

# Effects of cyclone yasi on australia's agriculture economics essay



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a) Cyclone Yasi which hit northern Queensland has damaged most major banana plantations-Tully and Innisfail which provides  $\frac{3}{4}$  of the supply for Australia's banana market. After the unfortunate event, the price of banana has seen to have increased markedly. From below \$10, it has risen to 'over \$10/ kilogram'. This is the case in the short-run. The significant price increase is actually due to the decrease in supply (resulting from damages of banana plantations) such as in diagram 1, where the supply curve has moved leftwards from  $S_0$  to  $S_1$ . At the original equilibrium price of \$7.34/kg, there will now be a shortage as demand will exceed supply. Prices have to increase to the new equilibrium that is \$11.38/kg to cut down on the shortage. Equilibrium has shifted from point A to point B. Price increases while quantity traded decreases to 4.91 kilograms.

Nevertheless, in the long-run, there will be a different outcome. Price will fall back to its normal level, from the high \$11.38/kg back to \$7.34/kg. "Banana prices are unlikely to return to normal levels for six months". This statement refers to the case in the short-run and means that after this period, prices will somehow drop to normal again in the long-run. This is because in the long-run, Australia would have already recuperated from the effects of cyclone Yasi. Banana plantation sites have been rebuilt and bananas are able to be grown again, indicating an increase in supply of bananas again from  $S_1$  to  $S_2$  in diagram 2. While demand remains unchanged, a surplus gap will emerge and to cut on this, the price needs to fall back to the equilibrium \$7.34/kg. The quantity traded then increases once again to 8.45 kilograms. Equilibrium point goes back to its original before cyclone Yasi hits that is from B to A again in the long-run.

b) Following the theory of market equilibrium where goods and services are sold at the price and quantity is at demand equal to supply, price is the regulator of trading plans and price too adjusts when there is any mismatch. For instance, when there is a shortage, the price of a certain good will be forced up to meet the equilibrium quantity and vice-versa if there is a surplus. As stated in part (a), cyclone Yasi has caused a decrease in banana supply from  $S_0$  to  $S_1$  due to the damaged plantations. Demand however, remains unchanged at  $D_0$ . A shortage gap (where demand is greater than supply) then emerges as shown in diagram 3. If adhering to the rule, the market price of bananas should increase. Nevertheless, here the banana suppliers decided not to increase the price level as has been done by Moorhead. They continue to sell the bananas at the initial price of \$8.53/ kg instead of the new equilibrium price of \$11.38/ kg. This is similar to a price regulation which blocks automatic price adjustment to the equilibrium point where it should be at. Now, although the price remains low, quantity traded is far less than if the prices have had increased to equilibrium as in part (a). This explains the difference in outcome of part (a) and part (b) where price is left freely to regulate according to demand and supply and where banana suppliers refuse to increase banana prices despite a shortage respectively. When the suppliers 'regulate' the price and keep it unchanged, it is a market failure. Market failure is when markets do not operate efficiently at a competitive equilibrium. Again, refer to diagram 3. Here, there is an underproduction of goods (too little bananas are produced). The banana market is operating at point B as suppliers wanted to keep the low price. At this point, consumers are willing to pay \$15/ kg for bananas which cost suppliers only \$8.53/ kg to supply an additional kg of it. Total surpluses

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(consumer surplus and producer surplus) have shrunk compared to when they operate at the efficient point C. The inefficiency of underproduction is measured by deadweight loss (dark blue part). The deadweight loss is actually the amount of shrinkage in total surpluses.

When the market is inefficient, improvement in allocating the scarce resource- bananas is needed. Shortages can be cut down using the first-come, first served method which allocates bananas to those who are ' first in line'. Because bananas are scarce, only those who are early will get it while those who come last will not be allocated any bananas. They will have to queue and wait until the next available resource. Though allocation by market prices usually does a good job, it is inappropriate in this case due to the refusal of suppliers to increase prices according to levels of demand and supply. People might be willing to pay a price higher than the selling price, but there will not be enough bananas available for distribution.

