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Chapter 17

On Legal Complexity: Between Law in Books and Planning in Practice

Stefan Larsson

Introduction – law and planning

This chapter addresses the difference between the intentions of the law and its application, using mobile telephony infrastructure development in Sweden as a case study. Three possible pitfalls for policy management in general are concluded and analysed. The first pitfall deals with legal complexity, which may be a result of piecemeal changes to the governing legal bodies over a longer time and is here argued to be of relevance for issues of public participation and access to justice. Another problematic pitfall concerns when law is internally contradictory, without any clear hierarchy, which is exemplified below. The third possible pitfall, which is often a point of focus in sociology of law, concerns when extra-legal factors interfere in the legal decision-making, without this being pronounced or acknowledged. This means that economy and politics can affect the application of law, to the extent that legal security and predictability are jeopardized. These three possible pitfalls in policy represent issues of general character in the legal government of land use and spatial planning, and are here analysed from a socio-legal perspective.

The first step towards a socio-legal perspective on law follows with the quite laconic statement, ‘Law is not action’. This means that not even the most succinct and clear law by necessity equals a good application, in line with the motives and purpose of the law. An environmental impact assessment (EIA), for instance, as a tool for influencing decision-making processes, is often legally regulated. The use of this tool is put down in the ‘law in books’, but it is the application of the legal provisions (that is, the ‘law in action’) that bears the true implications of environmental and other concerns that were the aim of the assessment.¹ Hence, when there is a problem with EIA, the problem is not always the EIA itself but the decision-making process which it is part of. Although one could consider the same normative duality in types of norms other than legal, which of course has been done in a number of socio-legal studies (for example, Ellickson, 1991; Svensson, 2008; or, in a digital environment, Larsson and Svensson, 2010; Larsson et al.,

¹ The terminology is often credited to the American legal realist Roscoe Pound (cf Pound, 1910).

2012 and 2013; Svensson et al., 2014), this study's main focus lies in the internal intricacies of law, particularly in their relation to its practice.

The purpose of the chapter is to display possible pitfalls in policy management, particularly related to spatial planning, and with special attention to legal challenges that are found in its practice – that is, in the relation between law's intentions and its outcome. The example of the Swedish 3G infrastructure development and planning is used as a case study in order to pursue this purpose by investigating the policy management in this particular case. The Swedish 3G infrastructure development entailed a national infrastructure development following from a European policy and a strongly optimistic agenda at a national level which, at the same time, depended on spatial planning and handling of 3G mast-building permits by the local municipalities (Larsson, 2008a; Larsson and Emmelin, 2007). In short, and what is of relevance for a socio-legal analysis of the events, is that the four licence winning operators (out of 10 contestants) were set to develop the infrastructure from 2001 to 2003 to cover 99.98 per cent of the populated areas (PTA report of 10 March 2004). However, when the deadline was reached, the reported coverage was, at most, between 65 and 75 per cent. The responsible governing authority, the Post and Telecommunications Agency (PTA), had the mandate, through legal and other means, to impose sanctions on the operators (for example, through fines). Nevertheless, despite the fact that the coverage was not reached until 2007, no fines were imposed on the operators for failing to comply with the promises they had made in order to receive the licences. In addition, two main legislative bodies governed this infrastructure development. These events display some of the difficulties that may appear when different regulations have different backgrounds and purposes, even though they have partly overlapping addressees. Under the given purpose, the following research questions can be posed:

1. To what extent is complexity an issue in the case of relevant legislation for 3G development in Sweden?
2. To what extent does the policy that regulates the development suffer from internal contradictions?
3. To what extent can extra-legal interference explain some of the outcomes of the PTA/operators' relationship?

Before I further address the particular case of developing infrastructure for third generation mobile telephony in Sweden, the socio-legal approach needs to be outlined in a little more detail.

Theory: Socio-legal perspectives on law

Let us settle for a simplistic definition of law, stating that it is a formalized normative structure often vindicated in an authoritarian order. It can be set up to assure that proper tools are used in order to ensure that certain values, such as

environmental concerns, are taken into account in a large project or undertaking of some kind, such as a national development of mobile telephony infrastructure. Law is, then, the predetermined order of ensuring the enforcement of values that otherwise might not be taken into account. Legal structures naturally vary throughout the world, but the key expectations that follow from most legal structures are predictability, non-discrimination and a non-ad hoc nature, meaning that they should apply in the same way to every new case arising from the same circumstances. Predictability, as described by the legal scholar Peczenik, is 'one of the basic values in democracy and a state governed by law', and many legal theorists hold that the norm of 'jurisdiction and the actions of public authorities in a democratic state should be predictable' (Peczenik, 1995: 89–90; see also Larsson, 2008c, 2011a and 2011c). The Norwegian sociologist of law, Vilhelm Aubert, speaks of law as something that serves to safeguard expectations, as one of five main tasks of law (1989: 62) and, as Niklas Luhmann has argued, its most important one (1972: 31 onwards; see also Larsson, 2011b).

