Biotechnology to support food sustainability in the developing Countries

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Development will bring food security only if it is people-centered, if it is environmentally sound, if it is participatory, and if it builds local and national capacity for self-reliance. These are the basic characteristics of sustainable human development. James Gustave Speth (UNDP, 1994)**.**

The mission of the International Laboratory of Molecular Biology (ILMB) is to conduct and coordinate a research program that brings together experts in molecular biology, in order to facilitate work on the pathogenic mechanisms of human and animal tropical diseases (AIDS, Rift Valley fever, rinderpest, foot-and-mouth disease, etc.). In addition to the study of the molecular biology of disease agents, the ILMB has specific goals of developing vaccines and rapid diagnostic kits to aid in tropical disease control and to transfer these technologies to developing countries. One of the successful examples of the accomplishments of the ILMB is the development of a highly safe and efficacious vaccine and a rapid diagnostic kit for rinderpest, an acute and highly contagious viral disease of ruminants, often resulting in greater than 90% mortality. The first large-scale rinderpest eradication program in Africa (JP/15), in which more than 124 million cattle were vaccinated with the Plowright tissue culture vaccine (PTCV), failed in its mission primarily because the program did not transfer sustainable technology in disease control to affected countries in Africa and Asia. The ILMB has addressed this issue by incorporating a strong technology transfer component within our program for development of vaccines and diagnostic kits for diseases of humans and livestock. A major goal of our projects is the training of scientists from developing countries in virology and molecular biology to assist and strengthen regional laboratories. Already, a number of scientists have been successfully trained and have published their work in first-rate international journals (*Science*, *Nature Biotechnology*, *PNAS, Journal of Virology, Virology*, etc.). The recombinant seed stocks for vaccines and diagnostic reagents have already been provided to a number of laboratories in Africa, to bolster their capacity for local production. In an unprecedented cooperative effort, a workshop conducted by the Institut Sénégalais de Recherche Agricole (ISRA) and led by ILMB-trained African scientists in Dakar, Senegal, November 19-30, 2001 successfully transferred ELISA kit technology for the diagnosis of rinderpest to participants from more than 30 African countries. The ILMB is pleased to have helped initiate a new program: ASharing Sustainable Technologies Among Developing Nations,@ and stands ready to expand technology transfer throughout Africa and Asia. Empowering nations to develop, produce, and distribute effective vaccines and diagnostic kits will enable a truly global effort to control and even eradicate major diseases of humans and livestock.