
Local Spatial Planning Processes and Integration of Sustainability Perspective Through a Broad Systems Perspective and Systematic Approach

Sara Gustafsson and Viktor Andréen

Abstract

Cities play an important role in forwarding sustainability. In Sweden, municipalities have a monopoly on spatial planning and are, therefore, key actors for developing sustainable cities. Through integrating sustainability concerns early in the planning processes they have a significant possibility to have an impact on other actors' towards increased sustainability. The aim of this paper is to discuss a process for how sustainability concerns can be addressed in municipalities' spatial planning. It is based on experiences from an on-going planning process in Linköping, Sweden. There is a rapid increase in the number of index-based assessment and planning tools for sustainable cities (e.g. BREEAM communities, LEED neighbourhood, CASBEE-City). In Sweden, there is a newly developed tool: Citylab action, which has clear connections to the UN sustainable development goals. However, from a city planning perspective the existing tools are often complex and lack conformity with other municipal processes. There is therefore a need for municipalities to reflect on which tools that are useful, what the local needs for support are, and to develop inclusive and broad planning processes with a broad systems perspective in which actor involvement is key, and where the city's overall strategies and policies, as well as national and international goals, are clearly disseminated.

Keywords

Municipal spatial planning · Sweden · Sustainability · Process management

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1 Introduction

Cities play an important role in forwarding sustainability (UN 1992). First, most of the global and regional sustainability initiatives are operationalized at the local level and second, they are close to the citizens and other local actors. This means that they have a good understanding of the local preconditions and needs. The planning processes within municipalities are thus important cornerstones in the development of a sustainable built environment on a community level. Through integrating sustainability concerns early in the planning processes the municipalities have a significant possibility to have an impact on other actors' behaviours towards a more sustainable development (Hjelm et al. 2011).

Spatial municipal planning has a significant potential in contributing to sustainability in a positive way. It is in the plans where ambitions are established and where the window of opportunity for developing sustainable cities is open. However, planning processes are often linear processes with give little space for feedback loops and learning. Furthermore, they are long-term processes involving many different municipal officers and politicians as well as other actors. This could be a problem given the fact that it takes a long time before changes become visible or measurable in the struggle towards sustainability and that the ones initiating the process might not be the ones finalizing it. The initial aims and sustainability ambitions might get lost over the years due to the time and changing personal perspectives. Even if environmental and other sustainability issues to a certain extent are regulated by national law in Sweden, there is still a need to further integrate sustainability into planning processes. During recent years there has been a rapid increase in the number of index-based assessment and planning tools to support this. Only to name a few, there are BREEAM communities, LEED neighbourhoods, CASBEE-City and BEST (for a compilation and comparison of these tools, see Baumgarten and Torgnyson 2014). In Sweden, the tool Citylab action (SGBC 2016), which has connections to the UN sustainable development goals (SDGs; UN 2015), was recently launched. From a city planning perspective, these tools are often complex and lack conformity with other processes within the municipality. Furthermore, the existing tools seldom address the management perspective, i.e. how to implement the more sustainable way of planning, nor do they problematize the ownership of the process or coordination responsibilities. This paper addresses this gap through reflecting on how to depart from existing tools and practices when integrating sustainability concerns in local spatial planning processes.

This paper focuses on the process of planning a sustainable city district, where different existing tools can play a role in different parts of the process and where management of the process is key, along with user-friendliness and local adaptation of and participation in spatial planning processes. It describes the process of how a municipality, in collaboration with academics, went about to develop a process management approach to for integration of sustainability perspectives into spatial planning processes, using the existing structures and competencies in a

communicative and collaborative way. Therefore, it has a normative approach, suggesting how planners could integrate sustainability perspectives in their processes at an early stage in order to develop sustainable city districts. The aim is to contribute with inspiration to other municipalities that face similar challenges and provide them with ideas on how to further develop their sustainability efforts in their spatial planning processes.

The study is carried out in the city of Linköping, Sweden, where a current city district planning process has been followed and studied. Suggestions for how to support the planning processes in order to enhance for integration of sustainability concern are based on experiences from earlier research in this field (see e.g. Hjelm et al. 2011) and from the experiences from the Linköping case presented in this study. Even though the empirical case and results are based on a Swedish case, the authors believe that some of the results and suggestions made in this paper are interesting in a wider context.

