



**SOLINSA**

Support of Learning and Innovation  
Networks for Sustainable Agriculture

Agricultural Knowledge Systems In Transition:  
Towards a more effective and efficient support of Learning  
and Innovation Networks for Sustainable Agriculture

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# **GERMAN AGRICULTURAL ASSOCIATION / DEUTSCHE LANDWIRTSCHAFTS- GESELLSCHAFT**

## **LINSA Case Study Report: Germany**

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# 1 SUMMARY

**The German Agricultural Association (DLG) is a LINSAs with a very long history of learning and innovation around agriculture. It was founded in 1885 and very soon became the most important knowledge broker in the German AKIS. Nowadays the LINSAs counts ~25.000 members who are mainly farmers but also researchers or representatives from agribusiness. Its organisational structure is pyramidal with 1 president, 1 managing director, a strategy council, an executive board, a general board, and a meeting of members. Learning happens mainly in 86 voluntary expert committees representing the different areas of agriculture (e.g. pig production). Executive tasks are conducted by ca. 200 full-time employees.**

This report describes the main findings and conclusions resulting from the SOLINSAs work with the German LINSAs DLG (German Agricultural Association). Of general interest in this context was to get insights into the LINSAs, its functioning, organisation and history. In a narrower sense, work was related to the organisation and activities of the LINSAs's Working Group for Sustainability and its recently developed boundary object "*DLG Sustainability Standard*".

Methods used in the context of this study were qualitative expert interviews with (former) DLG representatives, qualitative interviews with DLG member farmers, participation in DLG events, as well as literature review. Main focus was put on information related to the DLG Working Group for Sustainability and the DLG Sustainability Standard.

The strong networking activities of the LINSAs create much room for learning and also facilitate the dissemination of innovations and knowledge. Effective networking is considered to be the key for successful dissemination of information and innovations. In this context, the LINSAs constantly develops new boundary objects (such as publications, standards, events). This is not always such an easy process as mostly it is very time-consuming, cost-intensive, and requires much organisational effort. As the LINSAs is mostly financially independent (through e.g. membership fees), external financial support is rather used seldom. As one example for external support serves the development of the Sustainability Standard which happened in cooperation with public and private research institutions and was financed by the German government. The broad variety of seminars and other offers shows that the needs of the actors are addressed and taken seriously. Emerging needs are taken up into discussion and by this, the offer changes continuously. The demand for existing offers is taken up as evaluation criteria for the quality of the LINSAs work.

Although, the LINSAs exists since more than 125 years and works in a perfectly organised way, there exists room for improvement. This includes for example the adequate compensation of travel costs and expense allowances for honorary members. Nevertheless, other LINSAs could learn from the DLG in terms of e.g. the organisational structure, boundary objects, financing schemes, or communication issues. For the step of LINSAs-LINSAs connection, external support will be required.

## 2 INTRODUCTION

The German Agricultural Association (DLG) is a more than 125-years old institution in the German AKIS and has 25.000 members, mainly farmers or people with agricultural background (e.g. agricultural scientists). Its main tasks are to collect, discuss and rearrange information and innovations related to agriculture and disseminate them among its members. It covers all parts of conventional agriculture in Germany. Information is spread through different communication channels and boundary objects including seminars, conferences, fairs, publications, product tests, or standards. Main LINSAs technical work is done by 86 expert committees (e.g. for plant breeding) consisting of honorary members from different working fields (e.g. science, industry, agriculture). To these expert committees, a broad level of knowledge is brought in by the members. It is partly scientific knowledge, but mostly based on practical experiences as well as media and training knowledge. The broad variety of seminars and other offers shows that the needs of the actors are addressed and taken seriously. Emerging needs are taken up into discussion and by this, the offer changes continuously.

