



Government of Malawi

DEPARTMENT OF METEOROLOGICAL SERVICES

THIRD ROUND 2007/08 AGRICULTURAL ESTIMATES

AGROMETEOROLOGICAL UPDATE

Released Lilongwe 11 June 2008

SEASONAL SUMMARY

- The Department of Meteorological Services issued the 2007/08 Seasonal Forecast on 18 September 2007.
- At that time, a weak La Nina episode was developing over the Pacific Ocean. La Nina episode is normally associated with above average rainfall over a greater part of Southern Africa including Malawi.
- Based on the models, a greater part of Malawi was expected to experience normal to above normal total rainfall amounts with floods in flood prone-areas between January and March 2008
- The start of season slightly delayed over some areas compared to last season's. Heavy rains and floods were experienced in January
- From February - April unusual dry conditions were experienced over the country leading to early cessation of rainfall season...
- Sea Surface Temperature observations over the central and eastern Equatorial Pacific indicate that the La Niña episode has weakened and ENSO – Neutral conditions are expected between June and July 2008
- During the months of June and July 2008 Rainfall over Malawi is likely to be confined mostly to highlands and lakeshore areas
- Third Round Total National Maize production estimates from Agrometeorological model is estimated at 2,779,998 Metric Tones

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2007/08 SEASONAL FORECAST

The Department of Meteorological Services released the 2007/08 Seasonal Forecast on 18 September 2007. The forecast was based on statistical models that use scientifically established relationship between rainfall over Southern Africa and Sea Surface Temperatures over oceans. At that time, a weak La Nina episode was developing over the Pacific Ocean. La Nina episode is normally associated with above average rainfall over a greater part of Southern Africa including Malawi. **Based on the models, a greater part of Malawi was expected to experience normal to above normal total rainfall amounts with floods in flood prone-areas between January and March.**

The forecast was presented to Ministry of Agriculture and Food Security and other key stakeholders.

IMPORTANCE OF A SEASONAL FORECAST

A seasonal forecast is required for planning agricultural activities and decision making in both the pre-season and during the growing season. For instance;