Trubek calls for an agenda of critical social inquiry on law. By this, he calls for an analysis of the tension between 'ideals and reality' in the legal order (Trubek, 1977: 566) which, to some extent, is a similar call to the one made by Roscoe Pound much earlier regarding the difference between law in books and law in action (Pound, 1910) and one that inquires into the relations between law and society. Such a socio-legal approach reminds us here to bear in mind the difference between law and its application. A law can seem predictable and non-discriminatory in 'the books', but an empirical investigation can reveal that it is not in its application. The predictability, or lack thereof, can be related to the law's interface towards the public and, for example, citizen participation (Arnstein, 1969) and 'access to justice' (Baier, 2010; Larsson, 2013). Pound was influenced by the European socio-legal scholar, Eugene Ehrlich, who focused on the social side of law by expanding far beyond the dogmatic legal boundaries, not least in the concept of 'living law' (Ehrlich, 1913/1936). In Pound's concept of law, the idea is that there are two sides to law: one dogmatic, often written down; and one empirical, which you can only find outside the dogma – for it is the application of law, the consequence. This can be seen in relation to a theoretical viewpoint of sociology of law, where law can be found on one side and its application or consequence on the other, sometimes described in terms of an 'ought' side and an 'is' side (Svensson, 2008; Svensson and Larsson, 2009 and 2012; see also the introduction to this volume, as well as Svensson's contribution), even though the identity of sociology of law has been debated (Banakar, 2001; Dahlberg-Larsen, 2000; Mathiesen, 1998; Hydén, 1999). This relation, and the interaction of the two, goes beyond a strict, legal, dogmatic study of existing law. With this follows a critical view that takes its origin in social science, which needs to be additionally outlined, in order to make a further analysis of the Swedish case study of 3G development reliable and possible.

In other fields of socio-legal research, the American sociologist Robert Merton's functionalist theories (1938 and 1968) have been used in order to

analyse consequences of legal implementation. Of particular interest here would be when law is concluded to not function well in its social context – for example, when the legal norms are ill-fitted to the social norms and the societal context that they try to regulate. For example, Larsson and Svensson (2010) have, in the field of online copyright enforcement, displayed consequences that are of direct dysfunctional character for the law. Instead of compliance, the addressees for the specific legislation use complicated technology in order to avoid enforcement. Larsson and Svensson see the explanation in a gap that is too wide between the legal and the social norms in society (see also Larsson et al., 2013). Thereby, Larsson and Svensson connect to a scholarly tradition emanating from Merton's 'theory on functions and dysfunctions of law', with significant focus on the unintended consequences of legal implementation (see, for example, Aubert, 1954; Mathiesen, 2005; Sunstein, 1994). In the governance and control over the spatial environment, the legal framework plays a significant role. How the legal provisions are manifested in the factual sense, showing the empirical side of law, is one of the important fields of study in sociology of law, not least in the field of environmental and sustainable development (Baier, 2002; Hydén, 1997 and 2004; Wickenberg et al., 2004; Larsson, 2008a).

A clear challenge for law is that its complexity may become overwhelming. In order to address this field and to break it down into understandable pieces, Peter Schuck divides legal complexity into four subcategories of density, technicality, differentiation, and indeterminacy of uncertainty (Schuck, 1992: 3). In Schuck's view, law's complexity is an 'ancient concern' that has continued to 'obsess lawyers, policymakers, social critics, editorial writers, and men and women in the street, who almost invariably condemn legal complexity in the most caustic terms' (1992: 2–3). Legal complexity is of key importance in terms of how participation works in a legal context (Baier, 2009). As mentioned, the purpose of this chapter is to focus not only on formal and instrumental challenges and pitfalls concerning environmental policy, but also on the informal consequences that have to be looked for in empirical investigations. Citizen participation partly refers to what has been described as 'access to justice', a movement that (according to Baier) has traditionally had a focus more on the formal side than the informal:

Hitherto, participation from a socio-legal viewpoint has indeed mostly been treated with a focus on instrumental action. Whether or not a citizen has the formal possibilities to act, or has the actual possibilities to act, is still a matter of analysing citizen participation from an instrumental point of view. (Baier, 2009: 21)

The socio-legal perspective of this chapter complements the instrumental view in the sense that formal participation does not necessarily mean inclusion in practice. Where the legal dogmatic perspective gives a very clear picture of which knowledge and which factors should influence legal decision-making, the socio-legal perspective often means an examination of legal decision-making

empirically in order to see if there may have been other factors, generally not voiced, that have influenced the legal decision-making (Hydén and Wickenberg, 2008; see also Larsson, 2011a). If one wants to apply this perspective to the subject of environmental impact assessment (EIA), Sager (2001) compares five large-scale Nordic projects and the role of the EIA in them. He finds that the EIA was ‘neglected in the decision making process’ (a tunnel project, studied by Päivö and Wallentinus, 2001), that ‘[i]t is unclear whether the performance of the EIA procedure influenced decision-making’ (a rail-link studied by Kjellerup, 2001), and that ‘regarding decisions concerning the design and implementation of the project, there is little evidence that the EIA had a significant role’ (the Gardermoen project, studied by Stenstadvold, 2001). This tells us that, even though a legally regulated instrument was at hand, there were unspoken reasons for not applying it in the actual process. As a result, this chapter focuses on legally controlled decision-making in a large-scale infrastructure development, such as the one for third generation mobile telephony in Sweden. Although no EIA had to be made, the case is of interest as an example of the power struggles embedded in large-scale projects – power struggles that move below the surface of law and what is formally expressed, but still affecting the decisions taken within the project.

