April 2002

FOCUS ON THE FUTURE:

OPPORTUNITIES FOR SUSTAINABILITY IN WESTERN AUSTRALIA

With reference to Sustainability, Natural Resource Management, Biological Diversity, Population and Economic strategies for sustainability in the wheatbelt.

DEFINE SUSTAINABILITY

Without a very clear definition, the word sustainability means different things to different people. For example, a farmer will think that by planting a single row of trees around the perimeter of a 100 ha paddock that was cleared for cropping is sustainable while I believe the fact that it was cleared in the first place is totally unsustainable.

Even the definition of sustainability adopted by the Government - *"Sustainability is the simultaneous achievement of environmental, economic and social goals."* is too vague and open to interpretation by the individual. What are our environmental goals? What are our economic and social goals? Each individual will place what they believe to be the environmental, economic and social goals in this definition and therefore this definition can actually take on an opposite meaning to different people -say someone working in the environmental industry and another working in the housing industry. We need a clear unambiguous definition so we are all speaking the same language.

Under the section "What is Sustainability?" in the consultation paper the footnote states that the term "Ecologically Sustainable Development" has been replaced by "sustainability" due to a "preference by business and community leaders". The word sustainability is more acceptable to business leaders than the term ecological sustainability because they associate ecology with "greenies" and greenies are antidevelopment.

I believe that our natural biophysical environment supports all life on earth and it is only within this biophysical environment that the economy and society can operate and flourish. A healthier natural biophysical environment ultimately leads to a healthier economy and society. Therefore I believe that conserving, maintaining and enhancing our natural biophysical environment should be our primary goal and other goals for achieving a healthy economy and society depends on achieving this primary goal.

I am concerned with your statement in the consultation paper that "a *significant part of the challenge is to turn our economy around so that it drives the protection and repair of the local and global environment".* While this should be one strategy for protecting and repairing the environment it must not be considered a significant part. This is because it is inferring that the welfare and health of the environment depends on the economy. It is too easy to say that we cannot afford to do anything about the environment because we have a poor economy. Your document appears to have

acknowledged the primary importance of the environment in its Sustainability principles: all four dot-points refer to a healthy natural environment and natural resource management. It is a big mistake to believe that protection and repair of our environment follows on from a growing or healthy economy. One prime example is salinity. Over the last five decades the agricultural production and financial return from the wheatbelt of Western Australia has increased enormously but at the same time the loss of soil health, biodiversity and wetlands to salt that can never be repaired has also increased. Increasing wealth does not mean the environment will benefit. It seems to me that because the natural environment in itself is not seen as intrinsically valuable or profitable unless we do something with it, it is not seen as important (and this is why we can drop the term ecologically sustainable development).

We need a major rethink on what it means to be sustainable. To begin to be sustainable, we must appreciate on a deep level how we are intrinsic to our natural environment and not separate from it. To be sustainable means to stop any further degradation of our air, water, soil, plants and animals, our ecosystems: coastal waters and coastal environments, our rangelands and deserts, our forests and shrub lands, our rivers and wetlands. And then start to repair any damage that has been done over the past 150 years. Sustainable means to consume renewable resources at a rate less than which the resource is naturally replenished and to recycle, reuse and reduce the consumption of non-renewable resources. This means becoming a world leader in energy and water use efficiency and the areas of solar and wind energy and in the use of grey water, A world leader in understanding and living within the constraints that our natural environment dictates. The present water shortages only prove that we are not living within the bounds that the natural environment can supply to support our population.

POPULATION

The *Global Environmental Outlook 2000* states that the two major causes of environmental degradation are poverty by the majority and over consumption by the minority of the planet's inhabitants but fails to recognise that the fundamental cause of environmental degradation is the over population of this planet.

My main concern is the size of Western Australia's population and the ability of our natural resources (e.g. water and clean city air) to sustain it on an ecologically sustainable basis. As you know, every person consumes resources and produces waste
- each person has an "ecological footprint". I was alarmed to read that the ecological footprint of every Australian is about eight hectares - the size of five football fields. This figure has been calculated by the "Blackwood Basin Group" which is a regional landcare body in southwest of Western Australia. I have enclosed a copy their leaflet for you to read. Already the ecological footprint of Perth's population is 12 million hectares!

With increasing numbers of people coming to Western Australia we are putting increasing pressure on our already severely degraded environment - at the rate of eight hectares per person. In addition, most of Western Australia is semi-arid desert land which means that human population pressure is concentrated in the coastal and southwest while livestock pressure covers the rest.

