

Industrial Master Plans: International Comparison of Contents and Structure*

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This paper reviews the structural format of industrial master plans of developing countries, mainly from Asia, and offers some ideas for improving them. There are a large number of studies that analyze particular development policies or particular policy documents in any country. However, studies that pay primary attention to the *methodology* of industrial policy formulation are few and an international comparison of policy methodology is even rarer. Nevertheless, such information is extremely useful for latecomer countries that wish to conduct proactive industrial policies for an economic take-off. If a policy document is produced without serious consideration of overall design, it may turn out that its content, style, length and structure are at the whims of ministries or donors—and even individual drafters—that happen to be assigned for the task. As a result, the policy document may suffer from the lack of focus, relevance or implementability. To avoid these problems, careful thinking is needed before drafting an industrial master plan or strategy. The author hopes that this research will prove useful to interested policy makers.

1. Master plan types

Industrial master plans¹ can be classified broadly into the following four types.

- (i) *Overall industrial master plans*—these cover multiple industrial activities. Some of them feature sectoral chapters (electronics, machinery, food processing, etc.) while others are organized into issue-oriented chapters (TVET, technology, SMEs, etc.) Not all countries produce this type of master plans, and the coverage of industries differs from one plan to another.

- (ii) *Sector-specific master plans*—these are master plans for the development of one specific industry such as textile and garment, food processing, electronics, and so on.

- (iii) *Issue-specific master plans*—these are strategies targeting cross-cutting aspects of national

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¹ Master plans are alternatively called policies, strategies, strategic plans, roadmaps, blue prints, etc. In this paper we regard all official documents that contain policy targets, analyses, and actions with a time span of a few to several years as master plans.

industrial development such as transport and logistics, information technology, small and medium enterprises, education and training, and so on.

- (iv) *Regional development master plans*—these are strategies for the industrial development of particular regions, corridors, economic zones, and other geographically delineated areas.

There may be other variations and combinations of these basic types. Type (i) can be regarded as the amalgamation of the other types. In this paper we mainly discuss the first three types.

Apart from these *policy* master plans, there are also *technical* master plans that stipulate physical dimensions and proper technology and equipment requirements for large investment projects such as highways, steelworks, power plants, industrial estates, and so on. These technical blueprints are beyond the scope of this paper.

2. Chapter components

Policy-oriented industrial master plans normally have the following components.

Table 1. Ingredients of an Industrial Master Plan

orientation and positioning of industry in national development	importance, role, orientation and positioning of industry in national development	importance, role, orientation and positioning of industry in national development
Vision	Vision	Vision
numerical and/or qualitative and medium-term targets	numerical and/or qualitative and medium-term targets	numerical and/or qualitative and medium-term targets
Targets	Targets	Targets
current status, potentials and obstacles of industry in the national and regional context; tables and graphics for data, survey, international comparisons, etc.	current status, potentials and obstacles of industry in the national and regional context; tables and graphics for data, survey, international comparisons, etc.	current status, potentials and obstacles of industry in the national and regional context; tables and graphics for data, survey, international comparisons, etc.
Situation analysis	Situation analysis	Situation analysis
small number of selected issues should be identified, prioritized and policy issues in preparing policy action	small number of selected issues should be identified, prioritized and policy issues in preparing policy action	small number of selected issues should be identified, prioritized and policy issues in preparing policy action
Policy issues	Policy issues	Policy issues
that pre-specifies actions, sub-targets, success criteria, deadlines and procedure for monitoring and reporting should also be specified.	that pre-specifies actions, sub-targets, success criteria, deadlines and procedure for monitoring and reporting should also be specified.	that pre-specifies actions, sub-targets, success criteria, deadlines and procedure for monitoring and reporting should also be specified.
Action plan	Action plan	Action plan
established committee, or a well-focused and well-controlled process may be established	established committee, or a well-focused and well-controlled process may be established	established committee, or a well-focused and well-controlled process may be established
Action plan matrix	Action plan matrix	Action plan matrix

Each of these components may occupy either one chapter or a number of chapters. The order of these components is somewhat flexible. For example, targets may be inserted after situation analysis and policy issues. However, the vision should most properly be stated at the outset and the action plan matrix (or the

action mechanism) should come at the end. The terminology is also flexible and substitutable by other phrases of similar connotations. In addition to basic components, there may be other materials such as preface, introduction, table of contents, list of tables and figures, drafting procedure and organization, executive summary, appendices, and so on. These materials are not considered in this paper.

- (i) *Vision*—the master plan must clarify the purpose of industrial promotion. This includes why this industry is important in national development, what role it should play in stimulating other sectors, what positioning it should take in the global, regional, and national markets, and so on. If these purposes are already presented in other documents and widely understood among stakeholders (such as ADLI and IDS in the case of Ethiopia), they can only be mentioned briefly without spilling much ink. On the other hand, if these are not yet sufficiently expressed, the master plan should clearly and concisely state the importance of the industry. This section should be no more than a few pages. One way to state the vision is to present it as part of the introductory chapter.

[Example: Vietnam’s Draft Motorcycle Master Plan states its vision as follows: “*Motorcycles should continue to be used to ensure people’s mobility and reducing infrastructure cost per year, provided that sound and sustainable solutions are found and effectively implemented to cope with traffic congestion, traffic accidents, environment, and industrial property rights. At the same time, the motorcycle industry should become the principal industry by which supporting industry base is built and indigenous industrial capability is promoted.*” (Vietnam 2, p.20).

The Thai Automotive Mater Plan for 2002-2006 as well as for 2007-2011 continue to carry the same vision: “*Thailand is the automotive production base in Asia which creates more value added to the country with strong automotive parts industry.*” (Thailand 2, Executive Summary p.2]

- (ii) *Targets*²—long- and medium-term targets, quantitative and/or qualitative, should be presented with a clear time frame which should normally extend over a few to several years. The appropriate scope and amount of these targets, including how many numerical targets should be set with how much detail, depend critically on the characteristics of the sector in question as well as the capability of the government and the private sector of that country. For this reason, there is no fixed formula applicable to all master plans for all countries. Generally speaking, there should be less (numerical) targets if the industry is not capital-intensive, the market and prices are unpredictable, the industry produces final consumer goods, the domestic private sector is mature, policy capability is weak, and the private sector does not trust the government. Before setting any targets, policy makers should have a thorough discussion with all stakeholders, including private businesses and experts, for the proper configuration of such targets (see Section 4 for more discussion).

² Targets are also called goals, objectives, strategies, action plans (different from “action plans” in 2-(v) below), and so forth. We regard all of these as “targets” as long as they describe some qualitative or quantitative aims to be achieved.

