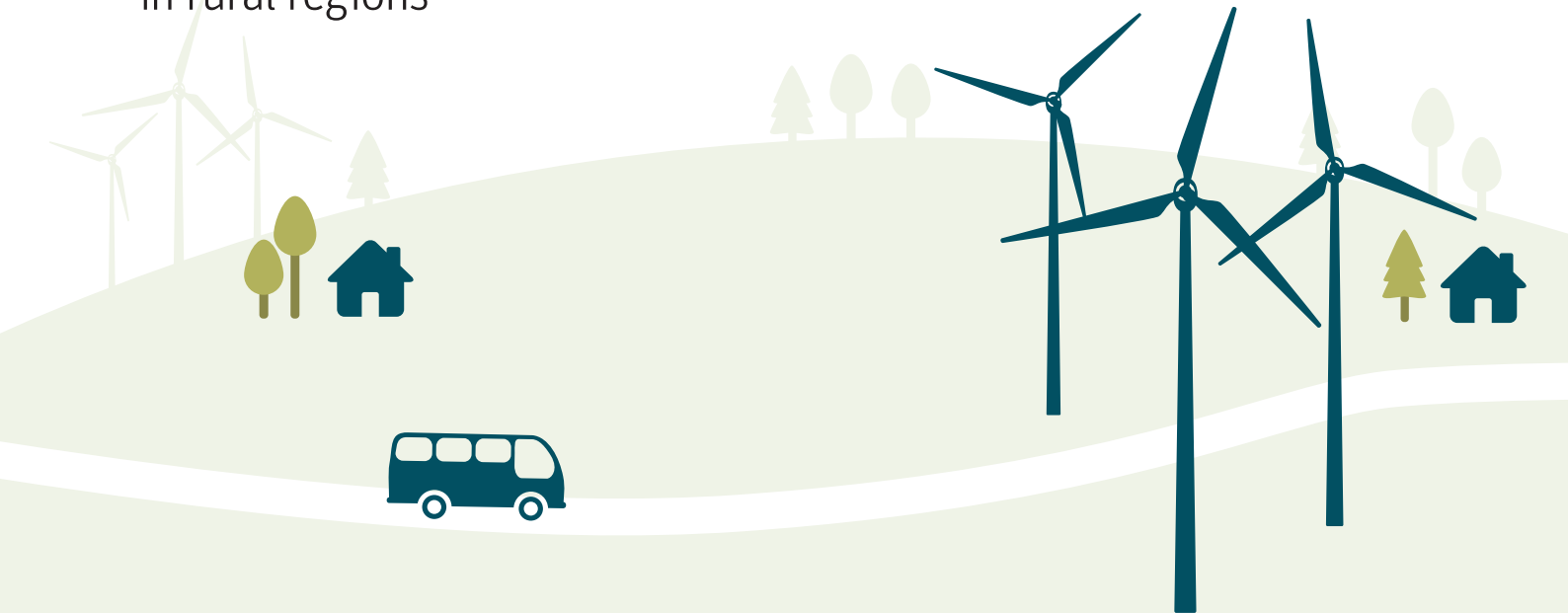


# Allowing Diversity

What population decline means for public service provision  
in rural regions



# HOW CAN WE PLAN FOR DE-GROWTH?

As a federal state, Germany is known for its regional diversity. The variety of cultures, languages, landscapes and economic activity that exist to this day are a valuable legacy of Germany's historical evolution from myriad kingdoms, dukedoms and minor states, each with its own capital and special customs, into a single nation. The numerous dialects, local festivals and different cuisines (just take the apparently endless varieties of sausage, from Munich's *Weisswurst* to *Schlagwurst* in Pomerania) are what makes life feel different in each region and what confers a conscious identity on the people who call it home. Alongside economic prosperity, it is these regional characteristics and differences – justly regarded by Germans as extremely enriching – that make people feel happy and contented. Demographic change has major repercussions for this diversity, for it exacerbates the gap between rich and poor, urban and rural, densely and sparsely populated regions. For decades now birth rates in Germany have been at a very low level, and despite immigration the population is shrinking.

It is becoming ethnically more diverse – and considerably older. But these trends are by no means evenly distributed throughout the country. While economically and culturally attractive major cities and urban conglomerations remain demographically stable or are even growing, rural communities on the periphery and cities that were once home to traditional industries are losing an increasing number of their inhabitants.

As was always the case historically, patterns of settlement have changed to reflect new economic structures. As in all modern knowledge societies, high value-added sectors and attractive jobs and training opportunities have increasingly become concentrated in urban regions where there is a critical mass of research facilities and companies employing talented people who translate creative ideas into new products and services. And because, moreover, the number of children being born in rural areas has for some time now been too low to compensate for the migration of young people away from villages and small communities that has always taken place, schools and public offices, shops and banks remain underused and eventually close.

This has led in many rural regions to a disastrous vicious circle of out-migration, declining populations and erosion of the public infrastructure, making it increasingly difficult and unattractive for people to live in rural areas. Twenty years into the government development programme for the former East Germany known as *Aufbau Ost*, it has proven impossible to stabilise areas on the periphery, despite huge subsidies. And in the former West Germany, too, this development has long since become a reality in areas like the Bavarian Forest, the Harz or parts of the Palatinate. This trend presents planners with a problem. For many years planning in Germany was about steering and administering growth. Everything was growing: the population, the economy, and the number of roads, houses, offices and industrial estates. Between Western Pomerania in the extreme northeast and Lake Constance in the southwest, an average of 130 hectares of land were being built on every day until the late 1990s – whether with concrete, bricks or asphalt.



But in 2003 – or probably even a few years before that, according to the results of the latest census – Germany’s population stopped growing. Nevertheless, even now 77 hectares of land a day are still being sealed for new roads and buildings. No one knows whether the government will achieve its goal of reducing land consumption to 30 hectares a day by 2020. What is certain, though, is that the population of Germany will continue to shrink.

