



Who will feed the world?

By
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THE world is in a tough spot.

Food and water supplies are running out, population is growing and the climate is getting warmer.

Respected science journalist and author of *The Coming Famine*, Julian Cribb, believes all these issues will lead to the world becoming virtually unsustainable.

Mr Cribb was in WA last week addressing the "Where is Agriculture Heading in the next 20 years?" conference held in Manjimup.

He said estimates at the moment see the world population climbing as high as 10 or 11 billion people by the mid-2060s while current estimates show the world will not have enough water in 25 years.

"The world economy will continue to grow," Mr Cribb said.

"China, India and other advancing economies will be seeking massively more protein food.

"Global demand for food will thus more than double in the coming half century.

"By 2060 we could be consuming 600 quadrillion calories a day."

Mr Cribb said the major issue for the human race in the coming half century was not climate change or the global financial crisis but whether humanity could achieve and sustain food supply.

"Agriculture today faces critical constraints," he said.

"Today the world faces looming scarcities of just about everything required to produce high yields of food, that is, water, land, nutrients, oil,



Science author Julian Cribb said the world needs to improve in a number of areas of agriculture in order to keep up with the growing population.

technology, skills, fish and stable climates.

"This isn't a simple problem which can be treated with techno fixes or national policy changes."

Mr Cribb said almost a quarter of the world's farm land was affected by degradation, up from 15 per cent two decades ago.

A recent satellite study by the Food and Agriculture Organisation (FAO) found that the world was losing around 1pc (50,000sqkm) of its farmland annually due to a combination of erosion, urban sprawl, mining, recreation, toxic pollution and rising sea levels.

"If we've already lost 24pc and we lose around 1pc a year from here on in, you can figure out for yourself how much land our grandkids will have left to double food production on," he said.

"To put it another way, between 1990 and 2005, world demand for food has grown 15 times faster than the area of land being farmed."

Mr Cribb said further

development in countries was leading to the elimination of food potential.

"We need to start passing laws to stop it," he said.

"One of its most insidious aspects is that every hectare of good land lost to a city boundary has to be replaced with five hectares of marginal country, at risk of drought or erosion, thousands of miles away, adding to food insecurity and destructive land clearing on a massive scale.

"But there is worse.

"Many of these cities will have 20, 30 and even 40 million inhabitants, yet almost no internal food capacity.

"If, due to an oil crisis or local war, the endless river of trucks carrying food failed to arrive even for a week or two, what would their citizens eat?

"They would starve within days.

"We have designed our great cities as death-traps."

Mr Cribb said the world also needed to change its ways in terms of food waste.

"In developed countries we

trash from a third to half of all food produced," he said.

"In developing countries we lose similar amounts post-harvest.

"Half the achievements of the world's farmers are going to landfill.

"While a billion starve, we waste food enough for three billion.

"Our grandparents would say we are idiots and they would be right."

Mr Cribb said the world had already peaked in oil use and that would have a significant impact on farmers in the future.

"Just as farmers have little control over who snatches their land, water and other assets, they have little control over who snatches their fuel," he said.

"By 2040 what fossil oil is left will probably be reserved for the military and everyone else will have to get by as they can.

"So one of the most pressing issues to solve is where the fuel to power the tractors, the pumps

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and the trucks, trains and ships that move the food will come from in future.

"It cannot come from the farm, to do that would lower world food output by 10-30pc, right when we need to double it."

Mr Cribb said the challenge facing the next two generations of farmers was to double the global food supply using half the water on far less land, with

increasingly depleted solids, without fossil fuels, with scarce and costly fertiliser and chemicals, under the hammer of climate change.

He said despite the massive challenge, it offered Australia a great opportunity to become a world leader in efficient and flexible farming countries.

"The snag is that farmers will have to accomplish this miracle using less science and technology," he said.

"On top of the scarcities of land, water,

Julian Cribb's four ways to beat the coming famine

1. Redouble Knowledge

THE world should double its research and development spending to \$80 billion.

"Then, for every research dollar we need to spend, another dollar should be spent getting the knowledge into the hands of the world's 1.8 billion farmers and food processors," Mr Cribb said.

"We must generate the greatest knowledge sharing effort in history to reach not only farmers but also all consumers, because farmers alone will not be able to solve this challenge."

Mr Cribb said it was a realistic achievement given the new world of communication.

The spending should come from the world's current defence budget.

"Just 10 per cent of the world's current defence budget would secure both a sustainable food supply and enhance the prospects of peace everywhere," he said.

2. End Waste

THE world needs to significantly reduce the amount of food waste.

"This will also spare water, nutrients, energy, soil and human labour," Mr Cribb said.

"But it means extensively redesigning both our diets and the food production and distribution systems that satisfy them.

"It means educating nine billion people to a new respect for food."

3. A New Diet

THE world needs to return to healthier eating and a diet that involves less energy, land, water, nutrients and pollution.

"We need to change the world's diet to one that doesn't actually kill half the people who eat it, as does our present one," he said.

"It means returning to the sort of light, balanced nutrient intake our grandmothers would recommend."

4. Pay More for Food

PEOPLE need to pay more for food now to gain the benefits of better and more sustainable food production in the future.

"Today we enjoy the cheapest food in human history," Mr Cribb said.

"It is a third the price our grandparents paid for it, half what our parents paid.

"But it is destroying landscapes, water and farming communities worldwide, killing consumers and causing colossal waste."

Mr Cribb said it was imperative the world abolish all trade barriers so food production could go where it was most efficient and to start paying farmers a fair income.

"The prices that globalised food chains now pay farmers will end up destroying agriculture, its resource base and its communities," he said.

"We are already seeing its worst effects here in the milk war."



energy and nutrients, agriculture is driving headlong into a huge technology pothole.

“This is the result of decisions by national and regional governments worldwide, by aid donors and academic institutions, to slash resources for agricultural research and extension over four decades.

“In Australia, the US, Germany, Britain, France, Japan and China we have been hacking down agricultural research.

“Only recently we saw our own Productivity Commission calling for even more cuts.

“In the year 2000 the rich countries spent just 1.8 cents in every research dollar on agriculture research, so unimportant has sustaining the food supply become to them.”

Mr Cribb said he was astounded as to how little the world spent on agriculture with

the world spending \$40 billion a year on agricultural science compared to \$1500 billion a year on weapons.

“The effects of all this are plain in declining world farm productivity,” he said.

“Crop yields are rising at barely half what is needed to keep us fed in the long run.

“The global decline in agricultural research and development in the last four decades means less new technology will be available to farmers between here and 2030 than in the last two generations.”

Mr Cribb said it was time to bring technologically advanced broadacre systems and efficient organic small holder systems together to help build the world’s food supply.

“Creating this eco-farming is, I’d argue, humanity’s most urgent task,” he said.

“This new food-producing

system has to be science-based.

“It has to be low input. It has to replenish, not destroy. And it has to work for farmers large and small, everywhere.”

Mr Cribb said Australia should be leading the way in promoting forward thinking for the future of agriculture.

“Given our history, our skills and our resilient and generous character, Australia should lead the world in this endeavour,” he said.

“This is a shining challenge, both inspiring and well within our powers.

“I believe it is, once more, Australia’s destiny to serve humanity in this way and help to avert the coming famine.”

More reports from the “Where is Agriculture Heading in the next 20 years?” conference commence on page 18.