Background on Swedish 3G development

The development of the third generation of mobile telephony in Europe has been criticised for being subject to overbidding and for neglecting the health risks. A critical review of the development of 3G mobile telecommunications in Europe concludes that the number of firms that have introduced 3G services is much smaller than the number of firms that actually received a licence, and also that overbidding was common (Gruber, 2007). A number of telecommunication companies collapsed due, in part, to the debts that they had accumulated while acquiring the licences (Whalley and Curwen, 2006: 622). Whalley and Curwen (2006) show how rare it was for entrants to the mobile infrastructure development, new to 3G, to actually remain active in the European mobile telecommunications market. The possible health effects have been debated and protested (Drake, 2006 and 2010; Larsson, 2009 and 2013; Stilgoe, 2007), and a Danish study concludes that the majority of the population has little concern for mobile phone radiation, while a small minority is very concerned (Kristiansen et al., 2009).

The Swedish infrastructure roll out for 3G formally started in December 2000, with the PTA, the responsible governing agency, deciding on which applicants should receive licences. It essentially continued until 2007. At the time for the decision on the licence terms for the development of the 3G infrastructure, the goal of the Swedish government was to maintain Sweden’s position as one of the leading nations in IT and telecommunications (SOU 1999:85, p. 29 onwards). However, the years following the initial decision were filled with protests from people fearing radiation and from land owners that wanted to be left alone (Larsson,

2008a). Many felt they had been disregarded by the central decision to roll out an infrastructure when it was uncertain whether it would be beneficial (Emmelin and Söderblom, 2002: 35–7; Emmelin and Lerman, 2004: 85–7; Larsson, 2008: 142–3).

The agreement: The licence allocation and conditions

The reason for considering the licence allocation process here is that it offers some preconditions for understanding what part of the agreement the operators later breached and why. On 12 May 2000, the PTA invited operators to apply for a licence. The number of licences was decided in April 2000 by the board of the PTA, after Parliament had decided upon the framework of the licence process (PTSFS 2000:5). While various other countries had an auction concerning the licences, the Swedish licences were offered in a ‘beauty contest’ to those who promised the highest coverage reached within the shortest time-span. The PTA regulations stated ‘at the most, four licences for a national coverage according to the UMTS/IMT-2000-standard will be available’ (PTSFS 2000:5, §6). The intention seemed to be to reach the highest number of licensees, with regard to the 3G services that could then be offered from a consumer perspective, and not least with reference to achieving competition between the operators (Larsson, 2008b). Four licences were issued, valid until 31 December 2015. The selection process was divided into two steps, in which the contestants were reviewed using certain criteria. The initial evaluation of the contestants was formulated to review whether or not they had fulfilled the preconditions for the establishment of a UMTS network. This included financial capacity, technical as well as commercial feasibility, and appropriate expertise and experience (PTA, 12 May 2000: 8–9; Andersson, Hulthén & Valiente, 2005: 583). Five of the ten contestants failed to prove this.

At the second stage of the beauty contest, the operators were awarded points according to the extent and speed at which they offered coverage by the end of 2003, 2006 and 2009. Coverage was defined on the basis of three factors: proportion of population; territorial coverage; and distribution throughout Sweden. The importance of good access throughout the country regarding broadband and UMTS was stated at an early point (PTA report, 27 June 2001: 9). At the same time, the PTA did not want to put in a clause requiring too high a coverage in the licences, fearing it would discourage operators from taking part in the development of the 3G system, which was the case in the earlier application process regarding the GSM licences in the 1800 MHz spectrum (PTA report, 27 June 2001: 9). This was the reason for application criteria that required the applicant to promise such coverage, and the promise of higher coverage trumped the promise of lower.

The PTA decided that Europolitan (later Vodafone, now Telenor), Hi3G (now 3), Orange and Tele2 should each get a licence. All four undertook to cover at least 8,860,000 people by the end of 2003. These licences apply up to and including 31 December 2015 and the licence conditions applied to 31 March 2006 (PTA

decision, 22 March 2001: 8). Telia became a part of the infrastructure development via collaboration with Tele2 (which obtained a licence). The three operators – Hi3G, Telenor (Europolitan at the time) and Orange – signed a deal regarding collaboration on the coverage requirements of the licence conditions. The licence conditions stated that each operator had to have 30 per cent of its own infrastructure and a maximum of 70 per cent shared coverage (PTA decision, 22 March 2001: 3.1). An estimation conducted for the PTA stated that a reasonable area coverage would be around 170,000 km², about 41 per cent of the total Swedish surface area (Björkdahl and Bohlin, 2003). Parts of the licence conditions, such as the maximum of 70 per cent shared infrastructure, followed from set values that were decided prior to the ‘beauty contest’, and some conditions emanated from the contest itself, such as the degree of coverage and the speed of the roll-out.

The most important licence condition declares that the licence holders, at the latest by 1 March 2004, should have verified that 8,860,000 persons in Sweden were covered by 31 December 2003 (PTA decision, 22 March 2001: 1.1.2 and 1.3.1). Regarding the starting point of a functional network, the licence holders were to make net capacity available by 1 January 2002 (PTA decision, 22 March 2001: 2). Another important aspect is that the licence conditions were in force until 31 March 2006. After this date, they could be reviewed, which also later was the case.

Findings

The findings have been categorised according to the three research questions. This means that it is the empirical work that has shaped this categorisation in iteration with theory. The approach is therefore neither solely deductive nor inductive but, rather, abductive (Baier and Svensson, 2004; Svensson 2008). The following sections look at some examples, and, although the Planning and Building Act (1987:10) (‘the PBA’) has been revised since the 3G infrastructure development (2010:900), much remains the same, and the division in terms of culture and history between the PBA and the Environmental Act (1998:808) is still valid, so the relevance of the following examples is by no means diminished.

