**Answer of Germany concerning the questionnaire of the Special Rapporteur on the human right to safe drinking water and sanitation pursuant to Human Rights Council resolution 33/10**

**1. What framework and bodies does your Government have in place for the regulation of water and sanitation services? Please provide detailed information on legislation, policies and mechanisms. Please provide detailed information on the existing regulatory actors, their level of autonomy and independence, role and responsibilities.**

Introduction

According to the German constitution (known as the Basic Law), the Federal Republic of Germany is organised according to federal principles. Government tasks are distributed between the Federal Government and the Länder. The communities (towns, districts and municipalities) are parts of the respective Land, but also have certain discretionary powers (right of self-government) when dealing with local matters, which are protected by the constitution. A distinction must be made between legislative powers, the competence to enforce regulations, and financial responsibility. Expenditure incurred while exercising their duties is borne separately by the Federal Government and the Länder.

Enforcement of the provisions relating to water, including the Federal laws, and hence the exercising of executive powers in water resources management, is the responsibility of the Länder. By enforcing the environmental legislation of the Federal Government and Länder, and particularly within the context of their constitutionally guaranteed self-administration, the local authorities perform a number of important environmental protection-related tasks.
Under the Water Acts of the individual Länder, central water supply and wastewater disposal are traditional responsibilities of the local authorities. In order to meet the costs incurred in this respect, they levy charges on users (contributions and fees). In order to ensure the autonomous and eﬀective implementation of water supply and wastewater disposal, the municipalities may have recourse to a variety of operating forms. To some extent, the possible forms of institutional operation are determined by regional law.
▸ Publicly owned enterprise: Operated by the community within the context of general community administration
▸ Municipal undertaking: Operated by the community as a special asset with separate book-keeping

▸ Company in its own right: Enterprise under private law owned by the community.
▸ Operator model: Transfer of plant operation to a private contractor, whereby responsibility for the completion of tasks remains with the community.

Drinking water

The organisation of drinking water supply in Germany has essentially been in place for more than 100 years, but is continually updated in line with technical and hygiene requirements. The aim of public water supply is to ensure that the population has access to an adequate volume of drinking water at all times which satisfes the high quality requirements stipulated by
law. Water protection areas are designated in Germany in order to protect the drinking water supply. In 2013, there were 30,045 water protection areas covering a total area of around 50,400 km², equivalent to 14.1 % of the total territory of the Federal Republic of Germany.

In accordance with the constitutions and/or water legislation of the Länder, drinking water supply is essentially the responsibility of local government, within the context of its public service mandate pursuant to Article 28, paragraph (2) of Germany’s Basic Law (GG).
The municipalities and local authorities may exercise this duty in a sovereign capacity or else appoint private companies to do so on their behalf. In many cases, smaller towns and communities in rural areas form special-purpose organisations which often cooperate with similar organisations for both water supply and wastewater disposal. The basic aim of these special-purpose associations is to join forces and thus create more favourable business conditions combined with the necessary technical expertise in the management and execution of their work. These associations formulate targets for the water supply companies in their area and operate as supervisory bodies. Responsibility under public law therefore remains with local
government.
In order to ensure a reliable supply and adequate drinking water hygiene, there is essentially a system of compulsory connection and use regulated in local statutes. This means that each individual citizen and commercial company is obliged to connect to and utilise the public drinking water supply and sewers of the local government or responsible special-purpose association. The requirement for mandatory connection and use is that this must be in the general public interest.

Building regulations ensure that no residential buildings may be constructed without a proper drinking water supply.

Under the Drinking Water Ordinance of 21 May 2001 (TrinkwV 2001), latest version from July 2016[[1]](#footnote-1), the requirements governing drinking water quality must be met by all drinking water supplies, regardless of their size, the quantity supplied, the number of persons served, or organizational and ownership structures. Therefore, the minimum requirements cited in the Ordinance apply to both centralized public water supply systems and private wells, which are all subject to surveillance by the authorities.

The Drinking Water Ordinance, which also serves to implement the EU Drinking Water Directive, outlines specific requirements governing the properties of drinking water and of water for food factories and drinking water treatment. The provisions of the TrinkwV regulate the properties of drinking water, the obligations incumbent upon the operator of a water supply plant, and hygiene-related monitoring of the operator by the health authorities. The Ordinance also specifies limits for substances harmful to human health (such as heavy metals, nitrate and organic compounds) and pathogens, as well as the scope and frequency of analysis. The limit values for these substances correspond to those in the EU Drinking Water Directive and are set at a level where no harmful eﬀects are expected to result from lifelong intake. For organo-chemical pesticides and insecticides, for example, the maximum concentration is 0.1 µg/l. The sum total of such active ingredients is limited to 0.5 µg/l. The limit for nitrate in drinking water is 50 mg/l.

