

To:

Y.B. Dato' Sri Liow Tiong Lai, Minister of Health

Y.B. Dato Sri Douglas Uggah Embas, Minister of Natural Resources and Environment

Dato' Zoal Azha bin Yusof, Secretary General, Ministry of Natural Resources & Environment and Chairperson, National Biosafety Board (NBB)

Tan Sri Dato' Sri Dr Hj Mohd. Ismail bin Merican, Director General of Health

Mr Letchumanan Ramatha, Director General of Biosafety

Dr Ahmad Parveez Hj. Ghulam Kadir, Chairperson, Genetic Modification Advisory Committee (GMAC)

Dr Shahnaz Murad, Director, Institute of Medical Research (IMR)

21 December 2010
(updated 28 December 2010)

Statement of Concern from Civil Society Organizations Regarding Field Release of Genetically Modified Mosquitoes

As civil society organizations from around the world, we write to you to respectfully put forward our views on the issue of the release of genetically modified (GM) *Aedes aegypti* mosquitoes in Malaysia. It is not clear when such releases will occur, but given the tremendous international interest in the issue, it would be regrettable if the field trials were to be shrouded in secrecy.

We are equally concerned by news of the field releases in 2009 and 2010 of the same GM mosquitoes in the Cayman Islands and are calling for a transparent assessment of the health and environmental impacts of these trials, pending which, no further field releases of GM mosquitoes should occur. The Cayman trials have also been strongly criticized for being conducted without public consultation or ethical oversight and for not seeking the informed consent from local people.

While we appreciate that dengue is a serious problem in Malaysia and that urgent measures are needed to address this debilitating disease, the release of GM mosquitoes presents a unique moment in the history of the application of genetic engineering technology, which is of international significance. We know that the government of Malaysia has not taken this decision lightly, and appreciate the efforts that have been made to responsibly assess the technology and the risks associated with the release of these GM mosquitoes into the environment. However, there are several outstanding issues that would benefit from a more cautious approach.

Scientific uncertainties call for a precautionary approach

GM mosquitoes are a very new application of GM technology and present very different risks, and for which the international community has had virtually no risk assessment or regulatory experience.

Unintended and unpredictable changes may occur (often not instantly noticeable), and a focus on testing for these effects in the laboratory should be the first step, rather

than testing fitness parameters in the open environment, as appears to be the intention of these field trials. Further, the interactions in the wild between the two dengue-carrying mosquito species, their predators and prey, the evolution of the diseases that they carry, and the human population, should be better understood before introducing technologies of this kind in open field release. This requires more sophisticated computer modelling, informed by a better ecological baseline of unmodified mosquitoes in the wild.

It would be therefore prudent to ensure that any questions remaining should be first investigated. As such, the Precautionary Principle dictates that it is still too early for any open field releases, especially given the fact that there will be GM mosquitoes, including females which potentially transmit disease, surviving in the environment due to the known 'leakiness' of the technology employed (around three percent in the published literature). Of particular concern is whether the survival rates in subsequent generations will eventually select for mosquitoes that can overcome the conditional lethality trait. Survival of the GM larvae also means that the transgenes may not be completely removed from the environment, with possibly hazardous consequences.

Pitfalls of a GM mosquito strategy for dengue control

If the world is to approach dengue control using GM mosquitoes, we may be locking ourselves onto a 'genetic treadmill' that would be difficult to reverse. At the commercial release stage, the continuous release of millions of GM mosquitoes at several places would be needed in order to successfully suppress target mosquito populations. In such large numbers the concerns raised over the field trials would be magnified many times over, plus would raise other additional risks.

From the public health perspective, of particular concern is whether population suppression of *Aedes aegypti* (which is the ultimate aim of these GM mosquitoes) would lead to other closely related and disease-transmitting species, such as *Aedes albopictus*, filling the vacated niche and hence continue to cause, or even worsen, the dengue problem, or transmission of other serious diseases.

The company that produces and owns the GM *Aedes aegypti* mosquitoes, UK-based Oxitec Limited, is also developing a similar GM *Aedes albopictus* mosquito, presumably in anticipation of this problem. Oxitec clearly stands to gain from the approval of its products in countries such as Malaysia. However, it is unclear who will bear the liability and from whom victims should seek redress, should any damage to the environment or human health or animal health occur.

Right to health and participation are priorities

Instead of a dengue control strategy beholden to private and vested interests, the participation of people and peoples' organizations is essential to, and would benefit the formulation, implementation and evaluation of all health policies and programmes. We respectfully urge the Malaysian government to ensure meaningful and effective public participation on this matter, as it is committed to under its Biosafety Act 2007 and as a Party to the Cartagena Protocol on Biosafety. There is also a need to put in place a serious and proper prior informed consent regime,

especially considering that the whole world will be looking to the Malaysian experience as a model.

