

3 SUMMARY OF LECTURES

3.1 Dr ZHANG Xiaoyong: New dimensions of food economy research

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3.1.1 Brief introduction of the speaker

Dr ZHANG Xiaoyong is a senior researcher at LEI, the Agricultural Economics Research Institute, part of Wageningen University and Research Centre in the Netherlands. She is a research fellow at Mansholt Graduate School of Wageningen UR. Her research focuses on food consumption behaviour and supply chain management. She has published a series of articles in leading academic journals related to food consumption patterns, health lifestyles, overweight and obesity, chain governance, etc. Her work has been rewarded as the best paper in the IAMA conference of 2009.

3.1.2 Central topic of lecture

Dr Zhang Xiaoyong pointed out that the traditional new classical economic framework and the linear scientific model are too simple to explain the current food economic problems. The new food economy has broken the simple supply chain from production to consumption. It is now centred around the consumers, guided by market demand and changed into a complicated chain of functions. In the new food economy the markets are not completely public, but based on relations and talent. Instead of *tame problems* an increasing number of *wicked problems* are arising in the food economy. These problems ask for new scientific models, not linear but cyclic, alternative theories and other research methods. Are we ready for new food economics?

3.1.3 Summary of lecture

The lecture of Ms Zhang can be broken down into three parts :

- a) The New Food Economy
- b) Emerging issues, wicked problems
- c) The challenges to sciences

Part One: what is the new food economy?

The reconsideration of economic theory during the current economic crisis has also caused a reconsideration of agricultural economics. Starting from the traditional food economics it is essential now to define the new food economics. The traditional food economics starts from the concept of a product chain from production, storage, processing, to marketing and consumption. The traditional food economics is mainly based on economic theories, such as price theory in which the equilibrium price at the cross point of supply and demand curves, the theoretic decision-making and competition theory and the assumption of rational consumers seeking to maximize utility. The new food economics starts from a consumers centred web in which many aspects of food consumption are interconnected. Establishing relations and developing processes come before production can start. In the new food economics, price discovery is not easy, because it is not based on supply and demand only; market access is often limited and is based on invitation to take part in the network.

Theories applied in the new food economics include supply chain management theories (chains and networks), institutional economics, organizational theories, consumer behaviour theories, etc. The new food economics is still analysing '*tame*' problems, but here and there are arising many '*wicked*' problems that need to be addressed. Tame problems in food economics are, for example, identification problems of sources of food contamination, cost and benefit problems of irrigation projects. The concept of tame problems is fairly clear, and we know how to solve the problem. In general, they can be clearly defined and the process to solving these problems is rather transparent. The results are correct or not correct and give leads to success or failure. These problems do not change much over time. The cause of the problems can be determined by experts on the basis of scientific approaches and data. The uncertainty around tame problems is small; we have a common understanding of the problem and a common expectation of possible solutions. When we have solved the problem, we have done our task and can continue to the following problem. When the problems are solved, the tasks are completed. However, the problems we are facing now, are not that straight forward, they are "wicked problems".

Part Two: Emerging issues, wicked problems

Examples of wicked problems are: animal welfare, GMO food, bio-fuel production, climate change and sustainable development of food. Wicked problems have the nature of social complexity, many interdependencies, multi-causal, and they are seldom the responsibility of a single organisation; there are many stakeholders involved who need to cooperate to solve the problems. Wicked problems are not consistent in time. The problems are changing when trying to solve the problems. The many stakeholders have different ideas on what the “true” problem is and the “real” cause of the problem. The solution of the problem is based on the judgment by the stakeholders. Hence, whether a problem has been solved or not, depends on the opinion of the stakeholders, the political forces and resources availability. There is no clear final solution; a solution is not clearly correct or wrong; the result is “better”, “worse”, or “good enough”.

Part three: Challenges to sciences

The new wicked problems are challenging the traditional research theories and methodologies. The traditional scientific linear model holds the view that the societal progress is based on scientific progress. It consists of different phases starting from basic research, leading to the establishment of a knowledge reservoir and databases, which are used for applied research leading to societal development and progress. Its assumptions: scientific progress causes societal progress, clear and correct science is the precondition of scientific solutions for political disputes. In contrast, scientific cyclic model holds the view that science and society are interconnected. The public participates in science, democratized science. Science and technology is not a black box, public should participate both in the phase of determining the research objectives and in the research orientation.

The traditional science approach is not suitable for research on wicked problems. Because of differences in valuating expected outcomes, different kinds of actions for different kind of stakeholders are required; hence, stakeholders need to participate in the whole process of decision-making. In that process, science plays another role, not simple leading but interlinked with the society; the functions of scientific decision making have become very complicated. An example of such a wicked problem is the decision on what should have the priority in the agricultural policies by the EU: farmer’s welfare,

environment protection, international competitiveness, animal welfare, sustainability etc.? Different groups do have different opinions about the priority issues. There are differences between the old and the new EU member countries, between rural and urban areas, between different education levels, different political ideology, and different value orientations.

Another example is the different values that consumers attach to food, such as health, taste, animal welfare, environmental friendliness, justice in payment, convenience, feeling good, etc.

The research of this type of wicked problems requires the application of scientific cyclic models and alternative theories and research methods, such as behavioural economics, stakeholder's analysis, effective participation, collective decision-making, etc. Wicked problems ask for trans- and interdisciplinary research, not only economics, but also psychology, political and public administration sciences, sociology and anthropology.

This change in research approach has also implications for research funding mechanism. Research funding agencies in the EU and the U.S. are increasingly not satisfied with curiosity driven, disciplinary based science, stressing more and more the impact of science on society and paying more attention to linking progress in science and society. Research committees do not consist of scientists and research workers only, but also of representatives of private enterprises, non-governmental organizations, practitioners and other stakeholders from various parts of the society.

In conclusion of her presentation, Ms Zhang states that it is time to think about the position of agricultural economics in solving wicked problems. If agricultural economics ignores these problems and the implications for research, what is then the future of agricultural economics?

For more details of this lecture and additional information, please, contact Dr Xiaoyong ZHANG.

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(See also: www.lei.wur.nl/UK/newsagenda/Dossiers/The_New_Food_Economy.htm)