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Making land-use fit to planning goals. Weaknesses and opportunities within the Swiss land management regime

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Abstract

In Switzerland, the issue of land consumption has made it to the front of the political agenda in recent years. Studies conducted on a national level have concluded that there is an excess of land zoned for construction (ARE, 2008), which is seen as contributing to urban sprawl. This situation is looked upon as a failure of the Federal Law on Spatial Planning (LAT, 1979) and there is a political push to change it in order to reinforce zoning regulations.

In this article, we look on the issue from a different angle. While there may be large quantities of land zoned for construction, in many urban areas land actually available for development is scarce. Building on the idea that planning's efficiency is linked to its capacity of influencing actual land-use, we focus on how this situation can be dealt with within the current Swiss institutional context.

1. Introduction

Using land in an efficient way is one of the main objectives of spatial planning. It is generally admitted that land is different from most other goods and that the land market is subject to a certain number of dysfunctions that make public intervention desirable. However the degree of intervention as well as the methods vary from one context to another and are not exempt of an ideological content.

In Switzerland, spatial planning is subjected to the federal institutional design. This means that planning is mainly a cantonal (regional) and municipal (local) competence, whereas the national level is in charge of producing general guidelines. With some exceptions, land use planning occurs at the local level. Furthermore, land use planning must cope with a fairly strong institution of private property rights. Property rights benefit from a constitutional protection. This situation means that, on the one hand, interventionist tools that acutely affect private property (expropriation being one of them) are very rarely applicable. On the other hand, the land market must stay in mainly private hands. This requirement is in practice rather vague. Nevertheless, it does imply that the public bodies cannot become too important stakeholders in the land market. This limits the possibilities for large-scale active land policies.

These characteristics play an important role on the way land can be mobilized in the context of urban development projects. The Swiss spatial planning regime presents certain weaknesses when it comes to controlling actual land use. Planning instruments such as zoning allow for only partial control, insofar as they restrict the way in which land can be modified in the future but do not give the authorities the means to insure that the present use conforms with the objective stated by the plan. A landowner cannot be forced to develop his/her land. The zoning process aims at making land available to fit the needs for development in the following fifteen-year period. In the process, it insures new development rights to the landowner, thereby increasing the value of his/her real estate. Once this process is completed, the owner finds him/herself in a quasi monopoly situation, free to comply or not

with the desired land use. It is fairly common for land zoned for development to remain undeveloped. There is no simple explanation to this situation. In metropolitan areas, where the pressure on land is strong and land prices are rising, it may be advantageous for the landowner to withhold his/her land, with the expectation of a higher sale price. Problems may also arise if the cooperation of several landowners is needed to develop the area.

Whatever the reasons behind this decision may be, land retention is a common phenomenon. It leads to a paradoxical situation in which the formal land supply is relatively abundant, while the land actually available for development is scarce. The consequences are upward pressure on real estate prices, the displacement of the demand for construction and extensions of the building zone to areas less suitable for development.

This article builds on the basic distinction between potential land use and actual land use in order to point out how this situation can be dealt with within the Swiss context. To do so, we will examine the Swiss land management regime. Attention will be given to the institutional construction of spatial planning, its objectives and the way it must compose with the land property regime. The weaknesses of the current system when it comes to accompanying urban development will be underlined. In the last part, we will examine certain solutions that are being used mainly on a regional level in order to help mobilize land and increase the success of urban development projects.

2. The gap between zoned land and land use in the Swiss context

Before we discuss the more technical aspects of the Swiss land management regime, it is useful to precise the fundamental distinction between land-use as it is defined in the zoning plan (zoned land) and the actual use made of the land (land-use). While the first refers to a public body's intentions translated into a binding legal document, the second is the result of the combination of public land regulations and the landowner's own projects, his leeway influenced by his/her property rights. The territorial result thus depends on the resources that the public body and individual landowners can call upon to pursue their objectives. Zoned land therefore represents a potential land-use. In cases where private property rights are strong and/or public regulatory measures are weak, land-use can differ significantly from the potential stated by the plan.