Human well-being is at the core of public health and governments have a duty to respect, protect and fulfil peoples' right to health, as well as refrain from taking actions that can jeopardize the right to health of its citizens. We therefore respectfully urge the Malaysian government to reconsider the decision to allow field experiments of the GM mosquitoes, not only for the benefit of Malaysians, but also for the world at large.

Thank you for your kind consideration of our views.

Yours sincerely,

1. Acción Ecologica, Ecuador
2. African Biodiversity Network (ABN)
3. African Centre for Biosafety, South Africa
4. Agricultura Familiar e Agroecologia (AS-PTA), Brazil
5. All India Drug Action Network, India
6. Amberwaves, USA
7. ANTHRA, India
8. Archdiocese of Manila Ministry on Ecology, Philippines
9. Asociación Desarrollo Medio Ambiental Sustentable (ASDMAS), Perú
10. Basler Appell gegen Gentechnologie
11. Biowatch South Africa
12. Blueridge Institute, Switzerland
13. Broad Initiative for Negros Development (BIND), Philippines
14. Censat Agua Viva-Friends of the Earth Colombia
15. Centre for Sustainable Agriculture, India
16. Centro de Estudios e Investigaciones de Derecho Rural y Reforma Agraria, CEIDRA, Paraguay
17. Centro Ecológico, Brazil
18. Coalition for the Protection of Africa's Genetic Heritage (COPAGEN)
19. COCAP, Philippines
20. COECOCEIBA-Friends of the Earth Costa Rica
21. Diverse Women for Diversity
22. Doctors for Environment, Switzerland
23. Doctors for Food and Biosafety, India
24. Earth Savers Movement
25. Earthlife Africa eThekweni Branch, South Africa
26. Ecological Society of the Philippines
27. Ecologistas en Acción, Spain
28. EcoNexus, UK
29. Edmonds Institute, USA
30. Environmental Rights Action/Friends of the Earth Nigeria
31. ETC Group
32. Farmers Forum -South Cotabato, Philippines
33. Food and Water Europe
34. Food and Water Watch

35. Freedom from Debt Coalition – South Cotabato, Sranggani and General Santos Chapter, Philippines
36. Friends of the Earth Germany
37. Friends of the Earth International
38. Friends of the Earth Spain - Amigos de la Tierra España
39. GeneWatch UK
40. GM Freeze UK
41. GM-Free Cymru (Wales)
42. GM-Free Ireland Network
43. GM Watch
44. Green Alert Negros, Philippines
45. Green Convergence for Safe Food, Healthy Environment and Sustainable Economy, Philippines
46. Green Families and Communities Network (GFCN)/World Environment Day Philippines (WED-Phils.)
47. Greenpeace Southeast Asia
48. Initiative for Health and Equity in Society (IHES), India
49. Institute of Science in Society (ISIS), UK
50. Institute for Responsible Technology, USA
51. International Peoples Health Council (South Asia)
52. Jatan Trust, India
53. JINUKUN, Benin National Network for Sustainable Management of Genetic Resources
54. JPICC-AMRSP, Philippines,
55. Kalimudan Culture and Arts, Glamang Organic Farmers Association, Philippines
56. Living Farms, India
57. MASIPAG-Visayas, Philippines
58. Mediatorin (MAB) / Mediation & Project Management Agrobiodiversity
59. Navdanya, India
60. Negros Island for Sustainable and Rural Development (NISARD) – Negros Occidental, Philippines
61. Negros Island for Sustainable and Rural Development (NISARD) – Negros Oriental, Philippines
62. Negros Occidental Office of Provincial Agriculture, Philippines
63. Negros Organic Agriculture Movement (NOAM), Philippines
64. Network for a GMO-Free Latin America (RALLT)
65. Network Opposed to GMOs-Philippines
66. Oakland Institute, USA
67. Partido Kalikasan (Philippine Green Party)
68. Partnership for Clean Air, Philippines
69. Peruvian Association of Consumers and Users (ASPEC)
70. Pesticide Action Network - Germany
71. Pesticide Action Network Asia and the Pacific (PAN-AP)
72. Pesticide Action Network North America
73. Pesticide Action Network – Uruguay
74. Research Foundation for Science, Technology and Ecology, India
75. SAI Sanctuary Trust, India
76. Sanib-Lakas ng mga Aktibong Lingkod ng Inang Kalikasan (SALIKA), Philippines

77. Save Our Seeds, Berlin
78. Savia, escuela de pensamiento ecologista, Guatemala
79. Schweizerische Arbeitsgruppe Gentechnologie (SAG)
80. SEATINI - South Africa
81. Sibol ng Agham at Teknolohiya (Wellspring of Science and Technology),
Philippines
82. Southeast Asian Council for Food Security & Fair Trade (SEACON)
83. SRI Pilipinas, Philippines
84. Sunray Harvesters, India
85. SWISSAID, the Swiss Foundation for Development Cooperation
86. Third World Network (TWN)
87. Washington Biotechnology Action Council, USA