I have lived in Western Australia for half a lifetime and witnessed the wholesale destruction *of* the *environment* to accommodate a growing population. Habitat destruction continues to threaten the extinction of more of our unique flora and fauna -this is a global disgrace. Habitat destruction is caused by the need for more houses for more people and more farmland to feed ever-increasing numbers of people. Environmental degradation continues with increasing speed. Salinity is increasing, groundwaters and surface waters increasing polluted, chronic air pollution (causing health problems) from too many vehicles and polluting industries and Perth is already on water restrictions because there are too many people demanding on a scarce resource.

The present population has resulted in the severely degraded environment we are struggling to deal with but failing to do so. It is clear that already our environment cannot support the present number of inhabitants on a sustainable basis. In stabilising Western Australia's population we are then acting responsibly towards our environment by not increasing the ecological footprint pressure on our fragile environment.

In developing a State Sustainability Strategy for Western Australia it is absolutely necessary that the conservation and preservation of our bio-physical environment should be it's primary goal and that this can achieved by limiting the population pressure (both human and livestock) on this environment. Over consumption (especially of non-renewable resources) and waste leads to environmental degradation but what is the point of halving consumption if you double the population? This gets you nowhere. It is not an easy task to convince the Western Australian community to reduce their consumption (and hence their standard of living). Huge amounts of money have been spent already in a massive ongoing advertising *campaign* to convince the Western Australian community to reduce their consumption of water. It is critical the Western Australian Government aim to stabilise the population of Western Australia a present numbers as it is clear that our fragile environment will only be degraded further with an increased population and does not have the water supply to maintain the present numbers at their accustomed standard of water use.

We can better manage the land by first stabilising the population and hence our ecological footprint. This would enable us to start to address the present water crisis and Perth's smog problem and we would then have no further need to clear bushland for housing development or for agriculture.

EDUCATION

An education program is needed to raise people's awareness that over-population is the fundamental pressure on the earth's environment and to raise awareness and educate people of their ecological footprint their impact on the environment and their interconnectedness with the environment. This should take the form of programs within the education system from years one to 12 and in Local Government initiatives and in Government funded television advertising. To raise people's awareness that they are a part of their environment - (not the environment is something out there separate to them) will encourage them to appreciate how their activities impact on the environment. This education program is more that the recycling campaign which has lead to a change of behaviour but not in an understanding of their interconnectedness and impact on the environment.

STATE OF THE ENVIRONMENT DEPARTMENT

I believe the Western Australian Government should create a **new "State of the Environment Department"** to continually monitor, assess and report on the state of the environment and human impact on it. This information based on data collected and interpreted in a scientific and rigorous manner can then be provided to Government in order for it to make decisions on planning for our sustainable environmental, economical and social future.

Presently environmental monitoring is undertaken by a number or departments including DEP, CALM and WRC. This monitoring is patchy, of short duration and not integrated to give an overall big picture of what's happening to our environment due to human impact. In addition there is no avenue for this information to be integrated into sustainable planning decisions. Moreover there is a terrible lack of monitoring in areas urgently needed such as groundwater level monitoring where waterlogging and salinity pose a threat and of the pollution entering groundwater in urban areas.

Currently the Department of Environment Protection compiles a "State of the Environment" Report on the Western Australian environment every four years. This leaves a four-year gap between reports. We need to know the health/degradation of our environment before we can plan to live sustainably in the future just as you need to continually watch your bank balance so you don't overspend. This department will continually monitor the impact that human activity is having on our air, water, soil and ecosystems. The areas that this new Department will oversee, monitor, survey and report on include smog produced from cars, run-off water and infiltration into our water systems - polluted with pesticides, herbicides, nutrients and toxic substances, agriculture - salinity and soil acidity, mining activities and waste, waste to landfill and recycling and the health of our native vegetation, biodiversity and ecosystems - which would involve extensive surveying. This department can then report on these environmental trends and on the degree to which the natural environment can support human activity without further degradation in addition to recommending actions to stop further degradation that can be integrated into planning for a sustainable environmental, economic, social future.

An example of where monitoring data is absent but much needed is in monitoring groundwater levels in bore holes throughout the wheatbeat where rising watertables threaten soil health and biodiversity. There are many hundreds of boreholes but only a handful is monitored. In order to apply scientific solutions to solving the salinity problem it is necessary to have data on what we are investigating i.e. groundwater levels and without this data any remedy involves guesswork and luck. There are a number of computer programs that can model (and predict) the rise or fall of groundwater in the wheatbelt where salinity is destroying large areas. These computer models are very limited in their potential to provide valuable and reliable information because there is almost no raw data on groundwater levels throughout the wheatbelt with which to run the model on. These models are using the very limited data that is available from the few bores that are being monitored and the rest is largely guesswork For whatever reason, most farmers do not record the water level in their boreholes in a systematic way. With a State of the Environment Department, staff will oversee the continual monitoring of groundwater boreholes to obtain the information that is needed to aid the predictions and decisions about the salinity crisis.