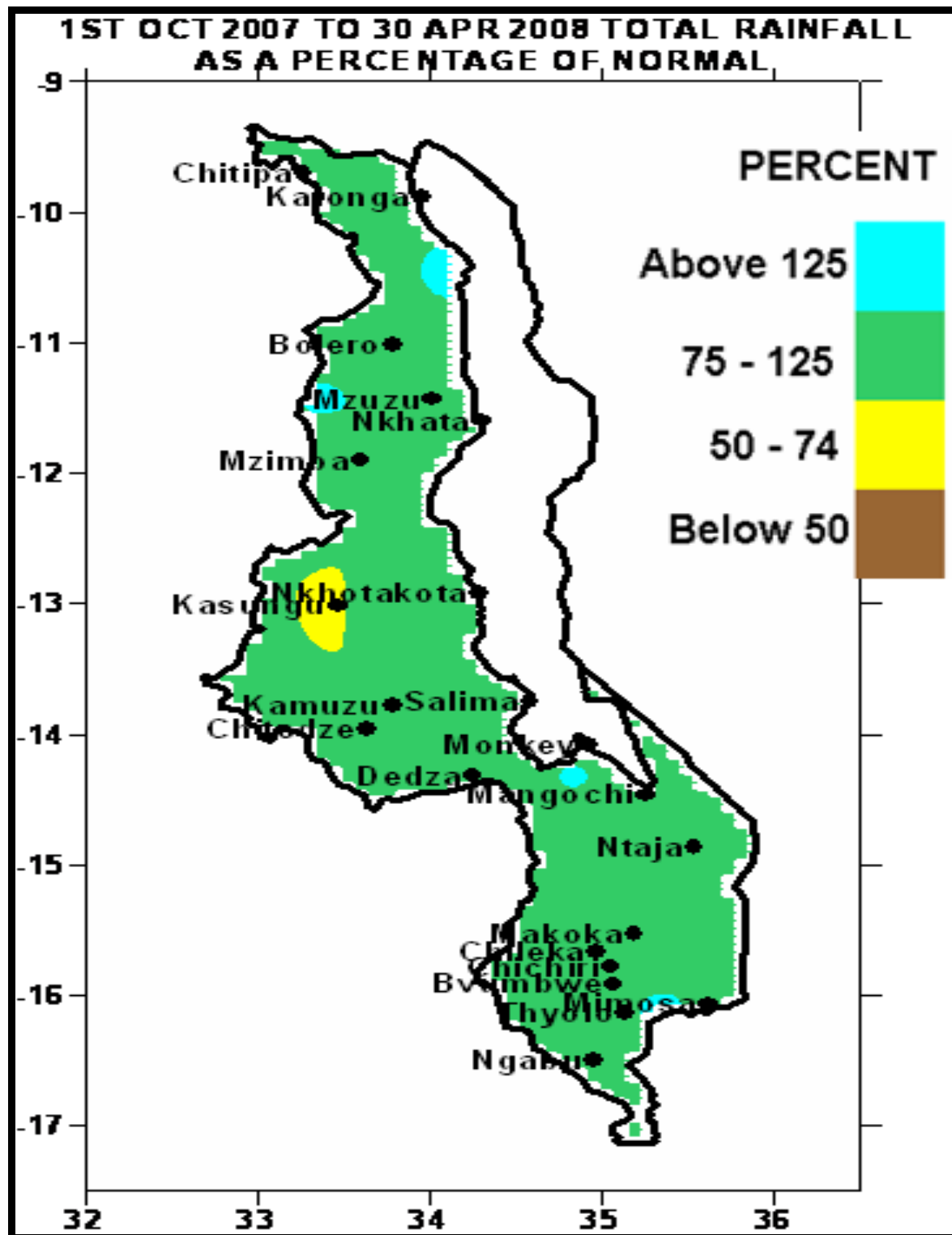
- timing delivery of farm inputs to various districts depends on knowledge of when the rains are likely to start,
- deciding area to plant depends on whether the season will be good or bad,
- choice of planting either early or late maturing crop varieties,
- Choice of agricultural extension messages depends on the seasonal forecast.

PROGRESS OF 2007/08 RAINFALL SEASON

Sufficient rains to support planting, germination and establishment of various crops started countrywide between first and second dekads of December 2007. Start of season this season was slightly delayed over some areas compared to last season's particularly in the centre and north. Significant rainfall continued to be experienced over the country up to January 2008 due to the persistence of the rain bearing systems over the country. Heavy rains and floods were experienced in January 2008 resulting in soil water logging conditions and cropped fields being washed away in some parts of the country. However, in February the south and some parts of lakeshore areas experienced unusual dry conditions. These dry conditions negatively affected crops that were planted between end of December and early January. The dry spell coincided with a flowering stage, a more vulnerable stage of crop development and therefore localised crop production deficits are expected this season.

Cumulative rainfall performance from October 2007 to 30 April, 2008 indicated that generally normal rainfall amounts have been experienced. However, there was a problem of rainfall distribution - most of the rainfall fell in January and dry spells were

experienced from February – April leading to early cessation of the rainfall season.



The graphs for cumulative rainfall indicated that in general the north has received less rain this season compared to last season while the centre and south showed a mixed

pattern of rainfall performance with some areas receiving more rainfall amounts this season than last season. See Figures 1a- 1c below.

