

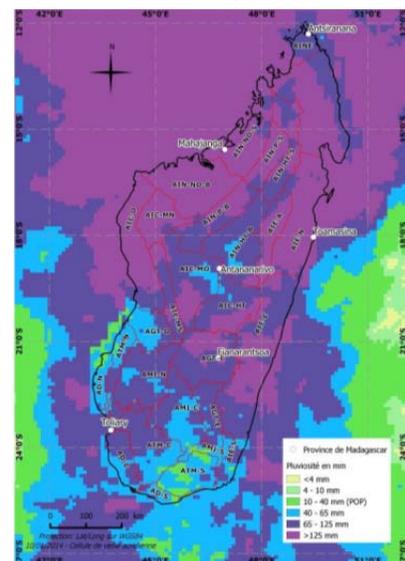
MADAGASCAR LOCUST UPDATE DURING THE SECOND DEKAD OF JANUARY, 2014 WITH A FORECAST FOR THE NEXT DEKADS

SUMMARY

A low pressure area that formed in the Mozambique Channel and moved to the west coast of Madagascar generated above normal moisture and created favorable conditions for locusts to breed and develop. The prevailing wind was northeasterly in the invasion areas, but changed directions from northerly at the beginning to easterly by mid-dekad in the outbreak areas and affect swarm movements. Extensive aerial surveys were carried out during the 2nd dekad of January to assess the situation and determine redeployment of operational bases for the coming months. Mature and immature adults as well as hoppers were detected in various areas in the outbreak, invasion, concentration, and multiplication areas. Copulation and egg laying were also observed during this period. Given favorable ecological conditions and vast dispersion of parental populations locust activities will increase and outbreaks will occur in several places in the coming months (DPV-FAO).

METEOROLOGICAL AND ECOLOGICAL CONDITIONS

A tropical depression that formed during the 1st dekad of January in the Mozambique Channel near the west coast of Madagascar off Mahajanga headed south and southwest and caused heavy rainfall, especially in the central transitional multiplication and condensation areas. More than 65 mm was reported in the invasion and transient outbreak areas and 40-65 mm in the rest of the country (see rainfall map, DPV-FAO). As a result, soil moisture increased considerably and vegetation coverage reaching 100% in the invasion areas and 80 to 100% in the outbreak areas with the average height of 10 to 35 cm tall (note: an additional heavy rainfall could cause water logging and hamper hatching). The prevailing wind was northeasterly in the invasion areas, changed directions in the outbreak areas from northerly at



the beginning to easterly by mid-dekad and back to northeasterly by the end of the dekad (DPV-FAO).

LOCUST SITUATION

In the **northwest transient outbreak areas**, low density (50 to 120 insects/ha) solitary immature and mature adults were observed in the Morondava to Mandabe Basin. Swarms were also frequently observed by the Ihosy Base team in Morondava Basin heading east to west and north to south.

In the **northern transient outbreak areas**, locust outbreaks were reported in the northern part of the Manja Basin where 27,000 ha were reported infested and 1st instar gregarious hoppers (5-20 insects/m²) were reported. Groups and bands composed of 1st to 5th instar hoppers and copulating adults were detected on 13,000 ha.

In the **outbreak areas**, gregarious adult populations were reported between Linta and Mangoky. Outbreaks continued in Befandriana Basibasy-South plains and in the Manja Basin and Belomotra Plateau where hopper groups and bands have already formed (DPV-FAO).

In the **western central invasion areas** in Antsalova sexually mature gregarious swarms measuring 30 km x 7 km (21,000 ha) were detected during aerial surveys in the 2nd dekad of January. The swarms were reported heading southwest.

In the **mid-east central invasion areas**, mature swarms were reported towards the end of the 2nd dekad of January by field staff in Ihosy operations base. The swarms were headed West and Southwest towards Miandrivazo Malaimbandy. Gregarious mature swarms (male lemon yellow and female pale yellow) were detected flying over Bokorano, a rural town in Andramy (south Morafenobe) and heading southwest.

In the **northern invasion areas** in Tampoketsa Ikopa (Ankazobe and Eastern Fenoarivobe) Basin and Plateau, low density (1,000 insects/ha), 4th and 5th instar solitario-transient hoppers were observed. Very low density (80 insects/ha) immature adults were also observed during this period. High density (>300 insects/m²) transient hoppers and scattered low density mature adults were reported in Port-Bergé by the NLC.

In the **northern initial multiplication areas**, groups and bands of 1st to 3rd instar hoppers (50-80 insects/m²) were reported in Betroka by the NLC team. Scattered 1st to 4th instar hoppers and adults were observed in Ianakafy and adult locusts were observed in Analamary.

