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ANNUAL HARVEST ANALYSIS REPORT

FOR THE 2006/07 PRODUCTION SEASON

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Summary

For The second consecutive year, Zambia produced surplus staple food despite experiencing adverse rainfall in localized areas in the middle of the growing season. The amount produced is adequate to meet national requirement and arising food aid needs. Maize production in Central Province unusually rose by a large margin (92 percent) as a result of significant increase in production by the commercial farmers. Generally, most provinces recorded increased maize output with respect to the previous season and the five year average. Notable reduction was recorded in Eastern Province which could be partly attributed to reduced yields. Cassava production also increased to help cater for regions where this is a staple food. Generally cash crop output significantly dropped due to reduction in area put to these crops as a result of unattractive prices offered during the 2006/07 marketing season. The most significant reductions were noted in tobacco (burley) where production dropped by 75 percent and seed cotton which recorded a 54 percent production drop.

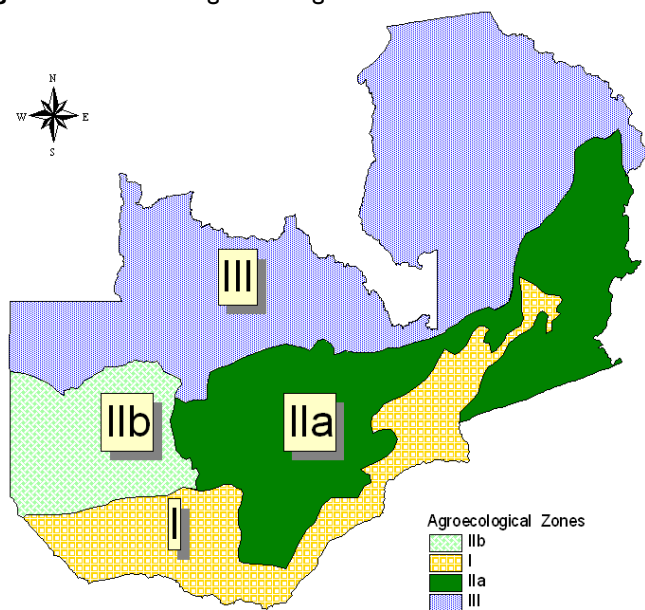
Maize prices in most rural areas have remained relatively low and below average due to increased supply which has assured improved access to the staple food for many households. The Food Reserve Agency maize purchase program had minimal impact on maize prices in most areas; however, early price increases were noted in parts of Eastern Province where most purchases were made. The food Reserve Agency purchasing program ended on September 30 as planned and the target of 400,000MT was almost met. Maize prices have started their seasonal upward trend as expected at this time of the year and are expected to remain below average for the rest of the marketing season.

Background: Zambia's production system

Zambia's crop production is largely rainfall dependent with a distinct production season running from November to April. Rainfall performance is the major determinant of the crop performance in any given year. The country is divided into three distinct agro ecological zones differentiated by the rainfall pattern and soil type-see figure 1.

Region 1 covers the valley areas located in the extreme southern and western parts of the country. This is generally a dry area with less than 800mm annual rainfall and best suitable for production of small grains and livestock rearing. Although maize is unsuitable it is still grown at subsistence level. Crop production in this region is mostly at subsistence level and therefore households depend on food from outside this region to meet their needs for part of the year. Region 2 which covers the central part of Zambia has annual rainfall in the range of 800mm to 1000mm and is subdivided into two. The plateau areas of Lusaka, Central, Eastern and Southern Provinces which are by far the most productive areas in the country in both food and cash crops make up region 2a. Region 2b which is less productive covers the Kalahari sand plateau and Zambezi flood plains. It has high potential for cassava and rice production as well as cattle rearing. Region 3 which is a high rainfall area with amounts exceeding 1000mm per year covers Northern, Luapula, North western, Copperbelt and northern parts of Central province. This is a high cassava growing and consuming region. Due to the nature of the rainfall pattern, soils here are to a large extent highly acidic limiting the production potential.