Fig 1a: Rainfall Graphs South

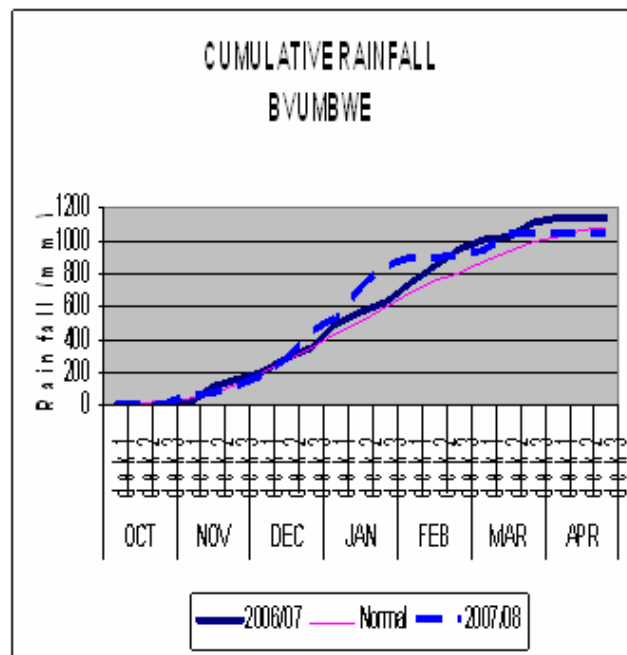
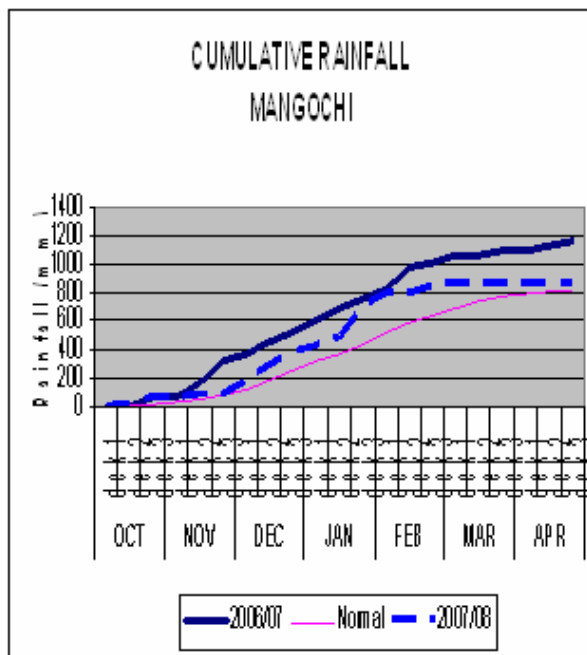
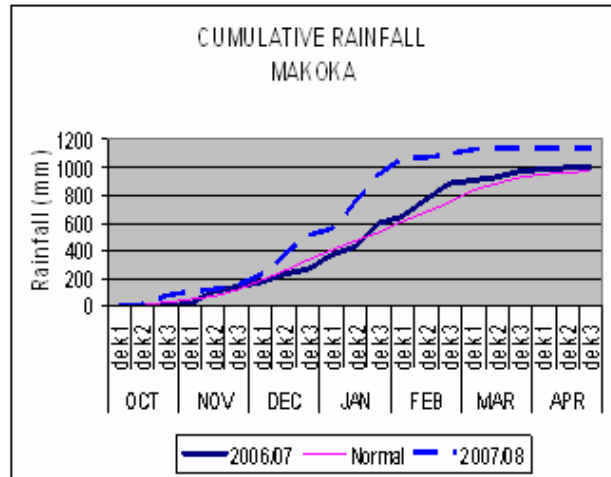
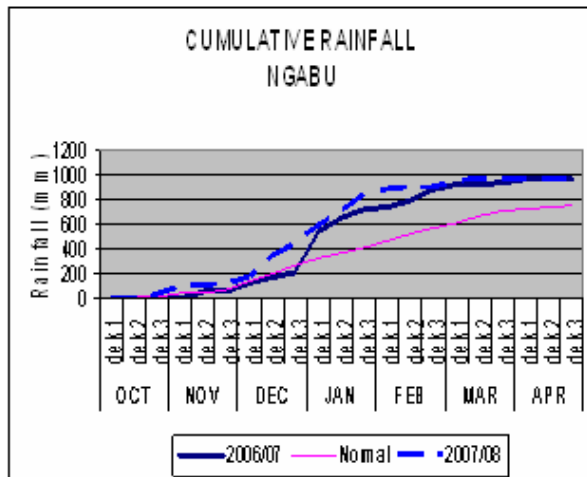