In the **northern transitional multiplication areas**, groups and bands composed of 1st and 2nd instar hoppers were observed on the Soahazo Plateau and in Antanimieva. Immature and mature adult populations were observed on some 50,000 ha in the vicinity of the Mangoky Delta. Coupling adults were observed both in the Mangoky Delta and Befandriaa South Plain. Low density immature and mature adults were observed on the Bekily-Fotadrevo penepplain and scattered adults were observed in Bekily. Low density adult **Red Locust** were also reported in Bekily. Low density 2nd to 4th instar hoppers were observed in Amboangy and scattered mature adults were reported in Beloha and Marolinta. Adult individuals from the 1st generation breeding and highly gregarious 1st instar hoppers from the 2nd generation breeding were detected in the transitional multiplication and concentration areas during this period (DPV-FAO).

In the **initial concentration areas** in the West between Morondava and Maintirano mature adult populations and swarms were reported during the 2nd dekad of January.

In the **northern concentration areas**, immature and mature copulating adults were observed in the former Forest Mikea and Manombo Basin and in Belomotra where outbreaks started during the 2nd dekad of January. Low to high density copulating mature adults and immature adults were reported in Mahafaly Plateau, Ilempo and Beomby in the western part of the plateau. On the coastal plain of Mahafaly low density immature and mature adults were observed in Soalara, Itampolo and Linta between the Onilahy and Linta Rivers. The NLC reported mature adults in Beheloka during the 2nd dekad of January (DPV-FAO).

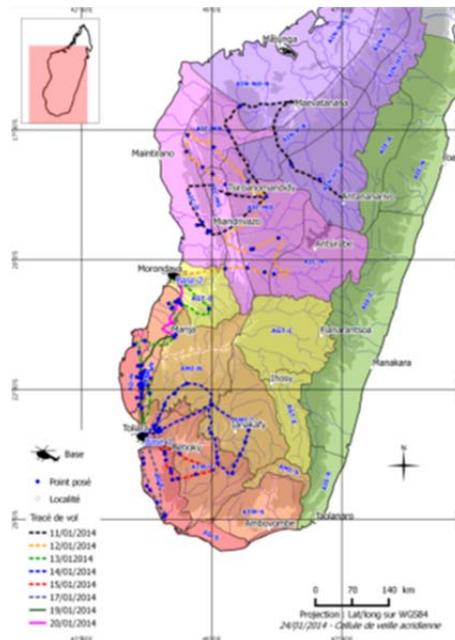
SURVEY

Extensive aerial surveys were carried out on the western side of Madagascar during the 2nd dekad of January to assess the situation, determine the epicenter of the locust populations and redeploy operational bases most suitable for survey and control (see the dotted lines on the map below for helicopter survey routes from 11-20 January, 2014, DPV-FAO).

CONTROL

As the operational bases were being redeployed, control was not carried out during this dekad. Hence, the cumulative areas treated and protected by air and land since the beginning of the 2013/2014 locust campaign was unchanged, i.e., 68,264 ha of which 18,900 ha were protected and 49,364 ha were treated.

The two FAO helicopters in the Ihosy and Tsiroanomandidy operational Bases logged in 33h 10m and 5h and 20m, respectively during the 2nd dekad of January bringing the cumulative hours logged to 219h 41m for Ihosy Base and 115h 53m for Tsiroanomandidy Base, 335h 34m in total.



EQUIPMENT AND SUPPLIES

Aircraft: Two helicopters are leased by FAO

Vehicles: Thirteen (13) 4X4 double cabin light truck; additional information was not available during the 2nd dekad of January.

Pesticides

Table 1. Pesticide inventory as of 20th January, 2014.

	Pesticide inventory during the 2 nd dekad of January, 2014		
	Teflubezuron	Chlorpyrifos	Green Muscle
TULEAR	99 400	23 000	360
MIANDRIVAZO	0	400	0
MORONDAVA	4 800	0	0
MANJA	10 000	20 000	0
BEFANDRIANA -SUD	10 000	10 000	0
SAKARAHA	5 000	2 000	0
IHOSY	5 000	6 200	0
BASE 1	0	517	0
BASE 2	6 650	0	0
TOTAL	140 850	62 117	360
	Additional amount expected during February, 2014		
	0	388,000	640

(Source: modified from DPV-FAO, February 13, 2014).

FORECAST

As a result of heavy rains that continued through January, adult locusts that were detected in the invasion and outbreak areas in the center region are expected to have matured and began laying eggs at the end of the 2nd dekad of January. Hopper groups and band formations are expected to have commenced by late January and continue into February. Substantial infestations are likely in the coming dekads given the vast dispersion of parental populations and swarms. Egg laying and hatching are expected in the central outbreak, transitional multiplication and concentration areas where the ecological conditions will likely remain favorable for new groups and bands to form.

Vigilance, active surveillance, and timely interventions remain imperative to avert any major crop damage. ☒

OFDA/TAG will continue monitoring the situation closely and issue updates and advices as often as necessary.