Figure I. Zambia's agro-ecological zones

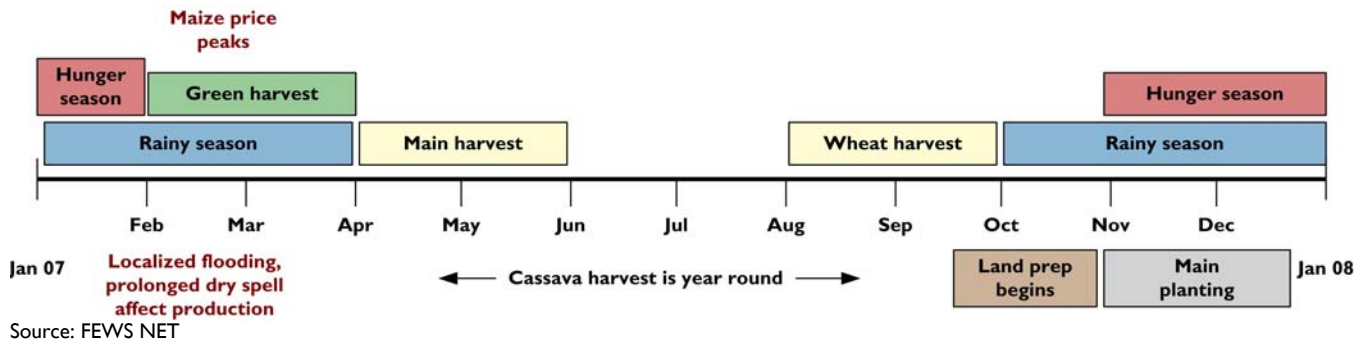


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Data source: Dept. of Meteorology

The rains start from the north progressing south with the south having the shortest season while the north has the longest growing season. As a result of this, some variability in the start and duration of the season exists. Generally, planting is done from November to December, however early planting (October) is practiced in parts of the country especially the

north. The main harvesting takes place from April to June for all rain-fed crops except cassava which is harvested all year round. The green (early) harvest takes place between February and March which characterizes the end of seasonal hunger period (see Figure 2).

Figure 2. Seasonal calendar and critical events



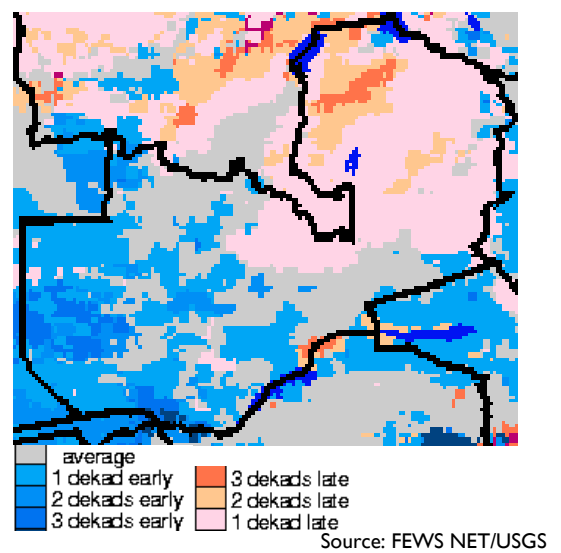
Winter production is mainly practiced by commercial farmers for wheat production and to a less extent maize production. Small scale maize winter production is at subsistence level and only practiced in areas around the flood plains and those along major rivers such as the Zambezi and Luangwa Rivers.

Rainfall performance during the 2006/07 agricultural season

The start of the 2006/07 rainy season was generally less than ideal with the northern parts experiencing late onset of rains while the western parts had a fairly early start. Only the central parts of the country had timely onset (figure 3). Following the slow start, the rains intensified by early January in many parts of the country with exceptionally heavy rains experienced in most parts of western Zambia, parts of central and northern Zambia increasing the risk of floods. Flash floods and water logging were the resultant of the heavy rains in many parts of the country especially the western Zambia. Towards the second half of February, rainfall activity significantly reduced in the southern parts of the country, but continued with less intensity in the northern half. This resulted in prolonged dry spells which were experienced in the month of February in the extreme southern parts of the country as the rain belt moved up north.

Generally, the 2006/07 rainy season performance was mixed with most parts of the country receiving heavy rains while rainfall in the extreme south was characterized by prolonged dry spell in the middle of the growing season.

