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# **Pathways for advocacy:**

An identification of the main influencer networks relevant to agriculture R&D in Germany

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### Table of Contents

1	Introduction4	
2	Overview of funding and trends for agriculture R&D in Germany5	
3 Ger	The process behind agriculture R&D expenditure's adoption and implementation in many8	
3.1	The adoption of the agriculture R&D budget in Germany - the legislative process8	
3.2	Size of the agriculture R&D budget in Germany10	
3.3	The implementation of the agriculture R&D budget in Germany11	
3.4	Germany's role and influence in the European budget for agriculture R&D14	
4	Power mapping of advocacy influencers in the German agriculture R&D sector 15	
Figu of o Figu Figu Figu Figu	re 1: German government spending on agriculture R&D	
Boxe Box	es 1: European Innovation Partnership for Agriculture ('EIP-Agri')7	

### 1 Introduction

The Farm Journal Foundation has commissioned this policy brief in order to inform an advocacy strategy in Germany in support of research and development (R&D) in the agriculture sector.

This policy brief provides first an overview of the total funding of Ag R&D in Germany; it then gives a mapping of legislative cycles in Germany for research and agriculture, how decisions are taken on implementing Germany's research policy and sets the political context, trends and views on post H2020 agricultural R&D or national programs.

It ends with a map of key influencer networks, the hubs, interconnections and links to different Agri R&D policies and funds to inform a broader advocacy strategy and inform coalition building and partnerships with key influencers in Germany.

### 2 Overview of funding and trends for agriculture R&D in Germany

Overall, German government spending on agriculture R&D increased substantially over the past nine years with an increase of 27.7% between the 3-year averages for 2008-10 and 2015-17. Expressed as a proportion of GDP however, it stayed stable at 0.03% over the period, which is 0.01% higher than the average figure across the 28 EU Member States (at 0.02% of Member States' GDP on average between 2014-16). Total spending on agriculture R&D in Germany was **901 million EUR in 2017**.

The Germany agriculture R&D expenditure amounted to over a quarter (26.6%) of the total spent by all EU-28 Member States on average for 2014-16.

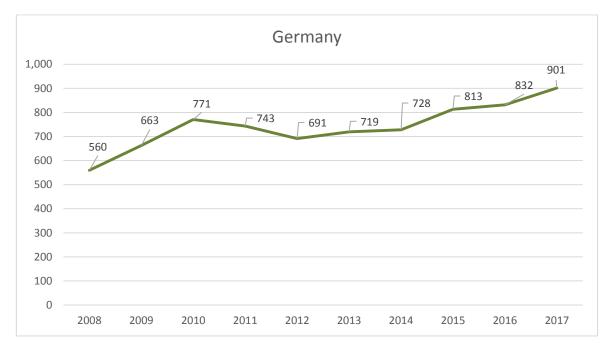


Figure 1: German government spending on agriculture R&D

Source: Eurostat GBOARD indicator1.

Researchers and innovation actors based in Germany are eligible to apply to the Horizon 2020 (H2020) fund of the European Union, which covers a range of topics. Between 2014 and February 2018<sup>2</sup>, Germany received a financial contribution of 4,716 million EUR from the EU H2020 budget, granted to 8,862 participants. Compared to other EU countries, Germany ranks first in terms of the share of the H2020 fund it receives as well as in terms of number of beneficiaries.

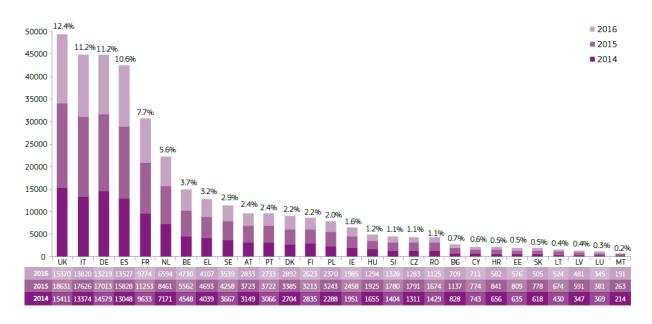
The top 10 beneficiaries include research institutes (such as the Max Planck Society, the Fraunhofer Society and Forschungszentrum Julich), universities and laboratories/national research centres active in different disciplines, of which some cover agriculture and related topics.