Historically, land-use precedes zoning, given that forms of territorial appropriation have always existed. Even in the absence of public regulations, land-use follows certain orderly patterns. The German economist Von Thünen (1966) demonstrated this in the 19th century already with respect to agricultural land surrounding the city. This means that there is a dependency of zoning on actual land-use. The gap between potential and actual use is in most cases unidirectional. It occurs when, through the zoning process, the public authorities allow increased development on a given piece of land, but these development rights are not put into use by the landowner.

This situation wouldn't be so problematic, if zoning didn't imply offering rights to selected landowners without any compensation being demanded in return. In a system where the offer of buildable zones is restricted, the owners of a plot of constructible land are in a stronghold situation. They benefit from the collective value that society is putting on their land, and can take advantage of it in a largely private manner.

The gap between zoned land and land-use, and the question as to how to reduce it, is at the heart of some of the key issues in Swiss spatial planning today. On the one hand, the publication of alarmist figures concerning land consumption – which according to certain estimates would be around 1.2m² per second (OFS, 2001)¹ – and the establishment of a nation-wide inventory of buildable land stocks has brought forth the issue of the oversupply of building zones. Estimates indicate that more than half of the land reserves won't be necessary from here till 2030 (ARE, 2006). These stocks are mostly located in more peripheral (periurban or rural) municipalities and are thus seen as a time bomb that could potentially contribute to increase urban sprawl. Handling these stocks has become a prominent issue, but taking them out of the buildable zone is a very delicate matter, as down zoning is generally perceived as a form of expropriation. In this case, the gap between zoned land and land-use is mainly

the result of insufficient prospective planning. Municipalities have not properly anticipated the demand, the landowners' intentions, or the consequences of an excess of land supply.

On the other hand, demographic growth in Swiss metropolitan areas is strong and these areas suffer from a structural lack of housing. Though no thorough studies have been conducted, estimations indicate that the rate of retention of buildable (greenfield) land in urban areas is between 20% (OACOT, 2006) and 65 % (BCV, 2007; I-Consulting, 2011). This land is unavailable for the purpose for which it was initially zoned, even though market conditions are favorable to development. The reasons behind this phenomenon are complex. Speculation on rising land prices is no doubt one aspect. However a recent study (I-Consulting, 2011) has shown that other less "economically rational" arguments may play an even more important role, such as preserving family assets or a current use, especially in the case of individual landowners. Furthermore, in some cases land development is halted by the fact that the cooperation of several landowners is needed to develop a site. These two types of ownership constraints match those pointed out by Adams et al (2001, p. 460), namely: (1) "ownership assembly required for development" and (2) "owners unwilling to sell or willing but not on terms acceptable to potential buyers". Answering the demand for housing therefore implies stimulating the development of hoarded urban land, as well as promoting the redevelopment of brownfields. In either case, being able to act on land-use is indispensable.

The public body's ability to act on land-use is highly influenced by the institutional context of land management. We will talk of the *land management regime* in reference to public spatial planning laws and policies, as well as private land law and property rights. Our attention will focus on key points in the Swiss system.

3. Swiss land management as a balancing act: a brief historical perspective

A brief look at the land management tradition in Switzerland is useful to understand some of the important issues that still shape it today. Spatial planning has become a national policy only relatively recently in the late 1970s, which doesn't mean that urban planning practices and tools didn't exist previously on a local level (Walter, 1989). Cities were indeed the first to produce building and planning rules to control urban development. So the construction of the land management system has been largely a bottom-up process. The national law on spatial planning (LAT 1979) is in many ways the result of a balancing act between heterogeneous interest groups all concerned by some form of federal land regulation (Ruegg, 2000). Disagreements especially concentrate around two points: the degree of centralization that a national policy implies and the way it will affect property rights.