Fig 1b: Rainfall Graphs Center

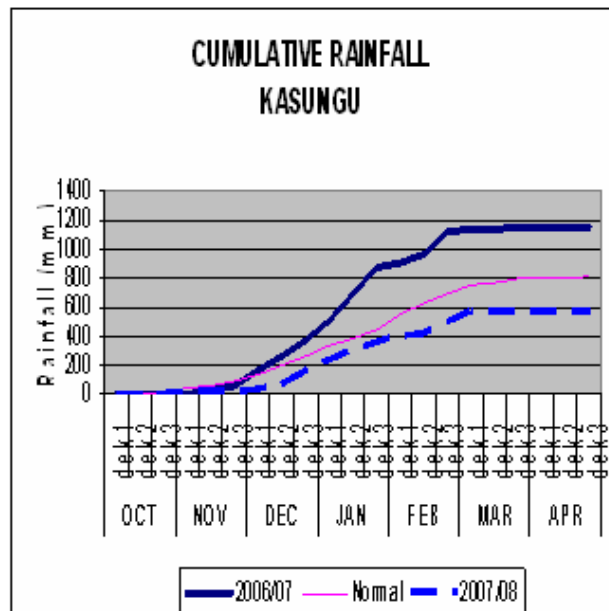
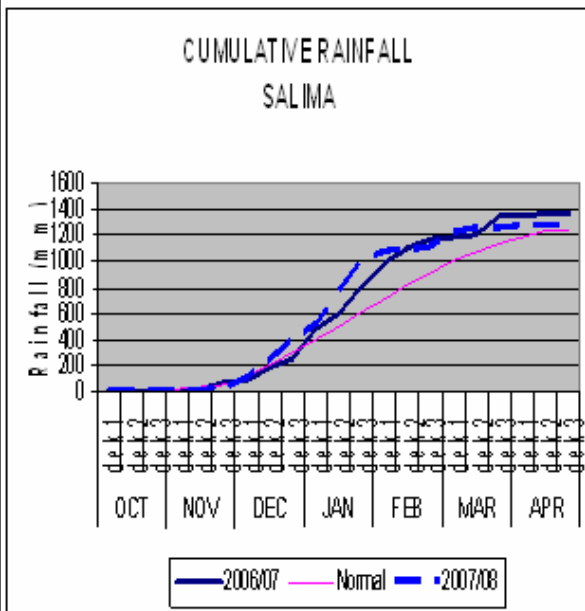
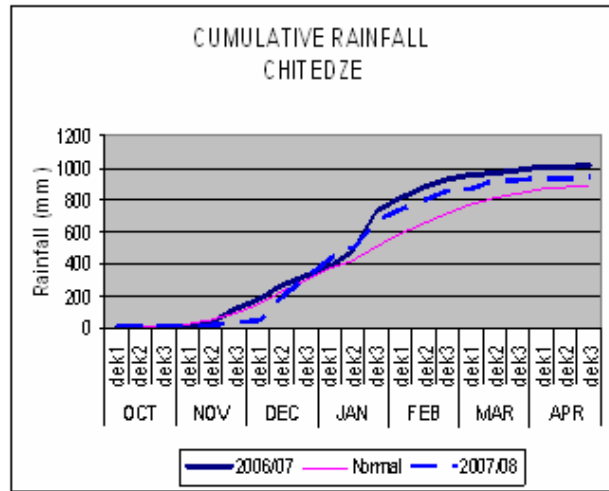
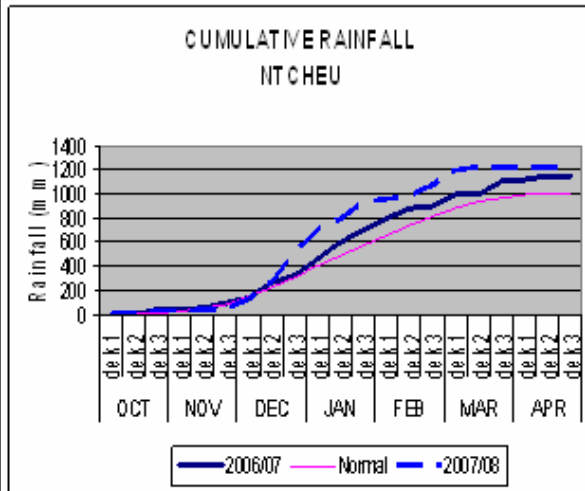