NATURAL RESOURCE MANAGEMENT IN THE WHEATBELT and HOW WE BETTER MANAGE THE LAND

It is well documented that clearing our fragile soils to *plant* crops and *pastures has* resulted in the rise of watertables, waterlogging and salinity which not only destroys the crops they were cleared for along with the farmers livelihood but also the soil health and biodiversity which is a natural heritage belonging to all West Australians.

In trying to deal with the issue of salinity and waterlogging, most of the attention has been focused on rising groundwater and how to get rid of it - pumping, relief well, drains and planting saltbush and lucerne. This is caking a reactive approach. *I* am concerned that very little attention and funding has been put into the area of surface water control and management in order to prevent rainfall infiltrating and adding to the groundwater. Before white settlement, the native vegetation did this job but now that has been cleared there is a need for engineering options - contour banks, surface drains and other earthworks to prevent ponding and infiltration, run-off and erosion. Huge investments need to be made in surface water control to help prevent further infiltration of water into groundwater. This is taking a pro-active approach.

To achieve sustainability through economic means is a difficult task. In the wheatbelt that is slowly dying from salt there are isolated examples of farmers doing this. A wheat and sheep farmer with in the West-Arthur - Kojonup Shire is growing wildflowers on a sandy paddock. He employs four people for six months of the year in this industry. He has admitted that 3% of his farm in wildflowers is *bringing in* 50% of the income as he exports them overseas. Yet most of the community in which he lives thinks he is crazy (for doing a strange thing such as growing wildflowers). Because farming is a business their primary goal is to make a profit out of their farm and not to maintain and enhance the environment. In fact I believe that most farmers are strongly anti-greenie and seem to have little or no concern for biodiversity. Growing wildflowers was profitable for this farmer and hence he invested in this industry. It is fortunate that these perennial plants with a deep root system can also keep the groundwater from rising and provide habitat for native birds (although this was not the farmer's primary aim). So what is needed is an agricultural system that is compatible with our fragile environment and is also profitable for the landowner.

To achieve sustainability through economic means requires financial backing from the government. It requires Government to lead the way and demonstrate to farmers their options in new industries that are compatible with our environment. This means investing in research, establishing the markets and infrastructure and creating market links. It also requires educating and financially supporting farmers while they make the transition from traditional wheat and sheep to the new sustainable industries of deep rooted perennials - wildflower, sandalwood, quondong, oil mallees, olives and others.

The Oil Mallee Project is presented in the consultation paper as a viable option to farmers to obtaining an income in the wheatbelt. This is misleading to the general public as the oil mallee industry is still not up and running and it is still not proven after many years of talk. If the WA Government were serious about supporting an industry that is compatible with our environment it would have financially supported the construction of the power-plant in Narrogin (which is still

not complete). I do not know of one farmer that is presently making profit out of oil mallees - so in all honesty this cannot be promoted as an option until it is proven.

Because the cost of transport is expensive *there needs* to be Government *investment* in infrastructure in country town away from the coastal area. For example the oil malice processing plant can only service farmers within 100km radius otherwise it is uneconomical to transport the oil mallees for processing. Therefore there needs to be another oil mallee processing plant at say Pingrup. Or it could be an emu oil processing plant. The point is that government must research new and viable industries that are compatible with our fragile environment, establish viable markets, create the market links, set up the infrastructure in country towns and provide financial assistance and education to farmers during the transition time while the industry is becoming profitable.

The Department of Agriculture has closed down it's New Industries section (due to cut backs). If the Government wants to be serious about wanting the economy to drive a healthy environment then it must invest first in establishing those economies. Reopen the New Industry section with adequate funding to research and develop new industry options that are compatible with our environment. Having farmers adopt new industries and reduce traditional farming by 70% (this is the amount hydrologist have determined is needed to be planted to deep rooted perennials to have any impact at all on the groundwater table) will not be easy as farmers are conservative and slow to change. Therefore a proper education program is need and financial incentive to change over with financial support given to the farmer until the new industry is productive.

Free education seminars:
Farmers in general do not see the importance of monitoring water levels in any boreholes on their property. This information is desperately needed to determine groundwater trends and for raw data to feed into groundwater models. To address this problem the Government should provide free workshops/seminars on basic groundwater hydrology so farmers can gain a greater appreciation of the salinity/waterlogging problem more that just the fact that the water table is rising. This greater knowledge can lead to better land management as we must know what we are dealing with in order to manage it. Recently a groundwater hydrology short course was held in Katanning with a fee of $200. Most farmers would not pay that price for something they cannot make money out off at the end of the day.