<sup>&</sup>lt;sup>1</sup> The GBAORD indicator measures "government support to research and development (R&D) activities, or, in other words, how much priority Governments place on the public funding of R&D" (Eurostat definition). GBOARD covers not only government-financed R&D performed in government establishments but also government-financed R&D in three other national sectors (business enterprise, private non-profit, higher education) as well as abroad (including international organisations).

<sup>&</sup>lt;sup>2</sup> Latest eCORDA data available. See also: <a href="http://ec.europa.eu/research/horizon2020/pdf/country-profiles/de\_country\_profile\_and\_featured\_projects.pdf#zoom=125&pagemode=none">http://ec.europa.eu/research/horizon2020/pdf/country-profiles/de\_country\_profile\_and\_featured\_projects.pdf#zoom=125&pagemode=none</a>

Germany comes third in the total number of H2020 applications (see Figure 2). Since the start of H2020, six out of ten applications came from the UK, Germany, Italy, Spain and France all together.

Figure 2: Number of Horizon 2020 applications per EU Member States 2014-2016, and share of overall Horizon 2020 applications



Source: Corda, calls in the first three years, Applications in eligible proposals, Cut-off date by 1/09/2017

The **Common Agricultural Policy (CAP)** is the key policy governing agriculture and rural development in the EU. Some measures and instruments can be used to support research and innovation. Each Member State has some discretion in the way it implements some aspects of the CAP - especially the 'second pillar' of the policy on rural development - and this may impact agriculture R&D spending.

Under the Rural Development Regulation (Regulation (EU) No 1305/2013), the choices Member States make must be relevant to 6 Priorities. 'Research and innovation', however, is a cross-cutting priority and therefore it is expected to be delivered in support of other priority areas (for instance training to improve competitiveness)<sup>3</sup>. It is therefore difficult to establish precisely the share of the overall rural development expenditure going to research and innovation, but the budget allocated to Priority 2 can be used as a proxy indicator<sup>4</sup>. In Germany, a total of 1,942 billion EUR is planned to be spent on this priority in the current financial period of 2014-2020. We note that not all of this budget is likely to contribute to research and innovation, as Priority 2 also includes measures aimed at enhancing the viability and competitiveness of the agriculture sector. Within the range of measures through which the Rural Development budget can be channelled, a total of 208 billion EUR was allocated by the German government on the 'cooperation' measure (Measure 16) which notably funds the set-up of Operational Groups of the European Innovation Partnership for Agriculture (EIP-Agri – see Box 1).

<sup>&</sup>lt;sup>3</sup> Page 5 <a href="https://ec.europa.eu/agriculture/events/2016/rural-development/fact-sheet.pdf">https://ec.europa.eu/agriculture/events/2016/rural-development/fact-sheet.pdf</a>

<sup>&</sup>lt;sup>4</sup> The current EU Rural Development Policy for 2014 to 2020 has six priorities, of which the first two are relevant to R&D, as follows:

<sup>1.</sup> fostering knowledge transfer and innovation in agriculture, forestry and rural areas

<sup>2.</sup> enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management

### Box 1: European Innovation Partnership for Agriculture ('EIP-Agri')

What is EIP-AGRI? The European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) was established in 2012 and aims to foster a competitive and sustainable agriculture and forestry sector that "achieves more from less". It contributes to ensuring a steady supply of food, feed and biomaterials, and to the sustainable management of the essential natural resources on which farming and forestry depend, working in harmony with the environment. To achieve this aim, the EIP-AGRI brings together innovation actors (farmers, advisors, researchers, businesses, NGOs, etc.) and helps to build bridges between research and practice.