The structure of the DLG therefore consists of two main pillars: full-time and honorary employees. Roughly 200 full-time employees, controlled and consulted in their work by an honorary strategy council and an honorary executive board, carry out ideas coming from the expert committees. The executive board comprises 12 members and decides about minor finances, budget, or strategic development/adjustment. It has the control over all DLG activities, appoints the managing director and decides about the establishment or closure of working groups or expert committees. It does not decide about operational issues. All operational planning and activities are done by the full-time employees. The general board consists of 60-75 honorary members (mostly farmers) and is, together with the executive board, responsible for the presentation of the annual accounts (which are elaborated by the full-time employees), for the adoption of the budget and for major expenses. The meeting of members receives and discusses the DLG annual report and can take decisions about the activities of the organisation. The strategic council only has a consultative function and does not take decisions on its own. New topics, which are relevant to agriculture, are being discussed by its members and communicated to the executive board. The council meets 1-2 times per year and also invites experts from different areas to get a clear picture about the discussed topic. The president, the managing director, the executive board, the general board, and the strategic council are well-connected to main AKIS actors and influencers on agriculture (e.g. politics, industry, science, consumers).

Main aims of the analysis were to describe the functioning of the DLG as a LINSAs following a precise example of their daily work: the DLG Sustainability Standard. The standard is one of the most recent boundary objects of the DLG and serves as a good example to highlight the LINSAs concerning:

- Learning and innovation processes
- Network development and communication
- Constraints and opportunities

### 3 METHODS

Methods used in the context of this study were qualitative expert interviews with (former) DLG representatives, qualitative interviews with DLG member farmers, participation in DLG events, as well as literature review. Main focus was put on information related to the DLG Sustainability Standard.

**Qualitative expert interviews** with DLG representatives and former DLG representatives: Interviews were accomplished with the DLG president, the DLG CEO, a DLG board member, a member of the DLG working group on sustainability who is also one of the responsible persons for the DLG Sustainability Standard, the head of the DLG Society for Agricultural History, and the former head of the DLG information department. The interviews (apart from the interview with the sustainability working group member) included the following major topics:

- Historical development of the DLG
- Future plans for development
- Governance & leadership
- Financial arrangements
- Levels of learning
- Networking and communication, links to the AKIS
- Innovations and the DLG Sustainability Standard

The interview with the member of the working group for sustainability was specifically directed towards gathering information related to the DLG Sustainability Standard. Therefore, it included the following major topics:

- Development of the standard
- Composition of the standard
- Communication of the standard
- Standard trial phase and current phase
- Acceptance and dissemination of the standard
- Experiences and expectations with the standard
- Future plans concerning standard development and dissemination

**Qualitative interviews with DLG member farmers:** DLG member farmers were selected who already have been certified for the DLG Sustainability Standard. In total, 10 qualitative interviews could be accomplished comprising the following topics:

- Reasons for applying the standard
- Communication with the DLG before, during and after certification
- The certification process

- Experiences with the standard
- Expectations for the standard
- Possibilities for improvement

**Participation in DLG events:** To get an overview on how the DLG communicates its knowledge, various DLG events were visited. It was intended to participate in different types of events about different topics which are listed as follows:

- Meetings of the expert committee for "rural areas": This helped to get insights into the work of the expert committees. It was possible through the membership of one of the researchers in this committee which started in the beginning of the SOLINSA project. This opened the gates for a cooperation with the DLG.
- Environmental Days Berlin: Visiting the DLG information stand for sustainability.
- Conference on the DLG Sustainability Standard: Main contents were the presentation of the DLG Sustainability Standard to interested member farmers, explanations of the standards' composition.
- DLG Entrepreneurship Days: Main topic was the improvement of PR work of farmers in Germany.
- Seminar on sustainability in agriculture: This seminar served as a first information pool for farmers interested in sustainability.
- Seminar on the DLG Sustainability Standard: This 2-day seminar served to explain in detail the concept, application and benefits of the DLG Sustainability Standard to interested member farmers.
- DLG-Winter-Conference 2013: Main DLG conference to which many members from all over Germany come.

**Literature review:** To accomplish the information about the DLG, secondary data in form of publications about the DLG, DLG publications and scientific literature were consulted. This served, above all, to analyse the history of the DLG, to examine DLG networking and communication activities, and to get in-depth information about the composition of the DLG Sustainability Standard.

