

COMPETITION COMMISSION

The public has been asked to submit comments on -

The level of Research and assistance to agriculture needed to achieve the necessary output of food to keep feeding the near 7 billion people today.

Production is already falling behind as nearly 2 billion people are at or below the poverty line. Food output will need to be greatly increased to adequately feed the estimated 9 billion people to be reached by 2040.

As the population was only 3 billion in 1965 the food production increase has been enormous due to factors such as -

- (i) Mechanisation replacing human and animal power which I estimate to be about 10% increase.
- (ii) Fertiliser increase of the basic N.P.K. and medium and trace elements together with better mechanical and spray application and improved timing etc. probably 60% increase
- (iii) Better genetic seeds etc. general claimed to be the main element of the green revolution probably 50% increase

These main elements add up to what seemed to be a max of 120% increase.

When the actual increase has been marginally better than the 130% increase in the population because on average the population is now 10 - 15% better fed than in 1965, i.e. an increase of 145% in food production has been achieved in 45 years.

The clear best contender for the balancing figure of 25% shortfall in my estimates is the rising CO₂ level in the atmosphere. This vital and essential gas plays a critical role in the working of chlorophyll which is the 99% + provider of the basis of food for us and all living things on our planet. It is clear that we rely on CO₂ at its present level to just keep ahead in the race between food and population growth. More CO₂ in the atmosphere is needed in the future because of the negatives I list below. We certainly could not manage with less CO₂ as some totally misguided souls advocate for the most flimsy of reasoning. Profs. Plimer and Carter have shown decisively that there is no calamity ahead for a rise in CO₂.

The Victorian Agricultural Research already shows CO₂ is vital to food production increase. I can show from first principles in my Rubuttal of CO₂ Phobia (copy attached) that CO₂ is absolutely vital to our continued survival and is certainly not a pollutant. Further, cheap and efficient coal fired power is the only means of providing the lift in living standards required to stem population growth in the world's impoverished 1 in 3 of us humans. When Idi Amin left Uganda there were 5 million wretched survivors. Today there are 30 million - still wretched and still growing at 6% as is Afghanistan, Pakistan, Bangladesh and you name it - where ever poverty reigns.

Before I list the considerable negatives to food production in the future I will address your first inevitable question and that is how accurate are the above assumptions and figures? I have arrived at these by wide reading and observation and much thought on the various claims and information available over a long life. For instance, my grandfather on a Victorian Mallee wheat farm depended on horses for power. He estimated that to feed the horses took about 15% of his farm production, not counting grazing competition with sheep. This is probably high compared with a paddy farm but 10% seems reasonable for mechanisation.

You will find when you try to put your own figures on percentage increase for fertilisers and better genetic grain etc. that there is not enough independent research available to properly assess my figures. In Australia public research which was good has fallen to a critically low level and in the world at large it is falling from adequate to low in the developed world and bad to worse in critically

struggling countries.

Your previous rulings favouring private research over public is largely responsible for this critical deficiency.

On the absolutely essential part increased CO₂ has played on crop yields, the only public research specifically aimed in Australia is at the Victorian Agricultural Dept. It is poorly funded and not helped by the CSIRO whose main objective has shifted from agriculture to playing to the tune of government on so called "climate change" research. This amounts to nothing more than a bizarre case of CO₂ phobia because any correlation between CO₂ and air temperature has disappeared. Professors Plimer and Carter have shown little connection in 400 million years of life on land between CO₂ and air temperature. CO₂ has been up to 4 times higher than the present without any dire consequences. What it does indicate is that the critical beneficial effect of CO₂ on chlorophyll productivity gave the super abundance of life in the Reptile/Dinosaur period which lasted over 250 millions year throughout warm and icing periods.

Let us now look at the negatives to the maintenance of required food production increase in the future. It is here necessary to drop percentage increases and look at actual numbers to bring the problem into a more direct focus.

We have achieved food increase for 3.9 billion people in 45 years, i.e. 86 2/3 million new mouths per year.

On the face of it, it appears that to feed an extra 2.1 billion in a projected 30 years, i.e. 70 million new mouths per year, seems possible. But the negatives are formidable.