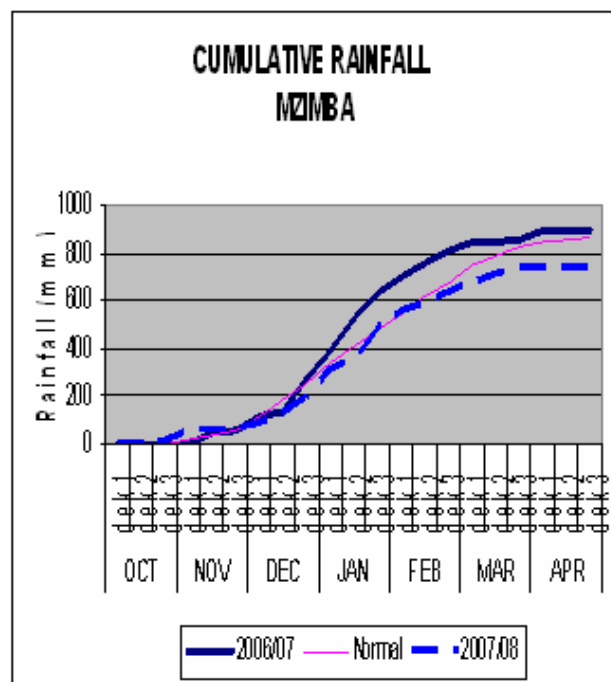
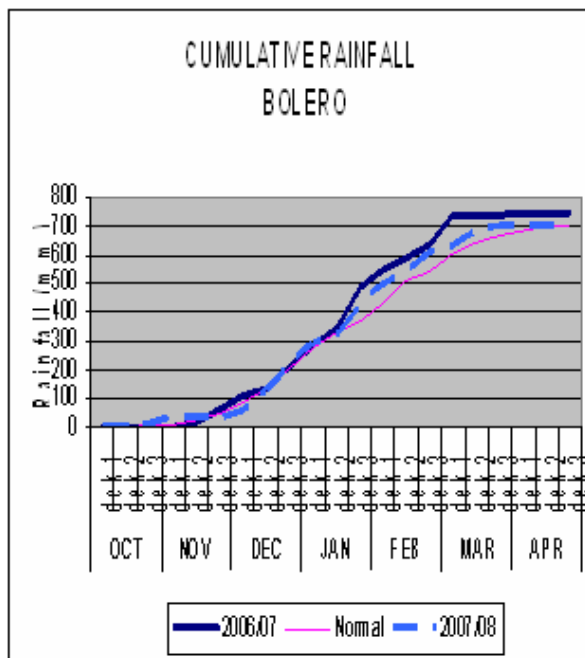
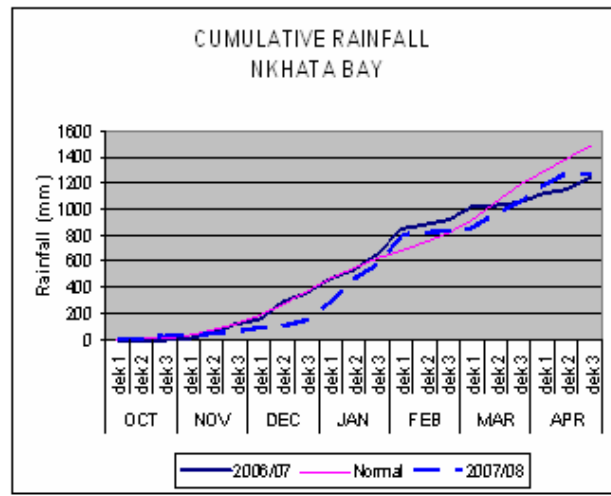
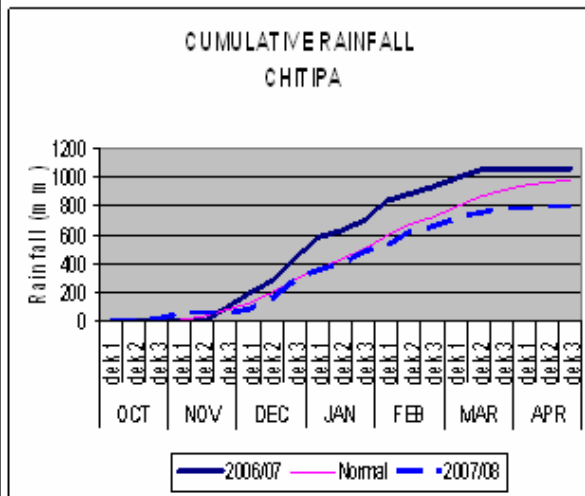