Figure 3. Start of Season anomaly (2006/07)



The season ended in April, with normal to above-normal cumulative rainfall received in most parts of the country from October through April. Below-normal rainfall was limited to the extreme southern parts of the country, which experienced prolonged dry spells in the second half of the season.

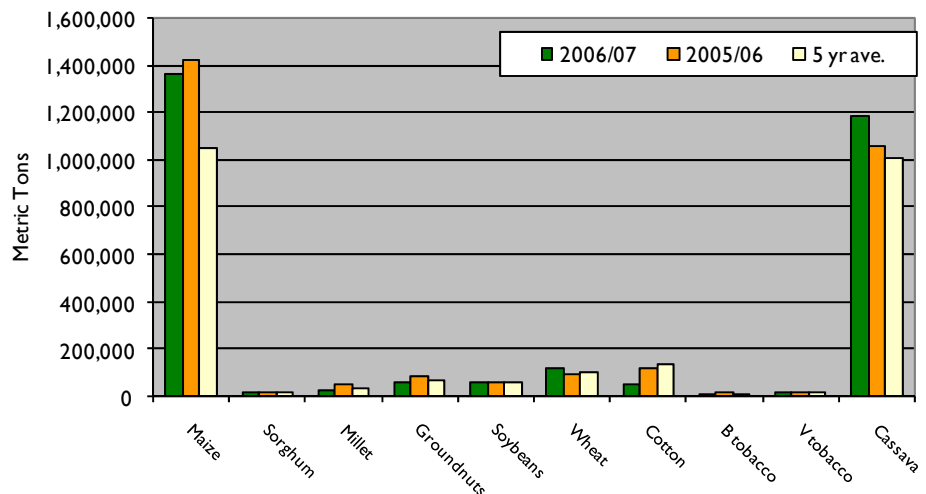
Despite the adverse rainfall, the impact on crops in most areas was relatively low, most adverse impact was on infra structure damage especially roads and bridges and increased water borne disease incidences.

Crop output of major crops in the 2006/7 growing season

Among the major crops produced, maize and cassava continue to rank highest in terms of production volume. The other crops have remained significantly low similar to the situation in other past years.

The estimated maize output for 2006/07 dropped marginally (4 percent) with respect to the previous season, but remained 30 percent above the recent five year average (see figure 4). Cassava output exceeded the previous year's level and was 17 percent above average. This could imply that overall; flood impact on cassava fields was insignificant in the major cassava producing northern Zambia.

Figure 4. Production output for 2006/07 vs. 2005/06 and average



3 year average has been used for cotton, tobacco and cassava

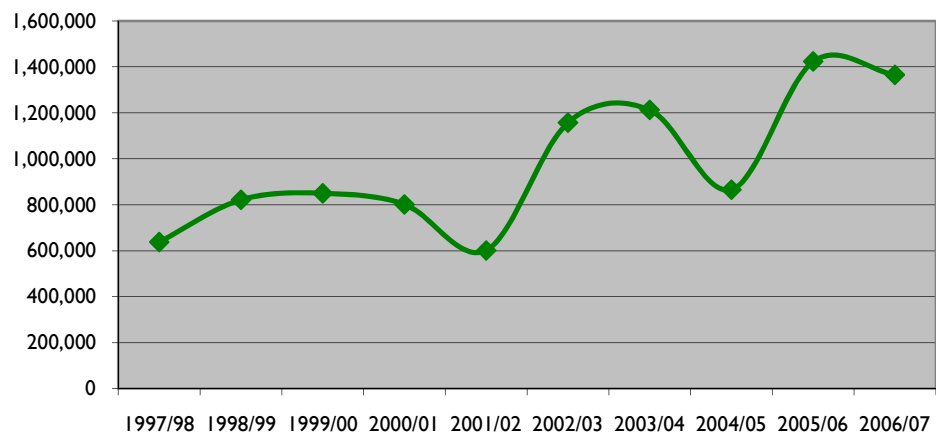
Source of data: MACO

The output of the small grains and cash crops (except wheat) has dropped and this can be attributed to reduction in hectareage for all except groundnuts. The greatest reduction in planting with respect to the 2005/06 production season, were recorded in cotton (41 percent) and tobacco (72 percent). As a result of relatively low prices offered for these crops during the previous season, most small scale farmers cut back during the 2006/07 production season. In the case of groundnuts, the 34 percent reduction in output maybe mostly attributed to significant reduction in yields in the groundnut high producing areas of Northern and Eastern Provinces.

