

Policy Language

A Pattern Language for Designing Public Policy

Takashi Iba *1 and Heizo Takenaka *2*3

*1 Faculty of Policy Management, Keio University

*2 School of Regional Development Studies, Toyo University

*3 Professor Emeritus of Keio University

Abstract

In this paper, we apply a pattern language to share practical knowledge of designing public policy, which we call “Policy Language.” By sharing wisdom in defining problems and solving them, described in the Policy Language, we aim to make them into common tools in shaping public policies. The patterns we present in this paper have been formed by reviewing Heizo Takenaka’s experience as a Minister in Jun’ichiro Koizumi’s Cabinet, and Takashi Iba selected key elements and described them. We present 18 patterns of policy language, which consists of 3 groups: society, public policy, and policy formation.

1. Introduction

We will introduce patterns of a Policy Language for designing public policies. Policy Language is verbalization of processes in which problems are defined and solved using practical wisdom, when public policies are formed. Each pattern of the Policy Languages describes a kind of context problems which have occurred, what kind of problem is likely to occur, and how you can solve the problem, and so on.

By sharing wisdom in defining problems and solving them, described in the Policy Languages, we aim to make them into common tools in shaping public policies. In today’s Japan, an action of forming public policies is confined to only a limited number of people, and other people stop at evaluating and criticizing them. However, we would like to strive to create a new medium in order to fundamentally change this situation.

The patterns we present in this paper have been formed by reviewing Heizo Takenaka’s experience as a Minister in Jun’ichiro Koizumi’s Cabinet (2001 – 2006), and Takashi Iba selected key elements and described them. Therefore what we introduce here is limited to one Minister’s practical wisdom. We expect more patterns to be constructed in the future in addition to the patterns here, not only from different perspectives but also in different policy areas. In this sense we would like to emphasize the fact again that the patterns we present here constitute a small portion of the whole Policy Languages that are yet to be constructed in the future.

2. Pattern Language 3.0 for Human Actions

Pattern languages are used to share practical knowledge in a target domain. Here practical knowledge refers to the intelligence both to understand problems and to solve them. In other words, pattern languages describe the problems that occur in certain contexts with the solutions and actions that can solve them.

The original idea of using pattern language for design knowledge was proposed by the architect Christopher Alexander (1979). The book he wrote with his colleagues in the late 1970s comprised 253 patterns on practical architectural design (Alexander *et al.*, 1977). In the context of architecture, pattern language was developed to serve as a lingua franca for architects and

residents when designing buildings (Alexander *et al.*, 1985). Alexander anticipated that people could become involved in the design processes for their houses and towns.

Ten years after the book was published, Alexander's idea of pattern language was adopted in the field of software design (Beck and Cunningham, 1987; Gamma *et al.*, 1995). In scribing technical knowledge about software design, pattern language's primary purpose was to diminish the technical gap between experts and those with less experience. Software designers who wished to improve their skills could then read patterns to learn from the design knowledge of more experienced programmers (Gamma *et al.*, 1995).

Since the 1990s, the fields in which pattern languages are applied have greatly expanded, encompassing education (Pedagogical Patterns Editorial Board, 2012), organisational change (Manns and Rising, 2005, 2015), learning (Iba & Iba Lab, 2014a; Harashima, *et al.*, 2014), collaboration (Iba & Iba Lab, 2014b), presentation (Iba & Iba Lab, 2014c), project design (Kubota *et al.*, 2016; Mori *et al.*, 2016), change making (Shimomukai, *et al.*, 2015), disaster prevention (Furukawazono, *et al.*, 2015), beauty in everyday life (Arao, *et al.*, 2012), living well with dementia (Iba & Okada, 2015), living with continuous self-actualization (Nakada, *et al.*, 2013; Kamada, *et al.*, 2014), living in the age of a global society (Matsuzuka, *et al.*, 2013), cultural design (Kadotani, *et al.*, 2013, 2014), cooking (Isaku & Iba, 2015, 2016; Akado *et al.*, 2016a; Yoshikawa *et al.*, 2016), natural living (Kamada *et al.*, 2016), and generator as a new role to facilitate an idea generation (Nagai *et al.*, 2016; Akado *et al.*, 2016b). At this point in pattern language implementation, we term these as 'pattern language 3.0' (Iba, 2016).