Population decline really ought to be viewed as a blessing for the natural world, finally returning habitats to flora and fauna believed to have been lost, like the lynx and the wolf, and creating space for natural succession, for new moorland and forests. If there are fewer people, so the theory goes, ecosystems will be able to function properly again and to store carbon, generate groundwater and purify the air. Yet the EU’s agricultural policy, the promotion of bio-fuels and the global rise in demand for food have put paid to these visions.

So far the simple formula “fewer people = less destruction” has failed to materialise in practice. For wherever people live further apart, transportation routes become longer, and water pipes and roads that hardly anyone uses have to be maintained at great expense. The German federal government and the governments of the federal states or *Länder* are still prioritising attempts to maintain high standards of public service provision in every corner of the country,

citing the entitlement to “equivalent living conditions” everywhere attested in the Basic Law, Germany’s constitution. To date this constitutional clause stands in the way of an orderly withdrawal from areas that will eventually undoubtedly become uninhabited.

The idea of ironing out differences between regions and bringing the living conditions of the rural population into line with those of people living in cities originated in post-war West Germany. In those days the idea of ensuring equivalent standards everywhere was both understandable and realisable. Since this was an era of unabated growth, it became possible to eliminate territorial disparities.

Today, however, the premise on which this approach was founded has been lost, making it increasingly counterproductive. Population growth is now a thing of the past, and in many places there are not enough people left to experience these equivalent standards. The disparity between regions with respect to population density, accessibility and public service provision is growing rapidly. Yet policymakers have failed to register this trend and have so far not succeeded in coming up with a regulatory framework for the opposite of growth – for becoming smaller, in other words. Non-equivalence (anyone who dislikes this word could also say “diversity”) must become part of political planning. Because resources are limited, the dogma of growth and equivalent living conditions is endangering the prospects of those regions that do have the potential to become stable in the future. The motto of the urban planning project in Saxony-Anhalt – Less Is the Future – sums it up nicely.

If we were to accept that not all regions of Germany can live with the same standards, this would not mean less diversity but more – making the country richer in the true sense of the word. And if on the way to a regulated retreat from certain areas some of the goals of Germany’s sustainability strategy were to be achieved, then all the better. The task, then, is to find resources and ways for regions to adapt to the decline in population without incurring additional economic and ecological costs. After all, dismantling un- or underused infrastructure should offer an opportunity to make use of the “ecological dividend” of demographic transformation. The present study is intended to show how this might function.

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# POPULATION DECLINE AS A CHANCE FOR SUSTAINABLE SPATIAL DEVELOPMENT

## Low population density and high costs

By 2050, the populations of many industrial and threshold countries will have declined. These include most Central and East European states, China and Russia, and also Germany, Italy and Portugal. Many states still growing today are already experiencing population decline in certain regions. All over the world it is the rural areas located on the periphery that are showing especially marked demographic shrinkage. The reason for this is that people today are tending to move from the countryside into the cities to live and work. By 2025, almost 50 percent more people in comparison with 2000 are likely to live in urban conglomerations with 750,000 or more inhabitants.<sup>1</sup> Although in many countries major population growth is the chief factor responsible for this, there too the trend is to migrate from rural areas to major cities and metropolitan regions.

As a rule it is young people who go to the cities in search of work requiring higher qualifications and offering better pay. In knowledge-intensive societies new jobs in any case tend to be created in urban conglomerations where a critical mass of companies, research facilities and people with specialist skills translate ideas into new products and services. Many rural areas and small and medium-sized towns become drained of resources, for as their economic power declines, the needs, particularly of the older population, increase. The latter require different provision

structures – more doctors, nursing services or mobile shops. Moreover, with a smaller proportion of the population in employment, local tax revenues decrease. Particularly in industrial countries with high standards of provision this becomes a problem, for here declining public budgets face rising costs.

There are two reasons why costs rise: the first is that infrastructures cease to be economically viable if there are fewer people to pay for them; the second is that underused infrastructures are more prone to break down, leading to repair costs. Central sewage disposal systems, for instance, are designed for a certain number of users and have depreciation periods of between 40 and 80 years. The capital, material and energy costs do not fall as the number of users declines but instead remain constant or even rise. The remaining inhabitants therefore have to pay more for the same service. Moreover, it is not only the costs for technical infrastructures such as water and sewage systems that rise – schools, doctors' practices, supermarkets and hospitals also become uneconomical. At the same time property prices fall, and even new housing does not retain its value. These processes have especially dramatic effects in rural areas, because these regions are already thinly populated and their infrastructures expensive. This leads to a vicious circle of eroding public service provision and out-migration. The future of rural areas on the periphery is hence increasingly the subject of debates at the most fundamental level, even including the question of whether they should be given up altogether.<sup>2</sup>

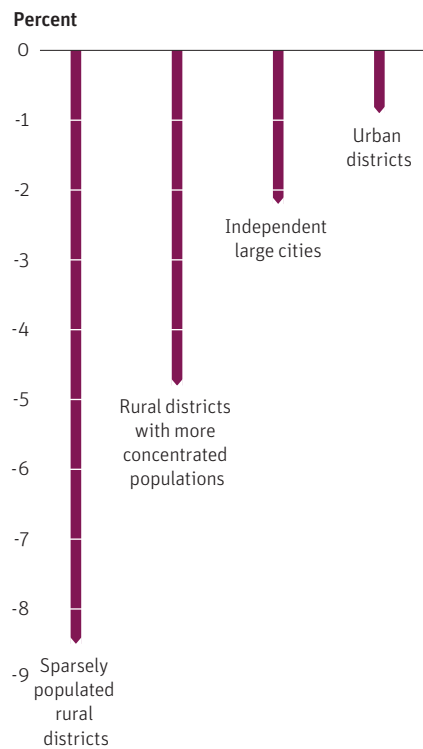
Areas whose populations are shrinking dramatically tend to be subsidised and hence dependent on transfer payments. Many rural communities are subject to budgetary monitoring or are managing to survive with short-term loans. Their inhabitants commute to the nearest town to earn their living, and important components of the infrastructure are financed via the fiscal equalisation arrangements among local authorities. Would it not actually be better to give up these struggling regions and turn them into ecological recreation zones and instead to invest more in stable areas? Or should we continue to pump money into every corner of Germany in order to guarantee a high level of public service provision everywhere?