[Example: The Thai Automotive Master Plan 2002-2006 had the following numerical targets for the ending year 2006: (i) produce 1 million cars (700,000 one-ton pick-up trucks and 300,000 passenger cars), with 40% exported; (ii) produce 2 million motorcycles valued over 100 billion baht, with 20% exported; (iii) export 200 billion baht of high-quality spare parts; and (iv) localization (percentage of local value-added) of produced vehicles and parts should be 60% (Thailand 1, p.2). This was the entire set of targets and not the summary of more detailed ones. Numerical targets for the intervening years of 2002-2005 were not set.]

(iii) *Situation analysis*—information must be given to analyze the current status, potentials, and obstacles of the domestic industry in question. Data should be presented in tables and graphics, the results of surveys and benchmarking should be reported (if available), and theories and empirical analysis should be cited (if relevant). Information should not be included randomly but inserted with a clear purpose of making certain points. The following aspects are among those routinely reviewed: the past performance of output, capacity, demand, export and import, localization, etc; the current status of product mixes, producers, regional distribution of production units, quality, competitors and competitiveness, and impediments to further development; demand forecast (possibly with alternative scenarios); and global, regional or domestic market trends that may impinge on the development of the industry. The appropriate selection of these analyses depends on the degree of understanding and consensus among stakeholders. If businesses, policy makers and experts generally agree on the current position of the domestic industry, situation analysis can be brief with minimal pages or even skipped. If, on the other hand, policy formulation is in an early stage and stakeholders do not yet share basic information, situation analysis becomes an integral part of the master plan.

[Example: In Indonesia's National Industrial Development Policy, situation analysis is contained in three chapters to review the conditions of both export potential industries (natural resources intensive industries, labor intensive industries, capital intensive industries, and technology intensive industries) and domestic market potential industries. This occupies 71 pages (30%) of the 238 page document (Indonesia 1).]

(iv) *Policy issues*—after the industry situation is reviewed comprehensively in (iii), specific aspects that need to be fortified by policy to realize vision (i) and targets (ii) above must be identified, prioritized, and analyzed. The issues may involve either removal of negatives or strengthening of positives. Then action must be proposed (later to be elaborated into detailed action plans (v)). Obviously, which issues are most important cannot be prejudged because circumstances differ from one industry to another and from one country to another. Here, the common agenda from which the policy maker should carefully choose is listed. They are: skills and technology, cost

reduction, quality improvement, product design and development, input procurement (including localization and supplier policy), marketing, export promotion, infrastructure (especially transport and power), financing (including the use of ODA and external borrowing), limitation of domestic market size, labor supply and workers, coping with cheap imports and dumping, speed and scope of globalization and international commitments, FDI policy, tariff policy, design of incentive measures, certification and award systems, legal reforms, international standards (ISO, quality, environment, accounting, etc), SME support, business matching, industrial associations, public private partnership, use of ITC, testing centers, and so on. The most relevant topics for the industry in question should be identified and discussed among stakeholders. It is important to work on prioritized issues only rather than cover all issues broadly and superficially. Issues raised here should be given concrete solutions in the following action plan section.

[Example: discussion of policy issues is the main part of India’s National Strategy for Manufacturing 2006-2015 (India 1), occupying 61 pages (78%) of the 78 page document and covering 12 topics including macroeconomic stability, education and skill building, investing in innovation and technology, and so on. This may be a little too much in light of selectivity and concentrated effort, but it may be helpful for forming consensus on key issues.]

(v) *Action plan or action mechanism*—an action plan matrix or an action mechanism is essential to ensure implementation. An action plan matrix is a large table that translates analyses and proposals conducted in previous chapters into concrete actions. It may be included in the master plan text (as in Thailand 1) or prepared in a separate document (as in Zambia 1). Either way, it is crucial that its progress is monitored and reported to the government at regular intervals. Two sample formats of action plan matrices are presented below, which typically contain the following cells: actions, sub-actions, deadlines, expected output, performance criteria (success indicators), main responsible organizations, and other cooperative organizations. The implementation procedure, such as who will report what to whom by when, must also be clearly stated alongside the action plan matrix.

[Example 1: The action plan matrix of the Triangle of Hope Project (Zambia 1):

Recommendation (action)	Activities (sub-action)	Status	Expected output	Status	Activity period	Responsibility	Monitoring indicator
Promote investment in cotton production by allocating land to appropriate producers	1. Identify land to be held in MACO trust	Little progress	Land for cotton production identified and secured	Not yet started	Jun. 2007	MACO (main), MoL (sub)	Monthly report
	2. Write to MoL for title deed	Not yet started					
	3. Develop adm mechanism for farm blocks	Done					

Note: excerpted and edited by the author.

[Example 2: The action plan matrix of the first Thai Automotive Master Plan (Thailand 1):

Strategy (action)	Action Plan (sub-action)	Output	Key success indicator	Main resp. org.	Cooperative org.
1.2 Automotive Human Resource Development	3. Automotive training center project	Standardized automotive training center	1. Number of trained persons	TAI	OIB/TAIA/TAPMA/F TI
	3.1 Provide Systematic training to the industry from workers to management level		2. Number of companies sending employees for training		
	3.2 Skill training		3. Increased income of trained persons		
	3.3 Provide training to engineers in the field of advanced engineering and specialized technology		4. Cost reduction and profitability		

Note: excerpted and edited by the author. The deadline for all actions in this table is the year 2006.]

Alternatively, an action mechanism such as a high-level monthly committee chaired by the President or the Prime Minister, or a well-focused budgeting and project approval process coordinated and monitored by an effective hub organization, can be adopted. Compared with the action plan matrix approach which stipulates all actions in advance, these process-oriented approaches are more flexible in coping with shifting circumstances. However, their success requires strong and effective guidance by the top leader or the designated hub organization. In cases where political and administrative support for policy execution is weak, the action plan matrix approach may be preferable³.

(vi) *Optional materials*—in addition, there are optional ingredients of industrial master plans as listed below. These can be regarded as general background materials from which issues (iii), targets (ii), and visions (i) above are distilled:

- General review of the industry in question, and global and regional trends
- Review of recent economic performance and the results of the previous master plan
- SWOT, growth diagnostics (the so-called “HRV tree”), benchmarking, investors’ country ranking, and other general tools and indicators to assess the potentiality and problems of the industry

³ Mr. Vallop Tisasiri, the President of the Thailand Automotive Institute which drafts the automotive master plan, prefers the process-oriented approach in ensuring implementation. Although the first automotive master plan of Thailand (2002-2006) had a large action plan matrix, the second automotive master plan (2007-2011) has only a small action summary table and instead relies on ongoing project-based implementation of proposed actions. If a greater budget and more projects are available, policy implementation is accelerated, and vice versa. In the case of the Thai automotive industry, strong leadership exercised by Mr. Vallop and his institute, and deep trust and information sharing among industry, government and donors, enables such an approach (interview with Mr. Vallop, November 5, 2009).