Alexander's challenge, actually a challenge for all pattern languages, is to gather words that can be understood by anyone to introduce novices into a design process that would otherwise require professional knowledge. Alexander believed that true beauty and liveliness could only be achieved if the gap between the designer and users was removed, thereby allowing the participation of users in the design process so that they could continue improvement even after the designer has left the project.

In *The Production of Houses*, Alexander stated that 'the house is no longer an "object" which is manufactured, but a thing of love, which is nurtured, made, grown, and personal' and therefore 'families would design their own houses' (Alexander *et al.*, 1985). Thus, he invented the idea of pattern language and described ways of generating good quality towns and buildings. As in Alexander's statements, we can describe that society should be 'a thing of love, which is nurtured, made, grown and personal', and therefore 'people would design their own' society. In what follows, we propose a new pattern language for designing public policy, which we call "Policy Language."

Public policy is a new domain into which is applied the pattern language. We proposed, mined, wrote patterns of Policy Language presented in this paper in 2010¹, and published as a Japanese book (Iba *et al.*, 2013). Related to our interests, there are patterns about policy in *Liberating Voices* patterns by Schuler (2008), a pattern language for governance by Ophuls (2012), and *Patterns of Public Policy and Administration* by Chalekian (2014). Also, *Fearless Change* patterns (Manns and Rising, 2005, 2015) share similar interests to us instead that they are focusing introducing new ideas into organization and community rather than public policy. Strictly speaking, there patterns are different focuses from ours, but they show that our approach is not alone to apply pattern language approach to policy design.

3. Mining Interview

In order to create Policy Language, we conducted *Mining Interview* (Table 1, Iba and Yoder, 2014) in the setting of the class in our university, 2010. In the interviews, one of the authors, Takashi Iba, first asked what Heizo Takenaka thinks that the important for designing public

¹ The mining interview was conducted in the course of "Pattern Language" at the Faculty of Policy Management, Keio University. The videos of our interview have been open to public in online: http://gc.sfc.keio.ac.jp/cgi/flv/flv_play_gc.cgi?2010_25136+07+1 and http://gc.sfc.keio.ac.jp/cgi/flv/flv_play_gc.cgi?2010_25136+08+1 in Japanese.

policy, so that we could discover *Keys Worth Sharing*. This phase included core ideas about solutions, with all people enjoying the ability to share this information. Then, Iba asked what will happen if you did not practice important points (the ‘keys’) in order to conduct *Problem Digging*. For example, we asked what drove the choice for the solution, which helped us to obtain information about the problem solved by the pattern. After that, we asked when or where the problem occurred in order to conduct *Context Catching*. Consequently, we obtained information about the context, the problem and the solution for pattern writing. In the interviews, Iba wrote down the information of context, problem, and solution into the paper, and located them in a certain format for seed of pattern, which is shown in Figure 2.

Table 1 Summaries of Important Patterns from Mining Interview Patterns (Iba and Yoder, 2014)

Pattern Name	Summary (Context, Problem, and Solution)
Mining Interview	You are creating a pattern language in which you have little or no experience. In this context, The patterns extracted from people who have less experience can often be weak or wrong. Therefore, conduct an interview with experienced people in the area of the pattern language you are creating. Use this information to gather the core information needed to write the patterns.
Keys Worth Sharing	You are going to begin the <i>Mining Interview</i> in the area that you are creating a pattern language. In this context, it can be difficult to get good information from an experienced person by asking in general terms about their experience or their expertise. What is obvious to the experienced person is often not so obvious to the newcomer. Therefore, ask what are the important points that colleagues or newcomers need to know when dealing with the area of interest.
Problem Digging	You have outlined the <i>Keys Worth Sharing</i> from the <i>Mining Interview</i> . In this context, you cannot write patterns based only on the information of the keys. In each pattern, you will need to specify more information such as the problem that the key solves. Therefore, ask what will happen if they don’t practice their <i>Keys Worth Sharing</i> in order to specify the reason why they are important. To be concrete, choose one of the solutions and ask about each key separately.
Context Catching	You just got the <i>Keys Worth Sharing</i> and the reason why they are important by <i>Problem Digging</i> in the <i>Mining Interview</i> . In this context, you cannot write patterns if you only know the problems and solutions. In each pattern, it is also important to specify a context where the problem occurs. Therefore, ask when and where the problems solved by <i>Keys Worth Sharing</i> occur.

