

Beyond Territorial Marketing: Science and Technology Parks as valuable elements of Development and Innovation Policies

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Abstract

Since the experience of the Science Park at Stanford University, founded in 1951, which launched the basis of one of the most successful “innovative spaces” in the next decades – the Silicon Valley – many governments (national, regional, local) have sought to encourage the formation and, to some extent, to reproduce this experience. Broadly speaking, the underlying idea is to co-locate in a delimited, special, planned area – that is, in the so-called Science and Technology Parks (S&TP’s) – research centers/universities and innovative firms. In some cases, the area designated to the S&TP has encompassed an entire city - the so-called Technopole or Science City -, as in the cases of Tsukuba, in Japan, and Montpellier, in France.

S&TP’s have increasingly assumed over the years an important place in public policies designed to promote technological and regional development. They have been used as means of creating new areas/clusters (or regions) of high-tech activities and, in some cases, of reconverting urban/interurban decadent industrial areas to “new technologies”. Thus, since the seminal experience of Stanford Park, there has been a rapid worldwide spread of S&TP’s. However, not all experiences have been as successful as the seminal model.

The main aim of the paper is to understand the reasons why S&TP’s have succeeded or failed, what their main differences are and what their contributions are to the construction of national innovation systems and to regional development.

The paper starts with a theoretical review of the concept of S&TP, its nature e main characteristics.

The second section examines under what conditions S&TP's may act as effective elements of the innovation system. Here it is relevant to consider not only the literature on the nature and constraints of innovative processes (learning, cooperation, social and technological capabilities, etc.), but also the literature on the nature and constraints of "innovative spaces" or "learning spaces", where untradable interdependences, urban externalities, market areas, etc., play a key role. In other words, this section brings together two branches of the economic literature - regional economics and innovation economics, in order to discuss the territorial, social and economic attributes, constraints and requirements for S&TP's to function as "valuable" elements of the national innovation system. In accordance to this theoretical framework, it is possible to show that not every urban/interurban space presents conditions for the development of S&TP's as a "valuable" element of the innovation system.

The section three reviews the Brazilian experience. Brazilian S&TP's are described, and their nature and perspectives analysed. It also examines the capacity of Brazilian peripheral urban/interurban spaces to sustain successful innovative S&TP's.

Finally, conclusions are drawn regarding the key elements to the operation of S&TP's as part of a innovation strategy in the Brazilian context.