EIP-AGRI adheres to the "interactive innovation model" by creating so-called **Operational Groups**, which brings together specific actors (e.g. farmers, advisors, researchers, businesses, etc.) to work together in multi-actor projects to find solutions for a specific issue or developing a concrete opportunity.

# The process behind agriculture R&D expenditure's adoption and implementation in Germany

### 3.1 The adoption of the agriculture R&D budget in Germany - the legislative process

Germany is a democratic, federal parliamentary republic where the legislative power is vested in the Bundestag (the national parliament) and in the Bundesrat (the representative body of the Länder, Germany's regional states). The Federation and the Länder work together in a 'checks and balances' system, i.e. the individual Länder governments directly participate in the decisions taken by the national state through the Bundesrat.

Germany's overall annual budget is adopted every year. It determines the revenues and expenditures of the federal government, including expenditures on agriculture R&D.

As seen in Figure 3, the procedure for the annual budget's approval begins in the budgetary reports of the Federal Ministries and the Supreme Federal authorities. After the Federal Ministry of Finance has collected and summarized all the individual sectoral budgets, the Federal Government prepares an overall draft budget, usually in the summer before the planned financial year<sup>5</sup>.

Subsequently, the draft budget is passed on to the Bundesrat and the Parliament (Bundestag) at the same time. The Bundesrat formulates an opinion on the draft budget within six weeks. The consultation in the Parliament includes three readings and the bill can only become law with the majority of the Parliament. The draft is discussed at the Parliament's financial committee after the first reading, before the sectoral plans are voted on in the second reading. In the third reading, the Parliament votes on the overall budget as a whole. If the Bundesrat agrees on the Parliament's decision, the law is adopted. If the Bundesrat proposes changes, the Parliament votes again.

The expenditure on agriculture R&D is included in the budgetary reports of the Federal Ministry of Food and Agriculture and of the Federal Ministry of Education and Research.

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<sup>&</sup>lt;sup>5</sup> https://www.bundestag.de/parlament/aufgaben/haushalt\_neu

Sectoral financial plans of the federal ministries Government: annual draft budget **Bundestag** (Parliament) Bundesrat (Länder) August First opinion is formulated First reading in the parliament September Consultation in the parliament committees Consultation in the finance committee October Second reading + vote on sectoral plans November Third reading + vote on overall budget Second consultation and vote Final vote in the December parliament on proposed changes Law is passed by conciliation committee Law is passed January

Figure 3: Timeline of the budget adoption process in Germany

Note: This figure is a simplified version of the legislative process

### 3.2 Size of the agriculture R&D budget in Germany

Agricultural research in Germany is mostly funded by the federal government, the sixteen Länder governments and the private sector, which may contract public institutions to carry out specific research. The EU complements the national agriculture R&D budget with CAP and Horizon 2020 funding. Germany is the second largest recipient of CAP money in the European Union (after France), and in 2018 German farmers are expected to receive a total of 6.2 billion EUR from the CAP<sup>6</sup>.

The federal government's spending on agricultural research is predominantly managed by the Federal Ministry of Agriculture and Food and the Federal Ministry of Education and Research. Research related to agriculture is also funded by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. International agricultural research receives significant financial contributions by the Federal Ministry for Economic Development and Cooperation. As explained in chapter 3.1., the Ministries make proposals on their annual budget through sectoral plans.

The budget of the Ministry of Food and Agriculture for 2018 amounts to around 6.008 billion EUR. The budget in 2017 amounted to 6.002 billion EUR<sup>7</sup>. The largest part of the budget is spent on agricultural social policies which include farmer's pensions and insurance coverage. **Around 6%** of the 2018 budget is planned to be spent on "Sustainability, research and innovation". (Figure 4 shows the breakdown of the 2018 budget of the Federal Ministry of Food and Agriculture.)