Maize production trend and sub-national level

The last five years has seen a general increase in maize production compared to the 1997/98 to 2001/02 production period. The troughs in the production trend correspond to years of poor rainfall mainly due to drought as Zambian crop production is heavily rain dependant. In the last ten years an upward production trend has been maintained with notable fluctuations, peaking at 1,424,439MT in the 2005/06 production season and slightly dropping (4 percent) in the 2006/07 season to 1,366,158MT.

Figure 5. Maize ten-year production trend (MT)

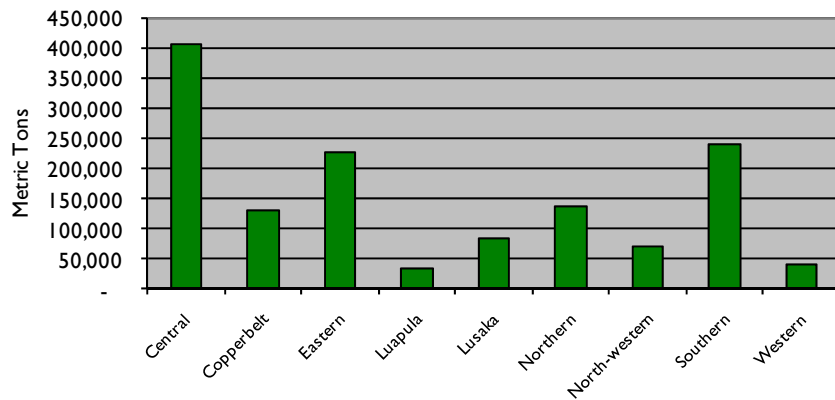


Source of data: MACO

In the 2006/07 production season, the maize output in the Central Province substantially increased with respect to the previous season by 194,675MT (92 percent) from 210,607MT to 405,282MT, a 30 percent contribution to national production (figure 6). This unusually high level of production surpassed that of the other high-producing areas of Eastern and Southern provinces, and can be attributed to significant increase in production by commercial farmers, particularly in Mkushi and Chibombo districts, in expectation of high regional maize prices.

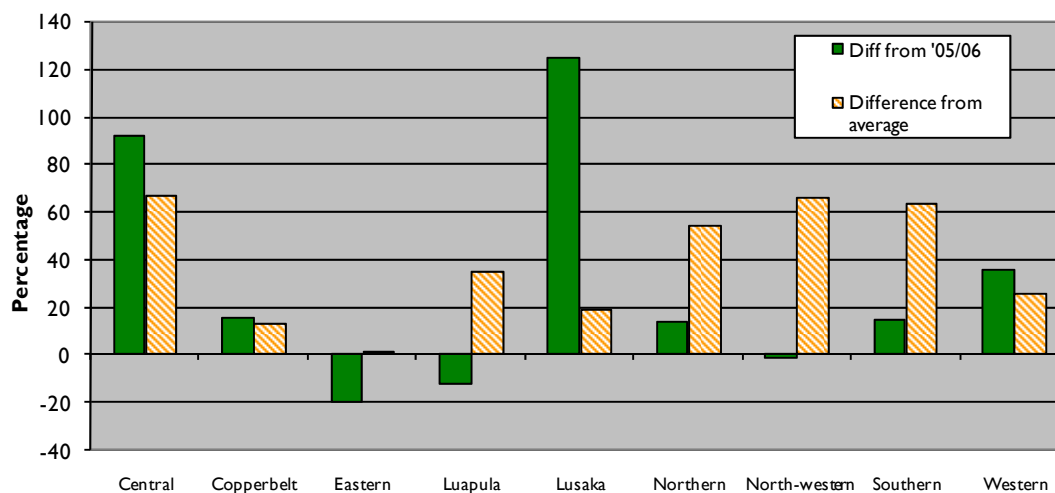
Comparing the 2006/07 production to that of the previous season and the five year average, the situation is mixed at sub-national level. There was a 20 percent production drop in Eastern Province with respect to the 2005/06 production season which can be attributed to reduced yields due to the adverse rainfall impact. The drop in production was highest in Katete and Chadiza districts, which recorded at least 40 percent reduction, and Nyimba District where production dropped by 26 percent. However, the impact of the rainfall was insignificant in other districts, and therefore, district production was at average level.