A first possible pitfall for law: Complexity

Environmental management and planning in the Swedish 3G case is upheld by a legal system that is complex (Emmelin and Lerman, 2004). The assessment is done at different administrative levels, under several legislations tied to differently structured court hierarchies and facing different governmental and municipal authorities. The Swedish 3G infrastructure development depended on a mast-by-mast assessment tied to the building permit system at the local municipal level (Larsson, 2008a). Although this legislation is not that complex in itself, a single 3G mast site can, in addition to the trial under the municipal authority regarding

a building permit under the PBA, require the trial under two regional authorities, with one being the County Administration performing an assessment under chapter 12, section 6 of the Environmental Code, and the other being the national Land Surveying Agency (LSA) performing an assessment of the site for utility easement under the Utility Easement Act. The LSA decision can be appealed to the Land Court by either the land owner or the operator; the municipal decision can be appealed to the County Administration by any concerned party for whom the decision has been negative; and the chapter 12, section 6 consultation decision can be appealed to the Environmental Court by the operators, if the site is prohibited, or by land owners if they can be found to be concerned parties.

Three different legal institutes, handled at two administrative levels, by three authorities – all with its own court hierarchy for appeal – create a complex assessment system. With the processes being run in parallel, it is hard for the entrepreneur, as well as any concerned party, to gain an overview of, and essentially comprehend, the legal system. In addition to this, it could also be considered bad resource usage of the authorities handling the case, as well as resulting overall in uncertainty in the outcome of a process, thus affecting all involved actors. The complexity of the assessment system is shown in the implementation of the 3G roll out. The solution offered by policymakers and politicians, to reduce complexity, is often the ‘one-stop shop’, representing an authority that would collect and coordinate all processes.

A second possible pitfall for law: Internal contradictions

Within any complex legal structure, there is a risk that internal contradictions will appear. The complexity of the spatial planning structures, and the problem of overlapping legislation based on slightly different purposes, can be illustrated by the issue of electromagnetic radiation in the Swedish 3G development and how it was handled under the Planning and Building Act (PBA), on the one side, and the Environmental Code, on the other. The PBA application of electromagnetic radiation and the fear of radiation can be illustrated by the County Administrative decision in the Aspö case of Karlskrona, in which the County Administration concluded that ‘significant impact’ in legal practice is regarded to mean that there must be concrete circumstances that suggest the existence of a risk of disturbance.² The court continued, ‘the circumstance that the mobile telephony mast causes discomfort or concern for disturbances cannot be considered to be of such significant impact that is intended in chapter 3, section 2 of the PBA’ (CA decision of 4 May 2006, p. 2, author’s translation).

The status of the Environmental Code, when it comes to the activity of running a base station (mobile telephony mast), has been the subject of much dispute. Many building permit appeals under the PBA have been appealed with reference to the precautionary principle expressed in the Environmental Code, a demand that

2 ‘...betydande olägenheter...’.

is always denied in a permit process (Larsson, 2007a, 2008b, 2009 and 2013). The municipalities can most likely apply the Environmental Code in accordance with its environmental supervision responsibility for activities in the municipalities, although not specifically in the building permit process. The case regarding this supervision was the one of the Environmental Court of Appeal, where the mast activities were up for trial in the municipality of Landskrona. The municipal environmental committee required the operators to provide a map of the location of the base stations, in line with its supervision responsibility. In order to gain the right to such a map, however, it needed to be stated that the base station activity fell under the scope of the law by being an ‘environmentally hazardous activity’. The Environmental Court of Appeal also found it to be such an activity, based on the fact that it is sufficient that there is a risk of the radiation being hazardous (for instance, if a person is in close proximity to the base station antenna). Furthermore, the court stated that the fear itself, expressed as psychological or mental anxiety, was included in the Environmental Code definition of ‘damage or detriment to human health’ (chapter 9, sections 1 and 3 of the Environmental Code; Environmental Court of Appeal, Case no. M 7485-04, 12 October 2005).³

If we compare the result of the decision of the Environmental Court of Appeal (leaving aside the mental anxiety aspect), and focus on the fact that it is sufficient that the activity risks being hazardous, and so the condition in chapter 9, section 1 of the Environmental Code is fulfilled, the internal contradiction between the two legislative bodies is further emphasized. When comparing the section in the Environmental Code – defining the activities that shall be found as environmentally hazardous – and the preparatory work of the PBA – commenting on the activities that are targeted by chapter 3, section 2 of the PBA (the one with ‘significant impact’, today found in chapter 2, section 9 of the PBA (2010:900)) – one sees that the formulations are similar.⁴ The requirement may be lower in the Environmental Code – the impact does not have to be ‘significant’ – but it is still a fact that, legally, the radiation activity is found to be detrimental or hazardous under one piece of legislation (the Environmental Code) but never detrimental or hazardous under the other (the PBA). Or, to put it differently, how the radiation issue has been handled, or not handled, gives the counter-intuitive result that an environmentally hazardous activity is not found to have a significant impact on

3 ‘...kan medföra olägenhet...’.

