



Report on the 2nd Congress Hidden Hunger

The 2nd International Congress Hidden Hunger: **"Hidden Hunger, Childhood Development and Long-term Prospects for Society and Economy"** was held in Stuttgart from 3 to 6 March 2015. The global meeting of scientists, members of non-governmental organisations, government officials and representatives from the public, private and civic sectors, was organised by the Food Security Center (FSC) and the Institute of Biological Chemistry and Nutrition at the University of

Hohenheim, in cooperation with the Society of Nutrition and Food Science (SNFS) and the German Society of Paediatrics and Adolescent Medicine (DGKJ). The Congress dealt with the following subject areas and disciplines: nutrition science, gynaecology and obstetrics, paediatrics (neonatology to adolescent medicine), humanities and social science, politics, the economy and agronomy.

The main programme, consisting of a series of scientific lectures and talks by renowned experts, was complemented by a poster exhibition and an exhibition by civic and private sector organisations and companies. There were also two panel discussions on **"How to address nutrition transition and micro-nutrient deficiencies together?"** and **"ICN2 - Messages and challenges"**.

The Congress was furthermore enriched by a **"Science & Society Session"** promoted by the Schering Foundation and regularly formed an integral part of the Congress entitled **"Hunger and Affluence"**, headed up by Curator Jan-Philipp Possmann and author and director Andreas Liebmann. The session consisted of a series of artistic and cultural scientific events, held around the periphery of the Congress at the Theater Rampe and at the University of Hohenheim, as well as artistic interventions performed during the Congress.

Mathilde Kersting of the Research Institute for Child Nutrition (FKE) Dortmund spoke in one of the first lectures entitled **"Critical dietary habits in early childhood – principles and practice"** about vegetarian eating habits and highlighted the risks of vegetarian nutrition in pregnancy and early childhood. The risk of nutrient deficiency is generally not easy to estimate. The following applies: the more restrictive the choice of food, the higher the risk of nutrient deficiency or even retarded growth among newborns and during childhood. **Mathilde Kersting** drew particular attention to the nutrients vitamin B12, iodine, calcium, iron, vitamin A and Omega-3 fatty acids. She cited as an example the children of vegan mothers under-supplied with vitamin B12 in whom neurological damage was diagnosed. To date, there has not been research conducted to investigate the possible positive or negative effects of today's vegetarian eating habits on health during pregnancy and in early childhood. She stressed that food poverty was playing an increasing role in Germany as well and that it represents a serious development that has not been accorded much importance in development strategies to date.

In her talk entitled **"Food price policies improve diet quality while increasing socio-economic inequalities in nutrition"**, **Nicole Darmon** of the Aix-Marseille University in France referred to a paper

(published in the International Journal of Behavioural Nutrition and Physical Activity 2014, 11:66) which investigated the effects of food price policies on spending on food and the quality of food eaten in households with low and medium incomes. The paper reached the conclusion that women with lower incomes benefit less from financial subsidies and food subsidies than women with medium incomes. Admittedly food price policies can improve the quality of nutrition, but socio-economic inequality can rise as a result of this.

In his talk on **"Income equality and child mortality in wealthy nations"**, **David Collison** from the School of Business and the University of Dundee discussed aspects of socio-economic organisations, which deal with bad social indicators, particularly relating to child mortality. The focus was on relatively rich and developed countries (e.g. the majority of countries in the OECD (Organisation for Economic Cooperation and Development)). However, the aspects studied are relevant for poorer countries and developing countries, as they also have socio-economic systems influenced in different ways by models already in existence in developed countries. Income inequality in richer countries has a serious impact on the rate of child mortality in these countries. While the average per capita income in these countries varies considerably, these fluctuations have no recognisable link to child mortality. The central finding, according to **David Collison**, was that different models of capitalism, involving different models of corporate governance, are systematically associated with varying occurrences of child mortality. There is evidence, according to David Collison, that "benign" variations of social economies run the risk of being replaced by primarily stakeholder-orientated models, which can therefore have negative effects on society.