## 4 RESULTS OF THE ANALYSIS

### 4.1 Constraints and opportunities for the LINSAs within its particular context and the support needs for successful LINSAs

The strong networking activities of the LINSAs create much room for learning and

also facilitate the dissemination of innovations and knowledge. Effective networking is considered to be the key for successful dissemination of information and innovations. Main technical ideas come up in the 86 expert committees of the LINSAs which consist of various experts from different fields of work related to agriculture (e.g. from science, politics, industry, agricultural practice). The members of these networks contribute on a honorary base by bringing in knowledge and ideas from their professional life. Knowledge, ideas and innovations are shared, discussed and prepared for further dissemination to the LINSAs members and the agricultural society. This process represents a great opportunity for the LINSAs and its members to stay in constant touch with current developments in the agricultural sector and assures a high level of learning. Networking at events organised by the LINSAs (e.g. fairs, seminars, conferences) gives opportunity to all its members as well as to outsiders to obtain new information and to share own ideas and information with other people.

The LINSAs constantly develops new boundary objects (such as publications, standards, events). This is not always such an easy process as mostly it is very time-consuming and cost-intensive. Not all good ideas can be put into practice resulting from different reasons such as costs, knowledge gaps or lack of consensus between stakeholders. Ideas which can be put into practice cannot always be disseminated easily. This results mainly from missing resources or interest. As an example serves the LINSAs' in 2008 developed Sustainability Standard which so far has been applied by only 25 member farmers. On the one hand, certification is cost- and time-intensive for the farmers and so far has no direct benefits to them; on the other hand, the LINSAs as main certification body does not have the capacities (time, personnel, or resources) to guarantee an extensive dissemination. Some ideas or boundary objects (such as the Sustainability Standard) can only be developed with the help of external donors (project funding) or external knowledge providers (technical input).

Based on the results of this study, LINSAs like the DLG might need (financial and technical) support for developing and disseminating adequate boundary objects or important ideas/ information/ innovations. As networking is seen as one of the key factors for successful LINSAs development and work, LINSAs might be helped by measures fostering networking activities. These are for example measures to foster the cooperation between the LINSAs and science but also between the LINSAs and extensionists.

## 4.2 Mechanisms of network development, learning and innovation processes and connections with the formal AKIS systems

### 4.2.1 Network development

Main technical knowledge results from the expert committees of the LINSAs, the operational tasks are then elaborated and conducted by the LINSAs full-time



employees. The development of the expert committee networks is totally depending on the committee members meaning that they are not open to all LINSAs members. In case that a committee member retires, a new member has to be suggested by the other committee members. This guarantees a systematic search for specialists but on the other hand shows that the committees are rather closed and only of limited accessibility. In the specific LINSAs, most committee members are rather old and experienced, young new LINSAs members are underrepresented. The full-time employees are responsible for network development with the “outside” world meaning the acquisition of new LINSAs members and the organisation of boundary objects (e.g. fairs, publications, seminars) to keep LINSAs members informed and connected. Apart from this, the full-time employees are responsible for the development of cooperation with other national and international organisations and associations as well as with governments and science.

#### **4.2.2 Learning and innovation processes**

The LINSAs are transformers which collect and prove/checks new scientific findings for adaptability (e.g. in own field trials and lab experiments) and value (e.g. cost-benefit analyses) and communicate them together with implementation experiences to the practitioners. Another main LINSAs task is the promotion of professional and social education and advanced training of all professionals from the agricultural sector. These learning and innovation processes have the following sources:

- Frequent meetings of the expert committees, the strategy board and the board of directors. Common understanding of topics related to agriculture and nutrition. Development of strategies, instruments and material (for information and education).
- LINSAs members: many thousands of conventional progressive farms and many hundreds of companies in the field of agro and food industries try out new products and processes, adopt and adapt innovations and feedback their experiences into the LINSAs process.
- Product tests and standards
- Publications of the main DLG works and results as well as of general information and proceedings in the fields of agriculture and nutrition through booklets, books, magazines, journals, press work.
- Events: Fairs and exhibitions and the extraordinary parallel meetings (e.g. short conferences, get together, dinner)
- Educational offers: Seminars, workshops, academy for LINSAs members

