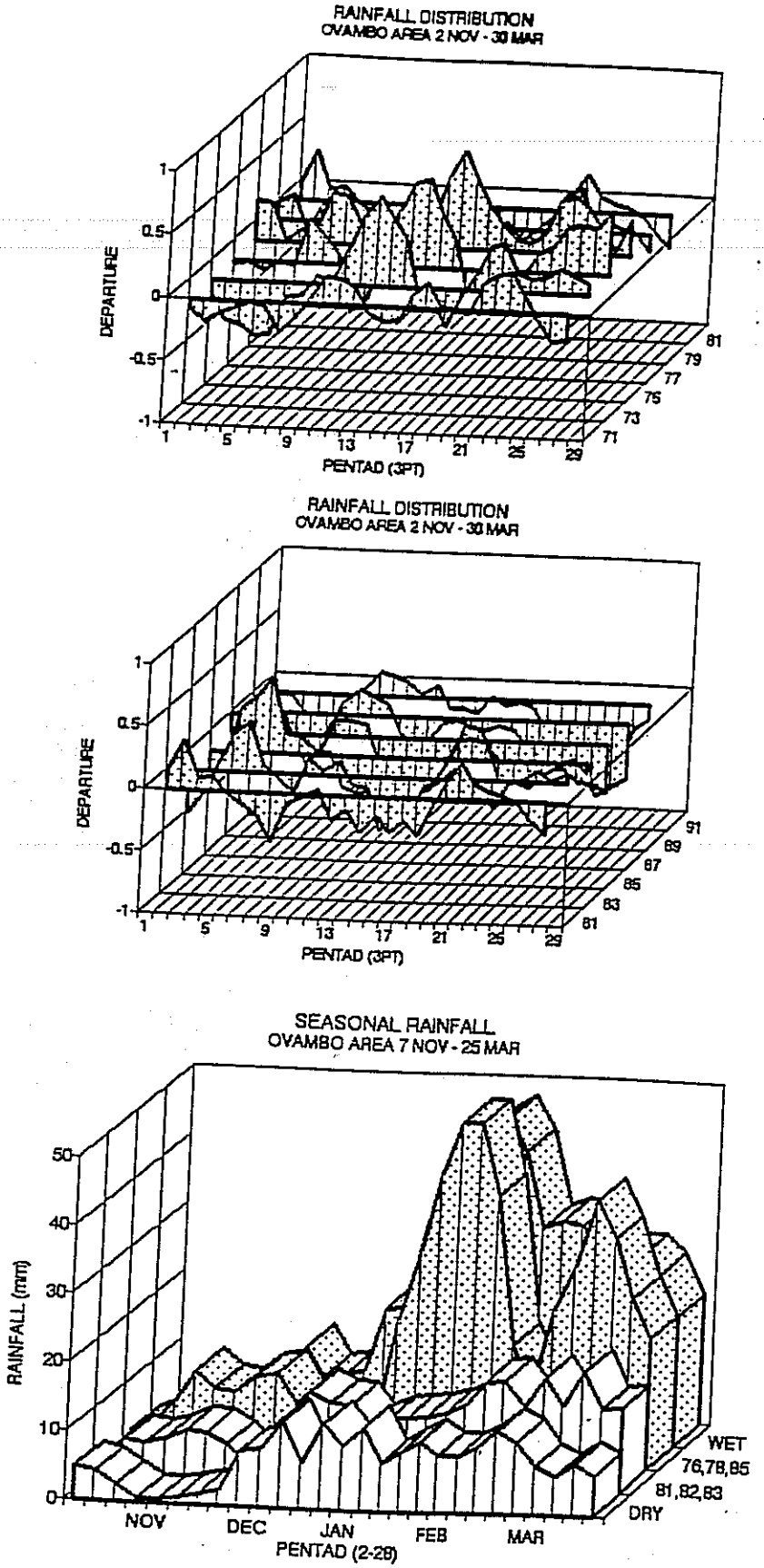


Fig 22 - 3-D perspective of pentad rainfall seasonal distributions in 5 year epochs for the period 1971-1981 (top), and 1981-1991 (middle). Seasonal distributions for wet and dry summers (bottom) and for the summers analysed in Figs 12-17.

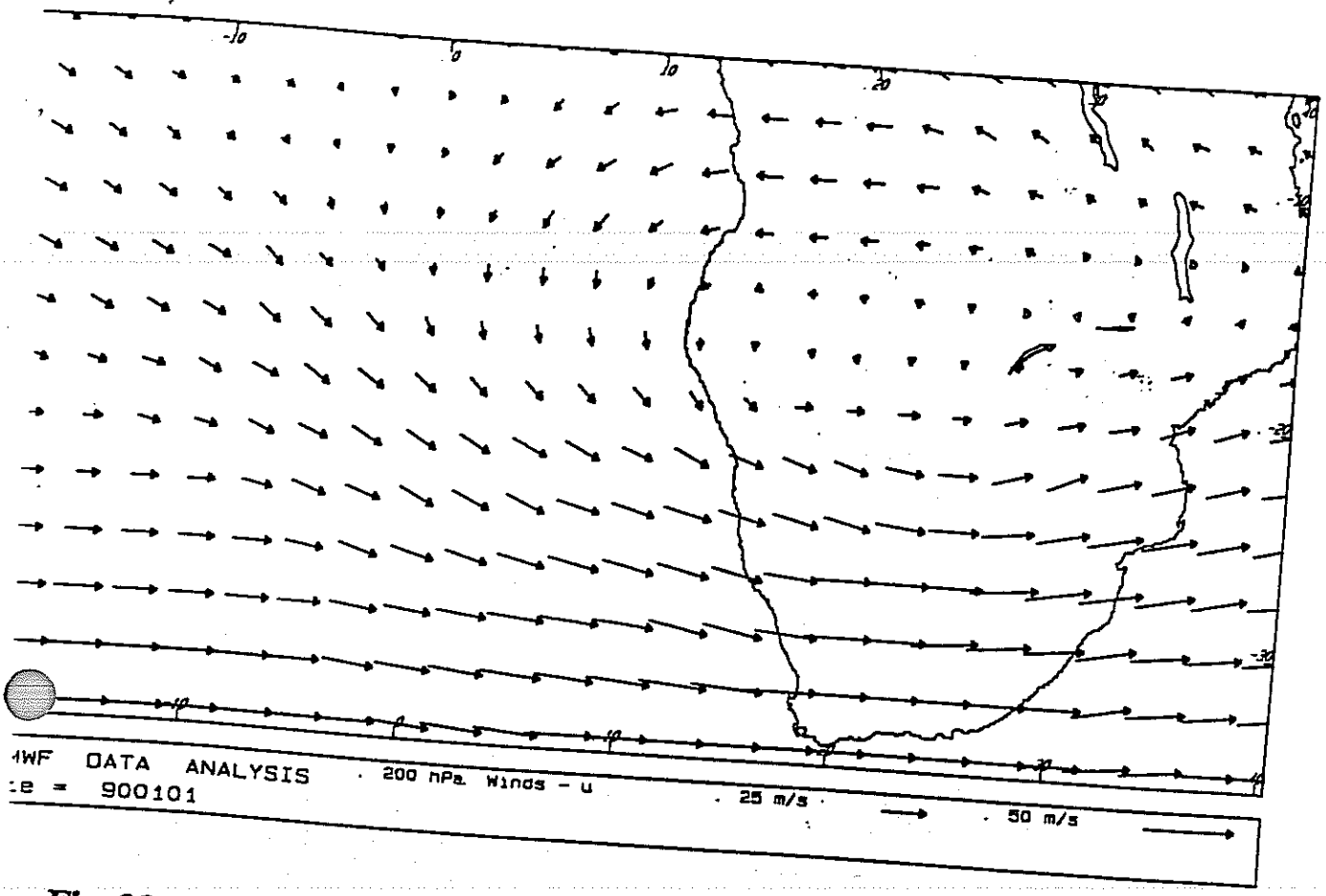


Fig 23 - ECMWF analysis of JFM upper wind flow patterns for the summers of 1990 (top) and 1992. Major difference is in the increased NW flow over the SE Atlantic in the drought of 1992.