- Any theoretical, empirical, or field study results

These are supplementary information to the main thrust of the master plan. They may prove useful in the preparation stage such as brainstorming, problem identification, and general education. Whether they should be cited in the main text depends on each case. If they provide clear evidence of why certain policy issues, targets and vision are singled out in the master plan, such information should definitely (but briefly) be incorporated in the main text. On the other hand, if these materials are not directly linked to the main arguments but were produced just as preliminary and general inputs, they can be safely omitted from the master plan. The reason for this treatment, as explained further below, is that the master plan should contain only key ingredients without being diluted by information of secondary importance. This makes the master plan lean, readable, and sharply-focused.

3. Required features

There are several required features that must be borne in mind when drafting an industrial master plan.

First, long-term and medium-term targets in (ii) above should be ambitious but realistic. Numerical targets should be higher than simple extrapolation of the present course but also reachable with serious exertion of cooperative efforts by both public and private agents. Targets that are unattainable even with great effort are meaningless while targets that can be reached without effort are redundant. In either case, the appropriateness of original targets should be questioned.

Second, *relevance* should be the criterion for including any information in policy documents. All text, data and graphics should support the main arguments and proposals of the master plan. Statistics that add little informational value, abstract words with no implication, and general statements applicable to any industry in any country (such as “improve X,” “promote Y,” “properly manage Z”) should be removed from policy documents as much as possible. A lengthy account of the history and circumstances of domestic industries, which are already well known to policy makers and business people, is also unnecessary. Conciseness is preferred since lengthy documents are not read by many. By adding low-value contents, clarity and impact are lost. Master plan drafters should be reminded that mindless addition of non-essentials will not contribute to policy quality. Sharply-focused and well-reasoned policy documents are effective even when they are short and Spartan⁴.

Third, a related point is that all chapter components—vision, targets, situation analysis, policy issues, and

⁴ However, if the industry is new to the country or policy discussion among stakeholders is seriously lacking, a master plan may include, for educational purposes, the general description of the industry and other general materials to facilitate common understanding on basic issues. Even in that case, such materials should be presented concisely and should not become the main part of the master plan. Separate background papers may be attached for expounding them.

action plan—must be closely and logically linked. The action plan matrix must be able to achieve the proposed targets, which in turn should contribute to the fulfillment of the vision. Situation analysis and policy issues must inform why these visions and targets have been selected. The master plan should be a concise and consistent statement of a policy direction. Information not linked with the rest of the master plan should be removed.

Fourth, flexibility and adaptability must be ensured across countries, sectors and time. Since all industries are different and all countries face different challenges, cookie-cutter molds cannot be applied to the making of master plans. Even for the same industry in the same country, a rise in private dynamism, improved policy capability or shifting circumstances will call for policy revisions. Creativity is needed to fit policy documents to the changing reality of the industry in question.

Fifth, implementability is crucial. A policy document, however excellently written, is just paper if it is not implemented. All efforts should be made and all devices must be mobilized to make sure that what is stated in the master plan is actually put into practice. Inclusion of the action plan matrix with a proper monitoring mechanism is one such device. Budgeting, personnel, and organizations necessary for execution must be prepared. Clear assignment of responsibility, inter-ministerial coordination, reporting within the government, and political will and strong commitment at the high level, are additional requirements to ensure implementation.

Sixth, effective stakeholder involvement must be ensured in the entire process of designing, drafting and implementing the master plan. The most important stakeholders are business people. Industrial experts and academics should also be intensively consulted. This is essential if the policy is to be implementable, realistic, and supported by the business community which must execute agreed action plans. Stakeholder involvement should be substantive, not nominal or superficial. All parties should be given enough time and occasions to voice their opinions until consensus is reached or at least the point of dispute is clarified.

4. Relative scope of government versus market

One common and vital issue in designing any industrial policy is the determination of where government ends and markets begin. Very generally, it can be said that the state and the market must be combined optimally rather than the former dominating the latter or the latter operating completely freely beyond the reach of the former. But how the two should be combined in the concrete context of any particular industry is a very difficult matter. Should the government stipulate technology and equipment to be adopted or should that be left to private investors? How hard or soft should be the targets for output, export and investment for individual firms and for the nation as a whole? Are they to be achieved by any means or just indicators with no responsibility for realization? How should we interpret future demand scenarios?

Clearly, the borderline between government and markets must be drawn and re-drawn for each individual case in every industrial master plan, for which much wisdom, knowledge and judgment are required. The table below only suggests general tendencies. Greater scope of government is often appropriate when many of the conditions on the left column are met, and greater scope of markets is often appropriate when many of the conditions on the right column are satisfied. Not all conditions on the left or right need to be met for either conclusion. Moreover, the importance of each condition may be case-dependent.

Table 2. Relative Scope of Government versus Market

	Setting targets and specifying products, producers, investment, technology, location, markets, etc.	
	Greater scope for government	Greater scope for markets
Initial capital investment (sunk cost)	Large	Small
Gestation period	Long	Short
Market volatility	High	Low
Product type	Industrial inputs	Consumer goods
Private sector maturity and dynamism	Low	High
Government policy capability	High	Low
Trust between government and business	High	Low

With regards to industry characteristics, consumer goods industries such as fashion garment and mobile phone assembly with short product cycles, unpredictable demand and relatively small initial investment can be largely left to the decisions of private firms in response to market trends because micromanagement by the state’s iron hand will surely prove counter-productive. By contrast, petro-chemicals or integrated steelworks with huge required investment, relatively predictable domestic demand and volatile global markets must be properly guided by the state, even when private firms are the producers, to avoid overcapacity, inadequate scale of production, adoption of inappropriate technology (obsolete, too capital-intensive, etc.), excessive debt burden, or environmental damage.