Figure 6. Maize production by province, 2006/07 season



Source of data: MACO

Figure 7. Maize production for 2006/07 deviation from 2005/06 and five year average



Source of data: MACO

Southern province recorded a 15 percent increase in maize production over last season and 63 percent above the recent five year average despite prolonged dry spells experienced in the middle of the growing season in some of the districts. Out of nine districts in the province, only three (Livingstone, Mazabuka and Monze) had marginal production reductions of up to 10 percent, while in all other districts production substantially increased, including in the normally deficit-producing valley areas of Sinazongwe, Siavonga and Gwembe Districts.

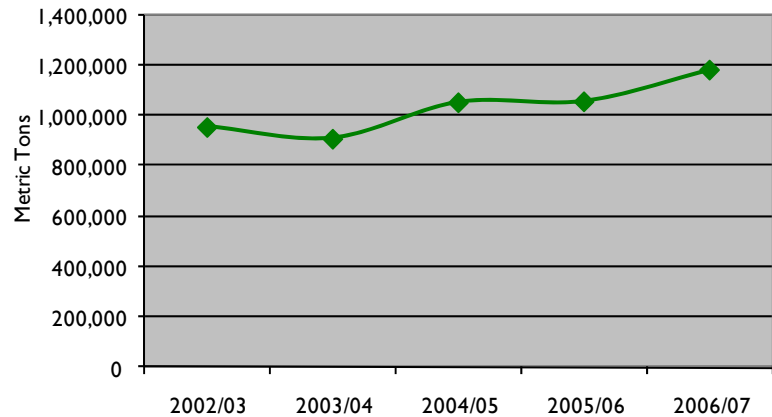
In the relatively low-producing areas of Western, Northern and Lusaka provinces, production increased with respect to the previous season and the average. Production in North-western and Luapula provinces slightly dropped with respect to 2005/06; a few districts recorded substantial reduction in production, and most had either marginal reductions or marginal increases. However, production was significantly above the recent five year average.

Cassava production

Similar to maize, cassava production is on an upward trend, steadily increasing over the last five years. This trend could be partly attributed to the deliberate distribution of planting material in the last few years through the crop diversification program.

Cassava production increased by 12 percent in the 2006/07 season from 1,059,887MT in 2005/06 to 1,185,600MT (flour equivalent). This suggests that the impact of the adverse rainfall on cassava production was fairly low. The leading producers have remained Northern and Luapula Provinces which contribute about 70 percent to national production followed by Western Province at 16 percent. Contribution by Southern Province remains insignificant at below 1 percent.

Figure 8. Cassava production trend, 2001/02 to 2006/07 season, in form of cassava flour

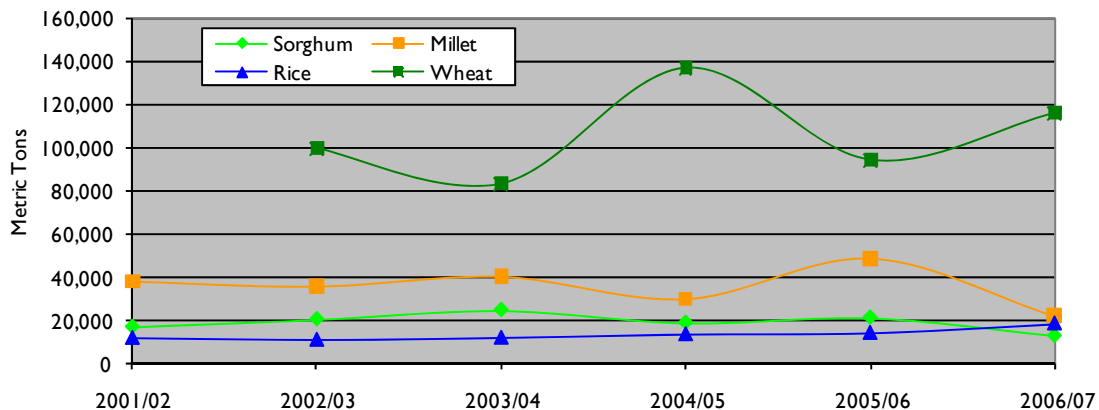


Small Grains production

With the exception of wheat, the small grain output has remained consistently low and relatively stable over the past five years. Comparatively, wheat production has been much higher in response to the high demand and attractive prices – figure 9.