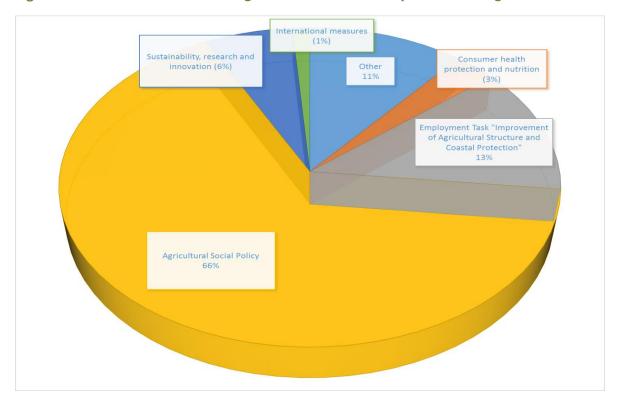


Figure 4: Breakdown of the 2018 budget of the Federal Ministry of Food and Agriculture

Compared to 2017, the area of "Sustainability, research and innovation" has received the biggest increase in funding (+ 62.3 million EUR). The budget in this area amounted to 374.4 million EUR in

HaushaltAnlage.pdf;jsessionid=F6BD8A09845F6094A49B0EEEB3AD5A30.1 cid385? blob=publicationFile

<sup>&</sup>lt;sup>6</sup> http://www.europarl.europa.eu/factsheets/de/sheet/104/die-gemeinsame-agrarpolitik-in-zahlen

<sup>&</sup>lt;sup>7</sup> https://www.bmel.de/SharedDocs/Pressemitteilungen/2018/032\_Haushalt.html

<sup>8</sup>https://www.bmel.de/SharedDocs/Downloads/Presse/PM32-2018-

2018. Figure 5 details the way expenditure in this area changed in 2018 compared to 2017. In 2018, new R&D areas for spending were created compared to 2017, namely the digitisation of agriculture, animal welfare labelling programme and a new farm animal husbandry programme. Organic and sustainable farming (30.0 million EUR in 2018), renewable natural resources (66.0 million EUR in 2018), promoting innovation (56.7 million EUR in 2018) and international research cooperation (12.0 million EUR in 2018) all saw their budget increased for 2018.

Figure 5: Sustainability, research and innovation budget, changes compared to 2017

### 3.3 The implementation of the agriculture R&D budget in Germany

### 3.3.1 Public research institutes

Public sectoral research refers to the research and development activities carried out by public institutes and agencies which are funded by the federal ministries and regional state (Länder) ministries.

At the federal level, six federal research institutes directly support the work of the Federal Ministry of Food and Agriculture (BMEL), the work of these six institutes is referred to as "Ressortforschung". Additionally, the regional states (Länder) fund universities with agricultural facilities, colleges/universities of applied sciences, as well as agricultural research institutes and extension services of the Länder. Research institutes with a special thematic focus have mixed funding from

federal and regional governments (Länder) and belong to associations such as Fraunhofer, Helmholtz, Max-Planck, and Leibniz. <sup>9</sup>

#### 3.3.1.1. The federal level

At the federal level, Ressortforschung serves the ministries as the scientific basis of their work and provides policy advice. The Ministry of Agriculture and Food (BMEL) has streamlined and technically well-organised research institutions; their research provides a foundation on which the ministry can form opinions and make policy decisions. The institutions comprise the Julius Kühn-Institute (JKI), the Friedrich-Loeffler-Institute (FLI), the Max Rubner-Institute (MRI) and the Thünen-Institute (TI) which offer scientifically-based research to the ministry to support decision-making. Innovative research and competent scientific policy support are closely linked tasks and are integral to the work of the federal research institutions<sup>10</sup>. The Thünen-Institute is thematically most closely aligned to agriculture with a focus on "Rural Areas, Agriculture, Forestry and Fisheries".