Fig 1c: Rainfall Graphs North



OUTLOOK FOR JUNE TO JULY 2008

Projections of sea-surface Temperatures (SSTs) across central and eastern equatorial indicate that La Niña episode has weakened and ENSO – neutral conditions are expected during June – July 2008. During this period rainfall over Malawi will be mainly influenced by periodic incursions of cool and moist southeasterly airflow. Therefore during June to July 2008 rainfall over Malawi is likely to be confined mostly to highlands and lakeshore areas

**SUMMARY OF 2007/08 MAIZE YIELD ASSESSMENT BASED ON THE FAO CROP
SPECIFIC WATER BALANCE MODEL**

TABLE 1: 2007/08 THIRD ROUND LOCAL & COMPOSITE MAIZE PRODUCTION ESTIMATES

CROP: Local & Composite Maize						
YIELD: kg/ha WRSI: % AREA: Hectares PRODUCTION: Tonnes						
AREA BASED ON 2007/08 2ND ROUND CROP ESTIMATES						
ADD	07/08 WRSI	07/08 YIELD	YIELD LOW	YIELD HIGH	07/08 AREA	07/08 PRODUCTION
SHIRE VALLEY	86	1100	749	1452	35595	39172
BLANTYRE	87	1267	874	1660	180144	228249
MACHINGA	85	1262	859	1664	236067	297858
SALIMA	86	1503	1071	1934	41255	61994
LILONGWE	86	1446	1133	1759	243230	351709
KASUNGU	85	1699	1289	2109	209038	355132
MZUZU	86	1797	1402	2192	98476	176976
KARONGA	91	1711	1284	2138	29040	49690
NATIONAL	86	1455	1073	1836	1,072,845	1,560,780

ADD	Area Pl.	WRSI	a	b	S.E.	t stud.
SHIRE VALLEY	35595	86	-65.01	1.679	14.289	1.761
BLANTYRE	180144	87	-68.00	1.663	13.821	1.714
MACHINGA	236067	85	-86.13	1.978	15.190	1.714
SALIMA	41255	86	-128.30	2.444	13.652	1.721
LILONGWE	243230	86	-114.41	2.275	10.452	1.692
KASUNGU	209038	85	-80.44	1.909	11.668	1.693
MZUZU	98476	86	-85.82	1.980	10.945	1.717
KARONGA	29040	91	-140.85	2.583	13.004	1.812
NATIONAL	1072845	86	-86.17	1.954	12.980	1.645

RDP	EST. YIELD	EST. YIELD	EST. PROD.	YIELD	YIELD
	(% Max.)	(kg/ha)	(Tonnes)	LOW	HIGH
Balaka	82	1159	50874	789	1528
Blantyre	76	1324	37323	914	1734
Chikwawa	79	1099	28998	747	1450
Chiradzulu	76	1016	21825	701	1331
Chitipa	94	1871	32389	1404	2338
Dedza	82	1244	85140	974	1513
Dowa	82	1513	72063	1148	1879
Karonga	94	1475	17301	1107	1843
Kasungu	82	1891	131075	1434	2348
Likoma	85	1480	34	1154	1805
Lilongwe	82	1649	171213	1292	2007
Machinga	82	1418	58833	966	1870
Mangochi	82	1262	111770	860	1665
Mchinji	82	1664	108360	1262	2066
Mulanje	76	1287	47612	889	1686
Mwanza	76	1185	14084	818	1552
Mzimba	85	1792	146385	1398	2186
Neno	76	1183	21840	816	1549
NkhataBay	85	1640	12169	1280	2001
Nkhatakota	82	1598	21691	1139	2057
Nsanje	79	1106	10174	752	1459
Ntcheu	82	1343	95356	1052	1634
Ntchisi	82	1617	43635	1227	2008
Phalombe	76	1429	43916	986	1872
Rumphi	85	1970	18388	1537	2404
Salima	82	1456	40303	1038	1874
Thyolo	76	1285	41649	887	1683
Zomba	82	1230	76381	837	1622