"Supplying adequate iodine to the first '1000 days': iodized salt, iodine supplements and micro-nutrient powders" was the subject addressed by **Michael B. Zimmermann** from the Eidgenössische Technische Hochschule (ETH) Zurich. Iodine deficiency during pregnancy and childhood can irreversibly affect brain development and increase child mortality. There is an increased need for iodine during pregnancy. Children up to one year of age have an increased risk of iodine deficiency, as their need for iodine and thyroid hormones per kilogram of body weight is higher at this stage of the life cycle than at others. Pregnant women and children can experience an inadequate supply of iodine even in countries where schoolchildren have an adequate supply of iodine. For this reason, **Michael B. Zimmermann** recommends that programmes to monitor iodine deficiency among the population should pay particular attention to the first "1000 days". He presented several recommendations for supplying iodine as well as studies on and findings of the effectiveness of these recommendations.

Wolfgang Bernhard from the University Paediatric Hospital of Tübingen discussed **"Choline and essential fatty acid metabolism during foetal development and in pre-term infants"**. An adequate supply of choline, arachidonic acid and docosahexaenoic acid is essential for the development and growth of the human foetus. Low choline levels in foetal blood can result in pre-term births. Choline absorption into the brain is reduced and the development of white and grey brain matter is compromised. With pre-term births, it can even cause a serious disorder of the choline and fatty acid balance, which cannot be rectified by usual feeding strategies, that can lead to general developmental disorders and disorders of the nervous system and should be examined more closely in intervention studies.

Following an official welcome speech by the Vice President for Research at the University of Hohenheim, **Jochen Weiss, Joachim von Braun**, Director of the Center for Development Research (ZEF) at the

University of Bonn, opened the second day of the Congress with his talk entitled **"Overcoming hidden hunger in children's first 1000 days: political economy and research directions"**. He stressed that hidden hunger is not just a matter of concern for public health, the food sector and for agriculture. A failure in terms of the right to be heard and accountability as well as long-term returns play a massive role in the failure of politics; the concealment of hidden hunger inhibits the normal functioning of the supply and demand side of the market with negative consequences for pricing and investment support. **Joachim von Braun** highlighted possibilities for rectifying these failures through public action and organisational realignment.

Robert E. Black from the Johns Hopkins Bloomberg School of Public Health in Baltimore gave a talk entitled **"Maternal and child malnutrition and overweight in low- and middle-income countries"** in which he referred to the problem of maternal and child malnutrition in countries with low and middle incomes, to malnourishment and to the increasing problem of overweight people and obesity. He provided figures on the trend towards decreasing maternal malnutrition compared to the increasing prevalence of maternal obesity as well as figures on "stunting" (retardation / underdevelopment), iron deficiency and vitamin A deficiency. It is estimated that global malnourishment linked to foetal growth retardation, "stunting" and the lack of zinc and vitamin A as well as below-average duration of breastfeeding is the cause of 3.1 million deaths amongst children every year. The issues of maternal obesity and overweight mothers are linked to increased maternal morbidity and child mortality. An overweight population increasingly leads to obesity, diabetes and non-communicable diseases in adults. **Robert E. Black** came to the conclusion that the high burden of disease resulting from malnutrition amongst women of reproductive age and during pregnancy as well as during the first two years of life is set to increase in future and should lead to targeted measures being taken for this group of people.

In his talk entitled **"Vitamin A deficiency early in life: extent and consequences during the first 1000 days and beyond"**, **Keith P. West**, Director of the Programme and Center for Human Nutrition at the Johns Hopkins Bloomberg School of Public Health in Baltimore, turned his attention specifically to vitamin A deficiency, which is a major problem in low-income countries. Its consequences are particularly evident for the health of pre-school aged children, where the mortality risk can be lowered by the supply of vitamin A, and blindness (xerophthalmia) and hearing loss caused by serious ear infections pre-empted. Less obvious is the fact that vitamin A deficiency can also occur during pregnancy, which can lead to maternal blindness and present a major risk to the unborn child. **Keith P. West** summarised the findings of nine broad-based placebo-controlled studies carried out in South Asia and Africa with around 70,000 participants: under certain circumstances, the oral supplementation of vitamin A (50,000 IU) to children shortly after their birth had no effect on the survival ability of population groups with a quite inadequate to adequate intake of vitamin A. However, it was able to reduce child mortality by 10-15% in population groups in which there was moderate to severe vitamin A deficiency amongst mothers. He stressed that a more regional public health approach and strategies are needed - rather than a global approach - in order to guarantee their effectiveness with regard to the prevention of vitamin A deficiency in newborn children.