Moreover, the Ministry is supported by four governmental agencies: the Federal Institute for Risk Assessment (BfR), the Federal Office of Consumer Protection and Food Safety (BVL), and the German Biomass Research Centre (DBFZ) and the FNR – Fachagentur Nachwachsende Rohstoffe (Agency for Renewable Energy; which is organized as an independent association, the head of the membership council is a leading member of the Federal Ministry of Food and Agriculture).

### 3.3.1.2. The regional state level (Länder governments)

The Länder governments fund their own agricultural research facilities, which are usually subordinated to the respective agricultural ministries of the Länder (in almost all of the 16 Länder), as well as universities and applied science colleges with agricultural research departments. The most relevant universities with agricultural research departments include the Universities of Hohenheim, Munich, Bonn, Göttingen and Giessen.

### 3.3.1.3. Mixed funding from federal and regional state (Länder) governments

Research institutes with a special thematic focus, such as the Leibniz or Max-Planck Institutes are cofinanced by the federal government and the Länder governments to conduct applied research and complement the specialist spectrum of federal and regional research institutes The six independent research institutions of the Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz e.V. (WGL), socalled Leibniz Institutes, which conduct agricultural research, are the following:

- Leibniz Institute of Agricultural Development in Transition Economies
- Leibniz-Centre for Agricultural Landscape Research
- Leibniz Institute for Agricultural Engineering
- Leibniz-Institute of Vegetable and Ornamental Crops
- German Research Centre for Food Chemistry

The Leibnitz institutes complement the specialist spectrum of federal and Länder research institutes. They cooperate intensely with universities, industry, and other partners. <sup>11</sup> Furthermore, the Leibniz Institutes can apply for research funding from the German Research Foundation (explained below in chapter 3.3.3.).

<sup>&</sup>lt;sup>9</sup> http://www.dafa.de/de/startseite/agresearch.html

<sup>&</sup>lt;sup>10</sup> https://fisaonline.de/ueber-fisa/deutsche-agrarforschung-ernaehrungsforschung/

<sup>&</sup>lt;sup>11</sup> https://www.leibniz-gemeinschaft.de/en/about-us/

Figure 6: Core agricultural Research Institutions in Germany (only public institutions)<sup>12</sup>

### 100 % State (Länder)

### Mixed (50/50)

8 Leibniz research centres

Ag. Engineering

Food Chemistry

Plant Genetics

Inland Fisheries

Horticulture

ZALF Ag. Landscape

IAMO East EU Tranf.

FBN Livestock

ATB

IGZ

DFΔ

IBG

### 100 % Federal

Rural Areas, Agriculture,

Forestry and Fisheries

**Cultivated Plants** 

Animal Health

MRI Nutrition and Food

DBFZ Biomass (Energy Use)

BfR Consumer Protection

**6 Federal institutes** 

### 10 Universities with agricultural faculties

Kiel Göttingen

Weihenstephan Bonn Rostock Kassel Berlin Giessen Hohenheim

+ universities with departments/institutes for veterinary medicine, horticulture and/or forestry

+ universities with chairs related to agriculture

### 10 Colleges / Universities of applied science

Kiel Bemburg Osnabrück Weihenstephan Soest Nürtingen Bingen **Fberswalde** Neubrandenburg Dresden

Agricultural research institutes and extensions services of the Länder

In almost all of the 16

### Other institutions

KTBI Technology FIBL Organics IfLS Rural structure

JKI

... many more

### 3.3.2. A snapshot of the different public agriculture R&D programmes/projects in Germany

The most important bodies funding agriculture R&D in Germany are the Federal Ministry of Food and Agriculture, and the Federal Ministry of Education and Research. The Federal Ministry of Food and Agriculture currently funds 4,845 projects of which 931 have a focus on environment and sustainability (see table  $1)^{13}$ .