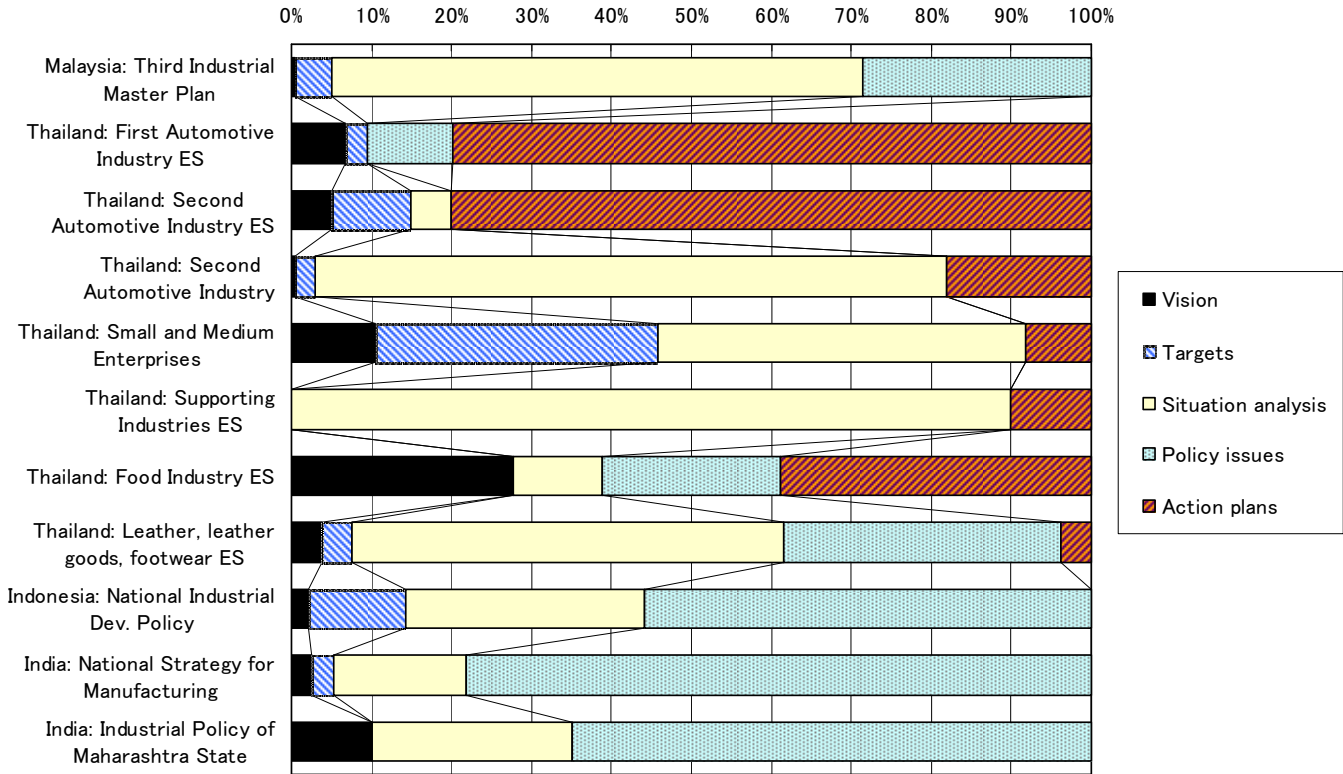
With regards to national capabilities, a country with a well-developed private sector, low policy capability and ineffective public private partnership should embrace something close to laissez-faire since official intervention in such circumstances will certainly make things worse. But if the government has built up its policy capability sufficiently while the private sector remains weak and its relationship with the government is constructive, proactive industrial policy has a greater chance of success.

5. International comparison

In this section a number of industrial master plans from Asian countries are compared. The structures of these master plans are graphically summarized in Figure 1. More details, including the main contents of

selected master plans, are shown in Appendix Table and Figures. It is clear that master plans have different structures depending on the sector, country or purpose. There is no single proto-type for all countries to emulate.

Figure 1. Master Plan Structure: A Comparison



Note: The structure of main text in number of pages. ES means executive summary. Care should be taken to interpret the structure of executive summary as it may not be the same as that of the full version. Meanwhile, executive summaries are sometimes used more often than the full version.

The vision and/or targets are contained in all master plans except Malaysia’s Third Industrial Master Plan for which the national vision (*Vision 2020*) is too well known among Malaysian officials and citizens to require restatement. In most cases visions and targets occupy from 5 to 15% of the entire document.

Some master plans, such as the Thai automotive (Thailand 1 and 2) and the Thai food (Thailand 3), include “action plans” in the main text while others do not. In the latter case, the reason may be due to (i) the compilation of action plans in a separate volume; (ii) the use of process-oriented action mechanism such as a high-level committee or a budget and project process as explained in Section 2-(v) above; or (iii) the fundamental lack of an action plan matrix or an action mechanism. For some master plans, such as the Thai leather (Thailand 4), the Indonesian National Industrial Development Policy (Indonesia 1), and the Indian National Strategy for Manufacturing (India 1), situation analysis and policy issue analysis are the dominant

part of the master plan.

A few selected master plans are discussed below.

- (i) *Thailand: Automotive Master Plan 2007-2011 Executive Summary*⁵—this master plan is worthy of careful study because it effectively directs the development of the Thai automobile industry which has so far been successful despite two major macroeconomic shocks (the Asian financial crisis of 1997-98 and the global financial crisis of 2008-09) which severely reduced automobile sales at home and abroad. The policy formulation and implementation process is competently coordinated by the Thailand Automotive Institute with close-knit networking among all stakeholders through the automotive master plan committee, focus groups, and CEO Forum. The essence of the master plan has a lean and simple structure as follows⁶:

Vision 2011 → 4 objectives (success indicators) → 5 strategies → 12 action plans

The executive summary, which basically has the same content as chapter 8 of the full-version document, presents this policy structure in the first four pages while the remaining pages are devoted to the explanation of the 12 Action Plans one by one. There is no situation analysis or discussion of policy issues in this executive summary. The five strategies and twelve action plans are compactly summarized in the figure below.

As noted in Footnote 3, the Thailand Automotive Institute uses the process-oriented action mechanism to execute these strategies and action plans. Various projects supported by the state budget or international cooperation are approved and mobilized to attain them⁷. Since available funds fluctuate from year to year, the exact size and scope of support measures cannot be decided in advance.

⁵ The executive summary is essentially the same as chapter 8 (entitled “automotive industry master plan 2007-2011”) of the full-version Thai document. The rest of the original document contains frameworks, situation analysis, policy making organization, and so on. In Thailand, the full text of an industrial master plan is prepared in Thai while the executive summary is produced in both Thai and English, either in one volume or in separate volumes, and uploaded in the web. Stakeholders often use executive summaries for reference and discussion. Thai officials seem to prefer a concise checklist of needed actions and a diagram to explain relationship among these actions rather than a thick document containing many supplementary materials.

⁶ Vision 2011 is “*Thailand is the automotive production base in Asia which creates more value added to the country with strong automotive parts industry.*” Also see Section 2-(i) above. Note that “action plans” here are not the same as the detailed action plan matrix discussed in Section 2-(v).

⁷ Japan assists Thailand with the Automotive Human Resource Development Program by Denso, Honda, Nissan and Toyota; dispatch of experts to universities by JODC; and cooperation with the Technology Promotion Association and the Thai-Nichi Institute of Technology.

Figure 2. Thai Automotive Master Plan: 5 Strategies and 12 Action Plans



Source: Thailand Automotive Institute, *The Automotive Industry Master Plan 2007-2011 Executive Summary*, p.4.

