



# Complex Problems

Challenges for administrations and how they deal with them



The new airport BER is a prestige project and one of the largest construction sites in Europe. However, it has turned out to be a "wicked problem" ever since the groundbreaking ceremony on 5 September 2006. Construction costs have skyrocketed from EUR 1.7 billion to around 5.3 billion. Local residents have filed lawsuits to prevent certain flight routes, and the parties concerned – the states of Berlin and Brandenburg and the federal government – are at loggerheads about the project. Worst of all, the airport, already being depicted as the hub of central Germany, remains unfinished. The opening, initially planned for 2007, has been postponed several times. Now 2018 is envisaged, though also this subject to change. So what went wrong? Such questions are researched by the research training group "Wicked Problems", which looks into how "public administrations" deal with complex challenges.

"Wicked problems are just what their name suggests," says Prof. Dr. Harald Fuhr, spokesman of the program. Because of their complexity, they are hard to grasp, let alone define. They are difficult to delimit in time and space and often involve or affect a larger number of stakeholders, and they are frequently closely related to other problems. "Analytically speaking, wicked problems can be characterized as a combination of simultaneously occurring levels of complexity, uncertainty, and ambiguity," Fuhr explains. And this mélange has far-reaching consequences for public administration and the way it tackles problems.

Twelve graduates in political, social, administrative, and economic sciences joined forces to research the issue and established the research training group – with support of the German Research Foundation (DFG) – at the Faculty of Economic and Social Sciences at the University of Potsdam in 2012. "We are less interested in wicked problems as such, but in the way they are dealt with," Fuhr says. After all, they are just the background against which the young researchers study how administrations function and develop.

"To some, administration is something dull, narrow-minded, and cumbersome," Harald Fuhr states. "But you have to realize that in industrialized nations every other Euro of the gross domestic product runs through the unknown corridors of public administration. And last but not least, political reforms are implemented by public administrations. Many people wish administrative processes would be less time consuming. We want to find out why this is often not the case, and what is done about it." As a professor of international politics, Fuhr knows a lot about administrations in

various parts of the world and how they work. And due to global integration processes and complex challenges, they are undergoing radical transformation. Climate change, digitalization, migration, international crime, global financial flows – for quite some time, public administrations have faced global processes with

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Basanta Thapa and Robert Gäde.

worldwide consequences. In dealing with such issues, all factors need to be considered and all stakeholders have to be onboard. "Problems have varying degrees of complexity. Some may be solved by the administrations alone at, say, the local level," Fuhr maintains. "But at the national, EU, or global levels, there are so many stakeholders that a completely different approach and new strategies are needed."

Such strategies are being tracked down by the program's members and on various levels, as the subtitle of the Research Training Group "Wicked Problems, Contested Administrations" suggests: "knowledge, coordination, strategy". Faced with previously unknown problems, administrations look for, among other things, new strategies or revise existing ones. In other cases, they strive for better coordination, both internally and with external players. Last but not least, administrations always depend on expanding the knowledge base of their actions.

In their research, the PhD students focus on one of these levels. Robert Gäde, for instance, looks at the transnational cooperation between tax authorities regulated by bilateral and multilateral treaties. "I am looking at how certain countries have translated these directives into national law," the young researcher says. Tax information is exchanged in three ways used in varying intensity and degrees of success: automatically, spontaneously and on request. For the automatic ex-

**THE PROJECT**

**Research Training Group "Wicked Problems, Contested Administrations: Knowledge, Coordination, Strategy" (WIPCAD)**

Spokesman: Prof. Harald Fuhr (International Politics)

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Duration: 2012 – 2017



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change, larger data packets about foreign nationals are transferred to their home countries at regular intervals. For the spontaneous exchange, revenue officers of the source country, i.e. where the data is collected, spontaneously send potentially useful data to the home country of an individual or corporation, whereas in the third case they do so at the request of their colleagues in the country of residence only.

Robert Gäde works with data made available to him by the German and Dutch ministries of finance. The amount of data transferred automatically is extremely vast and thus probably difficult for the tax authorities to analyze. For his research, the spontaneously sent information and the proportion between requests and answers are more relevant. After all, they indicate the general willingness of the fiscal authorities of a country to cooperate. He also compares the number of cases with the general quality of an administration as rated in international indices. In addition, Gäde has held qualitative interviews with tax officers in selected countries, as the exchange of information is influenced by other factors, too: degree of autonomy of the fiscal authorities, having same language as the partner country, or economic interdependence, to mention but a few.