## Equivalent living conditions as an obstacle

Until now German policymakers have tended to favour the second option, justifying this by citing the goal of "equivalent living conditions" anchored in the constitution.<sup>3</sup> This principle envisages providing a similar standard of public services in underdeveloped regions to that in more prosperous ones. Thus, equivalence is to be achieved between north and south, between east and west and between rural areas and cities. Until 1994 the stipulation was even for "uniform living conditions" everywhere, but following reunification this goal scarcely seemed possible to achieve, and the word "uniform" was

replaced by the word “equivalent”. De facto, however, policymakers were not prepared to follow up this change in wording with change in practice. Or at least, no one knows what the difference was really supposed to be between the old and new stipulations. According to the Federal Ministry of Transport, Construction and Urban Development (BMVBS), for example, “equivalent” means “guaranteeing certain minimum standards concerning access to and provision of basic services, possibilities for employment and infrastructure”.<sup>4</sup> However, since the previous “uniform” living conditions also used to be defined as the “fundamental state provision of basic public services”,<sup>5</sup> there would actually appear to be very little difference either in definition or in practice.

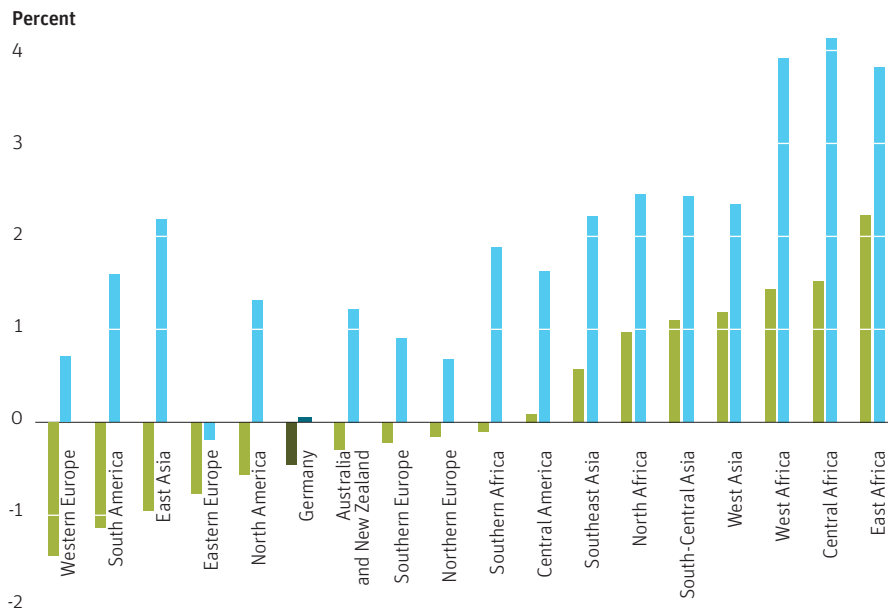
In reality, living conditions in Germany’s regions have become increasingly less equivalent in recent years. In view of this development and the predicted population decline, support for the abolition of the equivalence requirement has increased.



### Greatest decline in the most sparsely populated areas

Given the general population decline in Germany, the already sparsely populated areas are likely to lose even more inhabitants in the coming years. The nearer the next medium-sized or large town is, the more stable the administrative district will tend to be. However, even the cities are shrinking – although only if we take the country as a whole. Whereas the structurally weak cities in old industrial regions like the Ruhr or Saarland are shrinking, the populations of the prosperous cities of the economically strong south as well as those of Hamburg and Berlin are continuing to grow.

Population prognoses for different types of administrative district in Germany, 2009–2030 (Data Source: INKAR)



### Unabated flight from the land

Almost everywhere on the planet cities are growing faster than rural areas. But whereas in poorer countries the populations of both urban and rural regions are growing, in many parts of the world – particularly in Europe and East Asia – rural populations have begun to shrink.

Annual percentage of population change between 2005 and 2010 in the cities and rural areas of the regions of the world (Data source: UN Population Division)

■ rural  
■ urban

Those who favour such a move hope that this will enable a more realistic view to be taken of economic development in the areas in question and that less money will be wasted. On the other hand, many planners, scholars and politicians are strongly opposed to abolishing the principle of equivalence, fearing a drop in standards of public service provision and (in the case of politicians) a resulting loss of votes – for ultimately they would be the ones who would have to decide precisely which region, community or village should be given a lower priority or even given up altogether and in what way its inhabitants would be compensated.

Advocates of the equivalence principle are thus avoiding conflict and playing it safe by seeking to retain it. In actual fact it is not possible to assert a legal right to a certain standard of basic public service provision unless living conditions in particular states or regions diverge “significantly and to an extent that is prejudicial to the national social fabric”.<sup>6</sup> So far this has never happened – among other reasons because it is very difficult to prove. Thus standards of provision are continuing to decline ever further. What this means in practice for the local population is that doctors’ practices and schools are closed or bus routes and bus stops are discontinued.

Policymakers cling to the principle of equivalence not to ensure a high standard of provision per se – but simply because it has become the model for spatial planning and planning policy. Models tend to create their own self-perpetuating realities that over time come to be taken for granted. As a rule they outlive their usefulness but only start to be questioned sometime later, after processes of social transformation have already taken place.<sup>7</sup> The equivalence model contains funding structures and subsidies that date back many decades, such as the fiscal equalisation mechanism between local authorities