The relation among seeds of pattern were also mined by interview. In a pattern languages, each pattern does not exist alone; every pattern has relationships with other patterns. After that, Iba write all the patterns in the same format: pattern name, context, problem, solution in full sentences. When writing and revising patterns, Iba read several times the books introducing experience of designing public policy as a Minister in Jun’ichiro Koizumi’s Cabinet (Takenaka, 2008).



Figure 1 Mining Interview with Heizo Takenaka

Seed of Pattern

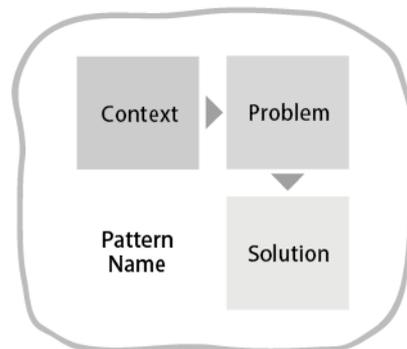


Figure 2 Fomart of a Seed of Pattern

4. Overview of Heizo Takenaka's Policy Language

The prototypes of the Policy Languages we formed this time are 18 patterns in total (figure 3). These patterns are presented in 3 groups: society, public policy, and policy formation. The policies we discuss here are not confined in the area of public politics. You will notice it when you actually look at the content of the patterns; all patterns are applicable not only at the national government level, but also in the local governments, enterprises, and other organizations. Therefore it is conceivable that the Policy Languages can offer support to those who work in all types of governments as well as in communities and private industries, and so on.

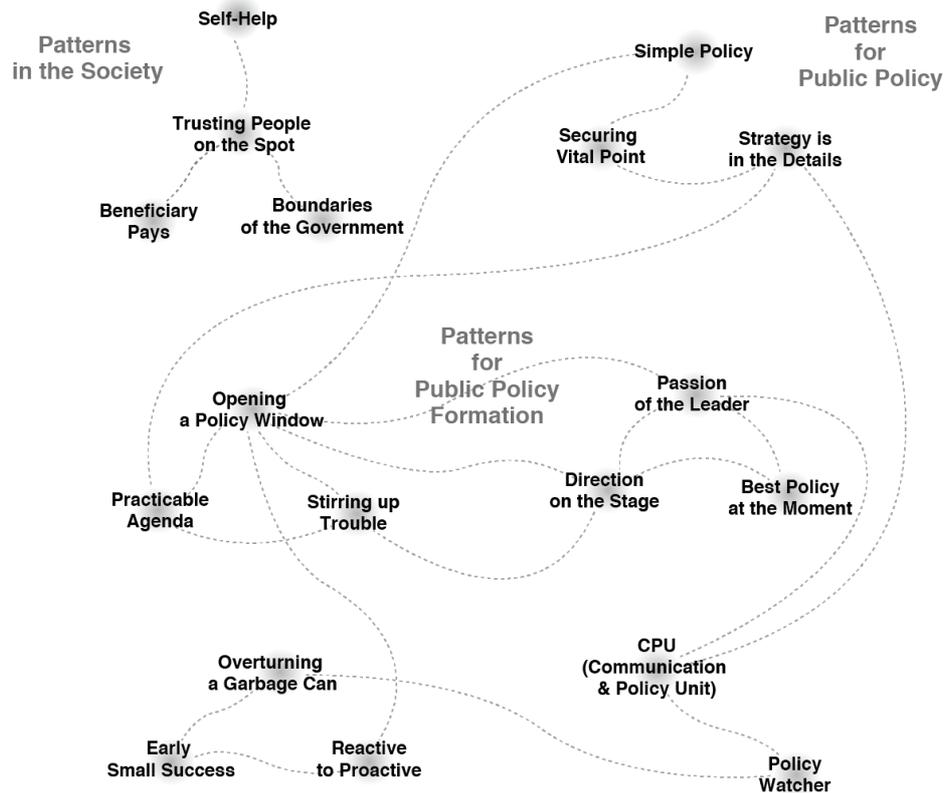


Figure 3 Overview of Policy Language of Heizo Takenaka

5. Patterns

Policy Language of Heizo Takenaka consists of three groups: Patterns in the Society, Patterns for Public Policy, and Patterns for Public Policy Formation. First, Patterns in the Society include 4 patterns: *Self-Help*, *Trusting People on the Spot*, *Beneficiary Pays*, and *Boundaries of the Government*. Second, Patterns for Public Policy have 3 patterns: *Simple Policy*, *Securing Vital Point*, and *Strategy is in the Details*. Third, Patterns for Public Policy Formation consists of 11 patterns: *Opening a Policy Window*, *Practicable Agenda*, *Stirring up Trouble*, *Passion of the Leader*, *Direction on the Stage*, *Best Policy at the Moment*, *Overturning a Garbage Can*, *Early Small Success*, *Reactive to Proactive*, *CPU (Communication & Policy Unit)*, and *Policy Watcher*.

