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Global opportunities in agricultural trade

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ABSTRACT

In the 21st century the central issue of global security and human destiny will be food, land and water. There is already evidence that most conflicts now arise as a result of shortages, misallocation or abuse of these vital keys to human survival and prosperity. Over the coming 50 years the world will add another New Zealand to its population every fortnight. Demand for knowledge about how to produce food and manage landscapes sustainably will be unmatched in human history. But two nations, Australia and New Zealand, are superbly placed to meet such a demand. Many of the answers the world is seeking already exist in our labs and on our farms. The challenge now is for us to build the world's leading knowledge export industry that specialises in sustainable food, land and water.

Keywords: Global; food; agriculture; knowledge.

INTRODUCTION

“And he gave it for his opinion that whoever could make two ears of corn or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of politicians put together” –Gulliver's Travels, Jonathon Swift (1726).

One is tempted to observe that politicians are little improved since Jonathon Swift penned these memorable words in 1726. Nor has the fundamental issue of human survival and prosperity, how to feed ourselves sustainably, changed. In fact, food, land and water security is bound to become more imperative in the decades ahead, and politicians, from the available evidence, remain largely impervious to the consequences.

During the 20th century the great issue of the human destiny was whether we would wreck civilisation with fearsome weapons. In the 21st century, the question is whether we will consume, pollute and populate ourselves into crisis.

The clear images of the New World Order, globalisation and the Asian economic boom paraded by many western leaders through the 1990s are already fracturing like a looking glass in the face of unassailable economic and social realities. In a prophetic article entitled “The Coming Anarchy”, journalist Robert Kaplan (2000) explained how, in society after society, a state of war already exists between the haves and the have-nots. In many cities, and in some countries, this inarticulate rebellion of the poor, the angry and the dispossessed has already nullified, if not actually destroyed, governments. This revolt, writes Kaplan, “is occurring through...much of the underdeveloped world: the withering away of central governments, the rise of tribal and regional domains, the unchecked spread of disease, and the growing pervasiveness of war.”

The world map with which we grew up, with its neatly ruled borders and colourfully tinted nations is a fiction. It no longer exists, save in the minds of cartographers. One of the many things it does not mark are the new cities, the festering mountains of hovels and shanties which have sprung up as satellites of the old cities. Places where gang rule and the AK47 are the only law; where cocaine and

heroin are the life's ambition of ten year olds; where no school opens; where the privileged occupy fortified dwellings shielded by guard-dogs and electronic alarms; and where policemen fear to tread. To the western media, politicians and bureaucrats, says Kaplan, conflicts such as those of Central Africa, the Balkans or between religious extremists in India and Pakistan are merely the contemporary manifestation of age-old religious and ethnic hatreds. However in his argument these are not the triggers for conflict, but rather its symptoms and its pretexts. The underlying causes are poverty and the lack of those key means of human sustenance: food, land and water.

THE CHANGING FACE OF WAR

The military scholar Martin van Crefeldt argues that the 400-year-old concept of war as a collision between states is today evolving into a thousand smaller, more vicious and ultimately destructive struggles between tribalised groups of warriors; from slum kids to Chechens, from Kosovars to Kurds to Achenese, from skinheads, NeoNazis and Hutu to Islamic Jihad and Shining Path. Former US president Jimmy Carter (1999) recently summed it up in an article in the International Herald Tribune. He wrote: “when the Cold War ended 10 years ago, we expected an era of peace. What we got instead was a decade of war.”

The Peace Research Institute of Oslo (PRIO), in a powerful report, says that at the end of the 20th century the very character of war is changing (de Soysa *et al.*, 1999). For much of this century, wars have been ignited and fanned by ideology – by political, religious, nationalistic and cultural differences. But in the last eight years of the 20th century – since the end of the Cold War – something dramatic has taken place. Of 103 conflicts round the world, the majority have been over those most basic resources for human survival: food, land and water.