Table 1: Research funding programmes by the Federal Ministry of Food and Agriculture

Number of projects	Title of funding programme
1,659 projects	Innovation Promotion Programme
1,521 projects	Basic budget
873 projects	Federal Programme on Organic Farming and other forms of sustainable
	agriculture
334 projects	Decision support projects
176 projects	Model and demonstration projects
65 projects	Protein strategy
85 projects	ERA-Net
58 projects	Agricultural research and development projects for environmental
	protection
39 projects	Inventories, Surveys
23 projects	Research Cooperation for World Food
12 projects	International research projects

### 3.3.3. The key role of the National Research Foundation

The Federal Government and the Länder jointly fund the German Research Foundation (Deutsche Forschungsgemeinschaft - DFG), an institution which works to promote top-level research. The

<sup>&</sup>lt;sup>12</sup> Figure recreated from version in http://www.dafa.de/de/startseite/agresearch.html

<sup>&</sup>lt;sup>13</sup> https://fisaonline.de/forschung-strategisch-analysieren/uebersicht-foerderprogramme/

German Research Foundation (DFG) awards public funds to individuals or higher education institutions which submit proposals in a particular field, including agriculture. Interdisciplinary proposals are also considered. The main task of the DFG is to select and finance the best projects put forward by universities and research institutions on a competitive basis. In 2015, 42 non-university research institutions had obtained funds from the DFG for research projects in the fields of agriculture, forestry, horticulture and veterinary medicine.

In organisational terms, the DFG is an association established under private law. Its membership includes German research universities, non-university research institutions, scientific associations and the Academies of Science and the Humanities.<sup>14</sup>

### 3.4 Germany's role and influence in the European budget for agriculture R&D

As mentioned in the sections above, the national budget for agriculture is complemented by EU subsidies coming from the CAP. Besides the CAP, research projects in agriculture R&D can also be implemented by German institutes and other actors directly through Horizon 2020.

### Role and influence in CAP:

Germany, as the second largest recipient of CAP subsides, plays a key role in the CAP legislative process, and the CAP has to be adopted by both the Council of the European Union (made of EU Member States) and the Parliament (made of directly elected Members).

In both institutions, Germany holds a substantial amount of power. In the Council, power is weighted according to the size of population and Germany represents the biggest share (16.2%<sup>15</sup>) of the total EU population. In the European Parliament, Germany is the country that has the highest number of seats (96 out of 751 MEPs in total)<sup>16</sup>.

As the largest contributor to the entire EU budget, Germany's role in CAP negotiations is even more important and influential. With BREXIT coming in the midst of the CAP reform post 2020 negotiations (which officially started with the publication of the legislative proposals by the European Commission in June 1 and will continue until after the European Parliament elections in May 2019), Germany's power will substantially increase together with France's.

### Role and influence in H2020:

As in the case of the CAP, Horizon 2020 legislation has to be adopted by both the Council and the European Parliament. With a strong share of the EU population (therefore leverage in the Council), a large number of seats in the European Parliament, Germany holds considerable influence over the H2020 process and focus priorities.

<sup>14</sup> http://www.dfg.de/en/dfg\_profile/mission/index.html

<sup>&</sup>lt;sup>15</sup> http://ec.europa.eu/eurostat/documents/2995521/9063738/3-10072018-BP-EN.pdf/ccdfc838-d909-4fd8-b3f9-db0d65ea457f

<sup>&</sup>lt;sup>16</sup> http://www.europarl.europa.eu/meps/en/search.html?country=DE

### 4 Power mapping of advocacy influencers in the German agriculture R&D sector

Figure 7: Main influencer bodies in German agriculture R&D and their relationship