3.1 Patterns in the Society

With respect to what kind of society we would like to aim for, we would like to start from the principal of self-help. Four patterns will be introduced here: *Self-Help*, *Trusting People on the Spot*, *Beneficiary Pays*, and *Boundaries of the Government*.

No. 1

Self-Help

There are many issues and problems that need to be solved.

▼ In this context

The resources are limited, therefore we cannot help everyone equally, and if we try to do so, the society as a whole may collapse.

▼ Therefore

Let those who can help themselves do so on their own. We set the principal as helping only those who are in need of other people's help. "Heaven helps only those who help themselves," said Samuel Smiles in his book, *Self-Help*. Recommend people to help themselves if they can do so, as Smiles said.

No. 2

Trusting People on the Spot

The quality of life has improved, and our values diversified.

▼ In this context

Centralized management and operation can no longer catch up with the diversified values of people, and it has become ineffective. The centralized management and operation was necessary in the past in order to raise the standard level across the board by allocating the resources efficiently. But responding from one source to diversified needs and personalities is difficult, and the efficiency inevitably suffers as well.

▼ Therefore

Trust the people in the field and let them handle it, enabling them to deliver individualized fine services. More concretely speaking, let the private industries do what they can, and let the local governments do what they can. In order to achieve this, *Boundaries of the Government* needs to be clarified, and a clear division of roles between the central and local governments is

indispensable. And achieving the principal of the *Beneficiary Pays* becomes essential in constructing a system to make responsible choices.

No. 3

Beneficiary Pays

If the entire service cost is centrally managed across the board, a distortion is likely to be produced between benefits and burdens.

▼ In this context

Unless the benefit of a service and its cost are directly related to each other, there will be people who demand more services without paying additional cost. In addition, the division that allocates available fund in order to cover the cost will become a source of the power and authority.

▼ Therefore

Create a system that allows people to make responsible decisions by matching the beneficiary and payer. Concretely speaking, decentralize the government functions by delegating the authority to the local districts and giving matching rights to collect taxes. It brings forth an environment that a local area demanding many services needs to bear a large burden and another area with few services can enjoy a small burden. It means we have to start making choices.

No. 4

Boundaries of the Government

Some of the government projects are actually undertaken in the private sector, and there are other projects that could be carried out by private hands as well.

▼ In this context

The government cannot take a risk even when funding or innovation is needed to improve the service. This is because when the risk materializes, it will be a burden on the citizens. However, if you cannot take advantage of innovation or funding, you will keep offering less than optimal services or management.

▼ Therefore

Privatize operations that can be undertaken in the private sector and require taking risk.

For example, designing new service operations, managing financial assets, or going to off-shore markets all involve taking a risk. Therefore they are better suited to the private organizations. By privatizing some of the government projects, there will be more degree of freedom, competition, and they in turn will energize the industry and economy.

3.2 Patterns for Public Policy

What is a good public policy and how will we make it? We will present *Simple Policy*, *Securing Vital Point*, and *Strategy is in the Details*, on these issues.

No. 5

Simple Policy

A public policy is to be formed through democratic processes of building consensus.

▼ In this context

When a public policy is complicated, many people fail to understand it and lose interest in it. Even if the current system has a problem, the topic will not be discussed.

▼ Therefore

Make your policy simple and easy to understand. Such a policy is easy to discuss, and its implementation is easy to evaluate.

No. 6

Securing Vital Point

There are various stakeholders related to one public policy.

▼ In this context

If you make compromises in order to successfully push the public policy through the consensus building process, the effect of the policy will be diminished. A public policy with a perfect score is hard to come by, but if the score is reduced to 40 or 50 points out of 100, there is no point in creating such a policy. You need to avoid such a situation.

▼ Therefore

Stay on the fundamental principles, even when you make small compromises. Select points on which you cannot give in, keep your position firm, and prevent the policy from being watered down.

No. 7

Strategy is in the Details

A public policy is an accumulation of juristic actions.