The requirements governing drinking water quality must be based on the guiding principles of DIN 2000 and DIN 2001. Groundwater is particularly suitable as a source of untreated water. The groundwater must be obtained from a sufficient depth in the natural hydrological cycle after passage through adequate filtering strata and must not be impaired in any way. Drinking
water should be appetising and inviting to drink. It must be colourless, clear, cool, and perfect in taste and smell. Drinking water must be low in bacteria.

Untreated water that does not meet the requirements for drinking water must be purified in such a way that life-long consumption of it will not have any harmful eﬀects on human health. It may also be necessary to treat the drinking water in such a way that it will not suﬀer any adverse changes during transport from the water works to the consumer. Such changes relate not only to the quality of the drinking water itself, but also to possible changes as a result of the materials with which it comes into contact in the supply company’s distribution network and the consumer’s home installation. For this reason, the materials that come into contact with drinking water must be inspected and assessed for suitability. Only materials that are
suitable for the present drinking water composition may be used. The Drinking Water Ordinance tasked the Federal Environment Agency (UBA) with assessing the suitability of materials that come into contact with drinking water.
With regard to quality assurance in the construction, operation and maintenance of water supply systems, parallel with and supplementary to the administrative regulations relating to construction and drinking water, an important role is also played by the technical regulations of private-law associations or federations such as the “German Association of Gas and Water Experts – DVGW” or the “German Institute for Standardisation – DIN”, which outline the technical specifications and document the current best available technology. Inter alia, these regulations also stipulate the minimum required qualifications for employees in water works,
the requirements for pipelines including the materials of which they are made, the conditions for pipe-laying, and the required qualifications for pipe installation enterprises.

The quality of water supplied by the public drinking water supply in Germany is good. Over the period 2005-2007, "large-scale" water supplies (> 1,000 m³ per day or > 5,000 supplied individuals), which supply around 80 % of the population in Germany with drinking water, delivered a very good quality on average; measurements performed within the context of regulatory surveillance revealed that requirements were met and parametric values not exceeded in more than 99% of the cases for most microbial and chemical quality parameters. The only parameters for which thresholds were exceeded in more than 1 % (up to 2 %) of the cases were coliform bacteria, and in the reporting year 2006, nitrate.

The rate of water loss, as an average for Germany as a whole, is extremely low at 8.9 %, even by comparison with other EU Member States. For example, Berlin achieved an excellent result of 2.4 % (2007), despite having an old and sprawling system.

Depending on whether the supply companies are publicly or privately organized, their fees are subject to price supervision by local government law or cartel law. The population has to pay for drinking water from the tap. There are water meters in the households. Average fee for 1 cubic metre drinking water is € 1.69 (2013).

Sanitation

Since 1976, minimum nationwide requirements have applied to the discharge of wastewater into waters and hence to the incidence, avoidance and treatment of wastewater. Since
1996, these minimum requirements have been based on the best available technology; the permissible pollutant load depends on each industry’s ability to minimise emissions into
water by complying with technically and economically practicable, progressive processes.

With between 7,000 and 8,000 local authority wastewater management enterprises (the exact fgure varies according to the data source), the German wastewater sector is divided into extremely small units. Public wastewater management in Germany is a state duty that is performed by communities and cities as a local authority responsibility. The entity responsible
for wastewater management may guarantee the performance of wastewater disposal, or may entrust this to third parties, while retaining local authority supervision. Based on the number of residents served, municipal utilities are the most common operational form for wastewater management tasks.

Wastewater disposal essentially comprises two main tasks: wastewater discharge via the sewer networks or wastewater pumping trucks (so-called rolling sewers), and wastewater treatment in plants. The high level of performance achieved by sanitation systems in Germany is based on the relevant legislation and technical guidelines.

These include Directive 91/271/EEC (Urban Waste Water Treatment Directive), the Federal Water Act (WHG) and the Ordinance on Requirements for the Discharge of Waste Water into Waters (Waste Water Ordinance) adopted on the basis of the Federal Water Act, together with the legislation and technical guidelines of Germany's 16 Federal *Länder*.