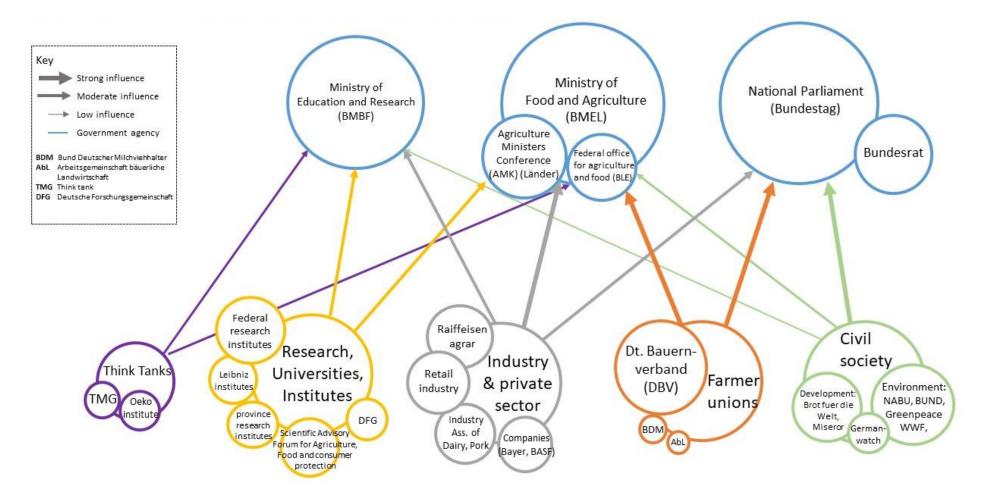


Figure 8: A snapshot of some influential individuals and organisations in the German agriculture R&D sector

# Examples of members of the German government and government advisors active on agriculture R&D

Parliament Committee on Food and Agriculture

Chair: Alois Gerig

Deputy Chair: Carina Konrad

### Ministry of Agriculture

Unit 224 Research und Innovation: Dr. Stalb

#### Ministry of Education and Research

Strategy and digitalisation unit: Dr. Stefan Luther

### Agricultural Expert Panel at the German Environment Agency

Chairman: Prof. Dr. Alois Heißenhuber, Agricultural economist (ret.), Technical University of Munich Deputy Chairman: Prof. Dr. Hubert Wiggering, Professor, Institute for Earth and Environmental Science, University of Potsdam Other members include:

Andreas Krug, Federal Agency for Nature Conservation (BfN) Bonn

Dr. Annette Freibauer, Bavarian State Research Center for Agriculture, Freising, Germany

# Examples of research institutes active on agriculture R&D

#### Research Institutes

Johann Heinrich von Thünen-Institut – vTI President: Prof. Dr. Folkhard Isermeyer Friedrich-Löffler-Institut - FLI President: Thomas C. Mettenleiter

### Scientific Advisory Forum to Federal Ministry of Food and Agriculture:

Chair: Dr. Harald Grethe (HU Berlin)

#### Universities

Goettingen University: Joachim Spiller
Justus Liebig University Giessen: Dr. Martin Bach,
Technical University of Munich: Prof. Dr. Kurt-Jürgen
Hülsbergen, (Chair, Organic Agriculture and Agronomy)

# Examples of think tanks active on agriculture R&D

ZEF (Center for Development Research) Director: Prof. Dr. Joachim von Braun TMG Think tank Managing Director: Alexander Müller Oeko intitute

CEO: Michael Sailer

# Examples of industry and private sector players active on agriculture R&D

Stefan Marcinowski (Vorstand BASF SE) Bayer Crop Science: Liam Condon

## Examples of farmer organisations active on agriculture R&D

DBV: (Germany's largest farmers' union)

President: Joachim Rukwied

BDM (National Association of Diary Farmers):

Chairman of the board: Stefan Mann

AbL: (Consortium for rural agriculture)

Chairman: Georg Janßen

### Examples of civil society organisations active on agriculture R&D

NABU: President: Olaf Tschimpke (contact on agriculture: Angelika Lischka) WWF: Chairman: Eberhard Brandes

(contact on agriculture: Ilka Petersen)
Germanwatch: Policy Director: Christoph Bals

(contact on agriculture: Tobias Reichert)