During the 1960s-1970s, several initiativesⁱⁱ were launched by progressive and environmental conservation milieus to reform land law and create a federal land policyⁱⁱⁱ as a response to the severe housing crisis, inflationist land values and the loss of agricultural land to urbanization (Nahrath, 2005). At the same time, the agricultural sector faced with the lack of protection of their land joined in the claim for a federal protection. However this powerful lobby has always been vigorously opposed to any infringement on private property. The government with the support of the conservative parties responded to these claims by proposing a consensus solution: the establishment of a federal spatial planning policy – which left aside the most interventionist land law instruments – was to be accompanied by the constitutional protection of private property rights. Nevertheless, the initial law, which still included the possibility to retrieve development gains from zoning, was rejected by referendum. Aside from the unpopularity of this measure, the main oppositions stemmed from federalist lobbies fearing the weakening of cantonal competences to the profit of the federal administration. The final, "lighter" version of the LAT is in many ways a weakened instrument and hardly adapted to deal with the complex situations arising in urban settlements.

4. The federal institutional layout of spatial planning

Land management in Switzerland is articulated around the three institutional levels. Swiss federalism entails that the cantons are responsible for most spatial planning, which means that fairly little actual planning occurs at the national level. Planning has a constitutional basis and its general framework is given by the LAT, which establishes the necessary elements that must be taken into consideration. The Cantons nevertheless have considerable leeway to decide the way in which they will apply these principles. This explains why interesting planning innovations occur more often at a regional (cantonal) or local (municipal) level (ARE, 2007).

Three types of plans are explicitly defined in the federal law. On a national level, the Confederation has the obligation to establish sectoral plans for those of its activities, which have effects on the territorial organization (art. 13 LAT). This is typically the case of military or national transport infrastructures. These plans are binding on the subordinate administrations as well as on the landowners. In this sense they are land-use plans. However, their scope is limited. That said, the law does not call for a comprehensive federal master plan defining the general territorial organization on a national level. Master plans are on the other hand mandatory on a cantonal level. They serve to coordinate all territorial activities with respect to the desired development, and must define the order in which these activities will be developed as well as the necessary measures to be taken (art. 8 LAT). Master plans must get federal approval. The Cantons also have the responsibility to define who is competent for land-use planning. In most cases, this procedure is left to the municipalities. By law, zoning must separate buildable land from agricultural and protected zones (art. 14 LAT). Buildable zones should match the construction needs for a 15-year period (art. 15 LAT).

Spatial planning having been mostly a local procedure before the introduction of the LAT, one of the important goals of the law is to create coordination between administrative entities, on a horizontal and vertical level. One of the ways this works is by subjecting plans of a lower level to the approval of the higher administrative instance. This is particularly important given the absence of a binding comprehensive national plan. In this configuration, the land-use plan occupies a strategic position as the interface between planning as a tool for managing public spatial policies and planning as land-use rights for the landowners (Moor, Commentary of the LAT, art. 14 N.51).

5. Overcoming institutional and sectoral barriers

In handling urban development issues, the federalist and sectoral conception of planning suffers some weaknesses. Local interests can have a determining influence, especially when the superior administrations do not really take on the role of coordinators and the implementation of the LAT has not really been able to go beyond sectoral separations. A large number of different issues converge in cities, making coordination a necessity. Lack of coordination between housing policies and land-use planning can prevent the development of much needed projects. In the Canton of Geneva, long lasting disputes between urban planning and the agricultural sector have led to numerous stale mate situations, while lack of housing is a growing problem. One can also mention the fact that land taxation can counteract planning goals. Real property gains taxes or taxes on real estate transactions can induce adverse effects such as raised land prices or land retention (Deiss et al., 1989). Furthermore, the small size of the institutional territory (26 Cantons and 2500 municipalities in a country of 41 000 km²) doesn't match the functional territories in urban and metropolitan areas. Lack of cooperation can generate totally inefficient solutions and tends to contribute to free-rider strategies amongst municipalities. The LAT does not offer any particular solution to this issue. The planning tools it calls for are indeed the same for all types of municipalities, whether urban or rural (Nahrath, 2005). Nonetheless, within the framework given by the LAT, the regional and local public bodies are free to develop more specific instruments.