4 The formulations are not exact, but similar. The ‘inconveniences’ (author’s translation) that can mean a ‘significant impact’ in the PBA are the same as the activities in chapter 9, section 1 of the Environmental Code that the Environmental Court of Appeal found the 3G mast activities to be included in. Although the latter definition also explicitly includes non-ionizing radiation, the stating of ‘similar impacts’ and ‘similar disturbances’ indicates that the activities should not be interpreted exclusively; it is the activities of this type that are hazardous.

the environment. This is a result of complex and uncoordinated legislation that is central to the Swedish spatial planning.⁵

A third possible pitfall for law: The extra-legal interference

This third example addresses the bigger picture of large-scale projects, where the problem can be that the size of the project creates a game that is ‘bigger than law’, letting non-legally identified values (such as national development politics and economy) affect the decision-making in – from a legal point of view – an unpredictable manner. The story of the actions between the governing authority, the PTA, and the developers of the infrastructure, the operators, is examined here in more detail in order to show the intricate game that was played to avoid the sanctions that the PTA should have imposed on the operators, if they had followed the legal provisions strictly and predictably (see also Larsson, 2008c).

The law: The Electronic Communications Act

The Electronic Communications Act covers all electronic communication networks and electronic communication services, which includes the role of the PTA’s relation towards the operators, and the legal grounds for the agency actions that affect the operators.⁶ The PTA may, for example, issue ‘such orders and prohibitions as are necessary for a rectification to take place’ when it comes to operators not fulfilling the conditions bound to the 3G licence.⁷ Section 4 of the Act gives the operators a respite to correct what they have not fulfilled, on notification from the PTA. The minimum period for rectification is one month and, while the maximum time is not prescribed, the time is tied to the wording ‘within a reasonable time’ of section 4.⁸ Such orders may, ‘when there is a need for it’, be combined with a fine (Government Bill 2002/03:110, s. 299). For such an order, specific legislation regarding fines is applicable (Viteslagen 1985:206).

5 ‘9 kap. 1 § MB: Med miljöfarlig verksamhet avses...3. användning av mark, byggnader eller anläggningar på ett sätt som kan medföra olägenhet för omgivningen genom buller, skakningar, ljus, joniserande eller icke-joniserande strålning eller annat liknande.’ PBL prop 1985/86:1, s 484, angående 3 kap. 2 §: ‘Olägenheterna kan bestå av luftföroreningar, buller, skakningar, ljus eller andra liknande störningar som inte är helt tillfälliga.’

6 The Electronic Communications Act (2003:389) came into force on 25 July 2003 (prop 2002/03:110). The act replaced the Telecommunications Act (1993:597) and the Radio Communications Act (1993:599). The Telecommunications Act was, in other words, the main legislation controlling the introduction of the 3G development in Sweden.

7 According to chapter 7 section 5 of the Electronic Communications Act.

8 ‘Inom skälig tid’, PTA translation.

The parties: The PTA and the operators

The licence conditions in themselves did not include any sanctions for the operators if they failed to fulfil the requirements. Instead, the sanctions have a more general description in the legal provisions of the Electronic Communications Act controlling the PTA, mentioned above. When the operators started to apply for an extended time limit, the PTA turned down the requests. Orange was first to apply for an extended deadline and less coverage in August 2002, followed by Vodafone (which was the name of Europolitan, by now) in September 2002, Hi3G in November 2002, and Svenska UMTS-Licens AB (Tele2/Telia) in April 2003. The operators' requests were all denied (PTA decisions of 30 September 2002, 25 November 2002 and 14 May 2003). As a reason for the delay, the operators all pointed out that the municipal permit handling process had been slower than expected, which has been shown to be, to a large extent, a false argument (Larsson, 2008a: 125–7).

When the operators, in April 2004, were addressed with the fact that they had failed to reach the coverage condition by the deadline of 31 December 2003, the reported coverage had been at the most between 65 and 75 per cent, when it was supposed to be 99.98 per cent of the populated areas (PTA report, 10 March 2004). The operators were given 'a reasonable time' to 'voluntarily' (as expressed in the PTA decision of 17 May 2004) rectify the lack of coverage, with a referral to the preparatory works of the Electronic Communications Act (Government Bill 2002/03:110, p. 398). The time limit for reaching the full coverage, according to the licence conditions, was extended to 1 December 2004 (that is, 11 months later than the original time limit). The PTA justified this extension of the time limit by acknowledging the operators' position that the operators' prerequisites for the construction had been changed, after the initial licence agreement, by factors outside the control of the operators. These factors were said to be a slow municipal permit process, and the fact that the assessment (from a flight hindrance and telecommunications conflict perspective) performed by the Armed Forces had, in different respects, delayed the processes (PTA decision of 17 May 2004). The PTA concluded:

In some respects, the conditions for the company have been changed in a way that could not have been foreseen at the time for the application, and that have been outside the control of Hi3G. (PTA decision of 17 May 2004, p. 3)⁹

The same wording has been used in the decision to all four operators. The wording is interesting, especially in reference to the time acquired for the permit processes. In what way had the conditions changed? And in what way could these 'changes' not have been foreseen? Is this a legitimate reason for the coverage delay at all?

⁹ 'I vissa avseenden har emellertid förutsättningarna för bolaget ändrats på sätt som inte kunnat förutses vid ansökningstillfället och som legat utanför Hi3G:s kontroll'.

To be able to answer these questions, we have to take a look at the actual roll-out, from an empirical side, which is done below.

In the time following the decision, in 28 June 2004, all operators except Orange – that is, Hi3G, Vodafone and SULAB (Tele2 and TeliaSonera) – applied for a change in the licence conditions, which mainly concerned a delay in the coverage conditions to be fulfilled by 31 December 2007 and a reduced pilot signal in the sparsely populated areas. The operators' main arguments regarding the delayed coverage were that the permit processes had taken considerably longer than expected (due to the public debate on the effects on the environment, cultural and nature values) and the concern about electromagnetic radiation (PTA decision, 7 December 2004, p. 4). Parts of the arguments from the recent postponement decision of the PTA were re-used, but with a bigger jackpot at stake (that is, more than three extra years to reach the full coverage). The PTA found that the reasons to change the licence conditions regarding the delayed coverage were not strong enough to change them.