Linköping is the fifth largest city in Sweden (about 150,000 inhabitants 2016) and situated in the south-east part of the country. Linköping municipality is currently developing a new city district which will be subject to an urban living expo in 2017 with high outspoken sustainability ambitions (see Vallastaden2017 2016). This is not an average planning project, however, it is interesting to study how sustainability issues are dealt with in this type of city district development. There will be 1000 homes in Vallastaden, built by 40 property developers (with the involvement by as many as 40 different architecture companies). The city district can be seen as a test bed for different technical and social innovations. This study focuses mainly on the municipal planners' perspective on sustainability in planning Vallastaden.

2 Swedish Municipalities, Sustainability and Spatial Planning

Swedish municipalities have a long tradition of decentralization and self-governance (SALAR 2016). Their mission is regulated in national legislation (Swedish National Legislation 1999). For example, the municipalities in Sweden are responsible for the local provision of education for children and youth, social services (including care for elderly people), emergency services, water and sewage, security and waste management and spatial planning. How they choose to organize and structure their activities in order to fulfil their mission is fairly much up to each municipality. Furthermore, in Sweden, municipalities have a monopoly of spatial planning within their geographical territory. In conclusion, Swedish municipalities have a broad local action space and powers, which implies that they could have a significantly positive impact on the development towards a more sustainable city.

As mentioned earlier in this paper, municipalities have, in several global initiatives, e.g. in the Rio Declaration and in the Habitat process, been pointed out as key actors when it comes to forwarding sustainability. Swedish municipalities have

a long tradition of working with sustainability issues. Some issues are regulated through national legislation and national strategy documents. However, during the past decades, Swedish municipalities have gone beyond those issues regulated by law and tended to take on voluntary sustainability commitments to a higher degree than before (Emilsson and Hjelm 2005). There is a wide range of sustainability competency in municipalities and instead of being only an authority, the municipalities tend to become more of an actor among other local actors and catalyst in forwarding local sustainability (Emilsson and Hjelm 2009). Many Swedish municipalities have implemented Local Agenda 21 action plans, and many have also implemented environmental management systems (e.g. according to the international standard ISO 14001) (Emilsson and Hjelm 2002). This has helped them to organize and structure their environmental management in their organization. In many cases, it has also made them expand their environmental management to sustainability management through including the economic and social aspects of sustainability as well as expanding the range of actors involved in the management to also include external actors (Emilsson and Hjelm 2009).

The Swedish government has also declared (on a national level) that they want to take a leading role in fulfilling the SDGs (Swedish National Government 2016). Since many of these goals have clear connections to the local level, this means that the municipalities most likely will have to take a very active role in this work. Still, the 2030 Agenda is quite unclear on which role municipalities play in the SDG process. It will be interesting to see how Swedish municipalities embrace the SDGs in their strategies and planning processes, given their fairly high degree of maturity when it comes to sustainability management and their strong local position. This paper addresses an approach that could enhance for municipalities when integrating different sustainability visions, goals and ambitions into the spatial planning of new city districts.

2.1 Planning in Swedish Municipalities

In our research, we have studied how sustainability issues are/can be integrated into spatial planning processes and how these processes can be more inclusive in terms of actors as well as sustainability perspectives. Municipalities in Sweden have been criticized for not having broad enough dialogue with citizens during their planning processes (Delegationen för Hållbara Städer 2012). Even though dialogue to some extent is regulated in the Building Act (see Swedish National Legislation 1987), this is perceived of as insufficient. Municipalities could benefit from strengthening the deliberative processes through designating resources for citizen dialogue in their annual budgets (Delegationen för Hållbara Städer 2012).

Planning in Sweden is of tradition based on rational approaches (see e.g. Albrechts 2004; Fredriksson 2011; Healey 2009). Rational planning processes are often linear with little or no feedback and learning loops. The different phases of the rational planning processes are often clearly defined and there is also a clear task division between planners and politicians (Campbell and Fainstein 2003).

Furthermore, these processes are often distinguished by a top-down approach. There is, though, an ongoing transition towards a more communicative (meaning inclusive and more bottom-up) approach (Albrechts 2004; Fredriksson 2011; Healey 2009). Even though broader actor participation and communication renders a more complex planning process, it is important for the effectiveness and legitimacy of the planning to have inclusive processes (Fenton et al. 2015).