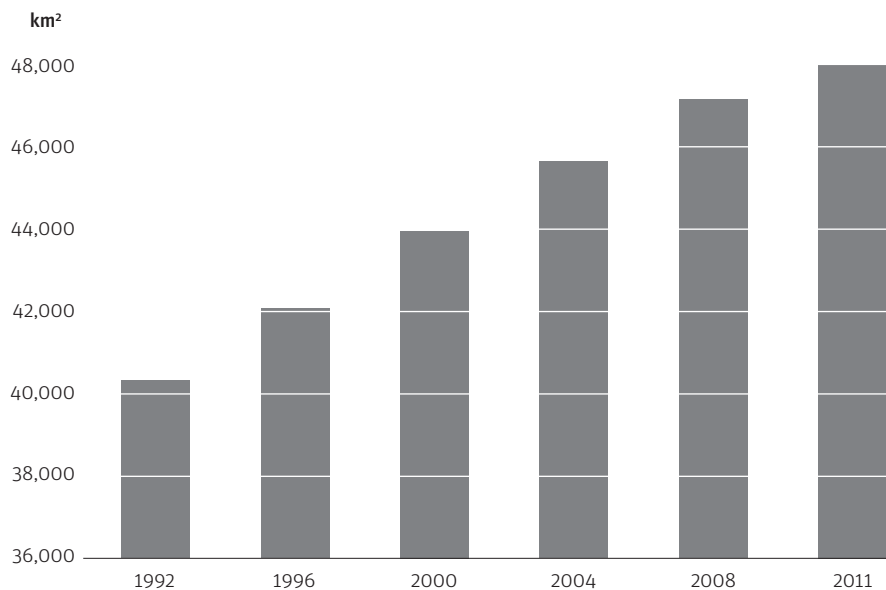
and federal states (*Länderfinanzausgleich*), the reunification solidarity surcharge tax (*Solidaritätszuschlag*) or the European funds for agriculture, regional development and infrastructure. Nevertheless, a discussion about whether it makes sense to retain the equivalence principle has already begun and has certainly become an issue since former German President Horst Köhler focused on “differences in living conditions” and criticised the “subsidy state” in 2004.<sup>8</sup> Yet policymakers and experts have not got very far with tackling this issue, for while in declining regions bus services are practically non-existent and every community expense has to be approved by budgetary monitors, the stated aim of the federal government’s Demographic Strategy produced in 2012 is the creation of new jobs in regions particularly hard hit by demographic change in order to make them more attractive.<sup>9</sup> The strategy appears to take no account of the fact that young people have been migrating from peripheral regions for years now and that large subsidies have failed to reverse population decline anywhere in the country.

An intensive discussion about the equivalence principle is, however, important in order to find new ways to address the problems of demographically shrinking regions. It is obvious that the same standards of public service provision cannot be applied everywhere in Germany. Alternative standards and solutions are therefore required anywhere traditional concepts no longer work. But who is to define new, flexible standards? Who decides how many pupils a school needs in order to stay open, or whether children should receive their education via distance learning? Who decides that a road should no longer be maintained or should even be dismantled? Who defines at what level of population density a mobile medical service is sufficient?

Alternative solutions better adapted to conditions of demographic shrinkage than standard quantitative or qualitative stipulations are often difficult to implement because of the high degree of regulation. Possible solutions would include, for example, transport services run by volunteers, virtual schools, community nurses or decentralised sewage disposal plants. Legal obstacles to these include the Passenger Transportation Act, legal stipulations about minimum numbers of pupils, the remuneration regulations of the statutory health funds, or compulsory connection to and use of centralised sewage systems. The solutions can often only be implemented via special authorisation or experimental clauses. These usually prevent such exceptions from being introduced long term or throughout the country. For this reason alternative, tailor-made solutions for public service provision tend to remain marginal phenomena or one-off cases.

## Using the ecological dividend

Since 2002, Germany has been guided by its National Sustainability Strategy, which has provided an important impetus for viable future concepts for the environment, health and social cohesion. Yet sustainability – the principle according to which an “intact ecological, social and economic fabric”<sup>10</sup> should be passed on to future generations – faces a major challenge on account of population decline. What this means in practice is that there will be ever fewer young people to support a growing number of older people. Particularly in economic and social terms, an aging and declining population constitutes a heavy burden for future generations if today’s public service provision structures are to be maintained.



## Large areas of land consumed despite population decline

Since 2002, the German federal government has been pursuing the goal of reducing additional land consumption to 30 hectares a day. Currently, however, some 77 hectares are still being built on daily, so the 30 hectare goal is still a long way off. Above all, building projects along roads and in rural areas are consuming land. A more sustainable land-use policy urgently needs to prioritise “internal before external development”.

Land use for settlement and transportation, 1992–2011  
(Data source: Statistisches Bundesamt)

But what about ecological sustainability? What effect does a declining population have on ecosystems, biodiversity or emissions reduction goals? Here the population decline ought to yield gains, for at first glance it would seem to have a positive effect on the environment. Fewer people use fewer resources and less land and produce fewer emissions. But in reality such effects are very long term – and only happen at all if they are supported by planners.

In the short term, population decline even poses a major challenge for ecological sustainability: As the public service infrastructure becomes thinner, people have to travel further to go shopping or to the doctor; per capita energy consumption rises if buildings are inhabited by fewer people; and the resources required to provide people with electricity and drinking water and to dispose of their sewage increase if modern plants have to be operated for fewer users.<sup>11</sup> This

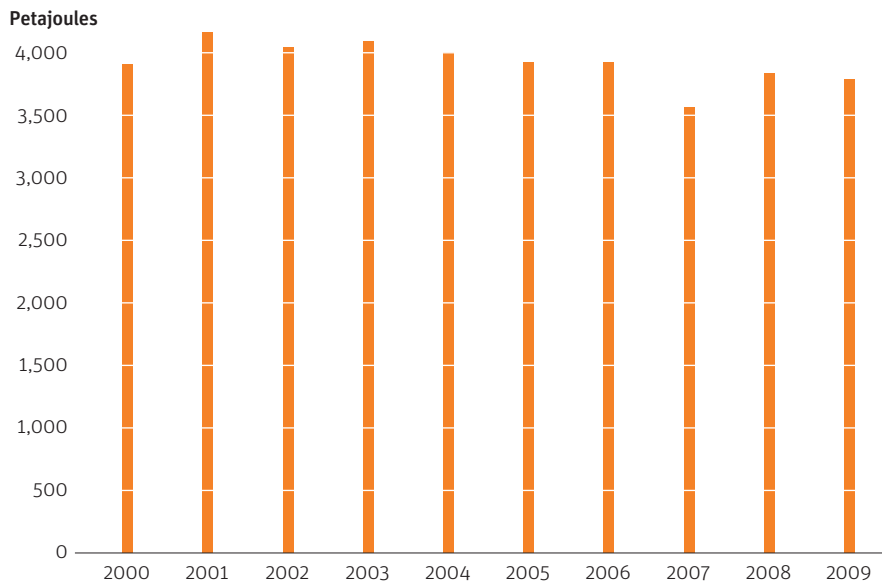
is compounded by the measures frequently required to refurbish or adapt infrastructures to population decline. These cost both money and resources – for example if a public bus service is discontinued and replaced by a bus run by citizens themselves, then a new vehicle is required. If underused sewage pipes have to be cleaned out with fresh water, then that uses extra water. If houses are demolished, local councils have to dispose of the rubble.