This was partly based on a Communication from the European Commission (2002) stating the importance of predictability and stability in the regulatory environment:

When balancing the benefits and drawbacks of a rigid application of the conditions determined by the issued 3G licences, the Commission is of the opinion that, in principle, the **licensing conditions should not be changed**, because the sector is best served by a predictable environment. Predictability allows business cases to be established in a reliable manner and to be credibly defended when accessing investment funds. (Underlining and bold letters are as in the text at European Commission (2002: 3.1) and PTA decision of 7 December 2004, p. 8)

And the Communication continues by stating that 'changes to licence conditions should be envisaged only when circumstances have changed unpredictably and, in these cases, any modification should be proportional, transparent and non-discriminatory' (European Commission (2002: 3.1) and PTA decision of 7 December 2004, p. 8). The reasons that led to a delay of six months from the PTA notice to the operators until 1 December 2004 (and 11 months from the promised reach of full coverage, according to the licence conditions) were not considered strong enough to change the licence conditions. The operators were just given a respite. The reported coverage by 1 December 2004 was, for Hi3G, 84 per cent, for Telia and Tele2, 86 per cent, and for Vodafone, 84 per cent (PTA report, 27 January 2005). The fact that the operators were given a respite nevertheless means that the PTA gave their arguments some credibility. On what empirical grounds is, however, unclear.

Hi3G and SULAB did, in late December 2004, appeal the decision (in addition to the reduced pilot signal, they had applied the decision of not extending the deadline) to the County Administrative Court (Länsrätten) on the basis that more areas of Sweden should be included in the reduced pilot signal requirements,

beyond the extended time limit. The processes forced the PTA to accept a reduced pilot signal in some further areas, which was to the benefit of the operators, and the appeal was withdrawn. By January 2005, the PTA stated that, since the licence conditions had been changed (reduced requirement in the way of measuring coverage in the sparsely populated areas), the operators should have a new respite to rectify the lack of coverage. This time, the respite period was set at a month; and, by 28 February 2005, the operators should have reached the coverage of the licence conditions, or the PTA 'may issue an order', according to chapter 7, section 5 of the Electronic Communications Act, that could be combined with a fine (PTA report, 22 February 2005).

What is interesting here is that the changes of the obligations connected to the pilot signal in the rural areas of Sweden constituted a beneficial way to measure the coverage for the operators. It was this beneficial change (namely, fewer base stations required for the same degree of coverage) that gave the operators another respite, due to the 'changes of the licence conditions'. The logic here is not obvious. It is possible that the radio planning connected to these conditions demanded some extra planning time, a relocation of resources which, on the other hand, could be balanced against the fact that the operators saved up to 25 per cent (according to the PTA press release of 24 October 2005) of the infrastructure cost of the remaining parts, after the PTA decision of 7 December 2004 (when the coverage was somewhere around 80–85 per cent of the coverage requirements). The pilot signal was allowed to be decreased even more in the so-called buffer zone in October 2005 (PTA report of 22 February 2006, p. 20).¹⁰

So, on the one hand, when it comes to the coverage percentage, the PTA stresses the importance of predictability and no change of the coverage requirements from the original licence conditions; and, on the other hand, when it comes to, perhaps, the slightly less easily understood pilot signal issue, the PTA changes the licence conditions in favour of the operators. Instead of changing the coverage conditions, the definition of coverage is changed. What happened when the operators by 1 March 2005 reported that the lack of coverage was not rectified? In fact, SULAB had not raised the level of coverage at all between 1 December 2004 and 1 March 2005. The story told on this issue in the PTA report of 22 February 2006 stops here. Nothing is said about the order that 'may be issued' or the sanctions that could follow (see PTA report of 22 February 2006, pp. 12–13).¹¹

10 This buffer zone consists of the area that reaches three kilometres from the boundaries of the population centres for places with more than 1,000 inhabitants, according to the Statistics Sweden, SCB, of the 31 December 2000.

11 When Hi3G and Vodafone, in June 2005, applied for the PTA to allow some of the 3G activity to be performed through an alternative 3G technology, the so called CDMA2000 in the 450 MHz band, the PTA decided to ask all operators if they could ensure the continued infrastructure development with this new technology. At the same time, the PTA decided to await these results before issuing an order combined with a sanction for the operators to rectify the lack of coverage. But why did the PTA not act during the

When the first licence condition period was due by 1 July 2006, the coverage was between 93 and 94 per cent of 8,860,000 persons. The new licence conditions were favourable for the operators. The pilot signal in the outskirts of the urban areas was lowered, rendering a higher coverage. With the lowered demands for the pilot signal, the area (considered to be) covered increased to 98 per cent. This was without any new base stations being constructed. On 9 August 2006, the PTA notified the operators when the full coverage should be reached, and the new dates were based on the operators' own estimates of when they would be ready. This means that the operators had managed to reach the end of the first licence period without completing the promised amount of coverage and without having expensive fines imposed on them by the PTA. After 1 July 2006, the coverage requirements were lowered and dependent on the operators' own estimates. The PTA had avoided heavy critique as well as being sued by other applicants that did not receive a licence. On 1 December 2006, about three years after the initial deadline for reach of coverage, the first operator (Tele2/TeliaSonera) reported to the PTA that they had reached the coverage of 8,860,000 inhabitants of Sweden, followed by the remaining two operators, Hi3G and Telenor, seven months later (PTS fact sheet of 1 June 2007: 6).