In this project, a more communicative approach to planning is suggested, in which actor collaboration is key. Having a more communicative approach where those actors affected by the planning are involved, embracing also a bottom-up perspective could improve the process (Innes and Booher 2004). This could contribute with valuable insights from different perspectives and from people with different competencies. It emphasizes the importance of dialogue and deliberation and strengthens the role of citizens and other stakeholders (Bishop and Davis 2002; Few et al. 2007). A precondition for this is that the municipality is open to include the ideas and suggestions from other actors in the planning processes and, in a way be prepared to make compromises, etc. This implies that it is less evident which steps that should be taken and by whom and when. There is a need for a certain degree of maturity in the municipal organization to be able to manage this approach (Gustafsson and Wihlborg 2016). This could challenge traditional planning processes to broaden the systems perspective and become more inclusive in many respects.

3 Methodological Approach

The project, on which this study is based, is a collaboration project between Linköping municipality, The Swedish National Board of Housing, Building and Planning, and Linköping University. It was initiated in 2012 and finalized in December 2016. The project has had an iterative approach with close collaboration with public officials in Linköping municipality and representatives for the urban living expo throughout the process and the outcomes have thus continually been validated with practitioners.

The foundation of this study is an inventory of national and international tools for sustainability concern in spatial planning (see Baumgarten and Torgnyson 2014) and of an analysis of existing planning practice in Linköping municipality. This contributed with an understanding of existing practice and existing support for integrating sustainability perspectives in spatial planning. This contributed to a comprehensive understanding of the availability of tools, their strengths and weaknesses along with an understanding of the current local planning practices and how they took sustainability issues into consideration. It also served as the basis for designing the workshops that would contribute to the development of a process management support that will be presented in this paper.

Several workshops with different purpose and scope were held together with the spatial planners over the project period. In the early workshops the current planning practices and integration of sustainability perspectives and where the planners felt that there was a lack of support, etc. Another important issue that was discussed was how the planners perceived the concept of sustainability and how that had an impact on the planning. One of the most important gaps that the workshop participants perceived of was the one between planning documentation and actual processes. Other issues such as goal conflicts and their restrictions due to legislation and commitment from citizens and developers were also raised. The workshops also generated ideas on how to go about to overcome the gaps and problems and how to more clearly integrate sustainability issues into spatial planning. Follow up was mentioned as a very important factor as it was considered unclear who actually had the responsibility to follow up and how this should be done and who ensures that requirements are fulfilled. Furthermore, developing an identity for a city district in the planning process before the development takes off was also considered important for the further planning process as this would enhance for the municipality in the discussions with developers and other stakeholders.

The reflections and ideas from the workshops fed into the development of a process management approach and a framework for how to manage sustainability issues in planning processes were formulated in a draft and further discussed in several workshops. The later workshops in this study departed from drafts and were discussed in different constellations of participants in order to validate and further develop and evaluate an approach that would be helpful for the municipal planners.

There was a broad participation of different expertise in the workshops, e.g. participation of public officials with responsibilities for:

- zoning/city planning,
- traffic planning,
- comprehensive planning,
- building permits, planning permission,
- land use and exploitation,
- town architecture.

Furthermore, municipal managers with an overall responsibility for environmental protection, strategic sustainability management issues, regional spatial planning and the CEO of the Vallastaden exhibition company participated in the meetings. Some of the planners participated in all workshops, while some only participated in one or a few.

As a complement to the workshops, individual meetings have also been held with some of the planners and strategists. In total, 23 persons participated in the different workshops and individual meetings and were thus involved in the development of the process management support approach.

The main focus of this study was to develop practical support to municipal planners, and the study has a practical approach. The workshops, meetings and interviews were important in order to validate the relevance of the process management support that was developed during the study. With the continuous discussions with the practitioners, the researchers got a good idea of what kind of support they felt they needed in order to enable integration of sustainability perspectives into the existing planning processes without creating new parallel processes. A process management support could have been developed based only on the inventory of existing tools, existing theories on planning and on documentation studies, however then it would have missed out on important practical issues and it would have been less relevant in practice. Furthermore, the actual process of developing the process management support was perceived of as an important outcome in itself by the participating planners and for the municipality since it led to an increased awareness of different planning division's responsibilities and attitudes towards sustainability and their responsibilities and led to a more active discussion internally among the planners related to planning and sustainability. Hopefully, this could inspire other municipalities to further develop their local planning practices in order to integrate the sustainability perspective and broaden their systems perspective in local planning.