Most of these conflicts have erupted in countries where population pressures are high, and there is too little food, land and water to go round. Most commonly, they break out in regions where agricultural development has largely failed. Areas which PRIO designates a “zone of turmoil” affected by a “vicious cycle of poverty, deprivation, poor governance and violence”. PRIO notes another, grim,

feature of these new conflicts: whereas Cold War wars were largely directed at armies and professional soldiers, these subsistence conflicts often have women, children, the old and the harmless as their chosen victims. In many cases they involve deliberate genocide. The victims of these conflicts number more than four million, 90% of them non-combatants. The impact is felt world-wide: in floods of displaced refugees, in widening conflagrations engulfing otherwise peaceful nations, in rising demand for aid, for arms, in environmental crises, and in shocks that jar the global economy and harm trade and jobs even as far afield as New Zealand and Australia. The failure of agricultural development is no longer the Third World's problem. It is rapidly becoming everybody's problem because, today, no human being is untouched by its consequences.

Agricultural research is ceasing to be a backwater activity. It is fast becoming defence spending for the 21st century, a primary investment in global security. By 2050 human numbers will swell from 6 billion to 9.4 billion. Five babies are now born each second, and just two people die. At this rate we add a fresh New Zealand to the world population every two weeks. Of this growth, 98% will occur in the world's poorest nations (Anon, 1999). The stress on the Earth's resources of land, water, food, timber and energy will be inconceivable. Despite a global surplus of food, 82 nations are presently unable to feed their people.

World consumption of water is rising twice as fast as the population growth. The International Water Management Institute says that one third of the world's population, or 2.7 billion people, will experience severe water scarcity by 2025, and water is already looming as a major cause of future wars (Anon., 1995). Egypt has threatened to go to war to protect its water supplies if necessary. The water that sustains Israel comes from aquifers that lie beneath neighbouring Jordan and the Palestinian state. Turkey is building 22 new dams across the headwaters of the Euphrates-Tigris, which feeds the warlike nations of Syria, Iraq and Iran. Libya's president Gaddafi predicts the next Middle East war will be over water. In Asia dams are rising on the upper Mekong which feeds Laos, Thailand, Vietnam and Kampuchea. In Africa, Ethiopia and Egypt are in dispute over the upper Nile. Worldwide, there is irreversible decline in supplies and quality of groundwater. Parts of both India and China are faced with "absolute water scarcity", meaning they will be totally unable to meet their needs. In China, where it takes 5000 kilos of water to grow a single kilo of rice, the megacities encroach on farmers' supplies at an alarming rate. Installing a flushing toilet in a city home consumes 30,000 litres extra water a year, and cuts rice output by enough to feed a Chinese family for a week.

The water decline is not just in availability, but also in quality. Across Asia, deforested catchments are crumbling into the rivers, choking dams, polluting estuaries. Some rivers are so silted they no longer retain their floodwaters, leading to annual havoc. Cities and farms are pouring chemicals, nutrients and sewage into both surface and groundwater. In Asia, Africa and Latin America, salinity, acidity and structural decline are claiming farmland remorselessly.

As rural populations grow throughout the developing

world, poor people flood into the cities adding to urban problems, while poor farmers "eat higher up the mountain", slashing and burning the forests in order to eke a temporary and ultimately catastrophic living from the fragile uplands. Thirty-eight percent of the world's arable lands are now seriously degraded, as are 21% of its pastures. Between 6 and 8 million hectares are lost annually to erosion and soil decline (Scherr, 1999). The area of forest per human being has been halved since 1960 and we continue to lose 15 million hectares every year (Abramowitz, 1998).

In the once-boundless oceans, resources are dwindling due to human pressure. Over 70% of the world's major fish species and 11 out of its 15 primary fishing areas are now in decline. Two thirds of the earth's coral reefs are at risk. The global fish catch is estimated to already be 40% higher than the world's oceans can sustain.

Yet by 2020 world food output must rise by 70% - more than 800 million tonnes of grain - or confront large portions of humanity with Ethiopian-style famines. Even such a huge increase will only provide enough food for people at a subsistence level. To meet the legitimate expectations of billions for protein diets will demand vastly more. Over the coming 30 years we must grow more food than in the whole of human history. That food must come from less land, using less water and with fewer inputs. Regrettably the reverse is happening. Last year the world's farmers harvested the biggest crop in history - 1,881 million tonnes of grain. Yet per capita grain supplies still fell.