As a way to push forward collaborative approaches in the urban realm, the Confederation has proposed a policy for urban agglomerations, which establishes a series of incentives for innovation. Importantly, the federal government has linked its financial contributions towards agglomeration transport infrastructures to the creation of an agglomeration project. These projects must follow certain criteria with respect to urban and transport planning, environmental measures, participation,

and they must designate the responsible administrative entity. A large majority of the 55 agglomerations that Switzerland counts have submitted a project. The institutional design for these projects is quite diverse. For instance, the municipalities of greater Fribourg have created a political agglomeration – which takes over certain previously municipal competences – while Neuchâtel has developed a project based on bilateral administrative conventions between the Canton and individual municipalities, and – in some cases – private stakeholders. It is too early to evaluate the success of these projects. However it is important to mention that local interests remain a strong force and that financial advantages and compensations due to the implementation of joint planning are and will continue to be at the core of difficult negotiations.

Fig 1: institutional layout of Swiss spatial planning

	Main characteristics and tasks	Planning laws	Planning documents	and their legal strength	Policy innovations
Federal	No comprehensive national plan General guidelines Planning of activities of national importance Harmonizing and coordinating cantonal plans	Federal law on spatial planning (LAT, 1979)	Sectoral plans	Binding for the public bodies and the landowners	Incentives towards urban agglomeration projects
Cantonal	Level of implementation of spatial planning Defining responsibilities of the administrative entities Cantonal spatial strategy Coordination of spatial activities	Cantonal laws on spatial planning	Masterplans In some cases zoning plans	Binding for the public bodies (federal, cantonal and municipal)	Agglomeration projects involving inter-municipal collaboration Procedures for coupling land-use planning and land readjustment Legal incentives or constraints for influencing actual land-use
Municipal	Local planning strategy Land-use planning Negotiation with landowners		Local masterplans Zoning plans Detail plans and building regulations	Binding for the landowners	Land policies (acquisition, sale, exchange, lease)

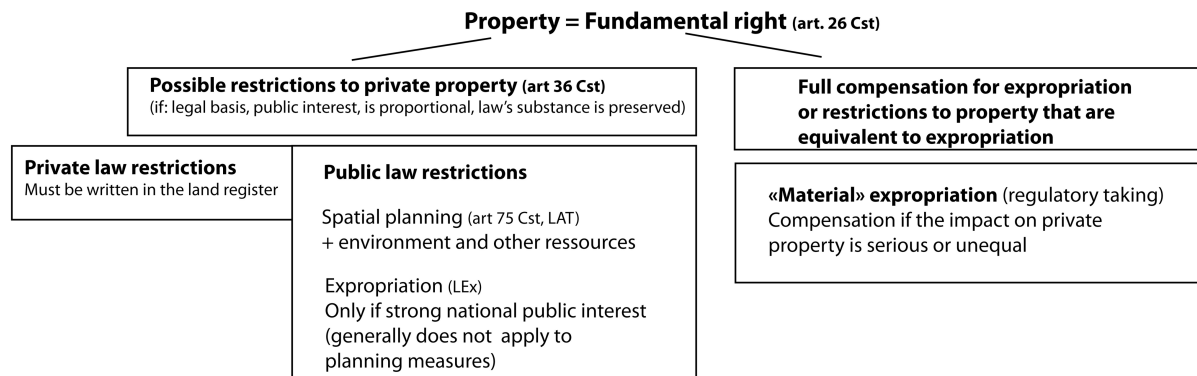
6. Planning and private property rights

Institutional design and coordination certainly play an important role in the public body’s ability to engage in coherent and efficient land-use planning. However, even well conceived policies are limited by the legal framework given by the land-management regime. As in most countries, Swiss land management is made up of a combination of rules of private and public law. The first define the way in which land may be appropriated, and the second regulate state intervention in land-use planning.

The intense political maneuvering that surrounded the creation of the LAT led to the simultaneous entry of two articles into the Constitution. The basis for planning is found in article 75: “The Confederation shall lay down principles on spatial planning. These principles shall be binding on the Cantons and serve to ensure the appropriate and economic use of the land and its properly ordered settlement » (art. 75, al. 1 Cst.). This article is however preceded by the fundamental article on property rights: “The right to own property is guaranteed” (art. 26, al 1. Cst). The original layout of these two articles in the Constitution of 1969, one following the other directly (art. 22ter and

22quater), indicated the dependence of planning on property rights. This setup has a direct impact on the way planning can interact with private property.