Directive 91/271/EC calls for the collection of waste water from households and small businesses and the reduction of organic pollution. It also requires the removal of at least 75 % of phosphorous and nitrogen by public waste water treatment plants. Germany meets or exceeds these requirements. In Germany, around 90 % of phosphorous and around 81 % of the nitrogen is removed in public waste water treatment plants.

The Federal Water Act[[2]](#footnote-2) stipulates minimum nationwide requirements on the discharge of waste water into waters and therefore regulates the incidence, avoidance and treatment of waste water. Since 1996, these minimum requirements have been based on the best available technology. The permissible pollutant load is determined by the extent to which emissions can be minimised in a particular industry branch while observing technically and economically viable progressive techniques.

The Waste Water Ordinance[[3]](#footnote-3) adopted in 1997 defines the best available technology for waste water discharges, and now has 57 industry-specific Annexes, e.g. concerning domestic and public waste water as well as individual sectors of trade and industry. The individual segments regulated by the Annexes are subject to specific waste water requirements, which are updated in accordance with the development of best available technology.

The Federal Water Act also stipulates that waste water installations may only be constructed, operated and maintained in accordance with the generally acknowledged technical standards. These technical standards may be based on the regulations of the respective trade associations or DIN standards.

In Germany, there are currently some 10,000 public and around 3,300 company and industrial waste water treatment plants. The majority of public waste water treatment plants are small to medium-sized plants. There are some 545,000 km of public sewers in Germany.

There is no general potential for improvement in terms of the purification performance of these waste water treatment plants (cf. also points d), g) and h)). At regional level, phosphate elimination requirements may be increased under the provisions of the EC Water Framework Directive (Directive 2000/60/EC), but this is impossible to quantify.

Decentralised sanitation must likewise comply with the technical standards – for example, as a general principle, small-scale waste water treatment plants must fulfil the requirements of Annex 1 to the Wastewater Ordinance.

The German Waste Water Charges Act[[4]](#footnote-4) regulates the levying of charges for the direct discharge of waste water into a waterbody. The charge is based on the volume and toxicity of certain discharged constituents, further details of which are regulated in an Annex to the Act. The fee per contaminant unit is currently € 35.79.

Fees for the treatment of waste water are payable by all producers of waste water, including private households. The fee levels vary according to region. They are determined by the local authorities responsible for waste water disposal based on the local conditions (location, geology, density of population, development stage of waste water treatment plants etc.). If we calculate an average nationwide price for the individual fee components, this produces the following costs:
▸ Average wastewater fee: 2.36 € per m3 (according to freshwater consumption)
▸ Average precipitation fee: 0.49 € per m2, per annum
▸ Average basic charge: 15.39 € per annum.

**2. How do the framework and bodies contribute to the implementation of the normative contents of the human rights to safe drinking water and sanitation, namely, the standards of availability, quality, accessibility, affordability, acceptability, privacy and dignity? Please provide examples.**

Drinking water

Access is not defined in terms of volume available per day and capita. According to JMP definitions, 100 % of the population of Germany has access to improved sources. Both centralized supplies and private wells are included in this figure. The vast majority of 99.2 % has access to household connections of piped supplies; a minority uses private wells with piped connections into home, too, typically employing protected dug wells, boreholes and protected springs.

The WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation defines access to water supply in terms of the types of technology and levels of service afforded. Access to water-supply services is defined as the availability of at least 20 litres per person per day from an “improved” source within 1 kilometre of the user’s dwelling. An “improved” source is one that is likely to provide “safe” water, such as a household connection, a borehole, a public standpipe or a protected dug well.

Access to sanitation - Germany

German statistics cover population connected to public sewers (with or without connection to wastewater treatment plants) and population not connected to public sanitation (with connection to small scale wastewater treatment plants or with septic tanks). Both public sewers and decentralized sanitation are improved sanitation; 96.6 % of the population has access to public sanitation, and the remaining 3.4 % has access to decentralized sanitation.

3. **How do the framework and bodies support the implementation of the human rights principles of equality and non-discrimination, access to information, right to participation, accountability, sustainability and progressive realization in the water and sanitation sector. Please provide examples.**

Education, training and informing the general public, including particularly children and adolescents, is an essential part considered in the target setting process. The underlying assumption is that an informed public can today and in the future provide a fundamental contribution to water related issues, such as water safety and protection of water sources. Information for the public is provided, and recent research results and policy developments are communicated in a timely manner in order to ensure their widespread perception and application. Public consultation with regard to water management issues and projects is guaranteed according to EU and national law.