▼ In this context

A small difference in the wording of a public policy can alter how the policy is to be carried out. For example, the result could be quite different when you use a phrase “carry out the full privatization” instead of “privatize completely” in a description of privatization processes. If a person knows the detail of a forming policy in and out, and he is also a stakeholder, then special attention is required particularly.

▼ Therefore

Complete the content of a public policy with thorough attention to the detail. Avoid issuing an idealistic blueprint, and think through strategically the detail to be materialized. A leader cannot ascertain every single detail; however, in order to *Securing Vital Point*, s/he must confirm important points with her/his own eyes. Furthermore, by *CPU (Communication & Policy Unit)*, construct a multi-faceted structure and a review system. Prevent the policy from losing its shape at the stages of designing system or a bill by this method.

3.3 Patterns for Public Policy Formation

In order to implement a good public policy, it is indispensable to have a good process to construct a good public policy. Firstly it is vital to enhance people's interest in public policies and let constructive discussions to take place. These processes are summarized in *Opening a Policy Window*, *Practicable Agenda*, and *Stirring up Trouble*. Secondly, *Passion of the Leader*, *Direction on the Stage*, and *Best Policy at the Moment* will point out the importance of the leader's role. At the opening stage in constructing a public policy or on the orderliness of the construction processes, refer to *Overturing a Garbage Can*, *Early Small Success*, and *Reactive to Proactive*. With regard to the team and its role to construct and evaluate a public policy, there are patterns called *CPU (Communication & Policy Unit)*, and *Policy Watcher*.

No. 8

Opening a Policy Window

There are many problems that need to be solved, and I cannot solve everything.

▼ In this context

A public policy formation cannot start smoothly because there are many players entangled with complicated, intertwined conflict of interests. Nobody can make a starting move, because it is unclear which part of a public policy could be considered problematic and which direction the whole process is taking. Nevertheless a public policy needs to be put on the table, discussed, and you need to go through following stages when it is necessary.

▼ Therefore

Clarify what problem needs to be tackled now, and construct a flow of the society as a whole. Take advantage of events or statements involving influential people to present an issue publicly, then many relevant people will start making their moves, though they have been suspicious and stymied until now. Then the whole process starts to move at once. In order to open a policy window, "Passion of the Leader" will be crucial and *Simple Policy* is significant.

No. 9

Practicable Agenda

A public policy is to be formed through democratic processes of building consensus; therefore it is necessary to set an agenda strategically.

▼ In this context

If an agenda is only eye-catching and not practically feasible, the public policy cannot be

implemented. Soothing slogans are easy to sell to the audience, though many of them cannot be actually carried out. Being idealistic is one thing, but you need to pay close attention to the process of implementing the public policy.

▼ Therefore

Present a concrete agenda that has a high potential of being carried out, instead of a slogan. Indicate concretely what needs to be done and how. For example, instead of a slogan “strengthen the economy”, we form and present concrete agendas, such as “halve the business tax” or “privatize the postal services”. When you carry out these agendas, strategize with “Strategy is in the Details” in mind.

No. 10

Stirring up Trouble

Because a public policy is constructed through democratic processes of building consensus, we need to ensure that people are interested in it.

▼ In this context

People tend to lose interest in a safe public policy, and such policy is likely to be put on the back burner or even get cancelled.

▼ Therefore

Present an agenda that is likely to attract intense discussions on pros and cons, and stir up a policy debate. Gather interest of many people and let the supporters and opponents debate. There are many public policy makers who would rather avoid confrontation or confusion, but if such confrontation and confusion is visible in the public eyes, it enhances people’s interest and propels the public debate. In the end, a supporting argument that came out of the debate drives the policy forward.

No. 11

Passion of the Leader

People have different perspectives, and they act by judging if they can remain safe.

▼ In this context

You don’t know what the leader would do for you. Without knowing if you should follow the leader or not, nothing moves forward.

▼ Therefore

Let the leader indicate the direction of the whole, with strong intention and preference expressed in his/her choice of actions. Let the people have confidence in the leader through his/her clarity and convincing arguments. The passion of the leader also enables *Opening a Policy Window*.

No. 12

Direction on the Stage

Public policy forming processes are monopolized by a limited few people, and they are scheming to construct a public policy to suit their own interests.

▼ In this context

Because the public policy will affect the policy makers' interests, the forming process is delayed and it cannot be completed.