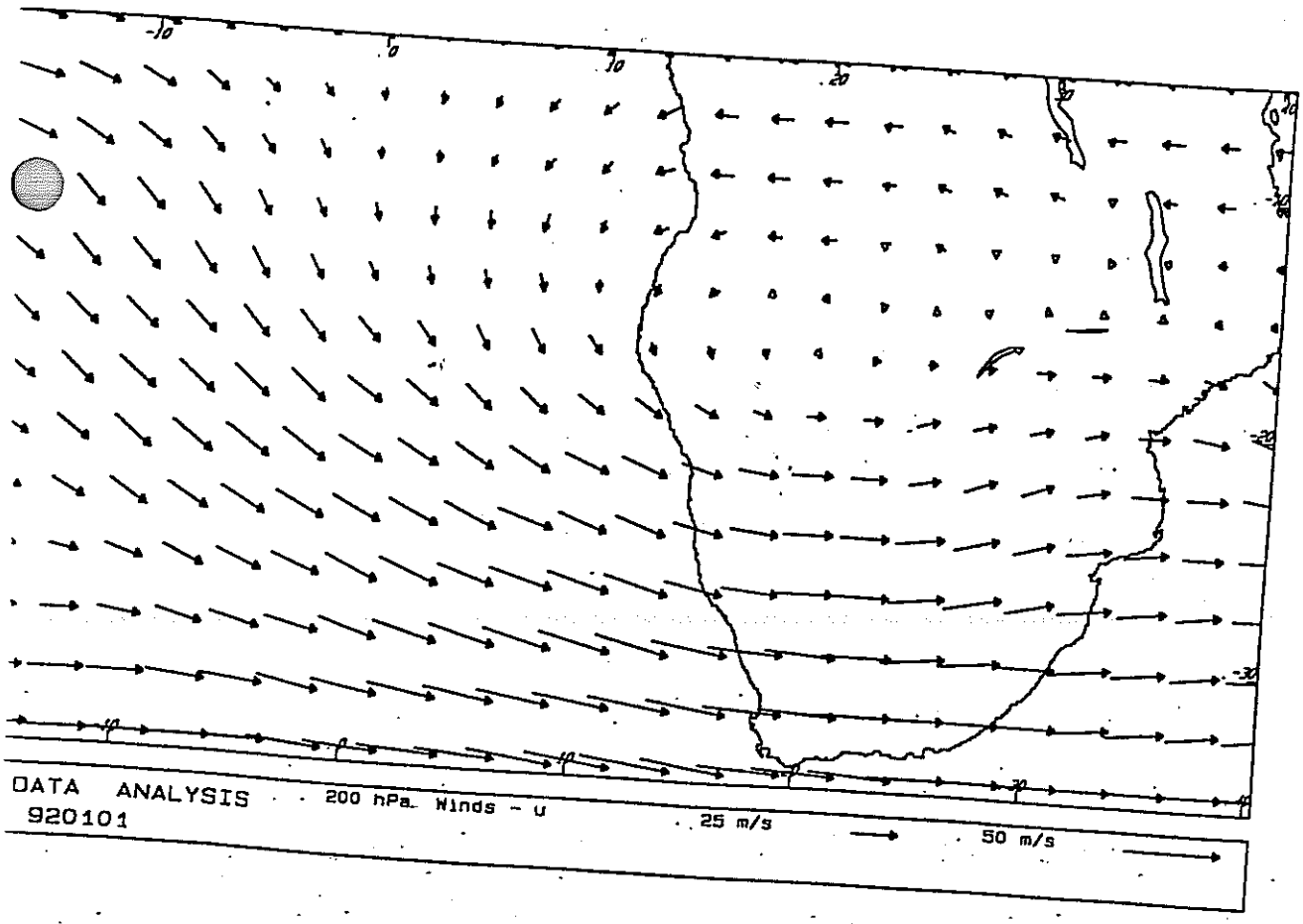


Table 9.2: Total land reform cost over the proposed 15 years from 2006-2020, based on a projected level of investment of N$130 million per year

Intervention/Cost Item	Cost over 15 years (2006-2020)	Unit cost/hectare for GRN (N$/ha)	Total hectares (Ha)	Nr of Beneficiary Families
Total Freehold Acquisition	450,000,000	250	1,800,000	3,150
Total AALS	750,000,000	80	9,375,000	1,705
Total Non-Freehold Development	450,000,000	160	2,812,500	11,250
Total Cost PSSS for Resettlement	300,000,000			14,400
Total National Cost (N$)	**1,950,000,000**		**13,987,500**	**16,105**

This amount (N$1.95 billion) falls short of the total cost of land reform over 15 years as envisaged in the Action Plan, which is expected to be in the region of N$3.72 billion, but demonstrates that significant resources are already available to government to implement the proposed action plan in the short-term. It may well be possible to increase the level of investment through additional appropriation as macro-economic circumstances dictate, as well as to obtain additional support from development partners or through concessionary loans.

These targets could be strengthened even further if the National Land Reform Programme were linked with other on-going initiatives in different ministries. Examples of such initiatives include the MAWRD Green Scheme, MET's CBNRM programme and the joint sustainable land management programmes of the MET, MLRR, MRLGH and MAWRD. The aquaculture development projects of the Ministry of Fisheries and Marine Resources, MRLGH's village development projects, MAWRD's German-funded water basin management programme and the EU-funded Rural Poverty Reduction Programme coordinated by the NPCS are also of note.

Although not directly related to land reform per se, all would have a positive effect on land reform: both in quantitative and qualitative terms. Funds allocated to such initiatives could indirectly contribute to the achievement of land reform targets.

Section Two: Indicative Action Plan

LOGICAL FRAMEWORK MATRIX FOR LAND REFORM ACTION PLAN

	INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS
Overall Objectives	1. Equitable distribution of land improved. 2. Sustainable economic growth increased. 3. Efficient and sustainable land use enhanced. 4. Skewed income distribution reduced. 5. Food security enhanced. 6. Poverty reduced. 7. Biodiversity maintained.		Mid-term NDP Reviews	
Purpose	Land reform beneficiaries' access to land improved and income and sustainable land use increased.	15 million hectares of freehold land area of which 5 million hectares earmarked for State acquisition under user rights (lease) to resettlement beneficiaries, and 10 million transferred through title deeds to AALS and/or alternative land transfer scheme beneficiaries by the year 2020. Incomes of land reform beneficiaries increased to at least double the poverty datum line on the basis of sufficient policy support, institutional and management, capacity, financial and economic viability, gender equality and appropriate technology by the year 2020. Sustainable land use increased by at least 30% of total land area used with adequate policy, appropriate technology gender equality and environmental protection by the year 2020.	MLRR Report. Agribank Reports. MAWRD Reports. NPCS Reports. MET Report. Line Institutions (NGOs).	1. No adverse climatic changes and natural calamities. 2. No policy change. 3. Sufficient funds available in time.
Results	1. Flexible and appropriate policy framework in place.	A flexible and appropriate policy framework in place and coordinated by the Permanent Cabinet, Permanent Steering and the Technical Committees on land reform as well as line institutions with adequate policy support, economic and financial capability, institutional and management capacity and being sensitive to gender, environmental protection and socio-cultural issues by the year 2007.	Policy documents of Line Institutions.	1. Political stability maintained. 2. Sufficient funds available in time. 3. Multilateral cooperation maintained.
	2. State land acquisition targets achieved.	5 million hectares of freehold land acquired for the improved access of 5 600 resource-weak beneficiaries through provision of lease agreements and appropriate policy support by the year 2020.	MLRR Records. LRAC Records. (Regional Resettlement Committees' Records).	1. Sufficient funds available in time. 2. Political stability maintained. 3. Namibian capacity. 4. No change of policy and political will.
	3. AALS strengthened and broadened.	10 million hectares of total freehold land transferred through a strengthened and broadened AALS open to resource-strong communal full-time and part-time farmers and groups, with policy support (eg interest rate subsidies), to acquire title deeds by the year 2020.	Agribank Records. MAWRD Records. MOF Reports. MLRR - Deeds Records. MTI Reports.	1. Subsidy contribution available 2. Political stability maintained.
	4. Non-freehold land for resettlement developed and secure tenure provided.	Approximately 5 million hectares of non-freehold land developed for individual and group resettlement beneficiaries and secure user rights (lease) provided between 2005 -2020. WHERE ARE [illegible] FROM?	MLRR Records. Traditional Authorities' Records. Project Reports. Communal Land Boards' Records.	1. Sufficient funds available in time. 2. Cooperation by all traditional authorities/communities. 3. Supportive physical environment. 4. No change of policy and political will. 5. Political stability maintained.

	INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS
SALRM	5. Pre- and post-settlement support packages provided.	All land reform beneficiaries provided with tailor-made pre- and post-settlement support packages and policy support through the year 2020.	MLRR Records. Agribank Records MAWRD Reports.	1. Funds available in time.
	6. Land tenure of resettlement beneficiaries improved.	25 600 beneficiary families' land tenure improved by providing registered user rights, policy support and institutional and management capacity by the year 2020.	MLRR Records NPCS (M & E) Reports.	
	7. Diversification of production and income of on- and off-farm activities increased.	Production and income of 75 % of all land users increased through environmentally-sustainable diversification encouraged by policy support and appropriate technology provision by the year 2020.	MLRR Quarterly and Annual Reports. Beneficiaries' Records. MAWRD Records. Agricultural Board Marketing Reports. NPCS M & E Reports. MET Records.	1. Supportive physical environment. 2. No major adverse climatic changes. 3. Appropriate technology available. 4. Human and financial resources available.
		30% of all land users (male and female) developed off-farm income-generating activities encouraged by gender-balanced policy support by the year 2020.	MTI Records and Reports. MLRR Records. MWACW Reports. Municipalities' Records. Labour Survey Reports. Projects Reports	1. Namibian capacity. 2. Appropriate technology available. 3. Human and financial resources available.
	8. Appropriate infrastructure on State-acquired freehold land developed.	Appropriate infrastructure on 5 million hectares of State-acquired freehold land developed to the benefit of resettlement beneficiaries through policy, technical and managerial support by the year 2020.	MLRR Records. Project Reports. NDP's Review Reports. LRAC. NPCS. MRLGH. MBECS. MOHSS. MWTC.	1. Sufficient funds available in time. 2. Supportive physical environment.
SULAM	9. Capacity of MLRR improved.	Capacity of 153 technical and managerial staff in MLRR improved through institutional and financial resources of the Ministry by 2010.	MLRR Training Reports. Project Reports. NDP's Review Reports.	1. Sufficient funds available in time.
	10. Capacity of line ministries improved.	Capacity of at least 25% of staff from directorates dealing with land reform in line ministries improved through awareness-raising, policy, technical, financial and managerial support by 2010.	MLRR Training Reports. NPCS. MRLGH. MBECS. MOHSS. MWTC. Staff Development Reports.	1. Sufficient funds available in time.
	11. Capacity of non-State actors improved.	The capacity of at least 75% of critical CBOs and NGOs involved with land and land-related issues improved through institutional and management support, socio-cultural and policy support by the year 2010.	MLRR Reports. NPCS Reports. MRLGH Reports. MAWRD Reports. Land Board Records. Academic Institutions.	1. Sufficient funds available in time. 2. Supportive physical environment.
	12. Cooperation and coordination between partner organisations improved.	Permanent Cabinet, Permanent Steering and technical committees on land reform consisting of line institutions involved in land-related issues established for improved cooperation and coordination at national, regional, constituency and community level between partner organisations with adequate policy support, institutional and	MLRR Reports. Technical Committee Reports. PSC Reports.	1. Sufficient funds available in time.

	INTERVENTION LOGIC	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS
		management capacity, financial capability and gender equality from 2005-2008.		
	13. An effective Monitoring and Evaluation System established.	Integrated monitoring and evaluation systems established at both internal and external level (including an annual land reform audit) within the MLRR, NPCS and Planning Divisions/Directorates of line Institutions with adequate institutional and management capacity, policy support and financial capability by the year 2006.	MLRR Reports. NPCS Reports. Project Reports. Line Institutions Reports.	1. Sufficient funds available in time. 2. Reliable information and dissemination system in place.
	14. Participatory consultative process on land reform improved.	An annual consultative process set up and improved throughout the 13 regions, engaging public and private sectors at large with ownership, policy support institutional and management capacity, economic and financial capability and gender equality from 2005.	MLRR Reports. NPCS Reports. Project Reports. Line Institutions Reports.	1. Sufficient funds available in time. 2. Political will maintained.

OVER WHAT PERIOD?

