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Nota di contenuto	The Chemical Element: Chemistry's Contribution to Our Global Future; The Chemical Element: Chemistry's Contribution to Our Global Future; Contents; Introduction; List of Contributors; 1: Chemistry for Development; 1.1 Chemistry, Innovation and Impact; 1.2 Poverty and Disparities in Life Expectancy; 1.3 The Millennium Development Goals; 1.3.1 Goal 1: Reducing Poverty and Hunger; 1.3.2 Goal 2: Achieving Universal Primary Education; 1.3.3 Goal 3: Promoting Gender Equality and Empowering Women; 1.3.4 Goals 4 and 5: Reducing Maternal and Under-Five Child Mortality 1.3.5 Goal 6: Combating HIV/AIDS , Malaria and Other Diseases1.3.6 Goal 7: Ensuring Environmental Sustainability; 1.3.7 Goal 8: Developing a Global Partnership for Development; 1.4 Science, Technology and Development; 1.5 Chemistry and Development; 1.5.1 Chemical Research Applied to World Needs; 1.5.2 International Organization for Chemical Sciences in Development; 1.6 Science and Technology for

National Development; 1.6.1 Investments in Research and Development; 1.6.2 Outputs from Investments in Research and Development; 1.6.3 Connecting Science, Technology and Innovation  
1.7: Capacity Building: Some Key Requirements for Chemistry's Role in Development  
1.7.1 Evolution of Capacity Building Approaches in LMICs; 1.7.2 National Policies for S&T; 1.7.3 Responsibilities; 1.7.4 Professional Associations and Cooperative Networks for Chemistry and Development; 1.7.5 National Funding for Research; 1.7.6 Gender Issues; 1.7.7 Open Access; 1.7.8 Technology Transfer; 1.8 Chemistry and Future Challenges to Health, Wealth and Wellbeing; 1.8.1 "Glocal"-Thinking and Acting from Global to Local; 1.8.2 Agriculture, Food and Nutrition; 1.8.3 Climate Change; 1.8.4 Energy  
1.8.5 Environment and Sustainable Development  
1.8.6 Health; 1.8.7 Intellectual Property; 1.8.8 Natural Resources Exploitation; 1.8.9 Water;  
1.9 Conclusions; Acknowledgments; References; 2: The Role of Chemistry in Addressing Hunger and Food Security; 2.1 Chemistry is the Backbone of Food and Nutrition; 2.2 Global Hunger and Malnutrition in the World Today; 2.2.1 Progress on the Proportion of Children Who are Underweight; 2.2.2 Progress on the Proportion of the Population Who are Undernourished; 2.3 Hunger, Nutrition, and the Food Security Mandate  
2.4 Chemistry's Influence on the Pillars of Food Security  
2.4.1 Food Availability; 2.4.2 Chemistry and the Green Revolution; 2.4.3 Genetically Engineered Crops and Food Production; 2.4.4 Food Access; 2.4.4.1 Post-Harvest Treatment and Storage; 2.4.5 Food Utilization; 2.4.5.1 Balanced Diets and Utilization of Nutrients: The Chemical Components; 2.4.5.2 Antinutrients; 2.4.5.3 Fortification of Food Vehicles: One Chemical at a Time; 2.4.5.4 Improving Utilization through Modern Medicine: The Contribution of Chemistry to Basic Medicines; 2.5 Conclusion; References; 3: Poverty  
3.1 Contribution of Chemistry to Social and Economic Development

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## Sommario/riassunto

In the International Year of Chemistry, prominent scientists highlight the major advances in the fight against the largest problems faced by humanity from the point of view of chemistry, showing how their science is essential to ensuring our long-term survival. Following the UN Millennium Development Goals, the authors examine the ten most critical areas, including energy, climate, food, water and health. All of them are opinion leaders in their fields, or high-ranking decision makers in national and international institutions. Intended to provide an intellectual basis for the future develop

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