The widely-used IPAT formula (Human Impact = Population x Affluence x Technology) is therefore not entirely accurate. This model calculates the ecological impact of human life and activity as a product of three factors: population, affluence and technology. Put simply this means that the ecological burden rises the larger the population, the higher per capita consumption and the more inefficient technology is. For concrete analyses the formula is often supplemented by additional factors such as “degree of organisation” or “technology of waste management”, in order

to better reflect the complex realities of individual areas.<sup>12</sup> Population, however, is always treated as a standard factor. Yet our studies have shown that population decline is not necessarily positive for the natural world and for the environment. Particularly in industrialised countries, the negative impact often even increases during restructuring phases. The IPAT formula therefore has only limited validity for shrinking industrial nations and should be supplemented with the factor “phase of demographic development”.

## Models for regional development in the post-growth phase?

Might it not, however, be conceivable that the current demographic development is only a temporary phenomenon? That a rise in the birth rate and more immigration will make the population grow once more in the increasingly thinly populated rural areas?



### High consumption eats up efficiency gains

Despite all the efforts to save energy, despite more efficient household appliances and a declining population, the primary energy consumption of German households has remained fairly constant at a relatively high level. Although consumption for heat and light has declined, the growing number of new information and communications devices and appliances are eating up these savings. In addition people are living in larger dwellings, which also makes energy consumption soar.

Primary energy consumption of German households, 2000 – 2009  
(Data source: Statistisches Bundesamt)

This is highly unlikely for a number of reasons. First of all, particularly in rural areas the average number of children per woman is currently below the level required to keep the population stable. For the population to grow it would have to rise way above the level of two children per woman to reverse the current trend. There is, however, no sign at all that this is happening. Secondly, more new jobs would have to be created on the periphery than in urban areas, a development that is scarcely conceivable in modern knowledge societies.<sup>13</sup> Thirdly, migrants from other countries are attracted by areas where there is work and where networks of migrant groups already exist. Neither of these factors applies in rural areas, which people are leaving precisely because there are not enough jobs. Structurally weak and demographically shrinking rural areas as well as small and medium-sized towns therefore have little prospect of making an economic or demographic recovery in the foreseeable future.

Nevertheless, a policy of stimulating the economies of such regions and subsidising their infrastructures is still officially regarded as an instrument to generate new growth. In other words, funding goes to those areas where it cannot bring about any improvement in living conditions, meaning that such funding is tantamount to a permanent subsidy. In the long term a government can only afford to go on providing such subsidies if it is prepared to accept a rising level of state debt. This is, however, constrained by the national and European debt cap stipulated for the future. Thus there is no way this can be called sustainable spatial planning.

Hence the only way to cash in the “ecological dividend” generated by population decline in the medium term is to dismantle un- or underused infrastructures. This would free up land to be returned to nature or to be used to generate renewable energy. Settlements, housing and public service provision would eat up fewer resources. But here, too, policy-makers continue to assume that infrastructure will have a socially integrative function

and they are therefore continuing to invest in roads, energy supply lines and new housing irrespective of demographic development.

Germany needs to formulate new models for spatial development. The equivalence model should be abandoned in favour of other spatial planning principles that take account of both economic and demographic reality and of ecological needs. The Conference of Planning Ministers took a first step in this direction back in 2006 when it formulated as discussion topics models for “Growth and Innovation”, “Securing Basic Public Service Provision” and “Preserving Resources, Shaping Man-Made Environments” for different types of land. These were intended to reflect the different living conditions in the various regions. However, the discussion soon died down again, and nobody paused to think about how these models could be realised in practice.



The urgency of this discussion is now much clearer than it was in 2006, and it therefore needs to be revived. With the aim of funding sustainable public service provision strategies for demographically shrinking nations, the Institute for Advanced Sustainability Studies (IASS) in Potsdam and the Berlin Institute for Population and Development have staged a series of workshops entitled “Population Decline and Infrastructures” in which groups each consisting of 20 to 30 experts discussed the subjects “Energy”, “Water and Waste Water”, “Mobility” and “Social Infrastructures”. These subjects were chosen primarily on the basis of their urgency:

- For a number of reasons energy supply is at the top of the environmental policy agenda, and since the German government’s decision to radically change its energy policy, abandoning nuclear and reducing fossil fuels in favour of renewables (known as the *Energiewende*), its significance has increased even further. All aspects of energy provision – social, planning and economic – need to be reconsidered. Given the new emphasis on renewables, freeing up land would allow

energy infrastructures in rural areas to expand rather than being dismantled. This, in turn, would increase the economic potential of rural areas.