Peter J.A. McCaffery also discussed the importance of vitamin A in his talk **"A vitamin for the brain"**. Vitamin A is essential for vision. It also has a key role in systems in which cell growth plays an important role, such as the immune system and the reproductive and gastrointestinal systems. As the brain is an organ in which there is little cell growth after its full development, the importance of vitamin A for the brain has been largely ignored up to now. **Peter J.A. McCaffery** explained what the right vitamin A balance is in the

brain and why and how the vitamin is important for the right neuronal functions.

Michael B. Zimmermann emphasised in his talk "**Importance of iodine for brain development**" that the body's iodine requirement is more than 50% higher during pregnancy. A deficiency can lead to maternal and foetal hypoparathyroidism and impair the development of the foetal nervous system. In areas with moderate to serious iodine deficiency, controlled studies had shown that supplementing iodine before or during early pregnancy completely eliminates the clinically manifested form of hypoparathyroidism, also known as cretinism, and promotes the development of young children by 10-20%. Mild to medium iodine deficiency can cause the thyroid to malfunction, however it is unclear whether this also leads to disrupted cognitive and/or neurological functions. As iodine deficiency is widespread and large parts of the population are affected by it (e.g. in Africa and South Asia), its correction and elimination is of major importance – not least in terms of raising IQ levels, as demonstrated by two recently published systematic reviews.

Hanns-Christoph Eiden of the Federal Office for Agriculture and Food (BLE) discussed in his talk entitled "**ICN2, the International Conference on Nutrition 2, seen by the Member States**" the Second International Conference on Nutrition (ICN2), organised by the UN Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO). **Leslie Amoroso** of the UN Food and Agriculture Organisation (FAO) also reported on this in her talk "**The Second International Conference on Nutrition - ICN2 Implications for hidden hunger**". The ICN2 was the first global intergovernmental conference to tackle the nutritional problems of the 21st century. It was held from 19 to 21 November 2014 in the FAO's headquarters in Rome. **Hanns-Christoph Eiden** and **Leslie Amoroso** first summarised the figures: 805 million people suffer from hunger; over 160 million children are underdeveloped; 51 million children suffer from emaciation; over 2 billion people are affected by a micro-nutrient deficiency, while at the same time 500 million people – including 42 million children – are overweight or obese. Two documents were adopted as the result of the ICN2 Conference: the first document, "The Rome Declaration on Nutrition", committed the participating states to combat malnutrition in all its forms and manifestations. The second document, "The Framework for Action, which serves to fix the fight against hunger and malnutrition on the Post-2015 Agenda, noted 60 measures to serve as a framework for appropriate action in the respective states. During the Conference, the states were invited to submit "National Frameworks for Action" which incorporate milestones, interim objectives and actions to solve the relevant problems. Implementation of these "National Frameworks for Action" have been agreed upon for the period from 2016 to 2025. In addition, internationally recognised indicators and reporting at a national level were agreed upon in order to ensure that progress towards achieving the goals is monitored. According to **Hanns-Christoph Eiden**, the success of ICN2 depends on (1st) the international bodies, the international community and the civic society keeping the fight against hunger and malnutrition as a permanent goal on the international agenda, and (2nd) on states worldwide who currently consider the actions to be necessary and meaningful in their respective countries, and on the international bodies that effectively supervise these processes.

According to **Carl E. Pray** in his talk on "**Genetically engineered crops and organic agriculture for improving nutrition security in Africa and South Asia**", there is major potential for improving food security in Africa and South Asia with genetically modified crops and organic farming. One reason for this is the increased income of poorer people due to the production of what have become known as "cash crops", such as genetically modified cotton and organic coffee. Moreover, the production of genetically modified crops can lead to a fall in global prices for corn, among others, so that people in need in Africa could provide

for themselves with it. However, political and regulatory barriers stand in the way of genetically modified agricultural products. Consumers regard them as being problematic in terms of food safety. High costs stand in the way of the production of organic foods, combined with expensive certification and an enormous amount of work, among other things. High prices mean that organic products are therefore not a real alternative for poor consumers in Africa and Asia.