(ii) *Malaysia: Second Industrial Master Plan (IMP2) 1996-2005*—this master plan encompassing all manufacturing sectors in Malaysia was unique in having a clear over-arching logic and objectives which evolved around the concepts of *cluster-based industrial development* and *manufacturing plus plus* (lifting and broadening activities along the value chain). These ideas were proposed by a researcher at the Malaysian Institute of Economic Research and adopted throughout the master plan. The chapter structure of IMP2 was as follows:

Past review and macroeconomic framework → analytical framework (two concepts above)
 → 8 sectoral chapters⁸ → strategic directions (policy issues) → institutional framework (relatively weak)

In the eight sectoral chapters constituting the main body of this master plan, the same structure was repeated for each subsector as follows:

Current status → issues and challenges (SWOT) → policies and strategic direction (short term; and medium to long term)

While this master plan had lucid organization, application of the same format and the same perspective on all major industries of Malaysia was somewhat too mechanical. In addition, this master plan lacked an effective procedure to ensure implementation either in the form of an action plan matrix or a process-oriented mechanism.

⁸ Electrical and electronics; textiles and apparel; chemicals; resource-based industries; agro-based and food products industries; transportation industry (automotive, etc); materials industries; and machinery and equipment.

(iii) *Ethiopia: Leather and Leather Products (March 2005)*—This master plan has two volumes. The first volume, “Master Plan,” contains situation analysis (including SWOT and benchmarking), vision (“Top Down Approach” which means final demand-oriented policy formulation), and roadmaps of targets and required actions. The second volume, “Business Plan,” contains more detailed targets and required actions separately for footwear, leather garments, and leather goods. While this master plan contains rich information about the industry, content structure and ordering is somewhat unique and overlapping, for example, by having “targets” and “actions” in both volumes.

This master plan contains a large number of numerical targets for output, material procurement, investment, markets, capacity building, and so on, for each year and even for each month. From the viewpoint of the existing capacity and time constraint of MOTI, and also from the viewpoint of proper division between government and markets in industrial policy formulation (Section 4 above), these numerical targets may be too many and too difficult to follow in reality.

(iv) *Ethiopia: Basic Metal and Engineering (2007?)*—the content of this master plan is as follows.

General information about the industry → situation analysis → “gap analyses” (capacity vs. demand forecasts) → vision/mission/strategic objectives and goals → action plan matrix

This structure is simple and reasonably standard. Placement of general information at the outset is understandable since steel and metal engineering is a new industry for Ethiopia to promote, and basic information must be provided and shared among stakeholders. Inclusion of demand forecasts is fairly common in materials industries such as steel although it is not so common in specific metal processing industries. The main issue with this master plan is not the overall chapter design but concrete contents of its strategies, goals and action plans. More information and analyses are needed to improve policy content and ensure implementability. For example, information on material flows, alternative demand scenarios for long and flat steel consumption, feasibility of domestic iron ore and other inputs, diagnosis of individual establishments, and so on, must be prepared. Based on that information, appropriate visions, proper government domain, desired domestic production ratios, cost estimates and risk analysis, and the possible use of FDI and foreign financing, must be studied and debated.

6. Recommendations for Ethiopia

From the analyses above, the following recommendations are offered to the drafting teams of Ethiopian industrial master plans.

First, sectoral master plans for priority industries—these include both export-oriented industries and import substitution industries—should be drafted one by one over the next several years. Existing sectoral master plans should also be revised every several years to reflect new situations and enhanced policy capability. Quality, not speed of drafting, should be the most important consideration. When this process is completed will depend on the ability, funding and time constraint of the drafting teams of MOTI as well as the availability of international cooperation. Completion of all proposed industrial master plans during the PASDEP II period is desirable but not absolutely necessary.

Second, the total number of industrial master plans should not exceed 10 when the above drafting cycle is completed. The number of sectoral master plans should not be increased endlessly. More attention should be paid to executing proposed policies effectively instead of creating a large number of documents.

Third, the document size should not be too large. We recommend something like 50-100 pages. Thick documents are difficult to read or use. Compactness is achievable by careful planning and removing all analyses and discussions which do not directly support proposed policy actions. An executive summary is useful when the document is large, but if the main text is concise enough there is no need for an executive summary.

Fourth, as argued above, there are different ways to ensure implementation: (i) an action plan matrix which formally specifies required actions and a monitoring mechanism in detail and in advance; (ii) a high-level monthly committee chaired by the top leader which oversees progress and solves problems (such as the Export Steering Committee of Ethiopia); and (iii) a hub organization that effectively mobilizes “projects” through the state budget, donor assistance, and private cooperation to implement designated action plans. While (ii) and (iii) are more flexible than (i), there are also constraints. The second approach can be used for a few very important national targets (such as export performance) but not for implementing a large number of master plans. The third approach requires a competent hub organization, such as the Thailand Automotive Institute, which can navigate itself through different ministries, donors and private stakeholders. For Ethiopian industrial sectors, the most appropriate initial step may be to adopt an explicit action plan matrix of reasonable size (not too large).

Fifth, the model structure of each industrial master plan (sector-specific or issue-specific) is suggested as below. The order and relative weight of each component can be adjusted as necessary. Different industrial sectors can have different structures to reflect the uniqueness of each sector.

Introductory materials (brief)

Overview – vision, goals, positioning, significance, 5-10%

Situation analysis (review of past and current domestic situation, 20-30%

Analysis of policy issues, 20-30%

Implementation procedure (brief)

Action plan matrix, 40-45%

If the action plan matrix approach is not adopted, the last component should be deleted. Background papers containing supplementary information, such as field surveys, benchmarking, SWOT, international experiences, technical appendices, and so on, may be prepared separately from the main text.

Referenced industrial master plans

Ethiopia 1 – UNIDO and MOTI, *A Strategic Action Plan for the Development of the Ethiopian Leather and Leather Products Industry*, vol.I (Master Plan), vol.II (Business Plan), March 2005.

Ethiopia 2 – MOTI, *The Basic Metal and Engineering Industry Master Plan*, 2007?

India 1 – National Manufacturing Competitiveness Council, *National Strategy for Manufacturing 2006-2015*, New Delhi.