4 Results and Discussion

This chapter presents the final outcome of the iterative process of developing a process management support for integrating sustainability perspectives into municipal spatial planning.

4.1 Process Management Support

Figure 1 illustrates the four steps of the suggested *process management support* approach that was developed within the frames of this study. First of all, as a pre-step in the planning process, it is important to develop a comprehensive understanding of a planning project of which steering documents that affect the planning processes and what these say about sustainability (both national legislation, local policies, goals and other political ambitions). The municipal politicians should, therefore, for each term of office, compile a list of prioritized sustainability goals, steering documents etc. that should be guiding for all spatial planning projects in the city. This would enhance for a more coherent sustainability approach of the municipality and it would also facilitate the following-up process. This list should then be the point of departure for the four steps (Fig. 1). For each city district planning project onwards, this list will be discussed and related to in order to ensure that the actual project is in line with the municipality's overall sustainability ambitions.

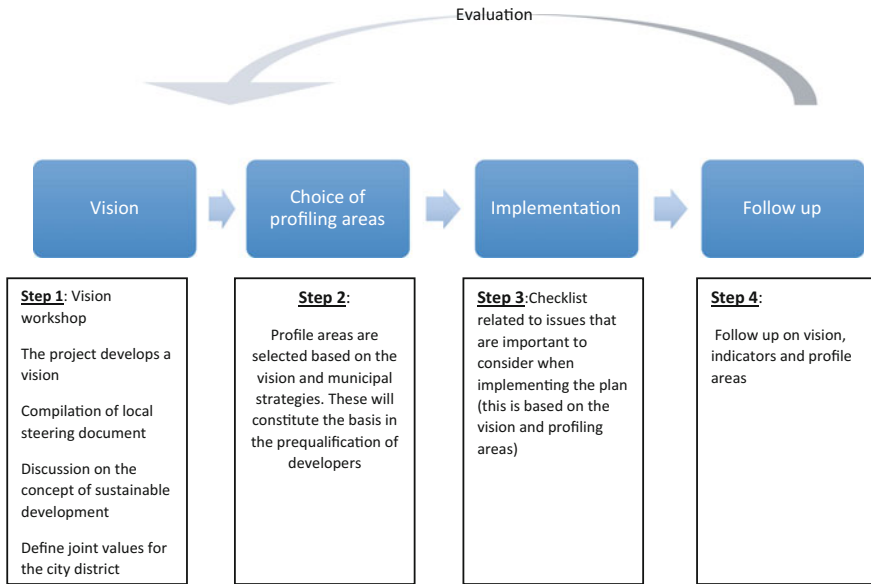


Fig. 1 Illustration of the different steps of process management support for an improved integration of sustainability issues into the spatial planning processes

4.1.1 Vision

The first step of the planning process, as suggested in this study, consists of a “vision workshop”. Here, the public officials organize a workshop led by an external facilitator. This workshop is divided into two parts and starts with a thorough discussion about the concept of sustainability. Sustainability is often interpreted in different ways and it is important that the planners within the project discuss how sustainability should be looked upon in this particular planning project and how it should be addressed. The workshop participants brainstorm around values that should identify the particular city district that is the planning object, and reflects on words that they want to connect to the city district. The compilation of the steering documents serves as point of departure and inspiration for this brainstorming exercise. Once there is a gross list of value words the workshop goes into its second part in which the participants cluster and compile the identified values and identify their common denominators. This, in turn, leads to a number of key words that describe the planned city district. The vision is then formulated based on the keywords.