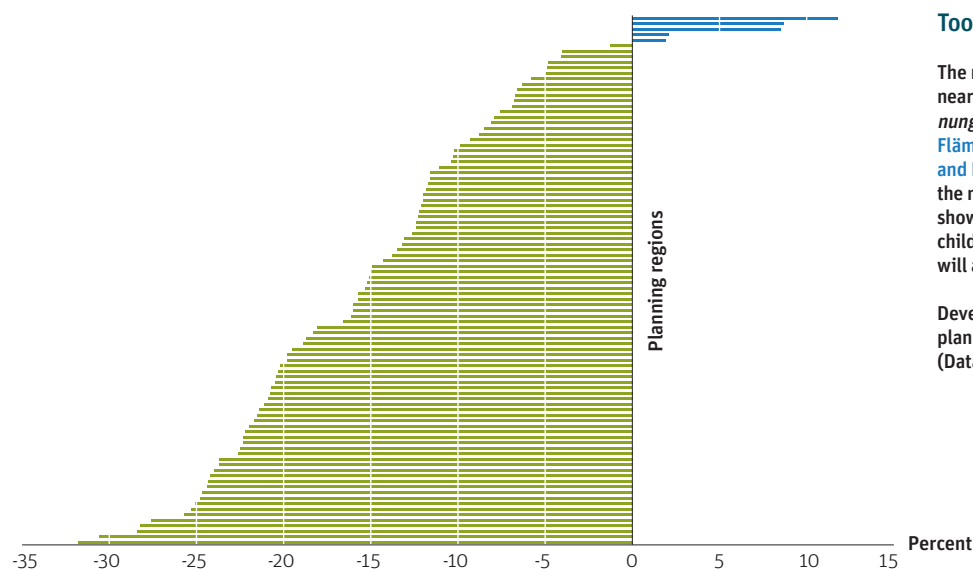
- The situation is different when it comes to the water supply and sewage disposal. Here the systems currently in place are too large for the anticipated population decline, so many local authorities are forced to cope with huge price and tariff increases. The logical solution would be to downsize these systems, especially since there are now water- and energy-saving systems on the market. But the financially overburdened local authorities cannot afford to install these, because the old systems have not yet depreciated and there is no money available for refurbishment.

- Publicly accessible mobility is of central importance, particularly for people in thinly populated areas where there are fewer infrastructures reachable on foot. At the same time, many people in these areas are excluded from mobility if they do not own a car or hold a driving license or are no longer physically capable of driving a vehicle. Overall the per capita energy costs for transport

rise because public transport in the form of buses and trains is not used to capacity and individual auto-mobility increases.

- Social infrastructures like schools or hospitals require a certain minimum degree of use in order to remain viable. Where this cannot be guaranteed, other forms of schooling or healthcare must emerge that can offer the same service by completely different means, perhaps even ways that we do not yet know about.

The series of workshops on these four subjects was followed by an analysis whose findings are summarised in the German-language study “*Vielfalt statt Gleichwertigkeit*”. The study outlines not only the options for restructuring the infrastructure that will be necessitated by population decline but also the pitfalls of doing this. It highlights the ecological options while still paying heed to economic and social concerns. The study shows that demographic development must be the central consideration in spatial planning and it formulates concrete policy recommendations based on this premise.



### Too few young people almost everywhere

The number of under-20-year-olds is decreasing in nearly all 96 German planning regions (*Raumordnungsregionen*). Only the regions **Munich, Havelland-Fläming, Oberes Elbtal/Osterzgebirge, Westsachsen and Hamburg** will be able to register an increase in the number of young people by 2030. The figures show the direction of the demographic trend: fewer children and young people mean that the population will age considerably and decrease in the long term.

Development prognoses for under-20-year-olds in the planning regions, 2009–2030  
(Data source: INKAR)

# POLICY RECOMMENDATIONS

## Diversity as a solution – perspectives for socio-ecological spatial development with a declining population

There are three obstacles to sustainable spatial development in Germany.

### 1. Technical path dependencies

All over the country there are built structures with long depreciation and debt repayment schedules, but not everywhere do they fulfil the purpose for which they were designed at a reasonable cost. However, these systems cannot be replaced with more suitable ones from one day to the next.

### 2. Multiple standards at various levels

Often adapting infrastructures to a smaller number of users is hampered by numerous rules, regulations and programmes still in progress that do not make sense for sparsely populated rural areas. This bureaucracy – consisting of EU, federal, state and local community regulations – blocks creative new solutions and drives up costs.

### 3. Planning geared to growth

Despite the steady population decline and the fact that even decades of subsidies will not be able to reverse or even slow down the demographic trend in certain regions, growth is considered a patent recipe for solving all problems associated with shrinkage. This is the reason why motorways are constructed through areas devoid of people, planning permission is given for industrial estates or new housing in no-man's land and equivalent living conditions are demanded for regions that in reality are becoming ever more unequal.

Scarcely sustainable planning not only fails to use the ecological dividend generated by population decline, but, on the contrary, results in additional ecological and economic costs if infrastructures are overhauled, expanded or even newly constructed following the unswerving logic of growth, or if commuters are granted tax breaks for the costs of travelling to work, thus continuing to promote energy-intensive and sparse settlement structures. Yet despite these extra efforts and costs, public service provision in these territories continues to deteriorate. Although many actors are examining alternative, cheaper provision strategies – such as decentralised sewage disposal plants or mobile doctors' practices – these creative approaches usually result only in one-off projects that may have a local impact but are not adopted as standard service provision arrangements by other regions or other federal states. In this respect a national strategy is lacking that would provide a clear direction, would introduce legal clauses to allow flexibility and experimentation or would grant regional administrations and citizens more financial autonomy and freedom to act independently.

## Energy

### 1. Compensate citizens to move away or to tolerate repurposing of the landscape

For technical reasons a major national project like the *Energiewende* cannot always take account of population developments. Wind farms must be built where there is most wind, and power lines must run where the transportation requirement for electricity is high. If these happen to be thinly populated regions with declining populations, then the synergies this generates should be used. Then certain territories could be declared special regenerative zones, where the remaining inhabitants could receive compensation either for the repurposing of the landscape or to move elsewhere.

### 2. Coordinate the financing of energy networks nationally

For demographically shrinking areas where special regenerative zones cannot be created because settlement is still relatively dense or there is a lack of acceptance, the expansion of renewables means an additional financial burden. This is because wherever the per capita length of power lines increases, the network operators often do not receive sufficient revenues to be able to expand the network. Here a national co-ordination framework would be necessary that would spread the costs fairly and at the same time maintain incentives to expand renewables in suitable regions.