Land Management tools: Satellite images:
Satellite imagery has a fairly limited role in helping farmers manage the land better. One of the reasons is that satellite imagery needs to be ground-truthed and because the Government has not supplied the resources to ground truth to any great extent these satellite images cannot be 100% accurate - for example the white area on a satellite image might be a patch of land gone salty or it might be the shiny reflection off a farmers shed. Satellite images also need interpretation and this deters farmers as they may not fully understand the information on the images and how they can relate it to their farm. Also, what must be realised that farmers work on the paddock scale of their farm and if Government produce land resource maps on a catchment or regional

scale or it is of virtually no use to the farmer. So maps digital or hardcopy need to be accurate on a large enough scale for the farmer to apply the information to his paddock and farming practices. In addition there is a cost involved in acquiring these images. If they do not identify the farmers paddock he has little incentive to purchase them. Aerial photos flown by DOLA at a scale of 1:100,000 are widely used by farmers because they show their paddock, they are easy to interpret and are affordable. They are flown once every five years and then it takes at least a year for the data to be released to the public. These aerial photos should be flown more often and be produced in a timely manner to allow farmers to use them as an aid to see changes in their farm.

EMPLOYMENT OPPORTUNITIES

Your report states that a report by the Dept of Training outlines job opportunities in six areas: earth repair, environmental survey, resource renewal, sustainable energy, sustainable communities and clean and green food and sustainable agriculture. Presently there are very few jobs advertised in the newspaper in these environmental areas. When the Water and Rivers Commission advertise a position for an environmental] officer, there are 100 applicants. The reality at present is that there are relatively few job opportunities in these environmental areas and the number of tertiary educated environmental scientist produced in Western Australia outstrips demand. For example the area of sustainable energy - there is no large industry in WA and presently would only employ a handful *of* people. Therefore, these job opportunities are yet to be created with Government and industry backing.

OTHER COMMENTS

Buy back stations and farms:

I encourage the idea of CALM buying back stations in the rangelands and maintaining them for conservation. I would like to see this promoted. In addition I would like to see the government have a scheme to buy farms from farmers throughout the wheatbelt and then replant them back to native vegetation and reestablish the natural ecosystem. The aim would be to increase the size of remnant vegetation stands and to create wider corridors or to create corridors where there was none to link up areas of native vegetation. In addition, farmers should be paid to keep and maintain any native vegetation/natural bushland on their property (as only a few percent of remnant vegetation remains in the wheatbelt). As to most people working in the agricultural business, a tree is only worthwhile if you can make money out of it.

Country town rail system and tourism:

Reestablishing *commuter* rail systems to country towns especially east *of* the Albany Highway is needed to make it easier for city people and overseas visitor to visit them. Tourism can then be a real option for towns east of the Albany Hwy in addition to addressing the problem of the lack of knowledge and understanding between city people and farmers.

True value of our environment:

We need to put a true monetary value on our enjoyment and use of our natural environment and biodiversity. The quality of life we enjoy because of living in a healthy environment, being able to visit a clean beach with clear water{ being able to enjoy a walk in the Karri forest needs to be measured. When we do this we can then say that the money spent to achieve ecologically environmental sustainability is justified by the value we obtain from enjoying a clean and bio-diverse environment and the quality of life we obtain from breathing clean air etc. I believe it is

very important that people appreciate that their quality of life is linked to the quality of their environment.

Avoid waste of public money:
Once thing that must be avoided is wasting public money on establishing committees working parities and paying coordinators that swallow up funds leaving very little to "hit the ground" to do any real work in helping the environment. This has happened with NHT and this is why may' people especially farmers are cynical about Government funding to help natural resource management. A good example is the Salinity Action Plan and the State Salinity Strategy - these are basically documents composed of wish lists. But nothing recommended in the documents can happen in reality until Government backs it with financial support and the money "hits the ground" as most farmers will not or can not spend the money that is needed to address the problems.

Perth City light rail/air pollution and native gardens/water use:
In order to address the problem of the growing air pollution over Perth city I believe that money needs to be invested in creating light rail links between nodes throughout the city. If this is done in a way to address the transport needs of the city population, we can begin to be less dependent on the car for transport and hence reduce air pullution.

In addition I would like to see Local and State Government support a scheme to educate people to use native vegetation in their gardens instead of maintaining European style gardens. This would have advantages in reducing water use and providing habitat for native birds and animals.

Sylvia Tetlow April 2002

NB: Copies of the following attachments can be obtained from the Department of Premier & Cabinet:

1. How big is your footprint? – brochure from the The Blackwood Basin Group