



Rural-Urban Outlooks: Unlocking Synergies (ROBUST)

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Refining a basic concept: The Outer-Inner-Space notion as a specification of the Rural-Urban dualism

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1. A poorly defined construct

Although *Rural-Urban* is at the core of ROBUST, it is a poorly defined construct. Anyway, there will never be such a thing as a “right” *definition* (except for mathematics); definitions are social agreements which at best can be useful, well accepted or uncontested.

The issue isn't the *absence* of a definition but the presence of a great variety of definitions (some of which might, in essence, be descriptions rather than definitions). As such, this variety isn't a problem. However, the definitions authors use usually aren't made explicit. Thus, a reader is confronted with the situation that he or she cannot be sure about the foundations of a given argumentation.

Definitions (definitions including descriptions to be more precise) of Rural and Urban including linguistic variations like Town and Countryside can be grouped as follows:

1a Land Cover

Starting from the simple ‘let's see what is there’ idea, maps are produced that are supposed to represent the surface of the earth as it appears. Obviously, mapping needs generalisation. Two aspects of generalisation are relevant: Scale – even when information is present in fine grain resolution, areas of similar character must be grouped in one way or another. If existing maps are used as a base layer, decisions must be taken about references to e.g. municipal boundaries or cadastral information. Land Cover – again, even when the data base provides extensive details, abstractions are needed (concrete, asphalt, cobble stones: road; oaks, elms, beeches: forest; colza, strawberries, ploughed land: agriculture, and so on). And, after all, the decision to qualify a land cover as either Urban or Rural is arbitrary.

1b Land Use

There is a difference between Land Cover and Land Use, the latter being a matter of *interpretation*. For example, how would an abandoned vineyard feature? Also here, the decision to qualify a land use as either Urban or Rural is arbitrary.

2a Function

Although it will be based on land cover and land use interpretation, this approach is different because it has a different purpose: Other features are taken into consideration, often it is densities (inhabitants per km², for example), or the presence of institutions that are considered to be urban (hospitals, universities, theatres for example). This leads, typically, to composed calculated indicators, and the resulting figures per areas are then often grouped in degrees of rurality (or urbanity or whatever). A prominent example is The New Degree of Urbanisation¹: Here, population densities have been calculated, resulting in municipalities being classified as either “densely populated area” (alternative name: cities), “intermediate density area” (alternative name: towns and suburbs) or “thinly populated area” (alternative name: rural area). Unfortunately, they sell the results of this calculation as “degree of urbanisation”. Even worse, this is used to define what a city is, it “(...) also introduces a new harmonised city definition.” – although this is based on population density calculations only.

2b Relation

Similar to 2a, there are attempts to consider flows, for example of people. Commuter relations are often used. Prominent issues here are data bases (Reliability, comparability? Modes of transport?), and the need to decide about thresholds. For example, Dijkstra and Poelman use a 15 % cut off margin (“if 15% of employed persons living in one city work in another city, these cities are treated as a single city.”)².

3 Legal

Outside the academic world, in public administration from local to EU, governments can and do decide and impose designations of Rural and Urban, for example for the sake of the allocation of funds. These designations will be based on facts and figures, but eventually it is the decision that counts. Often, these designations relate to territorial entities (NUTS or LAU). The EU expects Member States to differentiate their territories, but doesn’t impose the method; they conceded Member States and ‘Regions’ are free to use their own definitions³. In the German Land Hessen (where Frankfurt/Rhein-Main Region is located) two different definitions of Rural exist⁴.

4 Colloquial

In its colloquial or narrative use, urban-rural is a stereotypic simplification. It may be rooted in our minds as one of the fundamental dualisms like good and evil, black and white, love and hate, but must be treated with care in professional use. Here it is where categories are mixed and mixed up – land use where Rural is concerned, life style when it is about Urban,

¹ Lewis Dijkstra and Hugo Poelman: “A harmonised definition of cities and rural areas: the new degree of urbanisation”, Reihe Regional Working Papers, WP 01/2014, Directorate-General for Regional and Urban Policy, Brüssel 2014
http://ec.europa.eu/regional_policy/sources/docgener/work/2014_01_new_urban.pdf

² Lewis Dijkstra and Hugo Poelman: Cities in Europe The New OECD-EC Definition, Regional Focus RF01/2012, Directorate-General for Regional and Urban Policy, Brussels 2012

³ For example: „it is left to the Member States to define which territories are to be considered as ‘urban areas’”; Guidance for Member States on Integrated Sustainable Urban Development (Article 7 ERDF Regulation), European Commission EGESIF_15-0010-01 18/05/2015

⁴ According to the Regional Land Use Plan only two towns inside the area covered by it are Rural; according to the Rural Development Programme (implementing the European Agricultural Fund for Rural Development) it is 22 towns.

for example. Suburbia, Urban Fringe, Urban-Rural Divide, Countryside Around Towns and Urban-Rural Interface fall under this category. Urban Area may relate to the zone within a municipal boundary, but could also include the areas around a Core City. These words have a merit when it is to *start* reflections about a complex reality, but need backing and precision in the course of the debate – which is usually not the case. (A best practice, providing some 40 pages of explanation of the key terms, is the Ruimterapport Vlaanderen⁵.)

There is nothing wrong with this variety of approaches. Users have to bear in mind, however, the following:

1. These approaches shouldn't be seen as compatible, that is, they shouldn't be mixed when analysing a real life planning problem. (Land use which is obviously rural takes place outside legally defined rural areas, for example: about 25 % of the surface of Frankfurt (NUTS DE712) is used for agriculture.)