Analysis – between fixation and flexibility

The strategies behind legal construction can differ. It is not necessarily only an advantage that legal concepts remain unchanged throughout the different sections of law in a national legislation – a fact which can be illustrated by the *Bürgerliches Gesetzbuch* (BGB), the classic twentieth-century German civil code. When it was created, it was a reflection of the society of Bismarck's empire. The preparatory time was extensive, beginning in 1874 and finishing in 1896, with the code in force in 1900 (Tamm, 1996: 321). The BGB became famous for its systemic construction of general rules. The foundation was based on certain terms that were used consistently throughout the whole BGB. The concepts used by draftsmen – 'Verfügung', 'Vollmacht', 'Einwilligung', 'Unverzüglich' and many others – are always used in exactly the same sense. The language is complex but exact, and has been described as 'the calculating machine par excellence' (Schwarz, 1950). The BGB is not addressed to the citizen at all, but rather to the professional lawyer (Zweigert & Kötz, 1987: 149 onwards). The BGB was considered such a high standard that, for instance, the Japanese civil law was based on the German model

three months following from the reported lack of coverage by 1 March? PTA concluded, regarding NMT450 and 3G (UMTS), that there was no way to bridge the technologies without lowered quality for the consumers. For instance, there were no handsets on the market covering both technologies. The PTA turned down the request, and through this, the operators had again gained some time in the continuing reach for an adequate coverage. The decision came on 24 October 2005.

(Zweigert & Kötz, 1987: 160, 324). On the other hand – getting back to the point – the BGB has been criticized for being a too rigorous and inflexible legislation, unable to adapt to the complexities of a changing society. This critique has its base in the legal phrases of the law that had to mean the same thing in the different fields comprised by the law. The rigid and precise terms of the BGB did not easily meet with social change (Zweigert & Kötz, 1987: 158).

This example shows two things. First, it shows the rather obvious fact that legislation can be of variable quality, to better or worse handle conflicts of the regulated field. Secondly, and more importantly, it shows the dilemma of a grand unified legislative body incorporating a vast field that, on the one side, can be both predictable and lead to a more legally secure application and, on the other side, can stifle legal development, rendering it unable to adapt to the complexities of social change, which has been addressed in terms of ‘path dependency’ (Larsson, 2011a and 2011c). This means that one downside of fragmented legislation is that it runs the risk of being too unpredictable, even impossible to overview for ordinary individuals not educated in the legal method. The same legal phrases may come to mean different things in different legislative areas, leading to confusion for people facing the law. How the legal solution to the problem is designed has implications for the outcome of law and the legal decision-making process. In the context of the layman facing the legislation, the law can become unreachable and less understandable. This is problematic, not least from a socio-legal perspective.

RQ1: Complexity in law

Complexity in regulations may work as a threshold for public participation in its practice. Legal complexity is, as noted above by law professor Peter Schuck, of great interest to several sectors in society, and by many seen as a very problematic issue (Schuck, 1992: 2–3). Peter Schuck divides legal complexity into four subcategories: density; technicality; differentiation; and indeterminacy of uncertainty (Schuck, 1992: 3). Systems that are too fragmented and complex are difficult to overview and understand; they exclude people by their own intricacy. Swedish spatial planning is upheld by a legal system that is complex, to which the 3G case bears witness. The assessment is done at different administrative levels under several pieces of legislation tied to differently structured court hierarchies and facing different governmental and municipal authorities.

RQ2: Internal contradiction

Schuck’s subcategory of ‘differentiation’ is closely connected to – in its worst consequences – the example of internal contradictions. These can, for example, insert unpredictability in the legal ruling. From a participative point of view, both the complexity as well as internal contradictions, shown above, of the regulations controlling the environmental management and planning are problematic, both for the public and the operators, as well as for the authorities involved. The

assessments are parallel and not linked to each other formally, although the matters, from a reasonable perspective, could just as well be. Not only does the authority to contact differ, but so do both the court hierarchy and who is a concerned party.

The examples mentioned above, regarding how electromagnetic radiation should be handled, may be an example of technical rules requiring 'special sophistication or expertise on the part of those who wish to understand and apply them' (Schuck, 1992: 3). The different modes of appeal in the different types of judicial categories described regarding 3G antennas represent Schuck's subcategory of being institutionally differentiated. It can be said to contain a number of decision structures that draw upon 'different sources of legitimacy, possess different kinds of organizational intelligence, and deploy different decision processes for creating, elaborating and applying the rules' (Schuck, 1992: 3). This most certainly affects the public's participation, from a practical point of view. Even though participation is instrumentally regulated (Baier, 2009), it may, in practice, be difficult for concerned parties to actually perform these rights.

RQ3: Extra-legal interference

The third example may address the bigger picture of large-scale projects, where the problem can be that the size of the project creates a game that is 'bigger than law', letting non-legally identified values, such as national development politics and economy, affect the decision-making in a – from a legal point of view – unpredictable manner. This is a common critique in socio-legal research, alongside a realist approach, dating back to Roscoe Pound, that any legal analysis must include the 'law in action' perspective. Schuck's fourth subcategory – indeterminacy – of legal complexity relates to the third research question concerning extra-legal interference. Indeterminate rules are usually 'open-textured', flexible, multi-factored and fluid (Schuck, 1992: 4). The indeterminacy of the policies governing the responsible authority in this case has allowed for extra-legal interference to occur without repercussions. When turning to the third example (that is, the PTA and the operators' relationship), this shows the generally relevant 'bigger picture' of external values trickling into the decision-making that is presented as legally controlled and being in the vertical perspective (see also Larsson, 2008c).

