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To the inquiry

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I am writing to express my experience and opinion regarding the forest operations currently taking place on the Tiwi Islands. I am an ecological consultant with degrees in both ecology and forest science and undertook 2 months work experience as a tree planter on the island in late 2004 whilst in my forth year of my bachelor degrees with the University of Melbourne. I am writing this as an independent concerned person with no association to industry, environmental organisations or other groups.

At the time I worked on the island there were a number of management and planning issues which I felt needed to be reassessed. These were;

- the conversion of native forest into plantations;
- the excessive use of fertiliser;
- the impact of clearing and machinery on soil quality and stability;
- the OH&S of field staff;
- the inadequate inclusion of Tiwi Islanders into real jobs;
- the long term impact of short term gains;
- the lack of transparency in operations and the secluded nature of the operations.

Whilst on the island I was inspired by the natural beauty of the area and the potential for economic development which was more sympathetic to the environment and traditional land owners. There were a number of strategies I would like to see considered in consultation with the traditional owners for the future development of the island, these are;

- Immediate cessation to further land clearing of native forests in any form and confinement of low value pulp plantations to existing planted areas;
- Harvesting of the original 1950 – 1970's pine plantations to be replanted with more desirable saw log species, preferably high value hard wood species;
- Community management of existing forests to encompass a range of values including forestry and eco-tourism;
- Wildlife refuge areas for cane toad and feral animal free reserves;
- The creation of specific research programs aimed at encouraging PhD students to investigate the viability of community managed forests for economic and social improvement for the local islanders.

The following pages extrapolate on the dot points mentioned above. I thank you for your time and your consideration of these ideas, opinions and experiences.

Sincerely

Emma Paulding

## **The conversion of native forest into plantation.**

As an ecologist and a forest scientist, I argue that the forests on Melville Island that I witnessed being converted for short rotation plantations in 2004, were old growth forests by the governments own definition. The National Forest Policy Statement of 1992 defines the meaning of an Old Growth Forest as *a forest that is ecologically mature and has been subjected to negligible unnatural disturbance such as logging, roading and clearing.*

Given the above definition, it seems that forestry operations on the Tiwi Islands have been given a licence to convert old growth forests into short term plantations for off shore export. It is argued by some, that the forests on the Tiwi Islands are not considered old growth due to the regular disturbance caused by fire and cyclonic activity. However, natural disturbances such as cyclones and fire, do not irrevocably alter the ecosystem and are very much a part of the overall ecology of the forest in question, therefore these forests are ecologically mature.

Additionally, the forests of Tiwi can also be argued to fall into the category of wilderness, defined by the National Forest Policy Statement as *land that, together with its plant and animal communities, is in a state that has not been substantially modified by, and is remote from, the influences of European settlement or is capable of being restored to such a state; is of sufficient size to make its maintenance in such a state feasible; and is capable of providing opportunities for solitude and self-reliant recreation.* Therefore it can be stated that old growth wilderness is being converted to an exotic monoculture.

Areas converted to plantations during the 60's and 70's with failed growth and markets should have been the first areas to be converted to *Acacia mangium* and the licence to clear native forests should have occurred after already cleared land was reacquired. The argument that conversion of pine plantations to Acacia plantations would not be as productive as the conversion of native forest fails to consider environmental and social implications of further land clearing and focuses only on short term economic return.

## **The excessive use of fertiliser:**

Whilst working as a tree planter and tractor driver on Melville Island I became concerned with the large quantities of fertiliser released into the environment. Landing sites where refilling of fertiliser dispensers occurred, became saturated with large quantities of fertiliser; in some instances I saw piles of wasted fertiliser on the ground up to 1 meter in height. Following the daily rainfall, these areas mobilised and were washed towards native forest and water ways. I saw no strategies in place to minimise this waste, nor to prevent contamination of native forests or water ways.

In addition, field workers were not provided with adequate safety gear, and had daily skin contact with the chemical which contained mercury (I only know this from reading the labels associated with the chemicals being used at the time). There was no safety brief given on the safe handling of this chemical, and protective eye wear during dispensing was only provided after one worker got some of the chemicals into his eyes and needed medical attention. Gloves were not provided and workers were expected to use a cup to scoop the fertiliser for each tree planted, giving a high skin

exposure to all workers.

### **The impact of clearing and machinery on soil quality and stability:**

Soil conservation during tree planting was inadequate and poor. Tractors were used with mechanical tree planters on the back, one person drove, whilst the planter sat in the back planting seedlings and adding fertiliser. Dust was a major issue when dry, and the person in the back required a scarf over their mouth and nose, and protective glasses to work in the conditions (not provided by the company). Following rainfall, the soil quickly became saturated and tractors were often bogged, requiring more vehicles and tractors to help remove the bogged tractor. I witnessed damage caused by machinery which resulted in very deep ruts (>1m), and often we were told to continue working, rather than wait for the soil to dry enough to support machinery.