Activities	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
FLEXIBLE AND APPROPRIATE POLICY FRAMEWORK IN PLACE	**Result 1**			
	A. 1.1. Bring the National Land Policy (NLP) and the National Resettlement Policy (NRP) in line with the provisions of the Draft National Land Tenure Policy in addressing group rights in respect of communal pastures.	Facilitator 1 x one-day Central Workshop. 8 x two-day Regional Workshops. Workshop Materials, Stationery.	N$15 000 N$480 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 1.2. Conduct further research to inform policy areas	Consultancy services @ N$80 000 in five year intervals starting in 2010.	N$240 000	1. Sufficient funds available in time.
	A. 1.3. Clarify the Land use and Environmental Board with the functions of the Sustainable Development Advisory Council.	4 meetings per year in 2006.	N$24 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 1.4. Review sector-based policies to facilitate a more integrated approach to land use planning, especially with regard to CBNRM.	1 x two-day Central Workshop. 12 x three-day Regional Workshops.	N$60 000 N$1 080 000	1. Sufficient funds available in time. 2. Human resources available.
	A.1.5. Review the National Agricultural Policy to provide for the needs of all categories of farmers and to facilitate service delivery.	In five year intervals starting in 2006.		1. Sufficient funds available in time. 2. No change in policy and political will.
	A.1.6. Develop a national policy on group user rights and common grazing management in the non-freehold areas.	1 x three-day Central Workshop. 12 x two-day Regional Workshops at five year intervals starting in 2006.	N$90 000 N$720 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 1.7. Amend the Subdivision Act of Agricultural Land	Consultancy services to include a longitudinal study spanning over a year including regional comparative review. Facilitators / Regional Expert. 2 x two-day Central Workshop 2 in 2006 and 2 in 2007. Workshop materials, stationery.	N$700 000 N$12 000	1. Sufficient funds available in time. 2. No change in policy and political will.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
STATE LAND ACQUISITION TARGETS ACHIEVED	**Result 2** **A. 2.1.** Establish regional and national master list of land demand need by gender.	Execute a nationally representative survey based on the national sample frame.	N$3 000 000.	1. Sufficient funds available in time. 2. No change in policy and political will. 3. Human resources available
	A. 2.2. Establish a database of all farmland held under corporate ownership as part of wider Integrated Land Information System in collaboration with MTI.	In-house MLRR effort at no added cost.		1. Sufficient funds available in time.
	A.2.3. Review existing resettlement criteria and facilitate beneficiaries' selection process.	1 x one-day Central Workshop. 12 x one-day Regional Workshops. In five year intervals starting in 2005.	N$30 000 N$360 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 2.4. Redesign Resettlement Application Form.	MLRR in consultation with sector stakeholders.		1. Human resources available.
	A. 2.5. Update and maintain beneficiaries' database by gender and beneficiary category.	MLRR supported by a database expert annually for analytical input.	N$30 000	1. Sufficient funds available in time. 2. Human resources available
	A. 2.6. Create awareness of resettlement programme.	MLRR to raise awareness through media campaigns.		
	A.2.7. Resettle homogenous groups – either large families or self-selected groups of people who want to farm together.		N$1 500 000 over three years.	1. Sufficient funds available in time. 2. No change in policy and political will.
	A.2.8. Establish a high level negotiating team for land acquisition consisting of stakeholders (NAU / NNFU / farm workers representatives etc.) under the leadership of MLRR to drive the process.	High level task team to negotiate target land areas from 2005 onwards.	N$200 000 per annum.	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 2.9. Identify specific land areas for specific land use purposes for acquisition.	Land targets to be identified by the POCLR.	N$200 000 per annum	1. Sufficient funds available in time.
	A. 2.10. Mobilise individual commercial farmers or representatives to participate voluntarily in achieving land targets.	4x mobilisation meetings a year @ N$6 000 per meeting.	N$24 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A.2.11. Streamline activities within the MLRR to increase efficient and timely acquisition of farmland.	Review of activities every five years.		1. Human resources available.
	A.2.12 Acquire 5 million hectares for resettlement.	Funds, human and technical resources.	N$67 500 000 per annum.	1. Sufficient funds available in time. 2. No change in policy and political will.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
AALS STRENGTHENED AND BROADENED	**Result 3** **A. 3.1.** Redesign the Affirmative Action Loan Scheme to include groups, equity schemes for farm workers and others.	A technical team comprising of line ministries and financial institutions led MAWRD and Agribank. Commencing in 2006.		1. Sufficient funds available in time. 2. No change in policy and political will. 3. Human resources available.
	A. 3.2. Create awareness of the new scheme.	10 meetings per year commencing in 2005.		1. No change in policy and political will.
	A. 3.3 Establish information desk for prospective AALS beneficiaries.	MLRR Directorate of Estate Management and Agribank must expedite this dissemination process beginning 2005.		1. No change in policy and political will.
	A.3.4. Enhance the financial capability of the AALS.	MOF, MAWRD and MLRR to spearhead.	N$54 000 000 annually	1. Sufficient funds available in time. 2. No change in policy and political will.
NON-FREEHOLD LAND FOR RESETTLEMENT DEVELOPED AND SECURE TENURE PROVIDED	**Result 4** **A. 4.1.** Update the identification of under-utilised land as was previously done by MLRR (IDC study).	Will be conducted by the POCLR.	N$200 000	1. Sufficient funds available in time. 2. Human resources available.
	A. 4.2. Conduct consultation with stakeholders on their development needs by gender.	Facilitators 6 x two-day Workshop 2 in 2006. Workshop materials, stationery.	N$360 000	1. Sufficient funds available in time. 2. Human resources available.
	A. 4.3. Develop non-freehold land. Conduct Surveying and Mapping of non-freehold land, Analyse soil and water potential, Set up infrastructure (fences / water infrastructure).	MLRR, donors to budget and fund this activity.	N$50 000 000	1. Sufficient funds available in time. 2. No change in policy and political will.
SULRIN PRE- AND POST-SETTLEMENT SUPPORT PACKAGES PROVIDED	**Result 5** **A. 5.1.** Design grants and loan guarantee schemes and their operational procedures for the 3 categories of leasehold beneficiaries (0.0.0, 0.0.1 and 0.1.1).	MLRR / MOF to lead the process with a consultant team culminating in a two-day national workshop.	N$540 000 N$60 000	1. Sufficient funds available in time. 2. No change in policy and political will.
	A. 5.2. Design an integrated monitoring and evaluation plan.	Consultants to design an integrated monitoring and evaluation plan.	N$180 000	1. Sufficient funds available in time. 2. Human resources available.
	A. 5.3. Establish and provide support and training to local institutional (farm level) structures such as committees for water, grazing and rangeland monitoring and management in order to encourage cooperation amongst individually resettled beneficiaries.	MLRR/ MAWRD to facilitate 28 training sessions, held annually @ N$10 000 per session.	N$280 000 annually	1. Sufficient funds available in time.
	A.5.4. Provide post-settlement training, support and advice through extension and information dissemination.	Resettlement grants on average N$48 906 per beneficiary. Over 3 years.	N$1 252 000 000 in total	1. Sufficient funds available in time. 2. No change in policy and political will.
	A.5.5. Facilitate service delivery support to beneficiaries by non-State actors.	Meetings with NSA-involved training and extension to integrate into wider support delivery to land reform beneficiaries.		1. Human resources available 2. Sufficient funds available in time.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
LAND TENURE OF RESETTLEMENT BENEFICIARIES IMPROVED	**Result 6**			
	A. 6.1. Finalise, prepare and sign lease agreements in order to give beneficiaries security.	Human resources needed; an in-house effort.		1. Human resources available 2. Sufficient funds available in time.
	A. 6.2. Provide financial support to the office of the Surveyor General in order to address the backlog in the surveying of allotments and hence the registration of lease agreements.	Funds, technical and human resources to survey the backlog of 581 000 hectares of resettlement land.	N$4 067 000 in total	1. Sufficient funds available in time.
	A.6.3. Provide information to beneficiaries on what lease agreements entail in terms of rights and obligations.	Done when signing the lease agreements.		
	A.6.4. Create an enabling mechanism for the beneficiaries to extend their user rights on a temporary basis to third parties.	MLRR human resources already in the regions.		1. No change in policy and political will.
DIVERSIFICATION OF PRODUCTION AND INCOME OF ON- AND OFF- FARM ACTIVITIES INCREASED	**Result 7**			
	A. 7.1. Conduct research studies on alternative land use models.	Consultancy services required to carry out research. Overseen by MLRR, MET and MAWRD in 2005/6.	N$180 000	1. Sufficient funds available in time. 2. Human resources available
	A. 7. 2. Enhance research capacity and disseminate results on an on-going basis to all land users.	Human resources and funds required. Research results to be disseminated 2006-2011.	N$500 000	1. Sufficient funds available in time.
	A. 7. 3. Provide extension services and train beneficiaries in integrated land use planning and management.	On-farm training through clustering to minimise cost. 156 training sessions are envisaged.	N$1 560 000	1. Sufficient funds available in time.
	A. 7. 4. Investigate how initiatives of line ministries/institutions such as the Green Scheme and the commercialisation of mahangu can be linked with resettlement initiatives in order to benefit from each other.	Commission a study in 2006.	N$80 000	1. Sufficient funds available in time. 2. Human resources available
	A.7.5. Identify suitable town land for resettlement and possible alternative land uses.	The identification will be done by the POCLR.	N$200 000 per annum for 5 years	1. Sufficient funds available in time. 2. Human resources available.
	A.7.6. Negotiate acquisition of identified town lands with relevant Local Authorities.	Four meetings per year required through 2010.	N$25 000 annual through 2010	1. Sufficient funds available in time.
	A.7.7. Develop appropriate infrastructure on the identified town lands.	Develop 300 000 hectares @ N$250 per hectare.	N$75 000 000 in total	1. Sufficient funds available in time.
	A.7.8. Draw up a monitoring and evaluation plan.	Commission a consultancy in 2006.	N$180 000	1. Sufficient funds available in time.
	A.7.9. Conduct studies on off-farm income opportunities for farmers.	Commission a consultancy in 2006.	N$180 000	1. Sufficient funds available in time.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
	A.7.10. Train beneficiaries in entrepreneurship.	On-farm training through clustering to minimise cost. 156 training sessions are envisaged.	N$180 000	1. Sufficient funds available in time.
APPROPRIATE INFRASTRUCTURE ON STATE-ACQUIRED FREEHOLD LAND DEVELOPED	Result 8 A. 8.1. Mobilise and train beneficiaries in farm maintenance.	On-farm training through clustering to minimise cost. 156 training sessions are envisaged.	N$1 560 000	1. Sufficient funds available in time.
	A. 8.2. Develop close cooperation with specialist agencies eg NamWater, the Dept of Water Affairs, DEA etc. to assist in the rehabilitation equipping and the development of water and rangeland infrastructure.	No cost.		
	A. 8.3. Rehabilitate, equip and develop water and rangeland infrastructure on farms.	Requires annual funding over 15 years.	N$10 000 000 annually	1. Sufficient funds available in time.
	A. 8.4. Determine rentals and grazing fees on a farm-by-farm basis considering factors such as grazing potential, water and infrastructure availability.	Commission a consultancy in 2006.	N$80 000	1. Sufficient funds available in time.
	A. 8.5. Collect lease and grazing fees considering relief measures in the event of natural disasters.	No cost, as revenue collection system already in place. To commence 2006.		1. No change in policy and political will
	A. 8.6. Conduct a study to determine what proportion of funds collected from rentals and land taxes in freehold areas and from resettlement areas in order to guide reinvestment into local institutions and infrastructure.	Internal evaluative study, no cost.		1. No change in policy and political will
CAPACITY OF MLRR IMPROVED	Result 9 A. 9.1. Implement MLRR capacity-building programme to handle increased land reform activities.	Annual expenditure on staff development through 2020.	N$600 000. MLRR. N$3 600 000. MOF.	1. Sufficient funds available in time.
	A. 9.2. Strengthen the capacity of Land Boards and Traditional Authorities to implement the Communal Land Act.	Annual funds required over 15 year commencing in 2006.	N$3 000 000	1. Sufficient funds available in time.
CAPACITIES OF LINE MINISTRIES IMPROVED	Result 10 A.10.1. Enhance capacity of line ministries in areas relating to land and land reform.	Annual funds and donor support required over 15 years commencing 2006. MLRR / MOF/ MAWRD/ MET. Non-State actors.	N$1 300 000 N$3 000 000	1. Sufficient funds available in time.
CAPACITIES of NON-STATE ACTORS IMPROVED	Result 11 A. 11.1. Enhance capacity of relevant non-State actors in areas relating to land and land reform.	Annual funds and donor support required over 15 years commencing in 2006. MLRR / Non-State actors.	N$3 000 000	1. No change in policy and political will 2. Sufficient funds available in time.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
COOPERATION AND COORDINATION BETWEEN PARTNER ORGANISATIONS IMPROVED	**Result 12** **A. 12.1.** Convert the current Ad Hoc Cabinet Committee and Project Steering Committee on land reform into permanent structures.	Budget allocation of N$200 000 per annum.	N$3 000 000 through the year 2020.	1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.2. Establish a Technical Coordination Team (TCT) on land reform as a permanent structure.	Budget allocation of N$5 000 000 per annum.	N$75 000 000 through the year 2020.	1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.3. Establish an inter-ministerial Technical Committee on Land Reform (IMTC) including the line ministries involved in the CCLR and PSC.	Incorporated in Activity 12.2		1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.4. Establish Regional Management Units (RMU) at regional level to oversee and coordinate land reform activities regionally.	Incorporated in Activity 12.2.		1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.5. Develop a sectoral coordinating policy and guidelines to guide collaboration and cooperation amongst sectoral institutions.	Developed by three structures above.		1. No change in policy and political will.
	A. 12.6. Establish coordinated sectoral response to land reform as a national programme supported by various institutions (public, private and NGOs).	1 x three-day national workshop annually from 2006-2020.	N$1350 000	1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.7. Support participation of regional and local actors in regional development planning and implementation regarding land reform and its targets.	1 x two-day regional level workshop annually from 2006-2020.	N$11 700 000	1. No change in policy and political will 2. Sufficient funds available in time.
	A. 12.8. Facilitate the inter-ministerial planning and coordination of activities and budgets in support of land reform.	1 x one-day national workshop annually from 2006-2020.	N$450 000	1. No change in policy and political will 2. Sufficient funds available in time.
AN EFFECTIVE M+E SYSTEM ESTABLISHED	**Result 13** **A. 13.1.** Establish an integrated monitoring and evaluation system.	Commission a consultancy in 2006.	N$180 000.	1. Sufficient funds available in time.
	A. 13.2. Develop an integrated information system linking all relevant and related information systems of line institutions.	Incorporated in Activity 13.1.		1. Sufficient funds available in time.
	A. 13.3. Complete the computerisation of the Deeds Office as a basis of an integrated land information system.	Funds to complete the project.	N$3 000 000	1. Sufficient funds available in time.

