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**“Indigenous Knowledge and Bioinformatics Teaming Up for  
Rural Agriculture”**

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**ABSTRACT**

Recent advances in genomic sciences and the recognition of indigenous knowledge as an indispensable resource in conserving biodiversity will have major impacts on rural livelihoods in the twenty first century and will impact agricultural biotechnology. Folk perspectives and indigenous knowledge are the thread whereby agriculture, rural livelihoods and the maintenance of biodiversity are intertwined. Genomics, the elucidation and study of the entire genomes of organisms, is projected to rapidly impact agriculture. Pioneered by the human genome project several important organisms have been sequenced and even more are in the pipeline. The type and volume of data generated and its ethical, social and legal implications have opened up new partnerships in the social, computational and biological sciences leading to a cross pollination of approaches to common problems. The implications of genomic biodiversity to societies and to conservation of our natural resources are key issues that will impact rural agriculture and lifestyles. The merging of biology and information technology has brought about the new discipline of bioinformatics as a powerful tool with a wide range of applications. In particular, the teaming up of bioinformatics, the myriad of genomics tools and studies available in the twenty first century with folk perspectives and indigenous knowledge of small farmers will harness information that will not only help to address concerns regarding applications of biotechnology but will also be key to the identification of economic incentives that promote sound agricultural practices. What is

at issue? Can a teaming up of such sources of knowledge help us address social issues such as the limits of human activity, social values, social relations and the distribution of decision-making power to impact agriculture and rural livelihoods in the twenty first century?