▼ Therefore

Highlight the issue in a public venue and let discussions and criticisms come out thoroughly. Drive the debate forward with the strong leadership. A good example is found when Jun'ichiro Koizumi was Prime Minister of Japan. He made a controversial statement in the Committee of Economics and Finances, and later issued his instruction as Prime Minister. Like *Stirring up Trouble*, direct people's attention to the leader and then let him/her issue an instruction.

No. 13

Best Policy at the Moment

The pool of public policy makers is stagnated and fixed, and they are forming a policy that contradicts with the past decisions and policies.

▼ In this context

The policy forming process comes to a halt because the policy makers cannot acknowledge their past errors by constructing a contradictory policy. Even when they understand the new policy is suitable for the current situation, they have no choice but oppose it in order to justify their decisions and policies in the past. Unless they overcome their fixation on the infallibility, a reform could not be achieved and the status quo continues.

▼ Therefore

Let the leader free the relevant agents by declaring that he wouldn't question the past and would like to make actions that they can do now. Enable them to promote the policy forward that is well suited to the current situation.

No. 14

Overturing a Garbage Can

A problem has arrived out of blue.

▼ In this context

The preparation is far from being complete, and decisions have to be made with incomplete information. There is not a sufficient time to research on the problem, and there are no textbook answers available, hardly a person is in sight that could offer answers to the questions on the problem.

▼ Therefore

Think, based on what you can gather; materials on hand, ideas, data, research reports, analyses, perspectives, anything available. Create a checklist from a broad perspective, even though what you gathered may not offer a concrete plan. You should always store such information.

No. 15

Early Small Success

A public policy is to be formed through democratic processes of building consensus.

▼ In this context

If you try to start a radical reform all of a sudden, it is hard to obtain approval and support from people around you and the citizens. Particularly at the beginning of your term, it is necessary to build up early results in order to gain people's confidence.

▼ Therefore

Make successful results early so that people feel hope and expectation directed toward the public policy framework. To this end, start tackling urgent problems that could be solved effectively soon, and proceed in a manner described in, *Reactive to Proactive*.

No. 16

Reactive to Proactive

There are problems that need immediate response, but there are also reforms that should be addressed from a long-term perspective.

▼ In this context

A large reform for the future generations cannot gain support easily when its implementation is announced all of a sudden. Support is hard to come by if you try to invest in the future without solving problems in plain view that need to be addressed urgently.

▼ Therefore

Start with a reactive reform and proceed to a proactive one. Carry out reforms first that reduce the burden inherited from the past, and obtain a result quickly. After producing an *Early Small Success* by this method, then move to a proactive reform that is constructive and aggressive. For example, after disposing non-performing loans, carry out privatization of the postal services.

No. 17

CPU (Communication & Policy Unit)

In order to push through a public policy, strong leadership is crucial. But a leader is also a lonely existence.

▼ In this context

It is impossible for a leader to process everything alone. A leader receives an extremely large amount of information including errors and lies, and s/he has to make decisions based on it.

▼ Therefore

Create a tight, small team with members who share the leader's intention. Support the leader with this team and let them manage the public policy and communication on the public policy. Let them decide tactics and handle logistical support.

No. 18

Policy Watcher

Formation of public policies is monopolized by few people, and members change little over time.

▼ In this context

Public policy formation and its evaluation cannot be done properly without knowing the policy in detail. Therefore a convenient public policy might be formed, so that it is beneficial only for those who have special interests. Or it is difficult to carry out a proper public policy debate from the professional point of view.

▼ Therefore

Follow public policies from the professional point of view, examining them from various perspectives, and train specialists on a public policy that is on your planning board. Such policy watchers should evaluate public policies properly from the outside, provide necessary information to the public and start a healthy policy debate, and sometimes are expected to be active in forming public policies.

6. Conclusion

In this paper, we proposed a Policy Language for designing public policies. The patterns presented in this paper are mined from Heizo Takenaka's experience as a Minister in Jun'ichiro Koizumi's Cabinet, so they are not all patterns for designing public policy. We anticipate that new other patterns will be written based on other experience in various domains, and from various standpoint: minister, government official, and so on. Indeed, in Japan, Ministry of Economy, Trade and Industry have started learning program for mining and writing their patterns for designing public policy, under my supervision. This is just starting point for design research of public policy on the pattern language approach. We would like to discuss and collaborate with people who are interested in this approach.

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