

Communique from the 30th ICABR Conference

July 7-10, 2026

Importance of Innovation Investment, Efficient Regulation and Unrestricted Trade

The International Consortium on Applied Bioeconomy Research held its 30th annual conference from July 7-10, 2026, in Ravello, Italy. The theme of the conference was: The Bioeconomy Transformation in Transition: Past Successes, Current Challenges, and Future Prospects. One of the key foci of the conference was presentations and discussions regarding bioeconomy contributions from three central stakeholders outside of federal governments: publicly-funded international research organizations, private sector companies, and philanthropic organizations.

Successful bioeconomy strategies include strong representation of biofuels, bioproducts (including bioenergy, bioplastics, etc.), and biotechnology. Some of these pillars have been more successful than others in terms of engaging the three stakeholder sectors. Some of the sectors and sub-sectors have required considerably more government funding, both from regional/local and federal governments, indicating that incentives to encourage greater investment from other sources are either lacking or misaligned. Research presentations and panel session discussions identified three important facets for greater stakeholder participation and investment: 1) incentivizing scientific research; 2) regulatory harmonization; and 3) unrestricted trade.

Incentivizing Scientific Research

Countries in the Global North have long held an advantage in terms of research and development (R&D) investment and commercialization. It is globally estimated that approximately US\$75 billion is annually invested privately and about \$50 billion public. Efforts to increase Global South R&D investment have witnessed success as for the past decade, public agricultural R&D investments (US\$27B) have surpassed those of the Global North (US\$22B). From 1970-2015 these investments contributed to substantial declines in individuals who were undernourished and living in extreme poverty. However, post-2015, acute food insecurity has risen from 110 million in 2016 to 295 million in 2024. Many of these people live in dryland agriculture areas.

Public sector agricultural R&D funding in many countries has declined over the past decade, which has been coupled with a decline in fiscal support for international agricultural R&D represented by the Consultative Group for International Agricultural Research (CGIAR). Parallel to this is a rise in protectionism and a gradual movement away from past globalization initiatives, which has served to reduce the amount of foreign aid from the Global North to the Global South and as a result technology transfers and innovation spill-overs are declining. However, emerging evidence indicates that there is an increase in collaborations and innovation investments among Global South countries, such as Argentina, Brazil, China, and India.

Successes have been observed with commodity specific research networks. The potential for increasing the success of these networks includes utilizing universities as national anchors of public support, strategic CGIAR support, expanding private sector involvement, and an expanded role for philanthropic organizations.

Regulatory Harmonization

Commercialization of products and technologies that support the development of bioeconomies provide benefits to societies, as well as the potential to contribute to mitigating climate change.

Lengthy regulatory approvals delay the societal benefits, as well as further extend the use of older, potentially harmful products and technologies. The more rapidly products and technologies are approved, the greater the level of benefits. Advances in genomic technologies such as gene editing offer benefits across all three bioeconomy pillars and the harmonization of regulations offers the greatest potential for peak adoptions and societal benefits.

Risk appropriate regulations are essential to the efficiency of regulatory approvals. The Organisation for Economic Cooperation and Development developed the standardization for risk assessments in the early 1980s. In 30 years of genetically modified (GM) crop production, not a single risk has been identified. For example, insect resistant corn has had 932 risk assessments by over 70 governments, none of which found any difference in risk between GM and non-GM corn. Further risk assessment of GM insect tolerant corn is a regulatory inefficiency.

Innovative technologies are moving towards the development and commercialization of increased food crop nutrition, enhanced biofuels, and more economical bioproducts. Regulations and the lack of regulatory harmonization presently serve as a leading barrier to the ability of these products and technologies to deliver benefits to society and to mitigate climate change.

Unrestricted Trade

Innovation adoption is greatly impacted by market certainty. When uncertainty exists, such as uncertainty about whether international commodity markets will accept innovative crop varieties as equivalent to conventional varieties, reduced adoption rates are observed, resulting in lower welfare benefits for society. In many industries, adoption rates of new innovations are measured by the number of firms utilizing the innovation, however, in agriculture it is important to recognize that farmers are included as being part of the private sector. If farmers do not adopt new innovations due to market uncertainty, this represents a market failure.

One of the objectives of increased R&D funding is increased production, that benefits domestic economies through higher trade volumes. However, this benefit is thwarted when restricted global trade materializes. The internet and telecommunication advances enable commodity markets to constantly be globally integrated, allowing for efficient product movements. The imposition of trade-restricting policies and tariffs have negative economic effects, such as slight declines in income levels and a rise in food prices.

Key Takeaway

Investment, regulation, and trade are interconnected attributes of innovation. Evidence suggests the more efficiently connected these factor are, the more successful the innovation pipeline will be in both countries and regions. Future policy efforts should be directed towards maximizing efficiencies across all three key attributes.

Crises often dictate policy change. To a significant extent, there is a crisis in global agriculture due to reduced R&D investments, lack of regulatory harmonization, and adverse effects of trade barriers. Successful development of bioeconomy strategies and frameworks will be based on sustained R&D investments, especially from private sector companies and philanthropic organizations. For these investments to generate beneficial products and technologies, risk appropriate regulations are essential, as is increased regulatory harmonization between countries and regions. Greater regulatory alignment will positively contribute to increased trade in agricultural commodities, food products, and biofuels. Policy changes to support these three leading challenges are imperative for bioeconomy initiatives to reach their full potential.