4.1.2 Profile Areas

In step two, the vision that was developed in step 1 is concretised through selecting profile areas for the city district. The profile areas could be identified in different ways and based on different existing tools. In the case of Vallastaden in Linköping, the profiling areas are based on the new Swedish Citylab action tool. Citylab action

has developed 17 profile areas (partly based on the UN SDGs), see SGBC (2016) and this project has used these as a basis (for a more detailed description of the profile areas developed for the process management support in this study, see Gustafsson 2016). However, the identification of profile areas for the city district could also be done based on inspiration from Breeam communities, LEED neighbourhood or other similar tools/initiatives. The identification of profile areas is made through workshops where local politicians, citizens, constructors and other external actors are invited to contribute. Through this type of collaboration, there is potential for the municipality to use so called “green-nudging”, which is a way of trying to make people change towards a more sustainable behaviour through positive reinforcement (see e.g. European Commission 2014). It is important to include future citizens and other actors that will be active in the city in the planning process in the endeavour of realizing the vision for the city district. The number of profile areas to be chosen for the city district must be decided by the planning group and on what is feasible. Strategies, measures and indicators are developed for and based on each of the chosen profile areas in order to ensure that they are efficiently addressed and effectively measured (for an example, see Box 1). Strategies are used for pinpointing the more overarching areas (such as the Profile area in Box 1), while indicators are used to quantify the development or progression in the profile area. Several indicators can be used to measure one strategy from different perspectives.

Box 1. Example of a Profile Area and Its Suggested Strategies and Measures

Profile area X: adaptation to climate change

Description: The planning project aims at increasing the city district’s resilience against external and internal changes such as cloud-bursts, rising sea levels etc.

Examples of strategies and measures:

- The planning project performs an impact assessment with regards to risks for flooding.
- A strategy is formulated for managing future climate changes in terms of flooding, surface water management and increased outdoor temperatures.

4.1.3 Implementation

Both the vision and the profile areas are important cornerstones for the implementation of the planning project. Having the systematic approach suggested in this paper means that the vision is clearly influenced by the municipality’s overall steering documents and strategies. The profile areas are based on the vision for the planned city district are chosen and thus also in line with the municipality’s overall strategies and steering documents. Furthermore, through discussing the profile areas

with those actors that are involved in and affected by the planning process, a common understanding is created. However, it could still be a challenge to convert the vision and the planning ideas to practice.

The vision and the profile areas could help the municipality in communicating the ambitions of the city district and it could also be used when developing criteria for the pre-qualification process of contractors. In a pre-qualification process, the municipality can, to a certain extent, set up a level of ambition to which contractors and subcontractors should comply with in order to have a chance to get a contract in the planned city district area.

Pre-qualification is often used for architectural purposes, however, this could also be done for features not only related to architectural expressions and buildings, but also for the space between the buildings, covering the whole city districts. For example, one such issue could be for the potential contractor to demonstrate that they can provide an integrated solution where sustainability is core (related to energy solutions for buildings, green spaces between the buildings, sustainability conscious choices of building materials and ideas on how to enhance for sustainable transport within the city district). This approach has been tried out for city district planning projects in Stockholm (MICASA 2012), but so far having this type of pre-qualification processes is uncommon in Sweden. Applying this type of pre-qualification process where the profile areas are included, would enhance not only for the city district to address its vision and fulfil its strategies but also for the city to achieve its overall sustainability ambitions. Having this approach could also be a way of stimulating the developers to develop innovative solutions as well as overcoming the restrictions set in legislation related to the possibility to demand high sustainability performance from developers.

In order to end up with effective goals and indicators, it is of utmost importance that these are developed in a way that makes them possible to follow up. Otherwise there is a risk that they end up as paper tigers and not a useful and effective process management support. The vision and the profile areas also have to be an integrated part of the external communication throughout the process with the contractors and other external actors in order to manifest the vision and the ambitions with the planned city district. Furthermore, it is important to have a continuous communication related to the vision of the city district internally among the public officials and the politicians in the municipality in order to develop an awareness and engagement. This should not be done in a separate process, on the contrary, it should use existing channels of communication and existing structures.

Collaboration is key throughout the planning process. This is often built-in in already existing planning processes, yet it is important to reflect on the forms of collaboration and what the collaboration will contribute with in the project. Different actors should perhaps be involved in different phases of the project and in different forms (Fenton et al. 2015). In the collaboration, it is important to strive for win-win situations in order to motivate actors to participate. It is also important to understand that different actors have different agendas and visions and participate for different reasons. The collaborating partners need to develop an understanding of each other's world views in order to achieve the best outcomes.