Fig 2: Private property as a fundamental constitutional right



The guarantee placed on private property has several important implications. Legal doctrine and jurisprudence evoke two understandings of this concept. The first has to do with the institution of private property itself (“objective guarantee”). The second defines the landowner’s protection of his property (“subjective guarantee”).

This second, and somewhat less abstract definition, clarifies the conditions under which restrictions may be made to private property. A restriction must have a legal basis, be motivated by public interest and be reasonable with respect to the goal it seeks to reach. Importantly, the legal basis for “formal” expropriation, allows such a measure to be taken only in cases where strong national public interest can be justified (LEx 1930). This includes important public works such as national transport infrastructure but does not apply in the case of planning measures. Thus, planning is deprived of an important incentive – even if it is only used as a last resort – to foster the landowners’ collaboration to reach the planned land-use.

Furthermore, the Constitution mentions that a full indemnity must also be paid to landowners who suffer restrictions on the use of their property, which are equivalent to an expropriation. This is referred to as “material” expropriation^{iv}. The issue of interest to planning is to what extent and under which conditions reducing or annulling building rights on a parcel of land can be considered as material expropriation. The definition and evolution of the content of material expropriation is a story in itself. Given the political sensibility of this question, it has largely been left to the Federal Court. One of the main criteria influencing the decision is the probability that the land will actually be built up. Jurisprudence shows that the implementation of the federal law on spatial planning has made the courts adopt a more restrictive definition of material expropriation in order to protect local authorities from unbearable financial compensation (Moor, 2002). Thus, in order to be considered as constructible land must be in the buildable zone, serviced and the landowner must have demonstrated a willingness to use his/her building rights. This seems to leave a window of opportunity for local authorities to remove land from the buildable zone when the landowner clearly has no intentions of developing it, without having to suffer the financial burden of compensation. Nevertheless, it remains a very delicate operation and municipalities are particularly hesitant to take this step.

The implication of an “objective guarantee” is that the essence of what constitutes the institution of private property must be preserved. Its concrete consequences are somewhat vague. On the one hand, the land market must remain in mostly private hands. This excludes any form of land nationalization and restrains the public bodies from becoming too important stakeholders in the land market. However, no upper limit has been defined as to how much land local authorities can own^v. Practices in the matter are diverse. Most municipalities own little land and use it only very marginally for planning purposes. But some municipalities are actually developing a fairly active land policy^{vi}. Nevertheless, local authorities are not particularly encouraged to do so and there is no legal disposition that would help them finance such measures.

On the other hand, the content of private property – the rights of the landowner to dispose of and to use his/her property – must remain meaningful. Land-use planning, which only defines how land *can* be used but not how it *has* to be used, is compatible with the institution of private property. But the introduction of mandatory land-use measures (such as an obligation to develop, or minimum land-use requirements) is a more delicate matter particularly if a formal legal basis is lacking. Yet, in so far as land retention and the loss of agricultural surfaces are recognized as obstacles to a cautious and reasonable use of land, the public interest of mandatory land-use requirements is less and less contestable (Bianchi, 1990, p. 95). Public interest is in itself an evolving notion. The balancing of interests that it implies seems, today, to lean increasingly towards preserving land.

7. Planning for, against or with the landowners?

Landowners, in Switzerland, benefit from a strong protection. Municipalities seeking to have a tighter control on actual land-use in order to increase development or densities in strategic zones cannot count on the effective impact of a tool such as expropriation. A generalization of public land acquisition policies also seems unlikely. It's a long-term strategy and raises the question of its compatibility with the democratic procedure. The necessity to get parliament approval for investments over a certain amount reduces the public bodies' capacity to react to market opportunities. On the contrary, the creation of an independent public-private company with the mandate to manage public real estate leads to a certain democratic opacity (Nahrath et al., 2009).

