**Report**

KMEANS

Yes, there is a tradeoff between image quality and degree of compression as the decrease in K causes more and more compression as only the cluster centroids are stored along with the points in the image that belong to those clusters. So if K = 2, then only 2 centroids are stored i.e two RGB values are stored along with the points to which they belong.   
The tradeoff is that if say, K = 2 then there will only be 2 most prominent colours that will be represented and that would lead to degradation in the quality of the image but the compression ratio will be very large.

For Koala.jpg K = 5 is good enough since there are not many colours to be represented.

For Penguins.jpg K = 10 seems good as there is not much change in the quality for higher.