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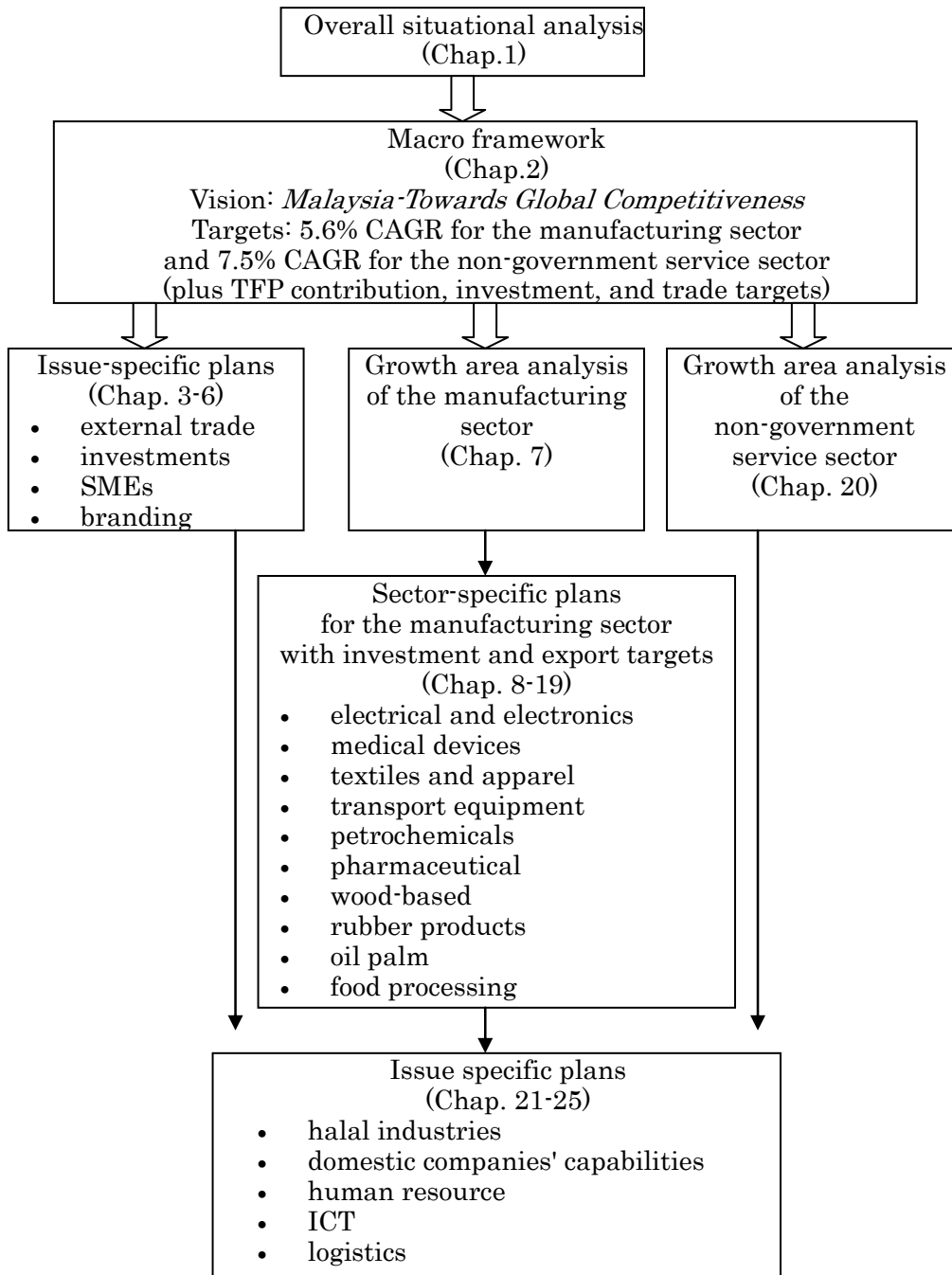
Appendix Table 1. Master Plan Structure: A Summary

Master Plan	Type	Years	Pages	Language	Contents				
					Vision	Targets	Situation analysis	Policy issues	Action plans
Malaysia: Third Industrial Master Plan	Overall	2006-2020	674	English	0.4%	4.7%	66.2%	28.6%	0%
Thailand: Automotive Industry (exec. summary)	Sector specific	2002-2006	19	English	6.7%	2.7%	0%	10.7%	80.0%
Thailand: Automotive Industry (exec. summary)	Sector specific	2007-2011	20	English	5.0%	10.0%	5.0%	0.0%	80.0%
Thailand: Automotive Industry	Sector specific	2007-2011	227	Thai	0.5%	2.5%	78.9%	0.0%	18.1%
Thailand: Small and Medium Enterprises Promotion (exec. summary)	Issue specific	2007-2011	38	English	10.0%	33.4%	43.6%	0.0%	7.7%
Thailand: Supporting Industries (exec. summary)	Issue specific	1995	38	Thai and English	6.7%	2.7%	0%	10.7%	80.0%
Thailand: Food Industry (exec. summary)	Sector specific	?	9	English	27.8%	0%	11.1%	22.2%	38.9%
Thailand: leather, leather goods and footwear industry (exec. summary)	Sector specific	10 years	6	English	3.8%	3.8%	53.8%	34.6%	3.8%
Indonesia: National Industrial Development Policy	Overall	2005-2025	238	English	2.1%	12.2%	29.8%	55.9%	0%
India: The National Strategy for Manufacturing	Overall	2006-2015	78	English	2.6%	2.6%	16.7%	78.2%	0%
India: Industrial Policy of Maharashtra State	Overall	2001-2006	10	English	10.0%	0%	25.0%	65.0%	0%

Note: Page numbers and content proportions are for the main text only; appendices are not counted. Action plans include both full action plan matrices and short listings of required actions.

