

29th July, 2011

Ms Julie Dennett
Committee Secretary
Senate Standing Committee on Legal and Constitutional Affairs
Parliament House
CANBERRA 2600

Dear Ms Dennett,

Please accept this late submission from Greenpeace Australia Pacific to the Senate Standing Committee on Legal and Constitutional Affairs inquiry into the *Patent Amendment (Human Genes and Biological Materials) Bill 2010*.

Greenpeace supports the Bill in its current form, as it would close a harmful loophole in the *Patents Act 1990*, allowing genes and biological materials to be patented. Worldwide, opposition to the patenting of genes and biological materials is strong, for a range of reasons. These can be classified into the following.

- Ethical reasons: Living organisms should not be placed on the same level as human technical inventions.
- Scientific reasons: A gene sequence is not a conventional chemical substance, but more like an information code with many different functions. The holder of a patent that describes one commercial use should not receive a monopoly on all possible functions.
- Social and economic reasons: Patents may make access to genetic resources more difficult and in some cases block that access altogether. Research and development are hindered, and in many cases the resulting costs are disproportionately high. These problems are of particular relevance to health systems and medical research, but their consequences can also be seen in agriculture and plant breeding.

Greenpeace submits that allowing patents over genes and biological materials is pernicious to society at large. The reasons for this are as follows.

- **The real innovation that is to be promoted by the patent is usually not on the level of gene sequencing**, but is downstream from this. As with the manufacture of pharmaceuticals, this is where the major capital expenditure is made. The granting of patents on genes entails unjustified and unnecessary costs for the downstream areas, and in some cases innovation is blocked altogether.
- **Genes are not ordinary chemical substances**. Human and other genes must be



presumed to have very different functions. In the human genome, several hundred thousand biological proteins are controlled by only about 30,000 genes. Genes must therefore be considered far more as encoded information than as patentable chemical substances. Present patenting practice, where the statement of just one commercial application of a gene is enough to claim a monopoly on all uses of that gene, leads to gross overcompensation and considerable impediments to research.

- Through the biological ability of living organisms to reproduce and be crossed, and the extension of gene patents to all biological material in which protected properties exist, **the effect of patents may accumulate in individual forms of life (such as seeds, for example)**, like toxins in the food chain: Just one grain of rice may already be covered by up to 70 patents. For medium-sized breeders and farmers, this represents an impenetrable minefield of monopoly rights and royalty claims.

The negative consequences of gene patents can be summarised as follows:

- considerable increase in the burden on patients and health insurance funds;
- protracted litigation that may also severely impede research and development;
- a blockade of research and development by whole bundles of patents to be observed for individual technical innovations;
- hindrance to medical institutions, particularly in the field of diagnosis;
- obstruction of current proteomics research by hastily granted and too extensive gene patents;
- impediment of research and development, particularly in the field of infectious diseases;
- unacceptable dependence of patients with hereditary diseases on individual companies;
- danger to world food supply owing to the exorbitant cost and monopolisation of seeds;
- new systematic dependence of medium-sized plant breeders;
- considerable financial risks and direct dependence of farmers;
- stepping up of international concentration process in the seed industry;
- new dependence of food industry on agrochemistry.

These impacts of are not just theorised, they are the documented effects of allowing genes and biologically materials to be patented. In a 2004 report published by Greenpeace Germany - *The True Costs of Gene Patents* – the history and consequences of allowing genetic materials to be published are examined in detail. We have included this 2004 report as an appendix to our submission.

Sincerely,

Steve Phillips
Political Assistant
Greenpeace Australia Pacific