The movement of soil following heavy rains (which occur daily in the wet season) was also visually evident. The natural creation of water drains facilitated the movement of soil and fertiliser towards native forests and water ways and caused damage to roads. Soil loss from erosion both from wind and water must be incredibly high and warrants proper investigation.

### **The OH&S of field staff:**

As with many industries in the Northern Territory, OH & S procedures were inadequate. Safety was a major concern for all workers and maintenance of equipment was poor. In one incident I was driving a supervisor's car at 60km/hr on a dirt road when the front wheel came off. The car was only 3 years old, and had recently had a wheel change and the wheel nuts were left loose. Luckily, I managed to bring the car to a safe stop, and the 4 passengers and I were unharmed. We had no spare wheel or tyre changing equipment and had to wait for a passing tractor to lift the car so we could reattach the damaged rogue wheel and we had to use wheel nuts taken from the other three wheels to hold it in place in order to continue our journey. I never filled in an incident report for this event, nor was asked to, despite it being common knowledge. There were many incidents like this one, which had the potential to cause loss of life and serious injury. The isolation and remote location of Melville Island should not prevent this company from having routine safety audits, and in fact, they should be random and regular given the poor standard that they have demonstrated in the past.

### **The inadequate inclusion of Tiwi Islanders into real jobs:**

Whilst working on the Island for 2 months, I did not engage with any local aboriginal persons employed for forestry work. I did, however, understand that a token gesture was being made which involved the training of local islanders in basic forestry operations. I also overheard management state that the training of local people was to satisfy their social obligations to the islanders, but that they didn't really expect anyone to complete the course and begin working for them with the contract labour they preferred to employ from Darwin.

I did venture into local villages on several occasions and have some discussion with local islanders and the understanding that I had was that the financial return from the

forestry operations went to a select few of the traditional people, and that the majority of the islanders received no financial or social benefit from the forestry. Most locals I spoke to were appalled at the extent of the land clearing and had no idea that it was to be so extensive (this was in 2004). The understanding I got was that the local people against the development did not have the capacity or the ability to oppose a large company or the local decision makers/leaders who were receiving payment from the forestry company.

In my opinion, there was no real effort to facilitate community involvement and any attempts by the company to meet their social obligations were a token effort at best, with no real expectation of empowerment for the local indigenous people. It is my opinion that the company had only one real objective – to satisfy their shareholder investments, and investment for the future prosperity of the local people was not considered feasible and a burden to shareholder profits.

### **The long term impact of short term gains:**

The eucalypt species growing naturally on the Tiwi Islands provides high quality hard wood which can have many uses from flooring to furniture, and structural to feature timbers. This is being replaced by a fast growing tree of poor form, suitable only for wood chips and paper production. One aspect of sustainable management is the long term availability of retail markets. Good quality hard wood timber has had a reliable world market for centuries, the market for low quality purpose grown wood chips is relatively new and therefore the long term sustainability of the industry must be questioned.

In addition, large scale clearing for agriculture (which is similar to short rotation trees) has shown to have unpredictable consequences on the environment with soil degradation and fluctuating climatic conditions altering the suitability of an area for which it was originally cleared. There are countless examples of this across Australia, where 100 years later land cleared is no longer viable for its original purpose. I believe the precautionary principle has not been applied at all in this instance, and the company in question is motivated by shareholder profits and not committed to improving the social conditions of the local population.

### **The lack of transparency and the secluded nature of the operations:**

The most alarming aspect of the operations occurring on the Tiwi Islands is the secluded nature of the land clearing and conversion process. Without invitation, it is difficult to gain access to Melville Island as there are no resources to house and transport visitors, except with the company itself. As a result, operations are able to occur without the usual scrutiny given to many forestry projects across Australia. This allows for breeches in licensing requirements to go unnoticed and unreported to regulatory bodies. During my stay on the island in 2004, I felt that the managers of the forest operations exploited this isolation and felt they had a free licence to proceed as they desired at the expense of the local islanders and the natural environment.

### **Recommendations and Thoughts**

- **Immediate cessation to further land clearing of native forests in any form and confinement of low value pulp plantations to existing planted areas:**

As mentioned above, the native forests of the Tiwi Islands are relatively free from the disturbance of Europeans and as such, large scale clearing of these forests is in direct contradiction of Australia's National Forest Policy. Additionally, exploitation of indigenous land owners by large companies through financial means should be investigated and monitored by the government and regulatory bodies to ensure indigenous land owners are receiving adequate compensation and are able to make informed choices by understanding the alternatives for earning income from their forest.