### 3. Limit use of bio-fuels

Bio-fuels are only sustainable if the production of biomass meets high ecological and social standards – for example, if it boosts local economies and follows certain principles of crop rotation. Producing bio-fuels on a large scale only makes sense in combination with other renewable energy facilities, and should only be implemented if the potential exists locally. This in turn depends on a multitude of factors. For example: Is sufficient surplus biomass available? Does the local population accept the factories? Are the production plants located in places where energy can be transported economically to where it is needed?

## Sewage

### 1. Examine the viability of compulsory connections to and use of centralised sewage systems

In areas where households are not yet connected to a central sewage disposal system, the responsible authorities should examine whether such a connection really makes sense. Generally speaking the logic followed in determining compulsory connections and use needs to be reversed: decentralised options must be examined for every household not yet connected to mains sewage – and only in exceptional cases should a mains connection be the favoured solution.

### 2. Utilise urban restructuring programmes

Instead of using urban restructuring to give cities or towns a face-lift or for new construction, more of the available funding should be invested in energy refurbishment or in downsizing sewage disposal systems. Existing sewage treatment plants could be upgraded by making use of the waste heat and digester gas they produce, by mechanical efficiency gains or by burning sewage sludge. In areas undergoing marked demographic decline, sewage pipe systems should be downsized and subsystems decentralised.

### 3. Fund decentralised plants

So far only a few federal states have introduced funding programs for small-scale sewage treatment plants, and some states have even abolished them again. But without state funding the financial hurdles for private users are often too high. All the larger states should therefore introduce financing options for small-scale sewage treatment plants. Funding should be targeted primarily at economically efficient sewage treatment plants or the NASS systems, which are ecologically particularly innovative. The latter collect different types of waste water separately so that they can subsequently be treated or used separately.

### 4. Enable early depreciation

If parts of the waste and drinking water systems are considerably underused, the operators must be given the option of reflecting the adjusted value of the plant in their accounts. For recently constructed but oversized systems, for example, the option of a “debt haircut” should remain open wherever it becomes obvious that the reduced number of users means that the value of the facility can scarcely be refinanced. The costs involved could be absorbed by a fund specially set up for this purpose.

## Mobility in rural areas

### 1. Promote multiple modes of mobility

To enable a basic level of mobility in rural areas, different means of transport need to be combined in intelligent ways: bicycles, cars, public transport, taxis, citizens' buses and goods transport should produce mobility chains that allow people who do not own their own cars to cover larger distances.

### 2. Make public transport more flexible and reduce regular services

Organising public transport in the form of regular services is not a sensible mobility concept for thinly populated rural areas. Large buses running to regular timetables do not satisfy the individual needs of rural inhabitants at a reasonable cost. Particularly for older people public transport is often unattractive because it only stops in certain places and is usually designed to meet the needs of schoolchildren. Instead their mobility needs can be better addressed via privately organised services. However, these must be organised according to a clear and transparent system and should be accessible to everyone.

### 3. Stop building or widening roads and close underused ones

As a rule demographically shrinking areas do not need new or wider roads. Particularly in rural areas with little economic activity roads should merely be maintained. Link roads with low traffic volumes can be dismantled if they provide short cuts for only a few people.

## Social infrastructures in rural areas

### 1. Keep primary schools local

Primary schools are a basic requirement for families with small children who live in the countryside. Various models exist that allow continuing local provision of primary education. Here planners should not be guided by traditional norms regarding the size of the school building or the number of pupils, but should regard education as a service irrespective of the external form of the school. Then it would be possible to run multifunctional or one-room schoolhouses where several different age groups are taught together, but also mobile classrooms, teachers who commute or tele-instruction on certain days.

## 2. Expand remuneration systems for healthcare

To provide comprehensive healthcare it is essential to supplement general practitioners (GPs) with alternative forms of care. In the future the network of traditional practices in rural areas will not be sufficient to provide people with proper healthcare, so nurse practitioners, mobile doctors' practices, branch practices or health centres must be part of the regular spectrum of healthcare services.

## 3. Promote village shops

In an aging society more and more people have problems covering large distances. In places where there is an active and socially committed village community, village shops would seem to be a good solution. These would not only ensure a basic supply of food but also provide a social meeting point that would bring car-sharing centres, neighbourhood assistance and other services together under one roof. Local authorities, state governments and local NGOs should actively promote such shops and support corresponding local citizens' initiatives or, like the *Markt-Treff* introduced by the state of Schleswig-Holstein, found these themselves.

## 4. Organise mobile shops

If no suitable structures for village shops exist, then dwindling local retailers must be replaced by mobile shops. For this purpose, retail companies, for example, could set up a fund to support local provision not only of food but of other goods and services as well.

Each area would need to be examined separately to find out which arrangement is best suited to local conditions. In areas, for example, where enough GPs are likely to be practicing for the foreseeable future, a health centre will not be needed. Nevertheless, nurse practitioners would no doubt reduce the financial and personnel burden on doctors. And in places where a new central sewage disposal system has just been built it makes little sense to fund treatment plants that would literally leave the operator high and dry.

## Demographic checks should precede investment

Not every idea reported in the newspapers or that emerges from competitions or from research projects can be universally applied. During the expert workshops organised by the Berlin Institute and the IASS it became clear that all areas of planning have their own pitfalls. Each small area – in the case of sewage pipes this may even be as specific as individual streets – must be considered separately. This is why local public service provision strategies are needed to complement national policy guidelines. Sewage disposal operators, planning offices and the local education authority must decide themselves on a case-by-case basis where they need to restructure or reduce. Prior to making any investment or launching a restructuring measure, all those involved should carry out a demographic check. In other words, planning of any kind must take greater account of future demographic developments than has hitherto been customary.