As have already been stated before, the cyclone has decreased the supply of bananas significantly from  $S_0$  to  $S_1$ . To avoid shortages, price needs to increase to the new equilibrium where demand meets the new supply curve again that is \$11.87/ kg. Quantity traded decreases too. While Bob Kater talks about wanting to keep banana prices at their original price (initial equilibrium- \$8.53/ kg), this will cause a great amount of shortage. There will be underproduction (market failure) as explained in part (b). Thus, governments can make use of tools such as subsidies. Subsidies are payments made by government to producers to increase supplies, hence bringing down the price and an increase in quantity produced. When

government provides subsidies to banana suppliers say of \$2/ kg, the supply  
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will increase again, moving the supply curve from  $S_1$  to  $S_2$ . Shortages from where prices are kept at \$8.53/kg can be seen to have lessened. The equilibrium quantity now increases to 6000 kg and the price falls to \$10/kg. Price plus subsidy received by suppliers also increases to \$13/kg. Despite lowering the price for consumers and helping the suppliers lower their cost of production, the subsidies provided would not be very successful. Prices are still higher than the original in any circumstances because the increase in supply will not go back to the original curve-  $S_0$ , at least not until the damaged infrastructures which help in efficient production have been rebuilt. So, even if government provides subsidies to increase supply, suppliers are not able to produce as much as before.

The Australian banana market has risen up to a price above \$10/kg. If Australia opens up the market to international trade, that is by importing bananas from overseas, the price will then be determined by the world market price. Before that, Australia would want to import bananas because of the comparative advantage which other countries have in banana production compared to Australia now that the cyclone has caused vast damage. Suppose that the Australian banana market is at equilibrium point C (where demand = supply). Price is \$11.49/kg and 4.61 thousand kgs of bananas would be supplied by banana suppliers and bought by Australian consumers. However, the world market price will generally be lower than that of the Australian equilibrium market price. For instance, the world price of bananas is \$9.50/kg. At this price, Australians demand for 6000kg of bananas while quantity supplied in Australia is only 2000kg. The quantity that will be imported is 4000kg.

With the market opened up to international trade, there will be winners and losers. It is illustrated through the effects on total surpluses (consumer surplus and producer surplus). Winners will have their surplus increased while losers will have theirs decreased. Before international trade, consumer surplus is shown by the green area and producer surplus by blue area in diagram 5. If Australia imports from overseas, price drops to \$9.50/kg. Quantity bought increases to quantity demanded at that price. Quantity produced in Australia on the other hand decreases to quantity supplied at world price. Consumer surplus hence expands from area A to area A+B+D. Consumers can buy more at a lower price with the supply of imported bananas which are now available in the market. Producer surplus shrinks to the smaller blue area C.

Based on that, winners- consumers would support the opening up of the market to international trade. They can have their demand satisfied and can purchase at a lower price which is the aim of consumers. The countries Australia import from will also favour that because they get the opportunity to expand their market and gain more profits. However, Australian producers will not like this option of importing from overseas (decrease in producer surplus) because they now face a competition and are unable to earn as much as before. Their profits will decrease.

In conclusion, Cyclone Yasi has caused major problems on Australia's banana market. Supplies have deteriorated drastically, causing dramatic price increase. The ABGC states that "banana prices are unlikely to return to normal levels for six months." Some local growers who refuse to follow market price rise will cause severe shortages and underproduction (market <https://assignbuster.com/effects-of-cyclone-yasi-on-australias-agriculture-economics-essay/>

failure). International trade and government intervention like subsidies may help in recuperating the situation, cutting down shortages and prices by increasing supply. However, it will not cause much of an influence in the short- run as damaged infrastructures need to be rebuilt before supplies can increase and price can drop back to normal. That will be in the long- run because time is needed to build infrastructures. Once done, bananas can be planted normally and everything will resume to normal again.