What's more, municipalities are also financially constricted by the necessity to compensate landowners who suffer important restrictions on the use of their property. The mandatory creaming off of planning gains has been left out of federal law, thereby complicating the creation of an effective compensation system between the beneficiaries and losers of a planning measure. Nevertheless, the argument we wish to develop here is that possibilities already exist and are being used under the current regime to narrow the gap between private land-use and planned land-use and to increase proactive planning. They just require a slight change of paradigm.

The institutional construction of land management seems to reflect the conception of landowners as mere victims of state planning. Yet, for obvious political reasons, land-use planning especially in small municipalities tends to closely follow the landowners' interests. More generally, zoning offers legal protection to landowners and increases real estate values. Historically landowners were often favorable to the implementation of zoning (Ruegg, 2000). That land-use planning actually offers development rights – as opposed to development rights being an intrinsic characteristic of property – has been recognized by jurisprudence^{vii} and legal doctrine (Moor, 1976, p. 464). Such an outlook opens the possibility for a type of planning, that takes into account the advantages offered to landowners in order to negotiate collectively desirable solutions.

Several points deserve to be explored. Making actual land-use fit to planned land-use requires to act on different aspects, namely (1) reducing the possibility for withholding land zoned for construction or for under-exploiting the building potential; (2) increasing public control over development gains produced by zoning, in order to be able to compensate those losing out on the process; (3) making landowners participate in the costs generated by land servicing (transport, water, sewage and electricity infrastructures), public spaces and municipal equipment.

(1) Regarding the first point and the issue of land retention: technocratic planning consisting in drawing up zoning plans that are later on confronted to landownership implicitly relinquishes municipal negotiating power. Yet this way of proceeding remains common.

Some cantonal legislation, such as that of the Canton of Fribourg, encourage the signing of conventions between the authorities and individual landowners, stating the deadline by which land must be developed. Though the legal strength of a convention isn't great, this method has the advantage of clarifying the owners' intentions. A more coercive measure is that adopted by the Canton of Obwald, who has introduced a deadline of ten years within which zoned land must be built. Past this deadline, the municipality can make use of an "emption" right to purchase the land (art. 11a

Baugesetz Kanton Obwald). Introducing minimal density requirements (minimal floor space index) can also help counter the tendency to underuse building possibilities, especially in areas where land reserves are abundant^{viii}.

(2) Secondly, increasing public control on development gains helps balance the gains and losses generated by the planning process. This can help relieve the planning procedure from the distortions created by financial windfalls or losses. If up zoning creates added value for the landowners, opportunities exist for capturing and reallocating development gains. The LAT (art. 5) states that cantonal law should provide a compensation regime for gains and losses due to planning, but does not specify concrete measures or the extent of compensation. Up till now, only three Cantons have directly translated this possibility into their legislations.

In Basel-Stadt, building regulations allow 50% of development gains due to increased building rights to be retrieved. The system initially imagined was to permit a symmetrical compensation of capital losses generated by planning. But, no legal definition of the situations giving right to compensation has been formulated. So as in the rest of Switzerland, the issue of compensation for material expropriation has been left to jurisprudence (Plattner, 1992). As such the Basel model isn't a "perfect" compensation system. The resources obtained from taxing the added value are nevertheless put to financing municipal equipments such as parks, walkways, etc. An important point is that the landowner's financial contribution is due only when the new building potential is put to use (when construction begins). Thus, the tax does not act as an incentive to build^{ix}.

Alternatively, the system proposed by Neuchâtel seeks to make land available for construction. Only 20% of the increased value created by zoning is retrieved. But the time frame within which the tax is perceived is determined by planning needs and the possibilities for using the land (art. 37 LCAT Canton de Neuchâtel). The owners' contribution does not remain in municipal hands but goes to a cantonal fund. It then helps to finance different planning measures and notably the claims made by landowners on the grounds of material expropriation.