	INTERVENTION LOGIC	MEANS	COSTS	ASSUMPTIONS
	A.13.4. Conduct a biannual land reform audit	Commission a consultancy biannually until 2020. Overseen CCLR/PSC/IMTC/TCT.	N$560 000 biannually.	1. Sufficient funds available in time.
	A.13.5. Harmonise the evaluation events on land reform to coincide with the National Development Plan review and formulation cycles.	No cost.		
PARTICIPATIVE CONSULTATIVE PROCESS ON LAND REFORM IMPROVED	**Result 14** **A. 14.1.** Set up a participatory consultative process on land reform involving all stakeholders in the 13 regions.	1 x three-day national workshop annually through the year 2020 Commencing in 2006. 1 x one-day national workshop biannually through the year 2020 Commencing in 2006. Overseen CCLR/PSC/TCT/IMTC.	N$1 170 000. N$210 000	1. Sufficient funds available in time.
	A. 14.2. Conduct information-sharing events to provide information to stakeholders.	Included in Activity 14.1.		1. Sufficient funds available in time.
			PRECONDITIONS	1. An integrated policy framework is in place. 2. Resettlement policy is amended. 3. Feasibility studies are available. 4. The Permanent Cabinet, the Permanent Steering and the Technical Committees on land reform are approved and entrenched by the Cabinet. 5. An Integrated Monitoring and Evaluation System is put in place.

ACTIVITY SCHEDULE FOR LAND REFORM ACTION PLAN

ACTIVITIES	YEAR																EXPERTS/PERSONNEL				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	PM	OM	SP1	PSP	SP2
A.1.1: Align NLP and the NRP.		■															BS			BS	
A.1.2: Conduct further research to inform policy areas.						■					■					■	BS			BS	
A.1.3: Clarify the Land Use and Environmental Board.		■															BS				BS
A.1.4: Review sector bases policies for integration.		■															BS		BS	BS	BS
A.1.5: Review the National Agricultural Policy.						■					■					■	BS		BS	BS	
A.1.6: Develop a national policy on user rights.		■				■					■						BS		BS	BS	BS
A.1.7: Amend Subdivision Act on Agricultural Land.		■	■														BS		BS		BS
A.2.1: Establish regional and national demand needs.		■															BS	SUPPORT			
A.2.2: Establish a database of farmland with MTI.	■	■															BS				BS
A.2.3: Review existing resettlement criteria.	■																BS	SUPPORT			
A.2.4: Redesign resettlement application form.	■	■															BS		BS		SUPPORT
A.2.5: Update and maintain beneficiaries' database.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS	BS			
A.2.6: Create awareness of Resettlement Programme.	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS				SUPPORT
A.2.7: Resettle homogeneous groups.		■	■	■													BS		BS		
A.2.8: Establish high level negotiating team.	■																BS		BS		BS
A.2.9: Identify specific land area for specific land use.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS		BS	SUPPORT	SUPPORT
A.2.10: Mobilise individual commercial farmers.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS		BS	SUPPORT	SUPPORT
A.2.11: Streamline activities within MLRR.	■					■					■					■	BS	SUPPORT			
A.2.12: Acquire 5 million hectares for resettlement.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS	SUPPORT	BS	SUPPORT	
A.3.1: Redesign the Affirmative Action Loan Scheme.		■															BS			BS	SUPPORT
A.3.2: Create awareness of the new Scheme.		■															BS				SUPPORT
A.3.3: Establish information desk for beneficiaries.	■																BS	BS	BS		BS
A.3.4: Enhance financial capability of the AALS.		■															BS				BS
A.4.1: Update the identification of under-utilised land.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	BS	SUPPORT	BS		SUPPORT
A.4.2: Conduct consultation with stakeholders.		■															BS	SUPPORT	BS	SUPPORT	

ACTIVITIES	YEAR																EXPERTS/PERSONNEL				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	PM	OM	SP1	PSP	SP2
A.4.3: Develop non-freehold land.																	BS	SUPPORT	BS		BS
A.5.1: Design grants and loan guarantee schemes.																	BS				BS
A.5.2: Design an integrated M&E plan.																	BS		BS		BS
A.5.3: Establish and support local structures.																	BS	SUPPORT		SUPPORT	SUPPORT
A.5.4: Provide post-settlement support and advice.																	BS	SUPPORT		SUPPORT	SUPPORT
A.5.5: Support service delivery to beneficiaries.																	BS	SUPPORT	BS		
A.6.1: Finalise, prepare and sign lease agreements.																	BS	SUPPORT			
A.6.2: Financially support SG to clear survey backlog.																	BS				BS
A.6.3: Provide information on lease rights/obligations.																	BS	BS			
A.6.4: Enable beneficiaries to extend user rights.																	BS				BS
A.7.1: Conduct studies on alternative land use models.																			BS		
A.7.2: Disseminate research results on on-going basis.																	BS	SUPPORT	BS		
A.7.3: Train beneficiaries on integrated land use.																	BS		BS		
A.7.4: Investigate on linking various existing initiatives.																	BS	SUPPORT	BS		BS
A.7.5: Identify suitable town land.																	BS	SUPPORT	BS		SUPPORT
A.7.6: Negotiate acquisition of identified town lands.																	BS	SUPPORT	BS	SUPPORT	BS
A.7.7: Develop infrastructure on town lands.																	BS				BS
A.7.8: Draw up an M&E plan.																	BS		BS		BS
A.7.9: Study off-farm income opportunities.																	BS		BS		BS
A.7.10: Train beneficiaries in entrepreneurship.																	BS				BS
A.8.1: Mobilise and train beneficiaries in maintenance.																	BS				BS
A.8.2: Develop close cooperation with specialists.																	BS	SUPPORT	BS	BS	BS
A.8.3: Rehabilitate infrastructure on farms.																	BS				BS
A.8.4: Determine rentals and grazing fees.																					BS
A.8.5: Collect lease and grazing fees.																		BS			BS
A.8.6: Determine proportion of funds from rentals.																					BS

ACTIVITIES	YEAR															
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
A.9.1: Implement MLRR capacity-building programme.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.9.2: Strengthen Land Board and TA's capacities.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.10.1: Enhance relevant capacity of line Institutions.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.11.1: Enhance capacity of relevant Non-State actors.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.1: Make ACC and PSC permanent structures.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.2: Establish a Technical Committee on land reform.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.3: Establish a POCLR in the PCC and PSC.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.4: Establish RMU at the regional level.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.5: Develop a sectoral coordinating policy.		■	■													
A.12.6: Establish coordinated sectoral response to LR.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.7: Support implementation of LR and its targets.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.12.8: Facilitate planning and coordination of LR.		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A.13.1: Establish an integrated M&E system.		■														
A.13.2: Develop and integrated IS relevant to LR.		■														
A.13.3: Complete computerisation of Deeds Office.		■														
A.13.4: Conduct a biannual land reform audit.		■		■		■		■		■		■		■		
A.13.5: Harmonise LR evaluation with NDP cycles.		■														
A.14.1: Set up a consultative process for all regions.		■		■		■		■		■		■		■		
A.14.2: Conduct information sharing events.		■		■		■		■		■		■		■		

EXPERTS/PERSONNEL				
PM	OM	SP1	PSP	SP2
BS	BS	BS	BS	BS
BS	SUPPORT			
BS			BS	BS
BS				BS
BS				
BS		BS	SUPPORT	BS
BS		BS	SUPPORT	BS
BS		BS	SUPPORT	BS
BS		BS	BS	BS
BS		BS	BS	BS
BS	BS		BS	
BS		BS		
BS		BS		BS
BS		BS		BS
BS				BS
				BS
BS				BS
BS		BS		BS
BS		BS		BS