#### **4.2.3 Embedment in the Agricultural Knowledge and Innovation System - AKIS**

The LINSAs are part of the German AKIS and involved in education, research, extension and communication. It is seen as an organisation from farmers for

farmers. It offers education programmes (e.g. seminars), does information and communication activities (e.g. fairs, conferences), has a private research centre, and is involved in extension (e.g. related to the sustainability standard). Moreover, the LINSAs are linked to and cooperate with the various formal research institutions in Germany (e.g. universities) as well as with private and public extension agencies. The LINSAs are considered to be the strongest knowledge broker in the German AKIS. It consists of several working groups / expert committees mixing practitioners, scientists, farmers and private and public sector experts. It is perceived above all as an organisation offering and developing practice-relevant solutions (in contrast to universities from which this is not expected too much anymore). Joint activities are, e.g. standard development in cooperation with public and private research institutions, certification processes in cooperation with external certification agencies, extension in cooperation with private and public extension agencies, or the work in the expert committees consisting of various experts from within and outside the AKIS. Joint boundary objects are e.g. jointly developed standards, joint publications, joint research projects, or seminars with experts from other AKIS institutions. Generally, the LINSAs are strong AKIS actors and hold a well-structured network within the AKIS.

### 4.3 Learning approaches, methods and tools used in the LINSAs

**Learning in expert committees:** The committees meet once or twice a year to discuss recent developments relevant to their work fields. Discussions are open and all committee members can bring in their ideas and knowledge. This learning approach is done to keep up with recent developments in the agricultural sector and is very useful for LINSAs development and the dissemination of information and innovations.

**Learning from product tests:** In the LINSAs' machinery and product (meat and dairy products) test centres machinery experts or product specialists evaluate new products on the market for, e.g. functioning (only machinery), taste and consistency (only meat and dairy products), or price and write test reports. These reports are used for LINSAs publications and the respective best products are awarded. This learning approach helps the LINSAs to keep informed about current market and product developments and provides useful information to be used for the LINSAs/producer-consumer-dialogue.

**Learning at LINSAs events:** These events comprise, e.g. fairs, exhibitions, or conferences. At fairs or exhibitions, the LINSAs offers the possibility to the industry to present their products to the LINSAs members. LINSAs members can exchange among themselves or with the companies and learn about products. Conferences are normally organised by the LINSAs to inform about recent developments in agriculture (e.g. the use of web2.0) and open to all LINSAs members. LINSAs members can present their experiences and also guest speakers are invited. These events are very well-accepted among the LINSAs members and provide a large amount of information to them.

**Standards and certifications:** The LINSAs offer a set of standards and certifications to its members. These serve often as management tools for farmers and are considered to be a connection between research and practice. Due to high costs for the certification process and sometimes low direct benefits for the users, these instruments sometimes do not disseminate so easily.

**Learning institutions:** With an own academy, seminars and other educational offers, the LINSAs provide practice-relevant input to its members partly for free but mostly for a charge. These offers are highly recognised in the agricultural sector and provide information on almost all fields of this sector (e.g. plant and animal production, management, communication, sustainability). Among the LINSAs members these offers are well-accepted and visited frequently.

**LINSAs research centre:** The LINSAs have an own plant breeding research centre where trials are conducted and products are tested. The results are made public to the LINSAs members and serve as valuable information to them. This research centre was established to become in a way independent from third parties (e.g. universities).

**Feedback from members:** During most events, LINSAs members have the opportunity to bring in their feedback. Feedback is taken seriously and often results in improvements of the LINSAs work or instruments.

#### 4.4 Tasks, roles and emerging quality needs for the knowledge and skills of actors and institutions

One of the major challenges is the wide-ranging profile of the LINSAs dealing with knowledge relevant for all conventional agricultural and agriculture-related activities (e.g. plant breeding, animal nutrition, farm management, product testing, certification, consumer-dialogue, sustainability). To cope with this knowledge demand, the LINSAs and especially the expert committees always need to be up to date with new scientific findings and practice-related developments. The discussion about new topics or developments and the elaboration of new ideas or instruments (e.g. boundary objects) requires the best available knowledge in the field of agriculture. Another challenge is that this knowledge then has to be prepared so that all LINSAs members or stakeholders can understand it. Thus, boundary objects for example need to be clearly directed to its focus groups and scientific language has to be transformed into practice-relevant information which is understandable for non-scientific LINSAs members. The combination of scientific and practice-related actors' knowledge in the expert committees is therefore not an ordinary task. Instead it requires soft-skills knowledge of the actors so that productive discussions can arise.