4.1.4 Follow Up

As mentioned earlier, spatial planning is often connected to linear processes and to long time frames (in Sweden it can sometimes take up to 10 years from the start of a planning process until the plan is realized). Many planners and other actors are involved in the process, but given the long-time perspective, it is not always the same people that start and finalize the plan. Furthermore, sustainability is a long-term commitment, and it takes many years before results from measures and changed behaviours are measurable or visible. Therefore, continual follow up and learning is pivotal in order to develop effective processes leading to continual improvements. It is important that the follow up is thought of already in the planning phase in order to ensure that the indicators, etc., are formulated in a way that is possible to follow up. If follow up is performed continually throughout the process, the results could be a useful input into the managers' planning ahead when developing strategies, etc. With clear and concrete routines for follow up and evaluation as well as continuous documentation on progress on the strategies and indicators enhances for the municipality to get a clearer idea of the progress in the actual city district project. It would also provide input to the overall sustainability reporting of the municipality.

Even if a planning process has a follow-up procedure, it does not automatically mean that the process is evaluated in order for the experiences to feed into coming planning processes and in order to develop a learning process. In order to improve the planning practice in the municipalities, there has to be some kind of discussion related to what has been learnt during the process, what would be done differently in upcoming projects and how the planning practice, in general, could be improved.

4.2 Reflection on Communicative Planning Processes

The discussions with the public officials in Linköping reveal that there is a need for a more strategic and structured approach on how to integrate sustainability issues into spatial planning. The suggested process management approach could enhance for a broadened systems perspective when it comes to sustainability in spatial planning, both content wise and in relation to the inclusion of different actors. To be able to develop such an approach, the organizations need a certain degree of maturity and Senge et al. (2005). This broadened perspective could make the municipality more prepared to face new sustainability challenges and to adopt national and international initiatives. The way the process management is designed, it also contributes to the adoption of the UN SDGs since the profile areas have a clear connection to these goals.

It is important to have a transparent and open dialogue in spatial planning and to involve different types of actors, such as developers, citizens and business. The actors that are to be involved in building the city district also needs to be involved early in the process in order to create a shared vision and mutual commitment to this vision Innes and Booher 2004). This would also strengthen the role of citizens and other stakeholders (Bishop and Davis 2002). Having this approach, we move from

government to governance in which the citizens and other private actors, together with the municipality co-create new policies and plans. The municipality becomes one actor among many (Pierre and Peters 2000).

Even though this study suggests an approach inspired by a communicative and more bottom-up approach when integrating sustainability issues into the planning processes, a certain degree of governmental involvement in planning and implementation of sustainability policies is clearly acknowledged for effective local action (e.g. through funding, guidelines et) (see e.g. Baker and Eckerberg 2007; Fleming and Webber 2004). Hence, a certain level of rationality is needed in planning in order to make the planning processes feasible. With the suggested process management support, these two perspectives are combined since the regulations and governmental directions set the baseline, and the actors develop visions and strategies with these as a point of departure.

5 Conclusions and Recommendations

One conclusion from the discussions in this paper is that spatial planning processes (at least in Swedish municipalities) need to have a broader systems perspective, both when it comes to integrating sustainability perspectives and when it comes to actor involvement. The workshops organized within the frames of this study is an interesting illustration of this, where planners from different divisions of the municipality met and discussed issues over the organizational borders. These types of meetings were apparently seldom held within the municipality where more strategic and overarching issues related to planning were discussed. It is important that people with different competencies and experiences from different parts of the planning processes meet and discuss the planning processes on a more general level in order to be able to get an understanding of how their own part contributes to the whole process and how the process can be improved in order to be more effective and efficient.

Actor collaboration and communication is therefore key in this process and it is important to address the issues in a way that is appropriate and relevant for the involved actors. This means that the municipal planners have to reflect on why, when and how the different actors should be involved in the process. To do this in an effective way, it is important to use already existing structures and routines and not to invent new ones. It is also important to let collaboration relations take time to develop and mature. The different actors need to develop an understanding of each others' agendas, world views and values, and with these as a point of departure identify possible fields in which there are joint interests and potential for win-win situations.

Developing sustainable relations with stakeholders could also enhance for continuity and mutual learning. If the municipality could function as an anchor tenant for the local actors, and if the actors together develop a mutual way of

collaborating, there is a better preparedness for integrating new initiatives and policies, such as the UN SDGs.

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