European Directives such as the Wastewater Treatment Directive or the Drinking Water Directive require EU Member States to submit regular reports for evaluation by the European Commission and publication on its homepage.

At regular intervals, the Federal Statistical Office ([www.destatis.de](http://www.destatis.de)) compiles official national data on various aspects of public and non-public water resources management, such as water abstraction and water use, water supply and waste water disposal, differentiated according to the 16 German *Länder*, industry segments etc.[[5]](#footnote-5)

The European Water Information System WISE (cf. <http://water.europa.eu/>) provides information on all European water protection directives and the status of their implementation in the 28 EU Member States, alongside up-to-date data on water quality etc.

Under the Drinking Water Ordinance, the competent authorities are responsible for ensuring that consumers receive accurate information about their drinking water. The water utilities must provide the necessary up-to-date information. They publish information on the general quality of drinking water in the daily newspapers, in their own or official bulletins or on the Internet. Water utilities must notify the general public, home-owners and residents about the condition of a drinking water installation if there are potential restrictions on usage, for example in the case of lead pipes.

In the event of a deviation from parametric values or temporary drinking water usage restriction, the authorities and water utilities must immediately disclose the precise circumstances surrounding the reduction in drinking water quality, the actual or potential effects, and possible remedial action. Under the EC Drinking Water Directive and Drinking Water Ordinance, there is a special obligation to notify particularly vulnerable population groups.

The national water acts on Federal and federal states level as well as general acts on administrative procedures foresee participation of the public or relevant stakeholders in licensing procedures concerning special water uses or water management projects and plans or programmes. Those provisions are in conformity with relevant EU directives on public consultation and information, on environmental impact assessment (e.g. Directives 85/337/EC or 2001/42/EC) and water management directives (e.g. the EU Water Framework Directive 2000/60/EC) as well as with relevant international law like the UNECE Espoo and Aarhus Conventions.

**4. Please provide examples of regulatory measures in place to ensure affordable access to water and sanitation services for populations that are economically disadvantaged and in vulnerable situations. How does your Government ensure that these measures are properly applied? How does the regulation framework address the issue of disconnections from water and sanitation services due to financial inability of the users to pay?**

The system in Germany guarantees in principle access to water also for low income population or people without jobs. Nevertheless there are cases in which the bills for drinking water cannot be paid any longer by the customers. The ordinance on general terms concerning water supply[[6]](#footnote-6) regulates that water supply can be disconnected in case of non-payment, but only if the customer does not react on an overdue notice and only two weeks after the intention to disconnect is announced. The welfare authorities try to find solutions with the people. Disconnecting people from water supply is only the last remedy.

In some cities there are public water supply facilities for homeless people, e.g. in the city of Bremen.

**5. Please provide examples of how your Government monitors and enforces regulations in the water and sanitation sector.**

Drinking Water

Drinking water in Germany is regulary monitored by the German authorities.

The monitoring of drinking water quality by government bodies is also laid down in the TrinkwV 2001. Monitoring is the responsibility of the Länder and, at local authority level, the public health departments. The public health departments supervise the internal control and quality assurance measures taken by the water utilities, including the prescribed documentation. They also carry out their own checks.

The public health authorities also monitor trends in water quality, as the water utilities are required to notify the competent public health department immediately of any cases of non-compliance with the prescribed parameter values (limits). As a precaution, the water utilities are required to prepare plans of measures in case of temporary non-compliance with the requirements and limits. Furthermore, water utilities have a duty to guarantee adequate water
supplies and to make drinking water available in adequate quantity and quality by other means in the rare event of a failure in the drinking water supply system (for technical or hygienic reasons), for example by importing water from a different water works or by means of mobile water supply facilities (e.g. water trucks).

The required levels of supply reliability and drinking water quality also apply to small facilities. The definition of small facilities in the Drinking Water Ordinance makes no distinction between installations for personal use and installations for supplying third parties, e.g. guests in an isolated woodland restaurant or holiday home tenants. Small facilities and – under certain circumstances – in-house installations and installations for the use of rainwater are subject to monitoring by the public health authorities as provided for in the TrinkwV 2001.

The Drinking Water Ordinance (see footnote 1) requires the official accreditation of certification bodies for products in contact with drinking water, and a requirement for the matrix-specific accreditation of drinking water analysis laboratories.