TABLE 2: 2007/08 THIRD ROUND HYBRID MAIZE PRODUCTION ESTIMATES

CROP: Hybrid Maize						
AREA BASED ON 2007/08 2ND ROUND CROP ESTIMATES						
ADD	07/08 WRSI	07/08 YIELD	YIELD LOW	YIELD HIGH	07/08 AREA	07/08 PRODUCTION
SHIRE VALLEY	89	2093	1064	3123	8705	18222
BLANTYRE	92	2590	1958	3222	67446	174669
MACHINGA	93	3438	2256	4620	52349	179974
SALIMA	94	3113	2389	3838	18234	56770
LILONGWE	95	2806	2377	3236	90751	254689
KASUNGU	94	3142	2247	4037	110142	346039
MZUZU	93	3327	2857	3797	47559	158228
KARONGA	95	2142	627	3657	14301	30627
NATIONAL	93	2977	2225	3730	409,487	1,219,218

ADD	Area Pl.	WRSI	a	b	S.E.	t stud.
SHIRE VALLEY	8705	89	-57.68	1.645	21.652	2.015
BLANTYRE	67446	92	-75.95	1.803	12.578	1.729
MACHINGA	52349	93	-78.96	1.846	18.501	1.734
SALIMA	18234	94	-172.75	2.776	11.675	1.746
LILONGWE	90751	95	-107.08	2.065	7.960	1.701
KASUNGU	110142	94	-48.17	1.474	14.710	1.74
MZUZU	47559	93	-125.30	2.304	7.196	1.746
KARONGA	14301	95	-215.92	3.103	27.657	2.015
NATIONAL	409487	93	-76.262	1.763	14.768	1.645
RDP	EST. YIELD (% Max.)	EST. YIELD (kg/ha)	EST. PROD. (Tonnes)	YIELD LOW	YIELD HIGH	
Balaka	93	3090	33969	2028	4152	
Blantyre	89	2835	37467	2143	3527	
Chikwawa	89	2120	13414	1077	3162	
Chiradzulu	89	2401	15672	1815	2987	
Chitipa	79	2521	15794	738	4304	
Dedza	88	2898	57284	2455	3342	
Dowa	90	3220	68979	2303	4137	
Karonga	79	1846	14833	540	3152	
Kasungu	90	3007	140595	2150	3863	
Likoma	89	3110	239	2671	3550	
Lilongwe	88	2764	146306	2341	3186	
Machinga	93	4347	25329	2852	5841	
Mangochi	93	2814	35279	1847	3782	
Mchinji	90	3155	87587	2256	4054	
Mulanje	89	2673	41838	2020	3325	
Mwanza	89	2493	13516	1884	3101	
Mzimba	89	3308	125331	2841	3776	
Neno	89	2712	8169	2050	3374	
Nkhata Bay	89	3110	17505	2671	3550	
Nkhotakota	88	2841	21640	2180	3502	
Nsanje	89	2023	4809	1028	3018	
Ntcheu	88	2832	51099	2398	3265	
Ntchisi	90	3442	48877	2462	4422	
Phalombe	89	2577	19042	1948	3207	
Rumphi	89	3815	15153	3276	4354	
Salima	88	3309	35130	2539	4079	
Thyolo	89	2401	38965	1815	2987	
Zomba	93	3714	85397	2437	4991	