Milestones

1. Terms of reference for PMU committees drafted and approved
2. PMU of the Technical Committee established
3. PMC established and functional
4. Activity plans and budgets approved
5. Outstanding proposed studies completed and terms of reference prepared and approved
6. Technical proposals for result areas developed
7. Micro projects implemented, monitored, and evaluated
8. Monitoring and evaluation of projects prepared
9. On-going stakeholder consultative events in place
10. Terms of reference for Cabinet Committee and PSC revised and approved

Key

PM	Project Management
OM	Office Management
SP1	Land and Land Related Specialist
PSP	Policy Specialist
SP2	Other Specialists
BS	Basic Solution

RESOURCES SCHEDULE FOR LAND REFORM ACTION PLAN: QUANTITIES AND SOURCE OF FUNDING

Activities/Inputs	Unit	Quantity Per Planning Period																Cost Per Unit (N$)	Funding Source	Cost Codes	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			GRN	DONOR
A.1.1: Align NLP and the NRP																					
One day central workshop	Workshop		1															15 000	GRN	MLRR	
Two day regional workshop	Workshop		8															60 000	GRN	MLRR	
A.1.2: Conduct further research to inform policy areas.																					
Consultancy Services	Consult						1					1					1	80 000	GRN	MLRR	
A.1.3: Clarify the LUEB.																					
Conduct meetings	Meeting		4															6 000	GRN	MET	
A.1.4: Review sector-based policies for integration.																					
One day national workshop	Workshop		1															30 000	GRN	NPCS	
Three day regional workshop	Workshop		12															90 000	GRN	NPCS	
A.1.5: Review the National Agricultural Policy.																					
One day central workshop	Workshop		1															30 000	GRN	MAWRD	
A.1.6: Develop a national policy on user rights.																					
Three day central workshop	Workshop		2				2					2						90 000	GRN	MLRR	
Two day regional workshop	Workshop		12				12					12						30 000	GRN	MLRR	
A.1.7: Amend Subdivision Act on Agricultural Land.																					
Two year study	Study		1															700 000	GRN	MLRR/MAWRD	
Two meetings per year	Meeting		2	2														3 000	GRN	MAWRD	
Two day regional workshop	Workshop		1															30 000	GRN	MAWRD	
A.2.1: Establish Regional and National demand needs.																					
Baseline Survey	Survey		1															3 000 000	GRN	MLRR	
A.2.2: Establish a database of farmland with MTI.																					
Existing human resources	Person		6	6														0	GRN	MLRR	
A.2.3: Review existing resettlement criteria.																		0	GRN	MLRR	
Existing human resources	Person		5	5														0	GRN	MLRR	
A.2.4: Redesign resettlement application form.																					
One day central workshop	Workshop	1	1															30 000	GRN		
Two day regional workshop	Workshop	12	12															60 000	GRN		
A.2.5: Update and maintain beneficiaries' database.																					
This is a no cost element																					
A.2.6: Create awareness of resettlement programme.																					
Media events	Event	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0			
A.2.7: Resettle homogeneous groups.																					
Three year resettling scheme	Lump		1	1	1													500 000	GRN		DONOR
A.2.8: Establish high level negotiating team.																					
Existing human resources	Person	4																0	GRN		
A.2.9: Identify specific land area for specific land use.																					
Task team consisting of 12 members	Task team		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	200 000	GRN	MLRR+LI	
Surveying	Hectare																				
A.2.10: Mobilise individual commercial farmers																					
Meetings during the year	Meeting	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6 000	GRN	MLRR	
A.2.11: Streamline activities within MLRR.																					
Existing human resources	Person	8					8					8					8	0	GRN		
A.2.12: Acquire 5 million hectares for resettlement.																					
Acquisition	Hectare		270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	270 000	250	GRN	MLRR	
A.3.1: Redesign the Affirmative Action Loan Scheme.																					

Activities/Inputs	Unit	Quantity Per Planning Period																	Cost Per Unit (N$)	Funding Source	Cost Codes	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020				GRN	DONOR
Three day regional workshop	Workshop		1																90 000	AGRIBANK	AGRIBANK	
A.3.2: Create awareness of the new scheme.																						
Media events	Event		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		0			
A.3.3: Establish information desk for beneficiaries.																						
This is a no cost element		1																	0			
A.3.4: Enhance financial capability of the AALS.																						
Budgetary allocations	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		54 000 000	GRN	MAWRD,MOF	
A.4.1: Update the identification of under-utilised land.																						
Task team consisting of 12 members	Task tTeam		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		200 000	GRN	MLRR+LI	
A.4.2: Conduct consultation with stakeholders.																						
Three day regional workshop	Workshop		6																90 000	GRN	MLRR	
A.4.3: Develop non-freehold land.																						
Physical surveying of 5 million hectares	Hectare		340 000	340 000	340000	340000	340000	340000	340000	340000	340000	340000	340000	340000	340000	340000	240000		150	GRN	MLRR+OI	DONOR
A.5.1: Design grants and loan guarantee schemes.																						
Consultancy services (group consultancy)	Consult		1																540 000	GRN	MLRR	DONOR
Two day national workshop	Workshop		1																60 000	GRN	MLRR	
A.5.2: Design an integrated M&E plan.																						
Consultancy services	Consult		1																180 000	GRN	MLRR	
A.5.3: Establish and support local structures.																						
Provide on-farm training in clusters	Session		16	10	10	10	10	10	10	10	10	10	10	10	10	10	10		10 000	GRN	MAWRD	
A.5.4: Provide post-settlement support and advice.																						
Provide grants	Family		1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 710	1 660		48 906	GRN	MLRR	
A.5.5: Support service delivery to beneficiaries.																						
Meetings during the year	Meeting		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		6 000	NAU/NNF		
A.6.1: Finalise, prepare and sign lease agreements.																						
Existing human resources	Person	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8		0			
A.6.2: Financially support SG to clear survey backlog.																						
Clear surveying backlog	Hectare		340000	241000															7			
A.6.3: Provide information on lease rights/obligations.																						
This is done when signing lease agreement																						
A.6.4: Enable beneficiaries to extend user rights.																						
Existing human resources in regions	Person																		0			
A.7.1: Conduct studies on alternative land use models.																						
Consultancy services	Consult	0.5	0.5																180 000	GRN+OI		
A.7.2: Disseminate research results on on-going basis.																						
Human resources, funds and equipment	Lump		1	1	1	1	1	1											5 000 000	GRN+OI		
A.7.3: Train beneficiaries on integrated land use.																						
Provide on-farm training in clusters	Session		16	10	10	10	10	10	10	10	10	10	10	10	10	10	10		10 000	GRN	MLRR	
A.7.4: Investigate linking various existing initiatives.																						
Conduct an Investigative Study	Study		1																80 000	GRN	MLRR+MAWRD	
A.7.5: Identify suitable town land.																						
Task team consisting of 12 members	Task team		1	1	1	1	1												200 000	GRN	MLRR+LI	
A.7.6: Negotiate acquisition of identified town lands.																						
Meetings during the year	Meeting		4	4	4	4	4												6 000	GRN	MLRR+MRLGH	
A.7.7: Develop infrastructure on town lands.																						
Development of infrastructure	Hectare		60 000	60 000	60000	60000	60000												250	GRN	MLRR	DONOR
A.7.8: Draw up a Monitoring and Evaluation plan.																						
Draw M&E plan	Consult		1																180 000	GRN	MLRR	DONOR