The LINSAs offer to its members a wide range of training and education possibilities covering current knowledge gaps in agriculture. These education offers are well-elaborated and organised based on the work of the expert committees. This means that always the newest and most relevant knowledge is offered to the LINSAs members. Professional advisory systems can use the knowledge and information provided by the LINSAs to satisfy their clients' (often non-LINSAs-members) needs. As an example for this serves the LINSAs'

sustainability standard. After the evaluation of the farms according to the standards' requirements, advisors can take up the individual farm results and support their clients with ideas for improvement.

## 4.5 Support measures which are most effective and cost efficient

The LINSAs need only little external support as they are mostly financially independent. Exceptions are large projects such as the development of the sustainability standard over three years in combination with various practice and research institutions. This support structure is seen to be successful by the LINSAs. Effectiveness and cost-efficiency are not directly being measured but the development of the standard is considered as the result of the project proving that the project has been effective and that money has been spent efficiently to reach the goal of developing a standard within the proposed 3 years development time.

Internal support to the LINSAs members is given in form of:

**Educational offers:** Fees and travel costs for trainers or speakers, material, costs of rooms. This is all paid out of own financial means coming from, e.g. membership fees, or partly fees for educational offers.

**Conferences:** The LINSAs provide fees and travel costs for trainers or speakers, material, costs of rooms. Normally these events are for free for LINSAs members and covered by financial means of the LINSAs.

**Fairs:** The LINSAs provide space for the fairs and the organisation. Exhibitors (companies) have to pay stand-fees and visitors have to pay entrance fees. These payments cover the LINSAs' expenses.

**Product tests:** The LINSAs provide space and personnel for testing products. Companies which want their products to be tested have to pay fees helping to cover the costs.

**Expense allowances for honorary members:** travel costs and allowances resulting from the cooperation of LINSAs members coming from all over Germany are covered by own financial means. This is necessary as the honorary members lose their work force for working on their farms or have to take day off their paid work.

**Expenses for full-time employees:** Salaries and offices for full-time employees (approx. 200) are paid out of own financial means. The employees support the honorary members in operational and organisational tasks.

**Evaluation criteria:** The LINSAs offer their members ways to give oral and written feedback. This is especially relevant for the educational offers and serves on the one hand as an evaluation of the existing offers and on the other hand as a valuable input for further improvement and development of new offers. The LINSAs count the user-statistics and adapt their offers to this. Some of the educational offers are for free for LINSAs members others involve additional, partly high costs. The increasing demand for product tests and the

increasing amount of exhibitors and visitors of fairs are seen as positive feedback for the extension of these offers.

## 4.6 Evaluation criteria used for assessing the effectiveness and cost-efficiency of support measures that are exploited by LINSAs

The LINSAs used financial support for the development of its Sustainability Standard which happened as cooperation between the LINSAs and various private and public research institutions. The use of these financial means was evaluated to be successful. This is based on the following criteria:

- Scientific criteria: Establishment of a profound Sustainability Standard covering the economic, ecological and social components of sustainability. The standard is seen as pioneer in Germany, especially resulting from the inclusion of indicators for the measurement of social sustainability and from the profoundness of the analysis of the economic and ecological pillars.
- Practice criteria: The standard starts getting established in agricultural society. Although the number of certified farmers is still low, processors (e.g. mills) start to require the standard or parts of it from their suppliers. This results in an exhaustion of the capacities of the LINSAs for certification and it is already thought of how to increase capacities (although there does not exist any clear plan or structure for this).

## 4.7 Operational tools that AKIS actors could use to improve support for LINSAs and to enhance the capacity of involved actors, in order to foster successful LINSAs

**Support of LINSAs networking activities:** Researchers (e.g. members of expert committees, collaborators of special DLG projects like the development of the sustainability standard) could more easily support the LINSAs with their knowledge and help in the creation of new knowledge if they could spend more time on working with the LINSAs. One measure would be to give researchers one day per week off so that they can support a LINSAs during that time.

**Support of honorary employees:** Adequate expense allowances should be paid to honorary LINSAs members and collaborators so that they can compensate their opportunity costs. This would enhance their capacities to collaborate in LINSAs work.