## Different standards for different regions

Each region must develop its own standards of public service provision attuned to its particular situation and demography with the corresponding legal norms. Until now, the same requirements were applied to densely populated, growing areas as to rural, thinly populated regions, without taking account of local conditions. Yet rural areas have different public service provision requirements to cities. And the kind of services people expect in the cities cannot be financed in the countryside. Of course, standards for aspects such as drinking water or the quality of food should be the same everywhere, but for primary education, healthcare or technical standards in sewage disposal, flexible and adaptable solutions are necessary in order to be able to guarantee a basic level of services in rural areas.

## Experimental clauses and administrations that learn from experience

Previous funding programmes have contained little incentive to try out new ideas. But given that many of the solutions to the public service provision problems of rural areas are still unknown, different options need to be explored, requiring more latitude for learning and experimentation. It is up to public administrations – i.e., local and district authorities and state ministries – to recognise this. To date they have always tended to support new arrangements that give local actors little space for learning. In the worst case bureaucratic regulation produces higher costs and strangles innovative solutions before they can prove their worth in practice.

## Stake out areas for potential civic engagement and identify state responsibilities

The kind of civic engagement that actors in rural regions are fond of calling for cannot help in all cases. There are few private individuals who understand the complexities of technical infrastructures, for example in the field of energy, where expanding the grid is one of the main priorities, meaning that national arrangements must apply. Sewage is another area where it is difficult to bring about improvements via civic engagement. While individuals may favour decentralisation, regulating and monitoring water provision is ultimately a task for the public authorities. And ultimately the authorities decide who may use which system when and where. Voluntary engagement is problematic with respect to social infrastructures too: care of the elderly, healthcare, school education or childcare are all tasks that require professionals, and it would hardly be desirable to employ persons without the necessary qualifications on a large scale in these areas. So here the state cannot be divested of its responsibility. Nevertheless, civic engagement in cooperation with the public administration can make a major contribution to the provision of basic services, to social cohesion and hence to more stable communities. Many areas of social life – such as village shops, sports clubs or neighbourhood help services – depend on the engagement of citizens. Cooperatives could even take on more complex tasks, such as the provision of renewables. Rural areas therefore require low-threshold and unbureaucratic funding options for committed local actors.

## Abolish the equivalence principle and develop alternative models

The state needs to be more honest if it is to arrive at more realistic goals and expectations regarding basic service provision. Abolishing the goal of equivalent living conditions as stipulated by the Basic Law would be a step in this direction. On this basis regions could be identified in which citizens cannot expect the provision of secondary schools and specialist healthcare or the long-term maintenance of link roads. Since these service restrictions will in any case eventually become unavoidable, the task now is to plan for these contingencies and pinpoint realistic perspectives and alternatives early on. If, on the other hand, those involved continue to invest in a service infrastructure in areas with shrinking populations, this will bind resources that could be better used for the benefit of citizens elsewhere.

Generally speaking, shrinking local communities should not give planning permission for any more areas of new housing and they should abandon unused housing developments. To date, shrinking communities have continued to report growth of their settlements and transport infrastructure, an absurd development given population prognoses, the huge numbers of empty buildings and calls for a sustainable land-use policy.<sup>14</sup>

Some critics of the principle of equivalence have recommended adopting the European model of “economic and territorial cohesion” as a spatial planning principle.<sup>15</sup> But to date this has proven to be just as vague as the principle of equivalence and leaves much room for interpretation. A discussion between the German federal states and

their European neighbours might clarify to what extent it makes sense to replace the German principle of equivalence with that of European cohesion. This would provide an opportunity to come to an agreement on pan-European goals for spatial planning policy and to adjust European funding programmes accordingly.

## Close individual villages and pursue a more active settlement policy

Certain villages in depopulating areas should be given the option of closure. This would apply to villages which have experienced extreme out-migration and where standards of public service provision are already inadequate, but should be done only if the remaining inhabitants can be persuaded to move away by incentive programmes. Closing villages would yield an ecological dividend, allowing nature and the environment to benefit not only theoretically but also in practice from population decline. As critics have rightly pointed out, closures and dismantling cost a lot of money, not only to buy up abandoned properties but also to dismantle infrastructures in such a way that areas are freed for species protection or for renewables. Yet these costs must be weighed up against the ever-rising costs of supporting an infrastructure for fewer and fewer inhabitants. In Switzerland de-settlement concepts have already gone a step further. A study on “How to Deal with Areas with Little Potential” came to the conclusion that by abandoning specific subsidies for demographically drastically

shrinking regions it would become possible to turn these into uninhabited “wilderness zones”. These shrinking areas, mostly remote Alpine valleys, could be of use to later generations.<sup>16</sup> But in Germany policymakers often still steer in the opposite direction, and planning permission is in some cases even explicitly understood as “an instrument to counteract population loss”.<sup>17</sup>

## “Ecologise” urban restructuring programmes

For more built-up areas with declining populations urban restructuring programmes exist to finance the demolition of obsolete buildings or the upgrading of remaining buildings. These programmes must, however, take greater account of ecological aspects. Any measure taken should accord with the national sustainability strategy and make full use of the special opportunities offered by demographically shrinking areas. In areas with markedly declining populations, deconstruction, demolition and unsealing or repurposing of land must take priority over constructing new buildings and upgrading existing ones.

## Restructure the financial compensation mechanisms between regional authorities

The demographic challenges in the various regions must result in new arrangements for the fiscal equalisation mechanisms. The current opaque fiscal equalisation mechanisms between regional authorities must be replaced by a more transparent and fairer distribution. Under present arrangements the greatest source of revenue, value added tax, is distributed to the federal states largely on the basis of the number of inhabitants. This does not, however, reflect the often particularly large financial needs of shrinking regions with very few inhabitants. One option might be to use other indicators such as unemployment or population development as additional components to be factored into the equalisation equation.<sup>18</sup> Before, however, decisions can be taken about needs indicators, policymakers and society must agree on new models for spatial development. Only then will it be possible to identify which public services need to be financed in which areas. And at that point it may become apparent that it makes more sense and is more sustainable gradually to encourage de-settlement and the emergence of new areas of wilderness than to go on paying for infrastructures that in some regions of the country are used by virtually nobody.



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