Geneva has just recently voted a law allowing the taxation of 15% of planning gain. The tax applies only to land converted from a non-buildable (mainly agricultural) to a buildable zone. The product of the tax goes to a cantonal fund, which helps finance compensations for material expropriation as well as certain public infrastructures (notably schools and cultural facilities). Interestingly, it also contributes to a fund, which supports local farmers and helps promote their products. This is an indirect recognition of the fact that not only landowners are affected by land-use decisions. Many farmers don't own the land they farm and the leasehold offers them very little protection in case of a change in land-use planning. A recent case involving the future development of an area currently cultivated by a farming cooperative, shows the potential consequences of this situation. Having no possibilities to relocate or be compensated, the farm has launched a popular referendum aiming at repealing the new zoning measure.

Other cantons are currently discussing the possibility of introducing measures for retrieving development gains in their spatial planning legislation. The system imagined in Appenzell AR is interesting in that it proposes a partial refund of the tax if land is quickly built up. Finally, it is useful to mention that most cantonal fiscal legislations do tax capital gains in one form or another when real estate is sold.

(3) Thirdly, making landowners participate in the costs generated by land servicing, public spaces and municipal infrastructure helps to secure the implementation of the planning measures. It insures the implication of landowners in the development process and makes them less likely to retain their land for future use. It also guarantees the financing of the needed infrastructure.

By law, local authorities are responsible for servicing all buildable zones. But the law does give them the freedom to define the landowners' contribution (Art. 19 LAT). This can be done on a contractual basis between municipalities and the landowners. It once again depends on the municipality's ability and willingness to negotiate. In the Canton of Bern, more than 75% of all municipalities have negotiated infrastructure contracts in which the granting of new building rights is linked to the other party's financial or land contribution (Stirnemann, 1992). And, even if infrastructure contracts aren't mentioned in any planning law, the Federal Court has recognized the validity of the exchange^x. This allows for at least partial cost recovery.

Another way of proceeding is for the authorities to impose certain requirements on developers. In the canton of Geneva, developers of land in the so-called “development zone” have the obligation to produce 25-30% social housing, or to sell the necessary land to the state at a fixed price (LGDZ Geneva). As for the “capturing” of the added value generated by public investments in infrastructures and public spaces, art. 5 of the LAT could perhaps offer a legal basis. Given that the improvement of public equipment can generate considerable value for the surrounding properties, it seems accurate to consider that it is part of the gains offered by planning.

Figure 3: Measures being used to increase public control over actual land use

	(1) Making land available for the planned use	(2) Creating a compensation mechanism between the “winners” and “losers” of the planning measures	(3) Financing public investments
NEGOTIATION	Legal conventions (FR,VD)		Infrastructure contracts (BE)
Voluntary approaches combined with enforcement mechanisms	Land readjustment (VD)	Land readjustment (VD) <i>Transferable development rights (currently discussed)</i>	Land readjustment (VD)
COERCION	Minimal density requirements (JU) Threat to remove land from the buildable zone Deadline for developing land + municipal “emption” right (OB)	Creaming off development gains: 15% (GE); 20% (NE) 50% (BS)	Mandatory participation to servicing and infrastructure costs when a added-value is generated (based on the plot’ s potential land-use and the way it benefits from the new equipment) (JU) Mandatory requirements concerning social housing (GE)

Cantons: FR: Fribourg; VD: Vaud; JU: Jura; OB: Obwald; NE: Neuchâtel; BS: Basel-Stadt; BE: Bern, GE: Geneva

Finally, the possibility to couple land-use planning and land readjustment shows promising results on all three aspects. This procedure makes it possible to act upon the layout of properties – in order to make them compatible with the desired project – and to establish a perequation in the designated area, which balances the costs and gains amongst the landowners. Land is pooled and the total added-value produced by the project is not only redistributed fairly to all landowners as new building rights, but also serves to finance investments in public equipment (financial or land contributions). Importantly, this method can also be used for land that has already been zoned, to unblock a long-standing status quo situation. Though this procedure is explicitly mentioned in the LAT (art. 20), few Cantons have formally made use of it (On this matter see Weber et al 2011, published in the report of COST TU602 working group 2).

