



Media Release

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„Are we ‚food-secure‘?“

Due to the complex problems surrounding the issue, it seems difficult to ensure food security for the ever-increasing world population. Although the challenges are different from country to country, there are global risks that must be addressed swiftly because even today, over eight million people suffer from hunger every day.

The vast amount of food being used as feed for livestock and fish is problematic. Another far too large portion of food production is lost in the fields, in transit, in trade, or in households (‘food waste’). As a result of the intensive use of groundwater, there are regions that will soon start suffering from water shortage. This is often combined with a loss of valuable farmland caused by intensive agriculture. In other countries, for example in China and in Russia, increasing water contamination is a major problem. Climate change also leaves its tracks on many continents, causing water shortages or floods, rising temperatures, and growing desertification.

Prof. Klaus Töpfer, former German Environment Minister and currently with the Institute of Advanced Sustainability in Potsdam, provided an alarming overview of the rapid global soil erosion: „We must rethink how we approach food – food has degenerated into a lifestyle object. This abundance of food, combined with massive food waste in the industrialized countries, is leading to an increased division between rich and poor among the world population. Food production often occurs at the expense of poorer countries who are paying the price with loss of soil and water shortages.“

Young scientists are getting involved

At a pre-conference, over 20 young scientists developed brief scenarios on the key issues and challenges of food security in Ethiopia, Brazil, Pakistan, and Russia. At this year’s World Food Day, participants were confronted with the complex challenges of food security in China, Kenya, Switzerland, and the United States. Presentations on these countries’ specific backgrounds provided the starting point. Seven alumni of the Zurich Federal Institute of Technology World Food System Center’s summer school program presented their findings on the respective food systems, the different food available, the different environmental, health as well as social aspects. In



Kenya, for instance, the food processing industry lacks viable technologies and processes. In addition, the education of the rural population should be improved and access to micro-credits provided. In four subsequent workshops, the participants developed system- and solution-oriented approaches for current and future challenges of the food systems in these four specific countries.

At the end of each day, young scientists and members of the Swiss Study Foundation drew a conclusion for the day. Monika Wehrli, acting as one of their representatives, stated: "We have now heard about many possible solutions. Now, it is up to each one of us to implement them by turning them into concrete action – let's start today!"

Feed vs. food

The world currently produces food for some 14 billion people. Approximately a third of this food rots or is destroyed in transit: about a third reaches consumers; and about a third is fed to cows, pigs, chicken, and fish. Not everyone is aware that it takes 100 kg of feed to produce 10 kg of beef, 20 kg of pork, 40 kg of chicken, and 65 liters of milk or 70 kg of fish. Fish production in particular grew disproportionately in recent decades. In 1965, the annual fish consumption per capita was 9.5 kg, in 2013, it had already reached 19.0 kg of fish. Breeding fish in aquacultures is highly lucrative as they need 25% less feed and reach slaughter-weight more quickly in breeding tanks. Today, over 50% of all the fish sold is produced in fish farms. More than 60% of them are located in China. The farming rate of the popular salmon even stands at 72%. This factory farming requires a high use of drugs and the fish are generally more susceptible to illness.

Genetic modification or bio-diversity?

Hans R. Herren, 2013 Alternative Nobel Prize laureate, called for a paradigm shift in our behavior: „We do not act sustainably and are careless with our precious resources of arable land, water, and plants. When it comes to production, we cannot just support large farming businesses; small farmers also contribute greatly to a sustainable food system. With respect to bio-diversity, we must move from linear thinking to networked thinking because ecosystems are closely linked to each other. Changing something on a plant's gene affects the entire ecosystem. Insects can provide valuable services in plant protection. And we must reduce our massive meat consumption.“ Not all conference participants shared his opinion on the use of genetically modified organisms. For proponents like Juan Gonzalez-Valero of



Syngenta, they are the solution: developing countries would greatly benefit from it. Thanks to genetic engineering, plant potential could be brought to life and provide the key in the fight against malnutrition.

Speculation determines food prices

In 2008, food prices rose rapidly worldwide. Price increases of over 70% for staple foods like maize and rice were recorded. As a result, more than 115 million people slid into poverty. The massive price hikes could not be explained by population growth, depreciation of the dollar, loss of arable land due to climate change, export restrictions of the biggest producing countries, rising oil prices, and crop failures alone. One reason for the immense increase was speculation in financial derivatives on food. Futures contracts aggravate the problem of raw materials storage. The storage of large quantities is uneconomical. If only small amounts are stocked, the danger of food shortages increases with the smallest price fluctuations. Meanwhile, an ever-increasing portion of the food markets is dominated by banks, hedge funds, and insurance companies. They are betting on the price of staple foods without ever coming into physical contact with them.

Industry's role

Multinational corporations also play an important role in food security. Duncan Pollard of Nestlé S.A. showed how the company for example supported over 22,000 dairy farmers in Pakistan with training and cooling systems last year. This helped reduce the usual losses in the processing chain from 15% to 6% in the regions that Nestlé supported. As Syngenta's representative, Juan Gonzalez-Valero explained the 'Good Growth Plan', the company's own commitment to promote resource efficiency, revive ecosystems, and promote rural communities worldwide by 2020. Not only large, but also small agricultural businesses should profit from this. No matter which approach the producers take, whether it be conventional production or genetically modified plants, the production of food must be done carefully and declared accordingly. The general loss of food in production or in transit as well as the waste of food in trade and in households must also drastically be reduced. At the conclusion of the conference, the Chairman of the Board of Trustees of the Foundation thanked all 180 attendees for their committed participation. He remarked that many of the solutions are controversial and that in an open society like ours, it is up to each individual to discuss viable solutions for food security today and in the future. Videos of all the speeches



can be accessed at www.academia-engelberg.ch -> Konferenz 2014 > Videos.

Focus on economic systems

The 14th Dialogue on Science in mid-October 2015 will address 'Future Economic Systems'. On the eve of the 21st century, communism is greatly discredited, and capitalism is in an endless technological loop. The financial and economic crises of the recent past force us to rethink the economic systems and the market economy. New technologies, globalization, social media and ecological awareness are the lifelines for some, the challenges for the others. The economic and social reality appears unknown as it is arbitrarily redefined. In addition to an analysis of today's systems, requirements of new, sustainable economic systems are shown and again, interdisciplinary and intergenerational discussions will be held on their implementation.

<Box info> A Bridge between Science and Society

Basic findings from science frequently meet with strong reservation and suspicion among the general population. With its interdisciplinary dialogue, the Academia Engelberg Foundation contributes to the building of a new foundation of trust between science and the public at large. Each fall, personalities from science, business, culture, politics, and society meet at the annual conference in Engelberg, Switzerland. Additionally, projects resulting from the outcomes of the conferences are realized and in-depth follow-up events organized. For further information: www.academia-engelberg.ch.

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[Images and copy of the conference are available free of charge by quoting the source here.](#)

Video channel: http://www.academia-engelberg.ch/videos_2014.php5

Additional information for members of the media and arrangement of interviews:

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