Activities/Inputs	Unit	Quantity Per Planning Period																Cost Per Unit (N$)	Funding Source	Cost Codes	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			GRN	DONOR
A.7.9: Study off-farm income opportunities.																					
Conduct income opportunities study	Study		1															180 000	GRN	MLRR	
A.7.10: Train beneficiaries in entrepreneurship.																					
Provide on-farm training in clusters	Session		16	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10 000	GRN	MLRR+OI	
A.8.1: Mobilise and train beneficiaries in maintenance.																					
Provide on-farm training in clusters	Session		16	10	10	1	10	10	10	10	10	10	10	10	10	10	10	10 000	GRN	MLRR+MAWRD	
A.8.2: Develop close cooperation with specialists.																					
This is a no cost element																					
A.8.3: Rehabilitate infrastructure on farms.																					
Annual funding event	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10 000 000	GRN	MLRR	
A.8.4: Determine rentals and grazing fees.																					
Conduct a cost study	Study		1															80 000	GRN	MLRR	
A.8.5: Collect lease and grazing fees.																					
This is a no cost element (system in place)			1															0			
A.8.6: Determine proportion of funds from rentals.																					
This is a no cost element (system in place)			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0			
A.9.1: Implement MLRR capacity-building programme.																					
Annual training expenditure	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	600 000	GRN	MLRR	
Annual administrative expenditure	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3,600 000	GRN	MLRR	
A.9.2: Strengthen Land Board and TA's capacities.																					
Annual expenditure	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3 000 000	DONOR		DONOR
A.10.1: Enhance relevant capacity of line institutions.																					
Donor contribution to annual expenditure	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1 000 000	DONOR		DONOR
Budget allocation	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3 000 000	GRN	LI	
A.11.1: Enhance capacity of relevant non-State actors.																					
Annual expenditure	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3 000 000	GRN/DON		GRN/DON
A.12.1: Make ACC and PSC permanent structures.																					
Budget allocation	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	200 000	GRN	MLRR	
A.12.2: Establish Technical Committee on land reform.																					
Budget allocation	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5 000 000	GRN	LI	
A.12.3: Establish a POCLR in the PCC and PSC.																					
Budget allocation	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	GRN	LI	
A.12.4: Establish PMU at the regional level.																					
Budget allocation	Number		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	GRN	LI	
A.12.5: Develop a sectoral coordinating policy.																					
No cost. Set up by the PCC, PSC, and TC.																					
A.12.6: Establish coordinated sectoral response to LR.																					
Three day national workshop annually	Workshop		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	90 000	GRN	NPCS	
A.12.7: Support implementation of LR and its targets.																					
Two day regional workshop annually	Workshop		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	780 000	GRN	NPCS	
A.12.8: Facilitate planning and coordination of LR.																					
One day national workshop annually	Workshop		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30 000	GRN	NPCS	
A.13.1: Establish an integrated M&E System.																					
Establishing M&E system and IS	Consult		1															180 000	DONOR		DONOR
A.13.2: Develop and integrated IS relevant to LR.																					
Incorporated in A.13.1.																					
A.13.3: Complete computerisation of Deeds Office.																					

Activities/Inputs	Unit	Quantity Per Planning Period																Cost Per Unit (N$)	Funding Source	Cost Codes	
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020			GRN	DONOR
Human Resources, Finance, and Equipment	Lump		1															3 000 000	GRN	MLRR	
A.13.4: Conduct a biannual land reform audit.																					
Carry out land reform audit	Consult		1		1		1		1		1		1		1			80 000	GRN	MLRR	
A.13.5: Harmonise LR evaluation with NDP cycles.																					
This is a no cost element			1															0			
A.14.1: Set up a consultative process for all regions.																					
Three day regional workshop annually	Workshop		1		1		1		1		1		1		1			1 170 000	GRN	MLRR+LI	
Two day national workshop annually	Workshop		1		1		1		1		1		1		1			30 000	GRN	MLRR+LI	
A.14.2: Conduct information-sharing events.																					
Done with A.14.1.																					

KEY

LI Line Institutions
OI Other Institutions

RESOURCES SCHEDULE FOR LAND REFORM ACTION PLAN : COSTS

ACTIVITIES	TOTAL COST PER PLANNING PERIOD																PROJECT TOTAL
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
A.1.1: Align NLP and the NRP	0	495 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	495 000
A.1.2: Conduct further research to inform policy areas.	0	0	0	0	0	80 000	0	0	0	0	80 000	0	0	0	0	80 000	240 000
A.1.3: Clarify the LUEB.	0	24 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24 000
A.1.4: Review sector bases policies for integration.	0	1,110 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 110 000
A.1.5: Review the National Agricultural Policy.	0	30 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30 000
A.1.6: Develop a national policy on user rights.	0	540 000	0	0	0	540 000	0	0	0	0	540 000	0	0	0	0	0	1 620 000
A.1.7: Amend Subdivision Act on Agricultural Land.	0	736 000	6 000	0	0	0	0	0	0	0	0	0	0	0	0	0	742 000
Result 1 Total																	**4 261 000**
A.2.1: Establish regional and national needs.	0	3 000 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3 000 000
A.2.2: Establish a database of farmland with MTI.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.3: Review existing resettlement criteria.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.4: Redesign resettlement application form.	750 000	750 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 500 000
A.2.5: Update and maintain beneficiaries' database.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.6: Create awareness of resettlement programme.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.7: Resettle homogeneous groups.	0	500 000	500 000	500 000	0	0	0	0	0	0	0	0	0	0	0	0	1 500 000
A.2.8: Establish high level negotiating team.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.9: Identify specific land area for specific land use.	0	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	3 000 000
A.2.10: Mobilise individual commercial farmers	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	384 000
A.2.11: Streamline activities within MLRR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.2.12: Acquire 5 million hectares for resettlement.	0	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	67 500 000	1 012 500 000
Result 2 Total																	**1 021 884 000**
A.3.1: Redesign the Affirmative Action Loan Scheme.	0	90 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90 000
A.3.2: Create awareness of the new scheme.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.3.3: Establish information desk for beneficiaries.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.3.4: Enhance financial capability of the AALS.	0	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	54 000 000	810 000 000
Result 3 Total																	**810 090 000**
A.4.1: Update the identification of under-utilised land.	0	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	3 000 000
A.4.2: Conduct consultation with stakeholders.	0	540 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	540 000
A.4.3: Develop non-freehold land.	0	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	51 000 000	36 000 000	750 000 000
Result 4 Total																	**753 540 000**
A.5.1: Design grants and loan guarantee schemes.	0	600 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600 000
A.5.2: Design an integrated M&E plan.	0	180 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180 000
A.5.3: Establish and support local structures.	0	160 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	1 560 000
A.5.4: Provide post-settlement support and advice.	0	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	83 629 260	81 183 960	1 251 993 600
A.5.5: Support service delivery to beneficiaries.	0	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	24 000	360 000
Result 5 Total																	**1 254 693 600**

ACTIVITIES	TOTAL COST PER PLANNING PERIOD																PROJECT TOTAL
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
A.6.1: Finalise, prepare and sign lease agreements.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.6.2: Financially support SG to clear survey backlog.	0	2 380 000	1 687 000	0	0	0	0	0	0	0	0	0	0	0	0	0	4 067 000
A.6.3: Provide information on lease rights/obligations.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.6.4: Enable beneficiaries to extend user rights.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Result 6 Total																	4 067 000
A.7.1: Conduct studies on alternative land use models	90 000	90 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180 000
A.7.2: Disseminate research results on on-going basis.	0	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	0	0	0	0	0	0	0	0	0	30 000 000
A.7.3: Train beneficiaries on integrated land use.	0	160 000	100 000	100 000	10 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	1 470 000
A.7.4: Investigate linking various existing initiatives.	0	80 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80 000
A.7.5: Identify suitable town land.	0	200 000	200 000	200 000	200 000	200 000	0	0	0	0	0	0	0	0	0	0	1 000 000
A.7.6: Negotiate acquisition of idontified town lands.	0	24 000	24 000	24 000	24 000	24 000	0	0	0	0	0	0	0	0	0	0	120 000
A.7.7: Develop infrastructure on town lands.	0	15 000 000	15 000 000	15 000 000	15 000 000	15 000 000	0	0	0	0	0	0	0	0	0	0	75 000 000
A.7.8: Draw up a Monitoring and Evaluation plan.	0	180 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180 000
A.7.9: Study off-farm income opportunities.	0	180 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180 000
A.7.10: Train beneficiaries in entrepreneurship.	0	160 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	1 560 000
Result 7 Total																	109 770 000
A.8.1: Mobilise and train beneficiaries in maintenance.	0	160 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	100 000	1 560 000
A.8.2: Develop close cooperation with specialists.																	0
A.8.3: Rehabilitate infrastructure on farms.	0	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	10 000 000	150 000 000
A.8.4: Determine rentals and grazing fees.	0	80 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80 000
A.8.5: Collect lease and grazing fees.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.8.6: Determine proportion of funds from rentals.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Result 8 Total																	151 640 000
A.9.1: Implement MLRR capacity-building programme.	0	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	4 200 000	63 000 000
A.9.2: Strengthen Land Board and TA's capacities.	0	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	45 000 000
Result 9 Total																	108 000 000
A.10.1: Enhance relevant capacity of line institutions.	0	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	4 000 000	60 000 000
Result 10 Total																	60 000 000
A.11.1: Enhance capacity of relevant non-State actors.	0	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	3 000 000	45 000 000
Result 11 Total																	45 000 000
A.12.1: Make ACC and PSC permanent structures.	0	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	200 000	3 000 000
A.12.2: Establish Technical Committee on land reform.	0	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	5 000 000	75 000 000
A.12.3: Establish a POCLR in the PCC and PSC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.12.4: Establish PMU at regional level.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.12.5: Develop a sectoral coordinating policy.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.12.6: Establish coordinated sectoral response to LR.	0	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	90 000	1,350 000
A.12.7: Support implementation of LR and its targets.	0	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	780 000	11,700 000
A.12.8: Facilitate planning and coordination of LR.	0	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	30 000	450 000