The far greater part of the hunger tragedy, according to **Klaus von Grebmer**, former Director of the Communications Division of the International Food Policy Research Institute (IFPRI), is not the visible hunger which we are all aware of from the photographs of starving children and which affects 805 million people. Rather the greater tragedy lies in hidden hunger, also known as micro-nutrient deficiency, which affects over 2 billion people worldwide. The effects of hidden hunger are not immediately visible, but are just as devastating: it leads to mental impairment, poor health, low productivity and even death. With regard to hidden hunger, **Klaus von Grebmer** warned in his talk entitled **"Making hidden hunger visible: communications as key success factor"**, that fighting something that is "hidden" can only end successfully if effective and efficient communication brings the issue to public awareness at a local, national and regional level: what is happening, why is it happening and what are the policies and strategies that can reduce its effects? Transparency is called for to bring about a change in politics and to find out who is responsible. Good evidence is needed to monitor and evaluate any progress. Hidden hunger can only be successfully eradicated when we prise it out of its hiding place. **Klaus von Grebmer** regards communication as the key to doing this.

Harald Grethe of the Institute of Agricultural Policy and Markets at Universität Hohenheim discussed in his talk entitled **"Consuming less meat in OECD countries: effects on global food prices and food consumption in developing countries"** the causes and consequences of high levels of meat consumption, which is the order of the day in the OECD countries. He regards this as a stress factor on global resources and a threat to global food security, and he also blames it for the rise in global food prices. **Harald Grethe** described his research on the effects of reduced meat consumption in OECD countries on the global food market and on the change in food prices.

"How to achieve transparency in public-private partnerships?" was the title of the talk given by **Manfred Eggersdorfer**, Senior Vice President for Nutrition Science & Advocacy at DSM Nutritional Products Ltd. He first discussed the ICN2 Conference, stressing that, according to the ICN2, the private sector plays a key role in partnerships with stakeholders in the fight against hunger and malnutrition. Governments and states have to define the regulatory framework. Fair competition has to be guaranteed; there needs to be an appropriate basis to make investment attractive to private companies and ultimately lead to economic growth. Governments, civic organisations and the business sector alone can only have a limited impact. Hunger and malnutrition can be far more successfully addressed in partnership. **Manfred Eggersdorfer** pointed out that a number of questions still remain unanswered with regard to successful and lasting development, including the question of how public-private partnerships can put in place proven nutritional concepts. Lasting intervention programmes have the largest and also the most long-term impact on the development of countries. They are economically viable and produce the highest returns for those affected. Lastly, **Manfred Eggersdorfer** called for a concerted approach from the global community and the joint implementation of existing solutions with regard to the problem of malnutrition.

Overall, the scientific part of the conference included 50 "keynote" presentations, 11 free presentations and 40 posters. The exhibition consisted of 15 stands. A total of 279 participants from 36 different countries registered for the Congress. The Congress was permanently accompanied by seven press representatives. 13 press representatives were registered at a press conference held in parallel.

The Congress was held over four days. The organisation of the event was secured thanks to generous donations from different companies, organisations and institutions; travel grants also enabled 35 scientists from Africa and Asia to attend the Congress. The final two days of the Congress were organised by the FSC - thanks to special funding by the German Academic Exchange Service (DAAD), the DAAD's "EXCEED" (Higher Education Excellence in Development Cooperation) programme and the German Federal Ministry for Economic Cooperation and Development (BMZ). The final day of the Congress was dedicated to the five "Higher Education Institutions (HEIs)" within the DAAD's "EXCEED" programme and included presentations in which the "Exceed Centers" introduced themselves: the Excellence Center for Development Cooperation "Sustainable Water Management", the International Center for Development and Decent Work (ICDD), the Center for International Health (CIHLMU), the Center for Natural Resources and Development (CNRD) and the FSC.

On behalf of the University of Hohenheim and the Scientific Board, **Hans K. Biesalski** thanked the Congress participants for attending, for their attention and the lively discussions on "Hidden Hunger, Childhood Development and Long-term Prospects for Society and Economy" and announced that the 3rd Congress Hidden Hunger will be held in 2017 and focus on the "**Post 2015 Agenda: where are we now? - Strategies to improve nutrition quality**".

July 2015

Contact:

Jana Tinz

University of Hohenheim | Food Security Center (FSC) (791)

Wollgrasweg 43 | 70599 Stuttgart, Germany

E-mail: jana.tinz@uni-hohenheim.de