Wheat production has steadily increased in the past five years with respect to earlier years moving from an average of 70,000MT before 2002/03 to 103,288 between 2002/03 and 2005/06 seasons. After a steep drop of 31 percent in 2005/06 season as a result of a 24 percent reduction in hectareage, wheat production rose to 115,843MT in 2006/07 season from 93,959MT in 2005/06 season marking a 23 percent increase. This increase can be attributed to the increased area put under wheat production in anticipation of attractive prices during the 2007/08 marketing season. Central Province (Mkushi in particular) has continued to be the major producer contributing 60 percent to the total production, followed by Lusaka and Copperbelt at 20 percent and 12 percent respectively. Contribution by Southern Province has lagged behind at 8 percent of the national production while little or no wheat is produced in the remaining five provinces as the crop is produced by commercial farmers under irrigation.

Figure 9. Wheat, sorghum, millet and rice production trends, 2001/02 to 2006/07 seasons



Source of data: MACO

Despite the increased production, the amount produced still falls short of the national demand estimated at 140,000MT (MACO) per annum and therefore part of the wheat still needs to be imported.

Millet is produced by small scale farmers both as a staple food in a few parts of northern Zambia as well as for brewing local beer in different parts of the country. The limited demand has contributed to the continued low production levels averaging around 38,000MT per annum. During the 2006/07 season, production dropped to 21,707MT from 48,259MT attained in 2005/06 production season marking a 55 percent reduction which could be partly attributed to reduced hectareage (18 percent) and reduced yields. Millet is mostly produced in the Northern Province which contributes more than half of the national production. In all other provinces, the production is comparatively low as it's produced at subsistence level.

Production of **sorghum** is concentrated in Southern, Western and North-western provinces with southern marginally surpassing the other two districts. The production of sorghum dropped significantly by 39 percent from 21,047MT in the 2005/06 season to 12,773MT in the 2006/07 production season. This was in line with the 25 percent drop in area planted. The highest producers of sorghum in the 2006/07 season were Southern Province (3,680MT) and Western province at 2,172MT. Similar to millet, production levels for this crop have remained very low over the years which could be attributed to low demand for sorghum. In fact national production level is notably below that of millet.

Rice production levels have remained significantly low over the years, but there have been marginal increases in area planted over the last four years with corresponding marginal increases in production. Northern Province has remained the predominant producer (50 percent) followed by Western and Eastern provinces. However, during the 2006/07 season, rice production notably increased by 31 percent from 13,964MT recorded in 2005/06 to 18,317MT. The increase can be attributed to the 40 percent rise in hectareage planted from 14,358 ha to 20,067 ha. The good rainfall during the just ended season was conducive for rice production in major producing areas.

Non cereal crops

Production of most non cereal crops dropped in the 2006/07 production season with respect to the 2005/06 season –figure 10.

Groundnuts are predominately produced in Eastern and Northern Provinces with Chipata, Lundazi, Petauke and Kasama being the highest producers. Although the hectareage planted marginally increased (2 percent) in the 2006/07 season, the production dropped by 34 percent falling from 84,010MT in 2005/06 season to 55,215MT. This could be mostly attributed to the negative impact of excessive rainfall in the high producing areas of Eastern and Northern provinces.