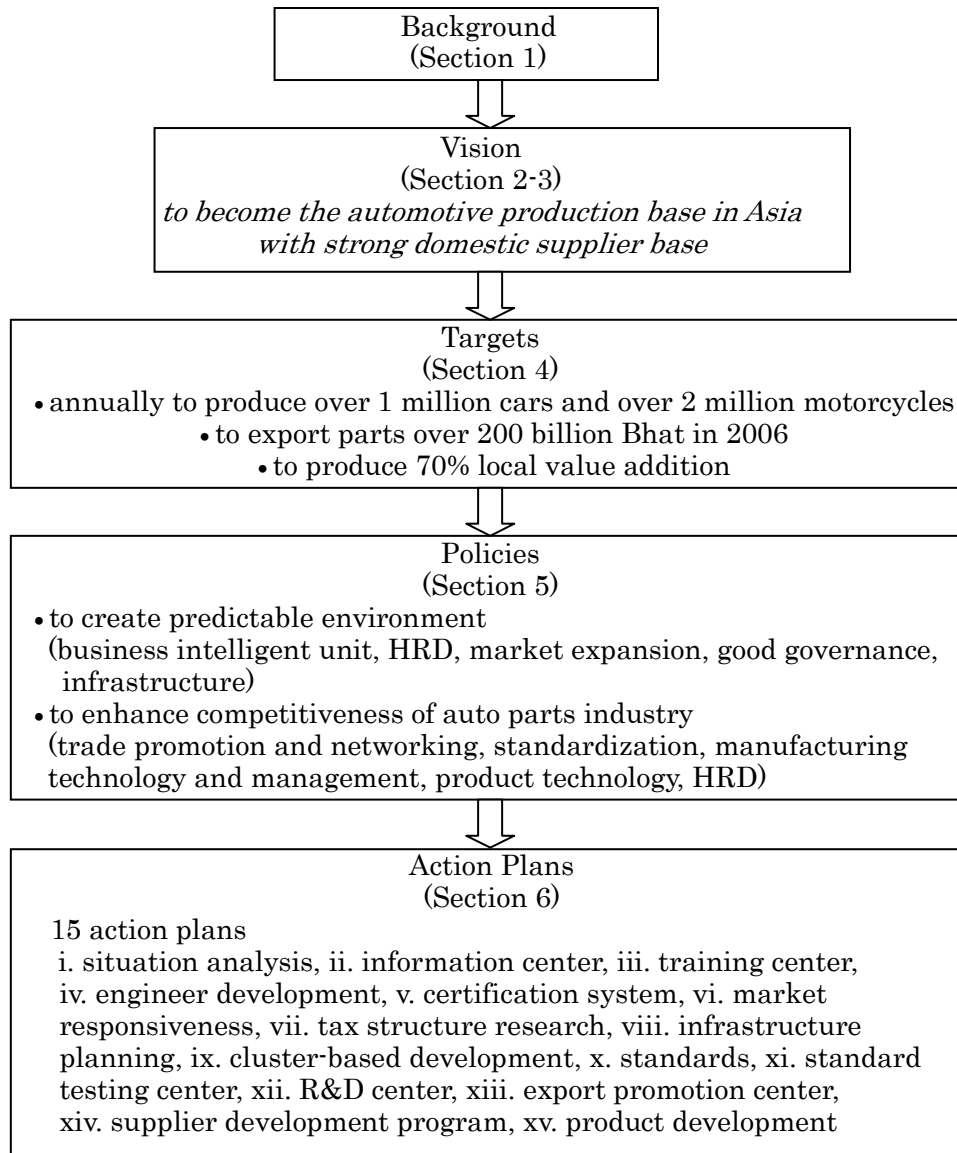
Appendix Figure 1

Malaysia: Third Industrial Master Plan (IMP3) 2006-2020



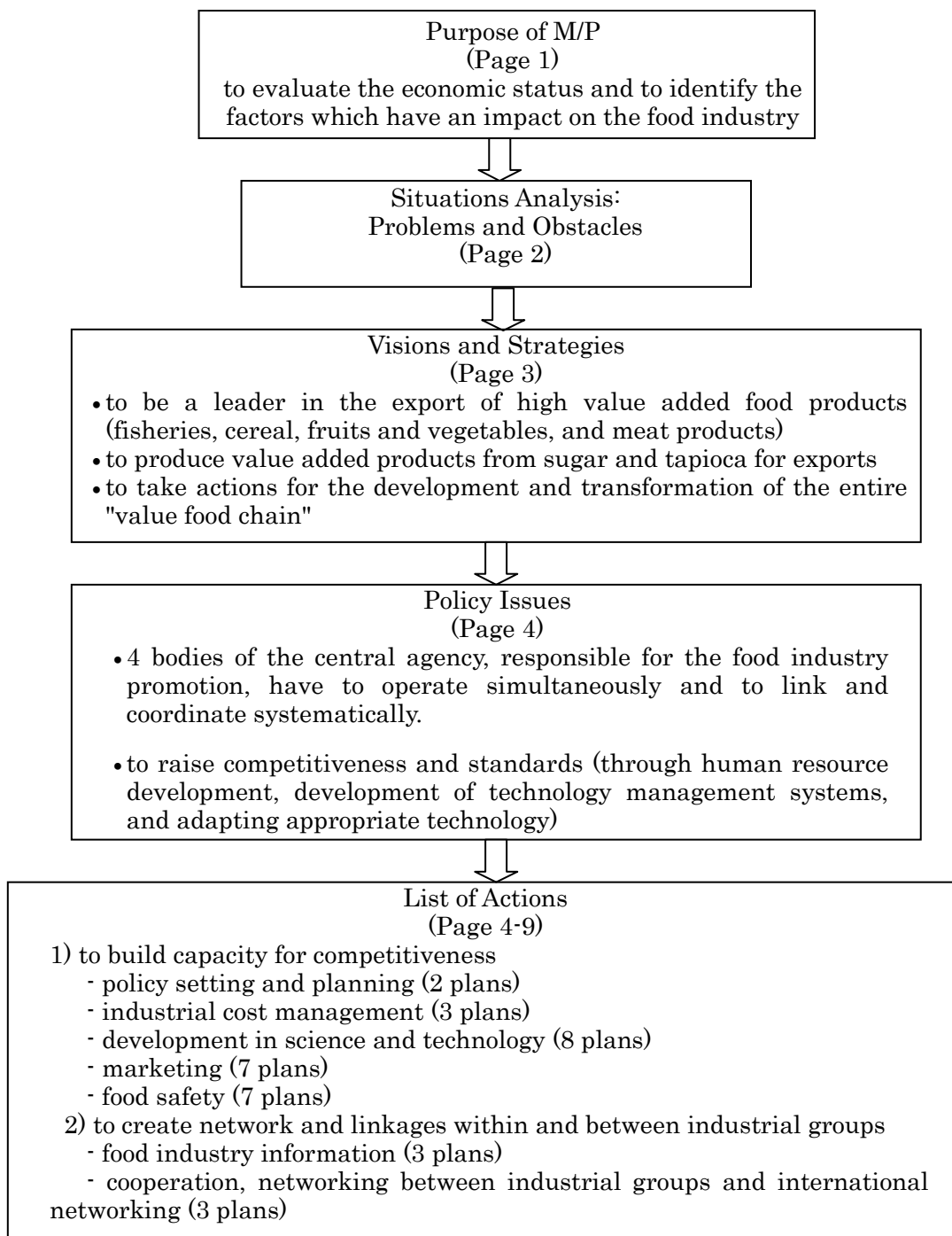
Appendix Figure 2

Thailand: Master Plan for Thai Automotive Industry 2002-2006, Executive Summary



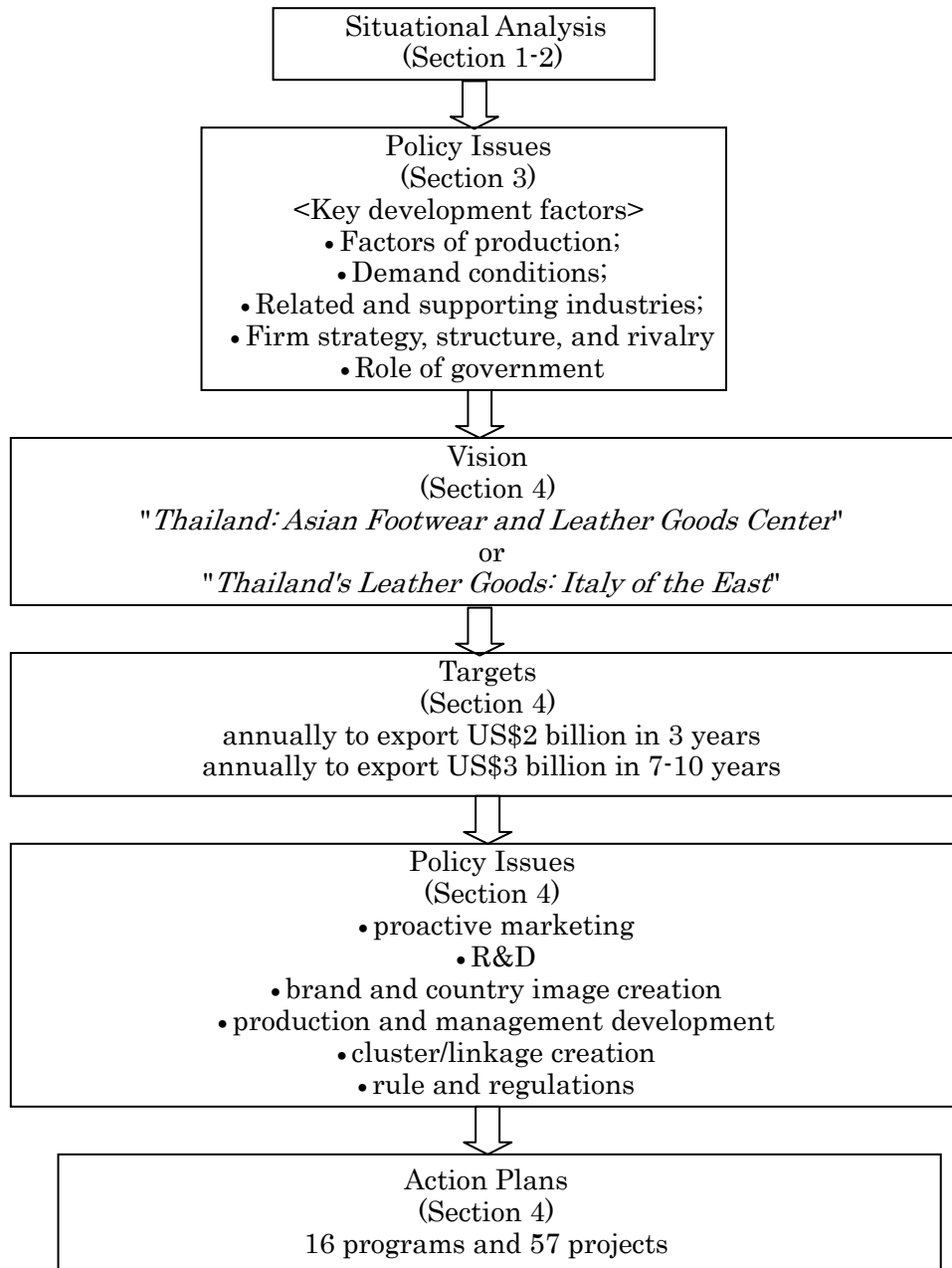