**What can other LINSAs learn from the DLG?** Focussing on a broad variety of agricultural and agriculture-related topics is one of the main aims of the DLG. This is possible because of a clear organisational structure on the one hand through which the honorary workers can concentrate on the development of

new ideas in their specific expert committees (there exist 86 expert committees to cover most topics of agriculture in Germany). They are supported in executive and organisational issues by the full-employees (ca. 200) facilitating the innovation processes. The DLG provides a clear communication structure for the contact with its members as well as for the contacts with other stakeholders (from industry, politics, or science). This helps the LINSAs to become an entity and a big player in the German AKIS. External financial support is almost not needed for the development of new ideas and concepts. Instead, own financial means (e.g. membership fees, income of product tests or certifications) give liberty for trying out new things and improving existing concepts. Additionally, high costs for special events (e.g. seminars) are covered by registration fees of the participants. This liberty allows a broad offer of trainings, seminars, conferences, fairs, or publications concerning all relevant topics related to agriculture for LINSAs members. The close cooperation of the LINSAs with representatives from politics, industry and science helped to continuously adapt concepts and to keep track on recent developments. The LINSAs have a long history during which these types of contacts and cooperation could develop. For recently established new LINSAs, this might be more difficult for which they could be assisted by external help in networking activities (development, maintenance, growth).

**Learning effects from the development of the DLG Sustainability Standard:**

The cooperation of the LINSAs with various public and private research institutions in the context of the development of its Sustainability Standard shows that an effective and efficient cooperation between science and practice can work. In this context it is important to mention that the success is mainly based on the separation of clear tasks. This resulted in the fact that the LINSAs focussed mainly on the development of the indicators for the evaluation of the social standard component, whereas partners from science focussed rather on the more scientific development of the economic and ecological standard components. Nevertheless, during the development phase, there existed active exchange of ideas and feedback among the partners. But there existed also disagreements, especially concerning the development of the social indicators. These indicators are not as easy to evaluate as ecological or economic indicators as measuring social sustainability is very difficult because not all desired indicators can be included resulting from immeasurability or incompleteness of scientifically proven information.

**The DLG and its role in the AKIS:** The DLG is considered to be the strongest knowledge broker in the German AKIS and holds a well-structured network within the AKIS. Nevertheless, it focuses mainly on conventional agriculture and neglects niche actors (e.g. organic farming). For groups outside the AKIS it is difficult for a long time to reach the DLG. The DLG is opinion leader. Although the DLG covers most areas of (conventional) agriculture, a broader orientation towards niches could enhance the possibility for a growth of both the niche actors and the DLG. There remains the question how the DLG could be motivated to include niche actors. n.

## 5 CONCLUSION

The DLG is a very old institution in the German AKIS. Over time it could professionalise its organisational structure and establish a wide range of activities in the field of conventional agriculture. Nevertheless, this success was only possible due to an organisational structure which promotes cooperation among LINSAs and among LINSAs and outsiders. Working in different expert committees and working groups for the various branches of conventional agriculture has proved to provide an adequate space for successful internal learning. Long-established contacts of the LINSAs to outsiders (e.g. from industry, politics, science) facilitate cooperation and organisational learning. These two pillars result in the development and spreading of knowledge among the LINSAs and also outsiders and make the LINSAs the strongest knowledge broker in the German AKIS. Financial independence (e.g. through membership fees or incomes from events) is seen as one of the key factors for sustainable LINSAs work and can mostly be guaranteed. Nevertheless, some projects require external financial support as they are too cost-intensive to be coped with by the LINSAs alone. As an example serves the DLG Sustainability Standard which resulted from a cooperation of the DLG and various partners from research and was financed by public means. The platforms for networking provided by the LINSAs to its members (e.g. seminars, conferences, fairs) have shown to be of great importance for the connection of LINSAs members, for their individual and mutual learning as well as for information exchange. Nevertheless, the DLG as opinion leader has put its focus clearly on conventional agriculture making it difficult for niche actors to participate in the knowledge creation process and to benefit from the LINSAs work. Innovation brokers might be able to bridge this gap by opening up working processes and disseminating innovative LINSAs ideas or technologies to other LINSAs and vice versa.

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