In evaluating the data, Robert Gäde is following up the assumption that low-tax countries systematically share less information than high-tax countries, which have a natural interest in tracking down money transferred to offshore havens for tax evasion. "Consequently, tax competition is shifting from the level of tax rates to that of the administration – which is well aware of it and acts accordingly," Gäde explains.

While Robert Gäde was one of the first PhD students to join the program in 2012, Basanta Thapa arrived with the third group in 2014. His project explores the prospective influence of big data analytics (BDA), a possible new source of knowledge, on administrations. Could the centralized collection and provision of data revolutionize existing knowledge regimes? He spent several months surveying his field theoretically to create the framework for his research. "Currently,

*“Currently, there is an incredible hype around big data analytics.”*

there is an incredible hype around big data analytics," Thapa explains. "You notice that it is a black box with yet-to-be-understood opportunities. It is not clear what technical possibilities there are. Right now, there is a lot of talk, but little has been implemented so far." Still, it is plain to see that the "datafication of the world", that is, measuring the world with digitally connected sensors including smartphones and the "Internet of Things", has brought a new quality of perception. Initial applications include traffic management in big cities. The concept of "smart cities" builds on big data analytics as well. "As far as I can see, Germany is lagging far behind in this respect," Thapa says. "This is not least due to the fact that the issue has been

discussed here mainly under the label 'Big Brother.'" Based on his theoretical work, Thapa will have to examine individual aspects and the effects of big data analytics in administration. To this end, he will conduct field research in cities using or discussing BDA more intensely. So it may well be that one day his studies will take him to Singapore, London, or Boston.

Basanta Thapa enjoys the research freedom of the program. "Nobody is telling you what to do; you have to outline and develop your project yourself." At the same time, the young researchers benefit from the contact with each other. Despite the comparatively broad theoretical framework, the program offers a lot of room for networking: a colloquium, meetings, summer schools, a lecture series, and smaller working groups bring all participants together at regular intervals and facilitate an intensive exchange at various levels. "A joint and compulsory course is the beating heart of the program,"

#### THE RESEARCHERS



**Prof. Dr. Harald Fuhr** studied political sciences, sociology, economics, economic and social history at Goethe University Frankfurt am Main and the Philipps-Universität Marburg/Lahn; PhD (1985) and habilitation (1993) in Constance. Since 1997 he has been Professor of International Politics at the University of Potsdam.

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### WICKED PROBLEMS

"Wicked Problems" stand out through a high degree of complexity, uncertainty and ambiguity. This is why they are a fundamental challenge for institutions of public administration – at local, national and international level. The term "wicked problems" has been used in English-speaking social sciences since the 1960s. For the Research Training Group "Wicked Problems, Contested Administrations: Knowledge, Coordination, Strategy" it has been translated into German.

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Harald Fuhr agrees. "If nothing else, it is the message of the German Research Foundation to universities to develop structured doctoral programs from the funded research training groups." – Which is really needed, as the political scientist explains. After all, it is the declared objective of the program to provide the best conditions for young doctoral students to do excellent research – all while training them in step with actual practice. "Some of them will find jobs in research, others in practical fields," Fuhr remarks. "And a third group will oscillate between them as 'pracademics'.

In the doctoral training they will acquire the skills to work at the intersections of research, management, and administration. And help find solutions for wicked problems."

Entirely new solutions are needed. However, Fuhr underlines that the program is no think tank for wicked problems, nor is it aiming to solve them. "We are mainly interested in how administrations deal with such problems and how they choose to address them. Nevertheless, we want to identify new work patterns in administration and problem solving – and find out if they can be transferred and generalized."

It has become apparent thus far that in large, complex undertakings and projects control and administration are not enough – like in the construction of a major airport, for instance. "In such cases, all stakeholders must be onboard at an early point," Fuhr says. "Ideally before the first stake is driven. First and foremost, objections, problems, and 'no-nos' should be explored, as this approach brings higher input legitimation." And certain problems might not be encountered at all.

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