• As from 2014, the Agricultural Regions in the Western Cape suffered below normal rainfall which compounded into very low dam levels.

According to the Department of Agriculture, the Western Cape province has been receiving below normal rainfall, and above normal mean maximum temperatures.

There are about 43 major dams in the Western Cape province, with a total full storage capacity (FSC) of about 1.87 billion cubic meters. Figure 1 shows that the storage capacity of Western Cape dams typically peaks around July to October, and then recedes to its lowest around February to May, due to the nature of the climate. From the winter of 2014, the Western Cape has experienced unfavourable seasons. In 2014, the storage capacity of the dams shown in Figure 1 peaked at 93% of FSC during the rainy season, and receded to a minimum point of 40% in the dry season. As a result of insufficient rainfall induced by drought, dam levels peaked at a lower 72% of FSC in the rainy season of 2015, 23% lower year-on-year (y/y) and receded to just 28% in the dry season of 2016, 30% lower y/y. The rainy season of 2016 was also unfavourable, which resulted in sub-optimal water recharge. This saw dam water levels peak at only 63% of FSC, 13% lower y/y.

![Figure 1: Western Cape historical dam levels (2014-2016)](image)
Source: Western Cape Department of Agriculture, 2016 and Black, 2016

The ongoing declines in peak and minimum dam levels over the last three seasons is worrisome for water use sectors such as agriculture. This is because if the trend of dam levels receding to around 40% of peak capacity persists, dam levels could reach dangerously low levels of around 20% of FSC, where pumping will not be possible during the current dry season of 2017. This will have dire consequences for the outlook of horticulture, winter wheat and livestock production systems amongst many others, as well as on domestic water use.

• As a result of the very low dam levels, the City of Cape town initiated the stricter Level 3b water restrictions to save water on 1 February 2017, which limited the irrigation of orchards, amongst other water uses. Water restrictions of between 20% and 43% are in place for irrigation, which can strain farmers, depending on what
stage the crop is. The West Coast and Central Karoo districts, as well as the municipalities of Prince Albert, Oudtshoorn and Witzenberg have been hardest hit.

- Drought conditions in summer rainfall areas have since been broken in 2017. As the outlook in Figure 2 shows, similar above normal rainfall is expected for parts of the Winter Rainfall areas, albeit, with relatively low probability.

![Figure 2: Rainfall forecast – February to June 2017](source)

It is still early for a 2017 forecast with high probability, however, based on Figure 2, parts of the Western Cape could receive above normal rainfall. However, if below normal rainfall persists in parts of the province, stricter water restrictions could further hamstring agricultural production and household water use. Agriculture is already being affected by the ongoing water scarcity as described in the ensuing section, and good rainfall will improve dam levels and groundwater recharge, thereby reducing the woes of farmers.

- The implications of the ongoing drought on agricultural production:

  - **Apple and pears**: Despite the drought affecting certain production areas, a normal apple and pear harvest is expected in 2017. Although fruit size could be smaller than expected, the overall fruit quality remains promising. Fruit production typically relies on irrigation; hence the bank needs to monitor the extent to which dams get recharged in the winter of 2017.

    If the expected normal / above normal winter rainfall does not materialise, the next crop will be severally negatively impacted as irrigation will not be possible.

  - **Plums**: Due to low rainfall exportable volumes are down, fruit size is smaller and there are some issues with shelf life. This has resulted in more fruit being diverted to the local market, where returns are lower.
Again, the bank needs to monitor the extent to which dams get recharged in the winter of 2017 to anticipate the extent to which exports recover.

- **Potatoes**: About 16% of national potato production takes place in the Sandveld and Ceres Valley regions under irrigation. The Sandveld relies on groundwater and Ceres Valley uses dams that are filled by rainfall and snow. Due to low dam levels, the water quota of farmer’s north of Clanwilliam was reduced, while in Ceres farmers were forced to prioritise irrigation for established orchards. In both cases, farmers had to cope by reducing the area planted to potatoes.

  The current potato harvest in these areas are therefore negatively impacted by the water situation.

- **Wheat**: About 64% of South Africa’s wheat is produced in the Western Cape and average yields have declined over the last few unfavourable seasons. However, for 2016/17, wheat yields are estimated at a record 3.72 tons per hectare as the crop is reported to have received much needed rainfall at its critical reproductive phase in some parts of the province.

  Looking forward to the 2017/18 season, Farmers have to keep a close eye on the reliability of winter rainfall for crop development, in order to get an indication of potential production levels.

  The bank also needs to stay abreast with intentions to plant winter crops in 2017 as well as the recovery of dam levels.

- **Livestock**: As a result of the low rainfall and subsequent deteriorating grazing conditions, many cattle and sheep producers have reduced their herds or sold them completely. Many farmers have requested urgent government drought support. Fodder and lucerne costs since escalated to the extent that the initial drought support calculations was underestimated by R25 million. The Department of Agriculture has requested the government to declare drought in the Western Cape in order to expedite the disbursement of aid to farmers.

  **Concluding remarks**

  - The current drought conditions have impacted agricultural production in the Western Cape as highlighted above.

  - If parts of the Western Cape receive below normal rainfall in 2017, agricultural production in those parts will be seriously negatively impacted.

  - If the expected favourable rainfall does occur in parts of the province, agricultural production will expand.

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