- **Harvesting of the original 1950 – 1970's pine plantations to be replanted with more desirable saw log species, preferably high value hard wood species:**

The existing areas converted to plantations during the 50's, 60's and 70's have not been utilised and replanted with Acacia in line with the current project. I believe this is due to the lower growth rates that could be expected when areas of pine are converted to Acacia, rather than the growth rates expected from the clearing of native forest and replanting with Acacia. This argument is supported only by economic factors aimed at returning maximum growth rate and thus profits, and fails to consider the natural environment. Original licences issued by the government to establish Acacia plantations on the Tiwi Islands should have stipulated that existing cleared areas be utilised first, with a project review on growth rates and success prior to further land clearing being initiated.

In addition, the long term viability of trees grown specifically for pulp wood is debateable, whilst the planting of longer rotation sawlog species has fewer harmful impacts on the environment, provides sawlogs (and waste chip wood) and has the potential to create a long term economic future for the island. The investigation of high value timbers such as those found locally, as well as dry tropical species such as African mahogany and teak has the potential to compliment existing forest operations already initiated and should be considered with more influence from the government.

- **Community management of existing forests to encompass a range of values including forestry and eco-tourism:**

The greatest potential wasted in my opinion, is the fantastic forestry opportunities of managing existing native forest resources for high value native timber products. The Tiwi Islanders are known world wide for their much desired art work. Expanding on this market to include high value wood products from forests managed sustainably by traditional owners has the potential for a world market. Using small portable mills to mill up selectively harvested native trees, and in turn making furniture and decorative wood products labelled as Tiwi Island art has the potential to provide an economic industry for local people and warrants professional investigation.

Community management at any scale takes time and research. I believe that it is important to establish a strong local industry which is not managed for company profits but for community established funds. The facilitation process required to initiate such a project may take a decade or so to provide tangible results, however, the long term sustainability of the project can be assured and local people should be able to take ownership at a director level.

The expansion of the plantation estate also greatly jeopardises the potential for eco-tourism as tourists travel to exotic places to experience nature and wilderness and the sight of industrial plantations on land, or from the air when flying in, places a visual scar on the landscape. Future plans to develop tourism in the region should be considered and economically analysed before any further expansion of the plantation estate.

- **Wildlife refuge areas for cane toad and feral animal free reserves:**

The Tiwi Islands have the potential to remain pest free and will arguably become some of the last remaining monsoonal forests free from the cane toad invasion. And as such, will provide a refuge for native animals under threat by the movement of cane toads into these forest systems. Whilst this warrants professional feasibility studies to determine the importance of such large off shore islands as animal refuges, clearing of native forest has the potential to devastate local animal populations and limit the ability to introduce mainland species threatened by introduced pests. The large size of the islands indicates that these would provide the greatest potential for species population viability in the event that mainland populations of native species become extinct.

The protection of native fauna on islands can be more viable for long term management as it allows the opportunity to truly eradicate pests without the threat of reintroduction and provides management with a contained area of investigation into which to monitor the survival and progress threatened species. This is not complimentary to land clearing on the scale already initiated or proposed for the future, and given the threat to mainland species from feral animals, this argument needs to be considered seriously.

- **The creation of specific research programs aimed at encouraging PhD students to investigate the viability of community managed forests for economic and social improvement for the local islanders:**

After returning from my work experience on the island, I was naturally concerned about the fate of the local environment and the Tiwi Islanders themselves. I investigated the potential for studying my PhD on the island and was keen to initiate a research program to determine the desire from the local people, and the economic potential of the native forests to establish a sustainable native forest industry, as apposed to industrial plantations. I believe this needs to be done in true consultation with the local people and estimated that a 3 year research program may not have given enough time to gain the values and ideals of the local people. Additionally, the forests need to be further investigated for their economic potential and markets analysed to determine whether small scale forestry for high value products would provide enough financial income to the local people.

I certainly believe that the potential does exist for economic opportunities for the local people through forestry on the islands. However, I also believe that the ability for shareholder driven companies to manage this potential for the benefit of local islanders is compromised. The ability for large companies to exploit resources and aboriginal people is too great and the government needs to mediate these relationships to ensure that sustainable management encompasses social and environmental

obligations, rather than simply the current emphasis on economic returns.

In 2005 I made contact with a number of professionals working in University Institutions that would be keen to investigate and facilitate community managed forests for timber production on the Tiwi Islands. They were particularly interested when I explained that I already had local contacts that may help facilitate an invitation to the island as gaining access to the island for research has proven difficult. Unfortunately family commitments prevented me from moving to Darwin to pursue a PhD, however I still feel strongly about the importance of this study and I encourage the government to fund suitable students and academics to investigate this potential. It is impertinent that further investigation into sustainable economic industries on the island is initiated and projects by PhD candidates can provide enthusiastic unbiased reports at a cost effective level.