As required by Article 13 of the EC Drinking Water Directive, every three years the BMG and the UBA publish a consumer information report on the quality of drinking water in Germany. This report, which is drawn from annual drinking water quality reports from the Federal States (*Länder)*, covers large-scale water supplies, including the related pipeline network and domestic drinking water installations, that deliver more than 1,000 m³ per day on average, or that supply more than 5,000 people, for which reporting is mandatory. It does not include small-scale water supplies that supply fewer than 5,000 people and deliver less than 1,000 m³ per day, nor does it include private wells.

As most of te parameters laid out in the EC Drinking Water Directive[[7]](#footnote-7) are met in ore than 99 % of cases in Germany, overall, the drinking water quality from large, central, public supplies is considered to be "very good". However, the available data on drinking water quality from private wells indicate that it is more difficult for such facilities to comply with microbial and chemical quality requirements, and that this area therefore offers potential to improve drinking water quality. The identified deficits include a lack of technical knowledge among the owners of private wells regarding their statutory obligations under the Drinking Water Ordinance, the potential hazards to drinking water quality, correct operation, and any repair and rehabilitation measures that may be required. A lack of access to information about these topics which is easy to understand is also a recognised problem.

Sanitation

In Germany, generally speaking, the construction and operation of waste water treatment plants and the discharge of treated waste water into the receiving water requires the approval of the competent water authorities, in accordance with the statutory guidelines.

The operation of waste-water treatment plants and the quality of the treated waste water are continuously monitored by the competent authorities as well as by the operators of waste water treatment plants under the self-monitoring scheme, which is now well-established.

In the event of malfunctions, there are warning and alarm systems which are also linked to the warning and alarm systems on international rivers.

In accordance with the European Urban Waste Water Treatment Directive (Directive 91/271/EEC[[8]](#footnote-8)), the German Federal Environment Agency (UBA) collates data on sanitation facilities for settlements with 50 or more inhabitants. This means that regional connection levels are well-documented. Under this Directive, situation reports are to be submitted to the European Commission every two years[[9]](#footnote-9).

**6. What is your Government’s approach/strategy with regard to situations of informal providers of water and sanitations services?**

Not applicable to Germany. And it is not completely clear what is meant by “informal providers”.

**7. When non-State actors are in charge of service provision, the State must ensure that this involvement does not result in violations of the human rights to water and sanitation. How is this safeguarded by your Government when regulating non-State actors? What standards, principles and concerns are taken into consideration?**

Central water supply and wastewater disposal are traditional responsibilities of the local authorities (municipalities). Municipalities could transfer plant operation to a private contractor, whereby responsibility for the completion of tasks remains with the municipality. Private contractors have to comply with the legal provisions mentioned above and are monitored as described above.

Organising water supply by private enterprises is not popular in Germany. Water is a special good and the population prefers to leave the responsibility to provide this good to the authorities. In Berlin for example the public private partnership for water supply between the city and a big private enterprise (established 1999) had been heavily criticized by the public and – as a consequence – the city had to undo the contract with the private enterprise in 2012.

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1. <https://www.gesetze-im-internet.de/bundesrecht/trinkwv_2001/gesamt.pdf> [↑](#footnote-ref-1)
2. <http://www.gesetze-im-internet.de/bundesrecht/whg_2009/gesamt.pdf> [↑](#footnote-ref-2)
3. <http://www.gesetze-im-internet.de/bundesrecht/abwv/gesamt.pdf> [↑](#footnote-ref-3)
4. <http://www.gesetze-im-internet.de/bundesrecht/abwag/gesamt.pdf> [↑](#footnote-ref-4)
5. <https://www.destatis.de/EN/FactsFigures/NationalEconomyEnvironment/Environment/EnvironmentalSurveys/WaterSupplyIndustry/Tables/TablesWaterSupplyIndustry.html> (English website) [↑](#footnote-ref-5)
6. http://www.gesetze-im-internet.de/bundesrecht/avbwasserv/gesamt.pdf [↑](#footnote-ref-6)
7. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31998L0083&from=EN> [↑](#footnote-ref-7)
8. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1991L0271:20081211:EN:PDF> , consolidated version [↑](#footnote-ref-8)
9. <http://ec.europa.eu/environment/water/water-urbanwaste/implementation/implementationreports_en.htm> [↑](#footnote-ref-9)