ACTIVITIES	TOTAL COST PER PLANNING PERIOD																PROJECT TOTAL
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Result 12 Total																	91,500 000
A.13.1: Establish an integrated M&E System.	0	180 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	180 000
A.13.2: Develop and Integrated IS relevant to LR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A.13.3: Complete computerisation of Deeds Office.	0	3 000 000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3 000 000
A.13.4: Conduct a biannual land reform audit.	0	80 000	0	80 000	0	80 000	0	80 000	0	80 000	0	80 000	0	80 000	0	0	560 000
A.13.5: Harmonise LR evaluation to NDP cycles.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Result 13 Total																	3,740 000
A.14.1: Set up a consultative process for all regions.	0	1 200 000	0	1 200 000	0	1 200 000	0	1 200 000	0	1 200 000	0	1 200 000	0	1 200 000	0	0	6,400 000
A.14.2: (Incorporated in A.14.1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Result 14 Total																	6,400 000
OVERALL PROJECT TOTAL																	4,426,585,600

RESPONSIBILITY AND COLLABORATION MATRIX FOR LAND REFORM ACTION PLAN : A LIST

Activities	Responsible Institutions	Collaborators	Experts
A.1.1: Align NLP and the NRP	MLRR	AG's office, MAWRD, MET	Local facilitator, OM
A.1.2: Conduct further research to inform policy areas.	PCC, PSCLR, POCLR	MET, MLRR, MAWRD	Local
A.1.3: Clarify the LUEB.	MET, MLRR	NPCS	OM
A.1.4: Review sector bases policies for integration.	PCC, PSCLR, POCLR	AG's office, MAWRD, MET, MLRR, NPCS	Local facilitator
A.1.5: Review the National Agricultural Policy.	MAWRD	MLRR, NPCS, NAU, NNFU	Local facilitator
A.1.6: Develop a national policy on user rights.	PCC, PSCLR, TC		Local external supp.
A.1.7: Amend Subdivision Act on Agricultural Land.	MAWRD, MLRR		Local experts
A.2.1: Establish regional and national needs.	Resettlement Committee: - MLRR, Regional Offices		Local PM
A.2.2: Establish a database of farmland with MTI.	Deeds - MLRR, MTI		Local OM
A.2.3: Review existing resettlement criteria.	MLRR	Regional Councils, MAWRD, AgriBank, MRLGH	Local PM, OM
A.2.4: Redesign resettlement application form.	National Resettlement Committee: - MLRR		Local PM, OM
A.2.5: Update and maintain beneficiaries' database.	Resettle - MLRR		Local OM
A.2.6: Create awareness of resettlement programme.	Resettle - MLRR		Local
A.2.7: Resettle homogeneous groups.	National Resettlement Committee: - MLRR	Regional Councils, Traditional Authorities, community leaders	Local
A.2.8: Establish high level negotiating team.	MLRR		Local
A.2.9: Identify specific land area for specific land use.	PCC, PSCLR, POCLR		Local PM
A.2.10: Mobilise individual commercial farmers	PCC, PSCLR, POCLR		Local PM
A.2.11: Streamline activities within MLRR.	MLRR	LRAC	Local
A.2.12: Acquire 5 million hectares for resettlement.	MLRR	MOF, NPCS	Local
A.3.1: Redesign the Affirmative Action Loan Scheme.	MLRR, MAWRD, MOF	AgriBank	Local PM
A.3.2: Create awareness of the new Scheme.	AgriBank	MAWRD	Local
A.3.3: Establish information desk for beneficiaries.	AgriBank	DVEM - MLRR	Local
A.3.4: Enhance financial capability of the AALS.	MAWRD,MOF	NPCS	Local
A.4.1: Update the identification of under-utilised land.	MLRR, PCC, PSCLR, POCLR		Local PM
A.4.2: Conduct consultation with stakeholders.	MLRR	PSCLR	Local PM
A.4.3: Develop non-freehold land.	MLRR, PCC, PSCLR, POCLR		Local PM
A.5.1: Design grants and loan guarantee schemes.	MLRR, MOF	NPCS	Local PM, OM
A.5.2: Design an integrated M&E plan.	MLRR, PCC, PSCLR, POCLR		Local PM, OM
A.5.3: Establish and support local structures.	MLRR, MAWRD		Local
A.5.4: Provide post-settlement support and advice.	MLRR, MAWRD		Local
A.5.5: Support service delivery to beneficiaries.	NNFU, NAU	Agrifutura, Others	Local PM, OM
A.6.1: Finalise, prepare and sign lease agreements.	MLRR		Local
A.6.2: Financially support SG to clear survey backlog.	MLRR	MOF	Local
A.6.3: Provide information on lease rights/obligations.	Regional Offices - MLRR	Regional Councils	Local
A.6.4: Enable beneficiaries to extend user rights.	MLRR,PCC, PSCLR, POCLR		Local

Activities	Responsible Institutions	Collaborators	Experts
A.7.1: Conduct studies on alternative land use models	PCC, PSCLR, POCLR	Non-State actors	Local PM, OM
A.7.2: Disseminate research results on on-going basis.	PCC, PSCLR, POCLR		Local PM, OM
A.7.3: Train beneficiaries on integrated land use.	DEES - MAWRD, LUPA - MLRR		Local PM, OM
A.7.4: Investigate on linking various existing initiatives.	MAWRD, MLRR	Other line institution PM	Local PM
A.7.5: Identify suitable town land.	PCC, PSCLR, POCLR	Town Councils	Local PM
A.7.6: Negotiate acquisition of identified town lands.	MLRR, MRLGH	Town Councils	Local PM
A.7.7: Develop infrastructure on town lands.	MLRR, Town Councils		Local PM
A.7.8: Draw up a Monitoring and Evaluation plan.	PCC, PSCLR, POCLR		Local PM, OM
A.7.9: Study off-farm income opportunities.	MLRR, MAWRD, MTI	MOF, MET, NPCS	Local PM, OM
A.7.10: Train beneficiaries in entrepreneurship.	MLRR, MTI	NCCI, WAD, Town Councils	Local PM, OM
A.8.1: Provide materials for low cost housing.	MLRR	MWTC, NPCS, MOF	Local
A.8.2: Mobilise and train beneficiaries in maintenance.	MLRR, MAWRD		Local PM
A.8.3: Develop close cooperation with specialists.	MLRR	NamWater, DEA - MAWRD	Local PM
A.8.4: Rehabilitate infrastructure on farms.	MLRR, MAWRD		Local PM
A.8.5: Determine rentals and grazing fees.	DVEM - MLRR, MOF		Local PM
A.8.6: Collect lease and grazing fees.	Resettle - MLRR		Local PM
A.8.7: Determine proportion of funds from rentals.	MLRR	MOF, MAWRD	Local
A.9.1: Implement MLRR capacity-building programme.	MLRR	MOF	Local
A.9.2: Strengthen Land Board and TA's capacities.	LBTA - MLRR	MRLGH, MOF	Local
A.10.1: Enhance relevant capacity of line institutions.	POCLR	Line ministries	Local
A.11.1: Enhance capacity of relevant non-State actors.	MLRR	MOF, MAWRD, NPCS	Local
A.12.1: Make ACC and PSC permanent structures.	MLRR		Local
A.12.2: Establish a Technical Committee on land reform.	MLRR	MOF	Local
A.12.3: Establish a POCLR in the PCC and PSC.	MLRR	MOF	Local
A.12.4: Establish PMU at the regional level.	MLRR	MOF	Local
A.12.5: Develop a sectoral coordinating policy.	PCC, PSCLR, POCLR		Local
A.12.6: Establish coordinated sectoral response to LR.	PCC, PSCLR, POCLR		Local
A.12.7: Support implementation of LR and its targets.	PCC, PSCLR, POCLR		Local
A.12.8: Facilitate planning and coordination of LR.	PCC, PSCLR, POCLR		Local
A.13.1: Establish an integrated M&E System.	PCC, PSCLR, POCLR		Local. May need external support.
A.13.2: Develop and integrated IS relevant to LR.	PCC, PSCLR, POCLR		Local. May need external support.
A.13.3: Complete computerisation of Deeds Office.	DEEDS - MLRR	MOF	Local OM
A.13.4: Conduct a biannual land reform audit.	PCC, PSCLR, POCLR		Local
A.13.5: Harmonise LR evaluation with NDP cycles.	PCC, PSCLR, POCLR		Local
A.14.1: Set up a consultative process for all regions.	PCC, PSCLR, POCLR		Local PM
A.14.2: Conduct information-sharing events	PCC, PSCLR, POCLR		Local