8. Conclusion

Making actual land use match with planned land use may seem at first like a trivial problem, which can be resolved on its own in the long run. However, as this article has tried to show, this issue is in fact central to spatial planning. It raises the question of planning’s role and capacity to shape tomorrow’s spatial patterns. This question is obviously more than a technical one. Whether land-use decisions should mainly be left to the market or tightly controlled by the public bodies is largely a political choice.

In Switzerland, planning has been characterized by the strength of regional and local levels over national strategies and by the absence of interventionist land management tools. Its focus has often been narrow with respect to other spatial public policies. This organization fits in with the federal institutional framework, but it is also a reminder that historically planning rules were first developed on a local level. As in other southern European countries, there is a tradition of urban planning through

detailed zoning and building regulations, which is closer to urban design than to comprehensive planning. Most of the Swiss planners have a background in architecture.

Furthermore, land-use planning has frequently been approached in a somewhat technocratic way by the municipalities without a clear appraisal of the behavior of the other stakeholders in the land market (landowners, developers, investors, etc). This has contributed to the oversupply of buildable zones in certain areas, and generally to diminishing the public body's possibilities for negotiating collectively advantageous solutions. The results of these planning practices have yet to be dealt with today.

These observations are true on a general level. Nevertheless, examples exist on a local level of municipal administrations that have taken up fairly proactive land management. These cases tend to demonstrate that coupling planning with strategies for gaining control over land-use – whether through direct possession and sale or lease, or through the negotiation of floor space index and building rights, or land readjustment, or other strategies – increase the speed and quality of urban productions. They also show that, though these practices aren't explicitly laid down in the national legislation on planning, they are nonetheless compatible with it. This flexibility is worthwhile taking into account. Indeed, the current preoccupation with land consumption and urban sprawl has put the LAT under the spotlight. The law is scheduled for revision in the near future and many wish to make it more normative on land-use. Notably, the population will have to vote on an initiative^{xi}, launched by several environmental organizations, which would freeze the total amount of buildable land in Switzerland for the next 20 years. Though the idea may be seductive, its immediate consequences would be to increase the shortage of land in urban areas where the demand is strong, and to favor the development of peripheral municipalities with extensive buildable zones. In order to make the system work, a nationwide compensation system involving the transfer of development rights from rural to urban areas would have to be put into place. In a federal state like Switzerland, this seems like an ambitious goal. Nevertheless, it points at the importance of overcoming localism in order to rethink trade-offs at a regional level.

To conclude, we can say that the issue of land management has been left out of the political and research agenda of spatial planning in the past two decades. In order to increase the understanding of planning's effect on actual land use, more research needs to be done on the strategies followed by the different stakeholders in the land market, as well as on the effects of the very diverse land management measures developed on the local and regional levels.

ⁱ This figure accounts for the loss of agricultural land. The rate of land consumed for urbanization is actually around 0.8m²/second, while the rest is accounted for by the progression of forests. These are mean values calculated over a period of about 10 years.

ⁱⁱ The Swiss political system gives citizens the right of initiative to propose legislative or constitutional amendments.

ⁱⁱⁱ The reform included increased state powers of preemption and expropriation and the possibility to retrieve development gains, as well as an increase in public landownership.

^{iv} Also known as a "regulatory taking".

^v As far as we know, no Federal Court decision has been taken based on the objective guarantee on property.

^{vi} The cities of Bienne, Zürich and La Chaux-de-Fonds have been active on the land market in order to pursue different land management goals (better control over land-use, fighting speculation, social housing, etc)

^{vii} Federal Court Order, Meyer, ATF 105 Ia 330ss, 1981

^{viii} The rural Canton of Jura has introduced this measure in its master plan.

^{ix} The design of the tax could in fact have a dissuasive effect on construction, given that it burdens the owners at the very moment when financial resources also have to be put out for the construction project.

^x Federal Court Order, Ostermundigen vs. PK, march 26th 1985.

^{xi} The so-called Landscape initiative launched in 2007.

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Captions

Figure 1: Institutional layout of Swiss spatial planning

Figure 2: The Swiss land management regime

Figure 3: Measures being used to increase public control over actual land use

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