By 2020, according to a World Bank estimate, one in every four children will be malnourished as the global food gap continues to widen. While the eyes of the world's media and leaders are riveted on the money markets of the world's wealthy cities, they remain blind to the poverty which affects the vast majority of people: the 840 million who go to bed hungry each night; the 1.3 billion who are abjectly poor; and the 400 children who die every 15 minutes from malnutrition-related diseases. And they are blind to the implications this holds for future global stability.

The refugee tide is flooding. In 1970, some three million were on the march worldwide. By 1980, the number had risen to ten million. By 1990, over 20 million had fled across international borders in their quest for food, homes and security. The flood peaked two years ago at 27 million, before receding slightly. Today, the UN estimates, more than 50 million human beings have been displaced from their homes, either within their own countries or across international borders. Behind these figures lies the cruel nexus of poverty, political chaos, economic failure and environmental devastation - a nexus that, in some regions, has become an endless cycle, spewing people out of ruined and lawless lands.

The pivotal issue for the early 21st century is whether we can sufficiently contain the explosion of poverty to avoid the gradual rending of the social and economic fabric of the planet; to avoid tidal flows of refugees fleeing ecological disasters; and to prevent outright wars being fought over scarce resources. Yet as every person at this conference is keenly aware, there *is* a solution to this problem. The world has found it before, and now it must find it again. It is called rural development.

AVERTING THE CRISIS

Rural development is the foundation of stability and progress in these largely rural societies - places where three quarters of the populace works and lives on the land. It may seem bizarre to advocate agriculture, which is plainly responsible for degradation of land and water, as a solution to the problem. Yet it is. Unless we wish to fell every last living hectare of forest on the planet, ruin every grassland, lake and river, we have no other choice than to use science to triple yields from our best farm lands, so the remaining wilderness may be saved for future generations.

Rural development is the only way that you can dissuade the rural poor from "eating higher up the mountain" and destroying their environment. With better incomes for the rural poor you can defeat poverty. And if you can defeat poverty, you can prevent conflict and achieve more stable government. With stable government, you can have medical services, education for women and children, family planning, access to capital for families, roads, public works, clean water, and safe food. If you break the vicious cycle of conflict, you can grow secondary industries in your cities, attract foreign investment, draw tourists, and protect your ecological assets.

A striking report by the Australian Institute of Actuaries (Cumpton *et al.*, 1995) finds that in countries where per capita wealth now exceeds \$US2500 a year, something quite remarkable happens: if they are already democracies, they have a very strong probability of remaining so. If they are ruled by repressive regimes, they have an excellent chance of maturing into democracies. The study also showed that most of the world's civil wars and most of the nasty dictatorships occur in countries where poverty is endemic.

Conversely, in nations where incomes are rising, the transition to stable government and thus, to accelerated prosperity, is noteworthy. The US Central Intelligence Agency did a major study on why nations fall apart, in which it analysed more than 600 factors. It found the clearest and most unequivocal predictor of nation failure is high child mortality. If the kids are dying, then strife and war are not far away. And high child mortality is, of course, the most obvious face of poverty, malnutrition and disease.

Paradoxically, poverty has another consequence: high birth rates. The desperate need to replace all those dying children. Yet, as country after country has successfully proven, the only lasting antidote to high birth rates is prosperity. If people have enough money to live on and save a little for their old age, the economic imperative to have children wanes. Children become a cost instead of a source of income. Round the world, society after society is discovering that rising incomes lower the birth rate more infallibly than any other mechanism.

It is hard to avoid concluding that if we wish to curb population, we must raise prosperity for the broad mass of the people, and especially for the rural poor. Yet, as if to justify Jonathon Swift's disillusion with politicians, governments worldwide have been slashing the very thing which lays the foundation of prosperity. World aid budgets fell from \$US55 billion in 1996 to \$US51 billion in 1998. Aid to the poorest countries is at its lowest level in a decade. Globally, the aid commitment is now less than one third of

the promise made by the 21 richest donor countries (Randel and German, 2000). Of this shrinking pie an ever-diminishing slice, only 7 per cent, now goes to agriculture. Even the aid community, it seems, has forgotten that the solution to poverty is giving poor people the means to raise their incomes. At home, politicians have cut rural research because of a belief it engenders surpluses or serves a sunset sector. Abroad, they have cut support for rural R&D because such aid is no longer fashionable.

NEW ZEALAND AND AUSTRALIA: PROVIDING THE ANSWERS?