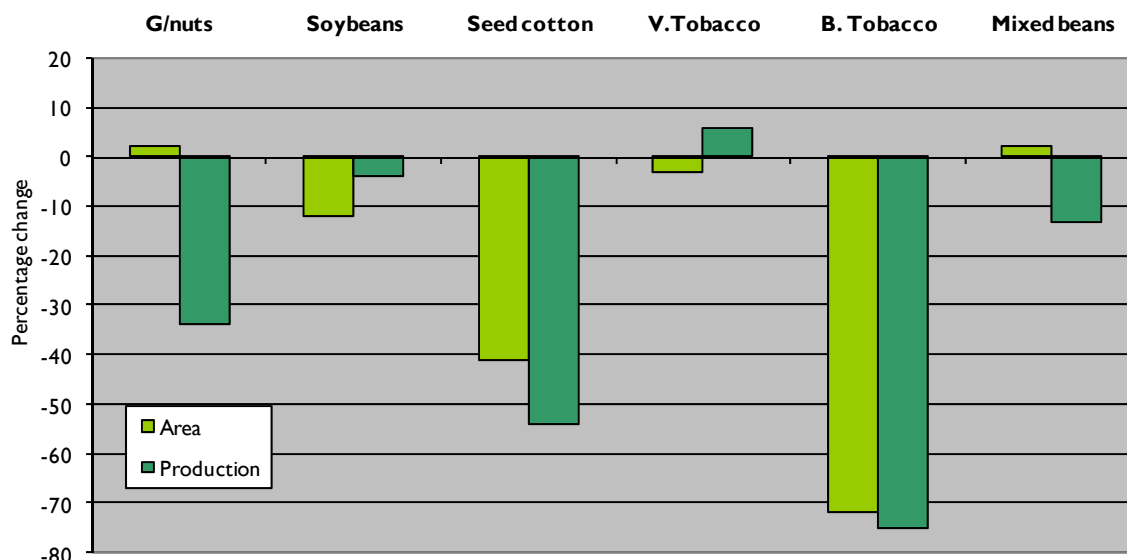
Soybeans

During the 2006/07 season, hectareage planted to soybeans reduced by 12 percent resulting in a marginal drop in production from 57,815MT in 2005/06 to 55,194MT (4 percent drop). Most of the soybeans (at least 60 percent) are produced by commercial farmers in Central, Lusaka, Copperbelt and Southern Provinces.

Seed Cotton

Eastern Province continued leading in cotton production with an increased share (80 percent) of total production while Central and Southern provinces trailed far behind at 11 percent and 8 percent respectively. During the 2006/07 season, there was a drastic drop of 54 percent in production with respect to the 2005/06 season; the production decreased from 118,426MT to 54,886MT. This was attributed to the large drop in area planted of 41 percent (from 152,262ha to 89,312ha) in response to the poor cotton prices received by farmers during the 2006/07 marketing season. Among the three major producing district, the reduction in production was highest in Central Province (84 percent), followed by Southern Province at 78 percent while the drop in Eastern Province was less at 44 percent. The large drop in production for Central province can be solely attributed to the 75 percent reduction in hectareage put to the crop. For Eastern and Southern provinces, the reduction in area planted by 18 percent and 23 percent respectively does not fully explain the large drop in production. Part of the reduced production can also be attributed to reduced yields as a result of the impact of adverse rainfall during the 2006/07 season.

Figure 10. Area planted and production comparison (2006/07 vs. 2005/06)



Source of data: MACO

Tobacco

Virginia tobacco, the more widely grown variety in the country remained relatively stable in terms of production only increasing marginally (6 percent) over the previous season from 14,685MT to 15,562MT. The reduction in area planted was marginal at 3 percent suggesting relative stability in production. Conversely, output of the less widely grown variety (burley tobacco) alarmingly dropped by a large margin. The production fell from 7,742MT in 2005/06 season to 1,901MT in 2006/07 season marking a 75 percent reduction. This followed the large drop in areas planted to the crop by 72 percent. This variety is predominately produced in Eastern province (83 percent) while production in the other burley tobacco growing areas of Southern and Central Province is insignificant. The significant reduced planting can be attributed to the unattractive prices which prevailed during the 2006/07 marketing season.

Mixed Beans are predominantly produced in Northern Province (at least 70 percent); while for all other provinces contribution to national production is very low. Production dropped from 27,697MT in 2005/06 season to 24,164MT in 2006/07 (13 percent reduction), despite a slight (2 percent) increase in area planted. The reduction in production can be attributed to reduced yields in parts of Northern Province due to excessive rainfall.