When having strict and clear conditions attached to the allocated 3G licences, and a governmental authority to enforce these conditions armed with legal tools for making it possible to order substantial fines, one would think that the alternatives would be clear: either the conditions are fulfilled, or they are not fulfilled and sanctions are imposed. Although the picture is not all that simple, there are legally legitimate ways to stall the deadline as well – a certain space for actions. And some PTA actions can be explained in a more legally dogmatic perspective (for instance, giving the operators a chance to correct the lack of coverage within a 'reasonable time'), but not all of their actions. Some of the delay of the PTA enforcement seems to be without explanation in the stricter legal dogmatic perspective, and any explanation must reasonably, to a greater or lesser extent, be related to the

massive changes in the market, from an IT boom in the late 1990s to the bursting of the 'IT bubble'. A strict PTA enforcement of the licence conditions would likely have risked collapsing the operators due to debts, which was the case for several operators around this time (Whalley and Curwen, 2006: 622).

The PTA is, here, the 'applier' of the legal order that describes and sets the stage for the legitimate PTA actions towards the operators. The PTA role is mainly regulated by the Electronic Communications Act (the 'ECA'). As an applier, the PTA has to follow the legal order and, if it deviates from this in some sense, it will most likely still formulate and legitimize this deviance in the manners of the legal order. The ECA sets the framework for the PTA, meaning that the PTA can have different strategies for how strictly it will control the operators, all within this framework. This is where it is reasonable to assume that both political values (advanced IT nation, development) as well as causes (such as an IT sector in a period of decline) will affect the PTA application within the legal framework. The PTA has, in other words, some strategic freedom within the legal framework, the application will be ad hoc (there is only one 3G development in Sweden) and will include non-legal aspects to a decision-making process that will be defended by legal rhetoric. This means that the actions are affected by values that are never voiced. It is in this sense that the PTA can accept both a delay in reaching coverage, while at the same time claiming that the licence conditions have not changed and blame the operators for stalling the infrastructure development by referring to the legal order. Such an analysis of the PTA/operator relationship suggests a PTA handling of the operators' responsibilities, in consensus with the operators, as two participants in a game teaming up in a way that the rules of the game do not intend them to do. The problem is that this flexibility leads to a system that is neither transparent nor predictable. If what is stated in the licence conditions is not what will later be fulfilled, the conditions are not transparent in the terms of the aforementioned Peczenik, who states that predictability is 'one of the basic values in democracy and a state governed by law' (Peczenik, 1995: 89 onwards). The licence conditions of the 3G development can also be judged in the light of the most basic principle of civil law, described by the Latin phrase '*pacta sunt servanda*' – 'agreements must be respected'.

There were three basic alternatives for the PTA to handle the operators' breach in fulfilling the licence conditions. One was the 'the hard way', meaning issuing heavy sanctions on the operators in order to make them comply with the licence conditions. Another was 'the honest way', meaning that the PTA would have confessed that the results of the so-called 'beauty contest' were not reasonable in light of the changed market conditions of 2001 and 2002, and hence allowing changes in the conditions, running the risk of being sued by other applicants as well as being criticized for not sustaining a predictable environment and transparent and non-discriminatory handling. But the PTA chose a third alternative, a middle path, the balancing act of not formally changing the licence conditions which (formally) sustain the above stated, and not imposing sanctions on the operators for their breaches which, from several aspects, informally leads to an application

that is unpredictable, non-transparent and discriminatory (Larsson, 2008a). The reason that the PTA has not been more heavily criticised probably lies in the fact that the 3G development became such a costly endeavour. The disappointment, that applicants who did not receive a licence at first experienced, may somewhere along the line have been turned into relief.

Conclusions

Norms are often said to reduce complexity; but, in some cases that are displayed in this chapter, the complexity may increase, as the legal normative system presents dual or multiple legal norms that are not consistent with each other. Of course, to state the fact of norm-pluralism is common ground in sociology of law. This does, however, by no means diminish the importance of addressing legal challenges, for example, in terms of a difference between the formal statutes and the outcome of their practice. From a public participation point of view, it can be problematic for individuals to interact with a legal system that is too complex, not only in relation to spatial planning and environmental concerns. The case of mobile telephony infrastructure development in Sweden has been analysed in terms of legal complexity, internal contradictions and extra-legal interference, which all are policy-related pitfalls adding to legal uncertainty and unpredictability. An analysis of possible pitfalls in planning relevant policy holds important lessons for lawmakers, citizens and scholars, and is of relevance from a norm perspective in sociology of law. The extra-legal interference may be of the most obvious relevance when it comes to adding understanding to the relationship between legal norms as they are 'in the books' compared to their practice and outcome 'in action'. The process of enforcing law may distort the initially formulated imperative into an outcome that can be not only different but also dysfunctional in relation to the purpose of the law or policy. In the case of 3G development in Sweden, and the relationship between the operators and the governing authority, this chapter shows that the outcome can only be understood when taking into account other, for example, economic or politically influencing factors than just those of policy and the designated actions. As has been suggested in this chapter, a more systematic view of the constraints of legal steering may bring useful knowledge to a policymaking process.

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