- a. Before looking at a detailed list of causes for future negatives we have to recognise that even with the enormous lift in food production over the last 45 years, we have gone behind in the provision of food for the needy. There are nearly 2 billion (two thousand million) poor souls living below the poverty line. To make up for this alone we need a considerably better food increase than in the past 45 years.
- b. Using vegetable matter to produce diesel fuel puts us back to a worse position than my grandfather feeding his horses because tractors use more power. This is clearly going backwards not forward, We have not got the leeway for that.
- c. Fertiliser use has dramatically increased to date but is nearly at the peak of its effectiveness in the developed world. It is in the poverty stricken underdeveloped countries where population is growing out of control that more fertiliser is required but the hurdle keeps rising on both the supply and price front. Starting in Australia with Whitlam banning the mining of phosphate rock on Christmas Island on the faulty ground that there was plenty of phosphate rock in other places. We have found to our cost that C.I. phosphate could be made into superphosphate by adding sulphuric acid very cheaply but rock phosphate in Queensland proved too high in fluoride to be simply processed that way and the upshot is that we now import the basic phosphate and the fundamental cost of phosphate fertiliser is over 3 times more than before. The BHP takeover bid for the Canadian potash business points to a similar scenario where the easy to mine high grade deposits are locked up and future supply will be more costly. BHP obviously did their sums. Nitrogen fertiliser depends on cheap power or cheap natural gas for low cost production so prospects are for greatly increased cost of nitrogen fertilisers.
- d. Improved high yielding and pest resistant plant seeds have great promise but also great dangers. The privatisation of new strains of grain by Monsanto et al appears to be a satisfactory quick fix. However, European Union and Japan will not accept genetically modified food. A key reason for this is that unintended consequences are not checked for by competent and independent publicly funded researchers. They have universally had their funds cut or as in Australia where we have had the CSIRO neutered. We are in bad shape to counter plant disease.

It is over 7000 years since Osiris was made a God in Egypt for bringing wheat cultivation to his people. In all that time there has been a battle between bountiful wheat crops and destruction by

rust. The fight continues and has no end in sight mainly because today's rust resistant annual wheat crop is bound to succumb in time to rust fungus which can multiply in days and occasionally produce new mutations to plague us. Only last year a very virulent rust appeared in Kenya and was happily contained - we think!

Luck will not always be on our side. Only persistent, competent and well funded research will prevent disaster world wide. Remember we have no room for manoeuvre and rust in wheat and barley is not the only pathogen to be hanging over our heads like the sword of Damocles. Rice, bananas, rye, potatoes and most other food sources are all vulnerable to a repeat of virulent attack by bacteria, fungus or virus which each year quietly destroy up to 20% of food output, in the field or in storage. Famine caused by plant disease in food crops is a high risk especially if the genetic control factors become too narrowly based.

- a. The area of land available to cropping is diminishing annually as dwellings, roads, factories etc. take over - often the best land is encroached. Over 30 years of continued developments it has been estimated that up to 15% of China's and India's agricultural land will be lost. Whatever it is will be a total negative.
- b. We come to CO₂. it is the only factor that will be fully positive in the future if it increases. The argument that the climate group are attempting to ram through against CO₂ is turned on its head. So essential is CO₂ for the feeding of humanity that it is they who have to produce the overwhelming case for cutting back on CO₂. This they have clearly failed to do for two main reasons -
 1. the air temperature rise has stalled while CO₂ continues to rise.
 2. This declaration made at Copenhagen that 2°C rise will destroy us is nonsense because in the middle of the Roman Period it was hotter than this and they were better fed and healthier than the cooler Dark Ages and the little Ice Age which only finished in 1850.
- c. We have come to the only final cure to our population explosion which is humanely available. That is develop the poverty stricken areas of the world as fast and as cheaply as possible. CO₂ is not a pollutant but our saviour. Fuel efficient, non-polluting coal fired power is the only way to provide the cheap electricity necessary to lift the living standard of our poverty stricken brethren and automatically reduce population growth. This will remain the case for at least the next 50 years.

That will give us ample time to develop the next generation of power and take the pressure off our most pressing problem of feeding the people by reducing the new mouths to be fed.

I can think of no other way to solve our food and population problem., if you can; tell us. Otherwise change course, throw off the Ludite Green yoke, and develop as fast as we can. We will not be out of the mire but we will be headed for a better world.

All the above points to a clear need for much more not less public and private research to avoid the threat of the greatest food calamity the world has ever seen. The reversal of the decline in public research and scrutiny is absolutely essential to avoid pitfalls and get the public reassured about change.

Seeing that the Productivity Commission has been part of the problem by pushing for more private and less public research and development in food production it is not good public policy for you to pronounce on this matter if your brief is too narrow. The big picture calls for a revival of public research and involvement. Shortage of food will be the norm for two billion people for many years and the usual Productivity Council solutions do not apply in a chronic shortage situation. Beware of any glib recommendations because there is no leeway for mistaken advice.

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