The question is: who is to rivet world attention on this issue, and how? Perhaps it will be us. Perhaps it should be the partnership of New Zealand and Australia. Between us, we farm the fruits, grains, vegetables and livestock of six continents. Here we husband the produce of Europe, Asia, North and South America, Africa and of Oceania itself in a peerless diversity. We grow these things under a wider range of climatic conditions and environments than any other nation. We have agricultural and environmental scientists whose work, per capita, is more widely cited than any other in the world, who in recent years supplied the leaders of no fewer than six of the world's agricultural research centres. We have farmers who are internationally efficient and who are leaders in the adoption of sustainable farming practices and new technology. We have farmers who practice a creed, revolutionary by world standards, in which communities work together to save and improve their environment; a creed called Landcare.

Based on this unique endowment, we have the capacity to show a world lead in sustainable food, land and water systems. We have a good grasp of how to farm and care for the land under harsh and demanding conditions. We know how to breed and raise excellent crops and livestock, control pests safely, use biotechnology, handle, store and transport our produce, process and add value to food with advanced technology, market, wholesale and retail it. We are hammering out better ways to husband our soil, water and natural bio-diversity.

When you put all this know-how together, New Zealanders and Australians understand more about the sustainable production of food under a wider range of conditions than any other people. That knowledge is gold. It is our natural advantage. It will be our premier export in the new millennium. It is also the means by which we can help the world to curb growth in the human population. In the century to come our countries will export not only foods of surpassing quality at competitive prices. We will also export the knowledge of how to grow and process them, ways to manage land and water sustainably, technology to beat pollution and fight degradation, superior strains of crops and livestock, managerial skills, education, marketing, and communication. All the things our rural communities already do so well.

Information is the gold of the 21st century. By 2010 world trade in information will exceed world trade in manufactures, and far exceed world trade in food. Bill Gates built a \$US50 billion business, not on computers, but on the smart stuff that makes them work. We must become the

leading international supplier of the smart stuff that makes food systems, landscapes and water systems work sustainably. We must become the supplier of ways to develop rural industries and communities, ways to beat poverty and environmental decline. Both countries are afflicted by falling living standards, high foreign debt loads, poor balances of payments. Between us we owe the rest of the world more than a third of a trillion dollars, and we're collectively blowing about \$NZ85 million every day on our current account. We badly need a new high-value export industry, capable of earning enough for us to retire our massive debts and to build a new road to prosperity. That industry is knowledge, and at its core is the knowledge we are best at – food, land and water.

The New Zealand rural trader of the third millennium will be an exporter of ideas, solutions, technologies, skills, genetics, software, and equipment. Landcare could so easily become a billion dollar export industry, made up of scores of small companies selling the seeds and genes of trees and shrubs, the technology, the machinery and equipment, the software, the advice, the science, and the know-how. Given the problems emerging in the soils and waters of Asia, Africa and Latin America, landcare know-how could become our bequest to the Earth. The same opportunity exists in Seacare. Australia's management system for the Great Barrier Reef is a model for the deliverance of the world's degrading coral ecosystems, and the sustainable use of marine resources. NZ is a world leader in the sustainable management of sea and freshwater fisheries and aquaculture. The insights we are gaining about how to look after rivers and floodplains, lakes, irrigation systems and precious groundwater is a priceless resource in a world becoming acutely short of fresh, clean water.

Moreover, by solving the problems of our neighbours, we will build reliable customers for the future. Most of our exports today are sold to countries which, 25 years ago, could not afford to buy either food or technology from us. Yet with the rise in their incomes, they have become our best customers - places like Japan, Taiwan, Hong Kong, Malaysia, Indonesia, Thailand and China.

CONCLUSION

The take-home message is; if we wish to prosper we must find ways to ensure our customers are prosperous too. There is no surer way to set a poor country on the path to prosperity that through sustainable rural development - by supplying the knowledge which allows the broad mass of the people, not just the elite, to raise their incomes. By supplying sustainable know-how to countries presently poor, we will guarantee for ourselves more prosperous customers in the future. Furthermore we will do much to avert the misery, conflict, economic chaos and war which are consequent upon the degradation and scarcity of the earth's resources. We will help to reverse the great cycle of population growth.

I can imagine no finer contribution which our old company, the ANZAC partnership, might make to the human destiny.

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