2.1 These approaches are context dependent. For example, it doesn't make sense to refer to population densities when it is about the application for LEADER funding, because areas applicable for LEADER funding are defined legally.

2.2 Context dependency also means that data availability plays a role: Is it about the *interpretation* of existing data (the application of own GIS information, for example), or the search for new data? New data from which sources? Field work, aerial photography, satellite imaging? True colours, infrared? Night time light emissions? "Mapping" is a potentially confusing expression in this context and, again, needs clarification.

3. These approaches are problem dependent. Actually, we should always check whether an approach and results based on it contribute to a problem to be solved. (A solution for a non-defined problem is an answer to a question that hasn't been asked.) If this is not the case, we will need our own approach.

4. Any decision to qualify a given plot as either Urban or Rural is arbitrary. Accordingly, many approaches avoid the dualism by providing "mixed" categories, with "peri-urban"⁶ being the best established one.

2. A more precise, and problem oriented approach: Outer versus Inner Space

The problem to be solved within the ROBUST LL Frankfurt/Rhein-Main is as follows:⁷

1. Is the supply of ecosystem services in the Outer Space able to meet the demand from the population in the existing and potentially built-up areas?

2. How much Outer Space do we need to maintain functional ecosystem services in order use them in a sustainable way and secure them for future generations?

⁵ Pisman, A., Vanacker, S., Willems, P., Engelen, G. & Poelmans, L. (Eds.), (2018), Ruimterapport Vlaanderen (RURA). Brussel: department Omgeving

⁶ www-purple-eu.org

⁷ Living Lab Research and Innovation Agenda – Frankfurt/Rhine-Main Region, ROBUST internal document March 2019

3. How much growth can the Outer Space tolerate or is there a threshold for the reduction of Outer Space and respectively for the growth of the built-up areas?

4. Can ecosystem services such as climate regulation, clean water generation, soil formation, recreation etc. be relocated to rural areas outside the association region Frankfurt/Rhine-Main?

This is playing in the context of the complex procedure of conceiving a new Regional Land Use Plan⁸. We are looking at one specific issue of it: The designation of additional development areas. This is the core of the Plan because it is supposed to provide space for “development” (again a vague term which in our case means “more buildings (and associated infrastructure), to house more people and to enable more business”), against the need to limit land take (land is a finite resource, obviously).

For this purpose, we had introduced the term Outer Space⁹, with its antonym Inner Space. Let us take a closer look at it. We are operating in a highly formalised context, based on the legal provisions of the German *Baugesetzbuch*¹⁰. We do have a well-established fine grain GIS data base which provides differentiated land use information. This information had to be arranged (aggregated) to reflect the relevant legal categories, or, in other words to be translated into the concepts that the Law¹¹ (our policy instrument) is applying. This means: Inner Space contains *Wohnbaufläche, gemischte Baufläche, gewerbliche Baufläche, Fläche für den Gemeinbedarf, Sonderbaufläche, Fläche für den Schienen-, Straßen- und Luftverkehr sowie Flächen für Versorgungsanlagen, Abfallentsorgung und Abwasserbeseitigung* – eventually, these are land uses elsewhere subsumed as settlement areas. We assume that eco system service demand is generated here. – Outer Space, simply put, is the rest¹². The legal term here is *Schutzgüter*¹³, realms of protection, that is, fauna, flora, soil, water, air, climate, landscape and biodiversity. The information assigned to the *Schutzgüter* in the Outer Space will be grouped and aggregated according to the ecosystem service concept, because we assume that ecosystem services supply is provided in the Outer Space.

3. Conclusion: Outer-Inner is a powerful specification of Rural-Urban

Our approach isn't contradictory to any of the Rural-Urban definitions. Is this a proxy for it? Yes, it certainly is. As we have demonstrated, Rural-Urban is a pretty vague construct which can be rendered more precisely in many ways. Outer-Inner is one of them: Inner Space is Urban (“urbanised”), it is urban land *use* (as opposed to land *cover*) because it includes areas associated with the actual buildings. It also includes urban green (parks and gardens), which is no contradiction¹⁴ to being “not rural”. Agriculturally used land is not counted as Inner

⁸ Reinhard Henke: Rural-urban Governance Arrangements and Planning Instruments, Regional Land Use Plan, ROBUST 2018

⁹ Antje Herbst; Reinhard Henke (Editor): Planning from Outer Space – Fresh thinking on Regional Landscape Planning to protect open space and to regulate development in the Außenbereich of the Ballungsraum Frankfurt/Rhein-Main

¹⁰ Federal Building Code, *Baugesetzbuch* in der Fassung der Bekanntmachung vom 3. November 2017 (BGBl. I S. 3634)

¹¹ § 5 (2) Federal Building Code and § 1 (1) Baunutzungsverordnung in der Fassung der Bekanntmachung vom 21. November 2017 (BGBl. I S. 3786)

¹² Categories are *Land- und Forstwirtschaft, Natur und Landschaft (ökol. bedeutsame Flächennutzung, Still- und Fließgewässer), Rohstoffsicherung*

¹³ „Belange des Umweltschutzes“, § 1 (6) 7. a Federal Building Code

¹⁴ Green space within the Inner Space accounts for 4.4 % of the Regionalverband's area only anyway.

Space. – Outer Space includes all areas with agricultural land use, plus nature reserves and forests. Accordingly, this is a very adequate approach to the idea of Rural. In terms of our classification, this is type 1b, with the interpretation being based on the legal categories of the *Baugesetzbuch*.

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