Appendix Figure 3

Thailand: Master Plan for Thai Food Industry, Executive Summary



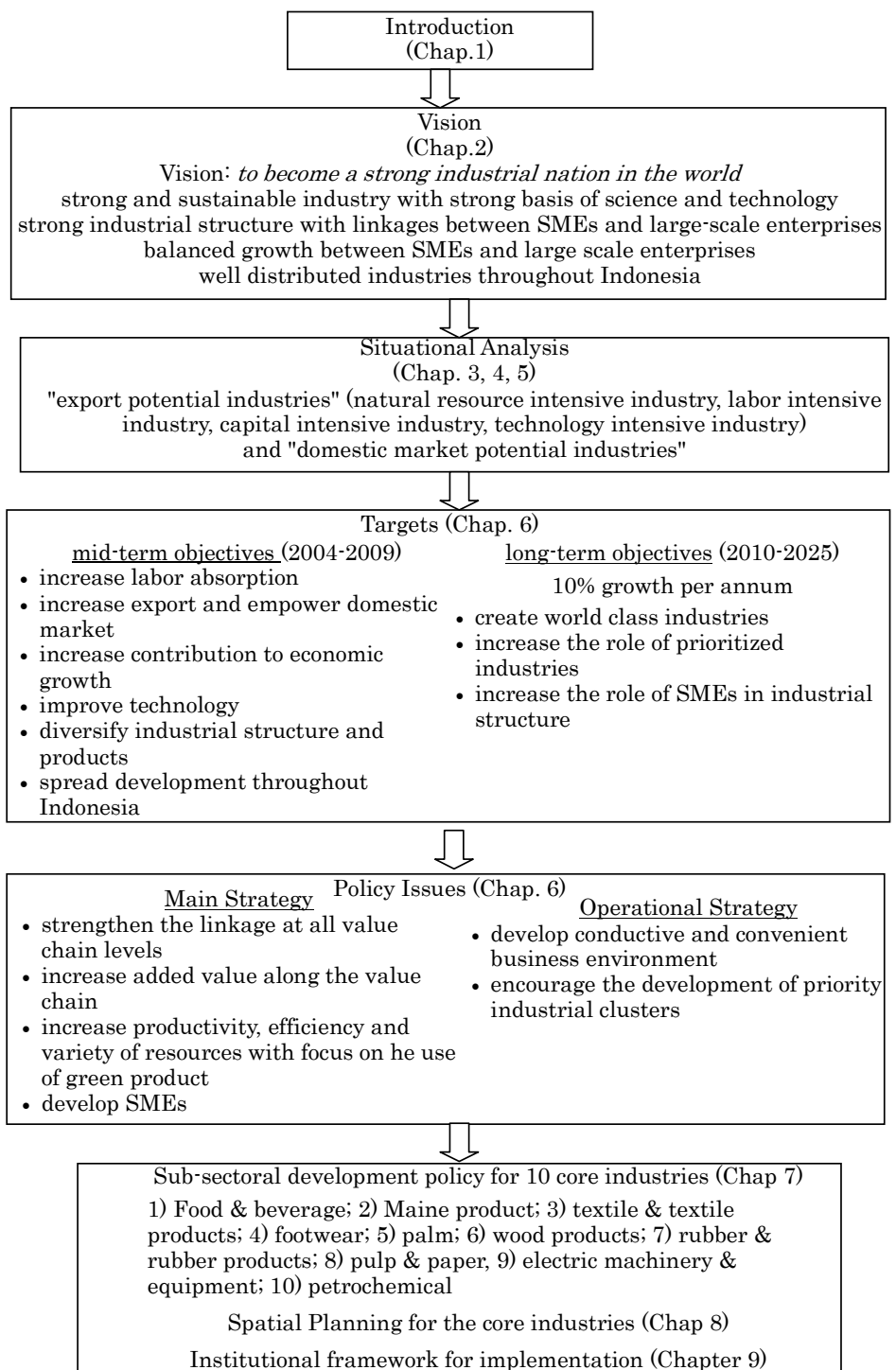
Appendix Figure 4

Thailand: Master Plan for Leather, Leather Goods and Footwear Industry, Executive Summary



Appendix Figure 5

Indonesia: National Industrial Development Policy

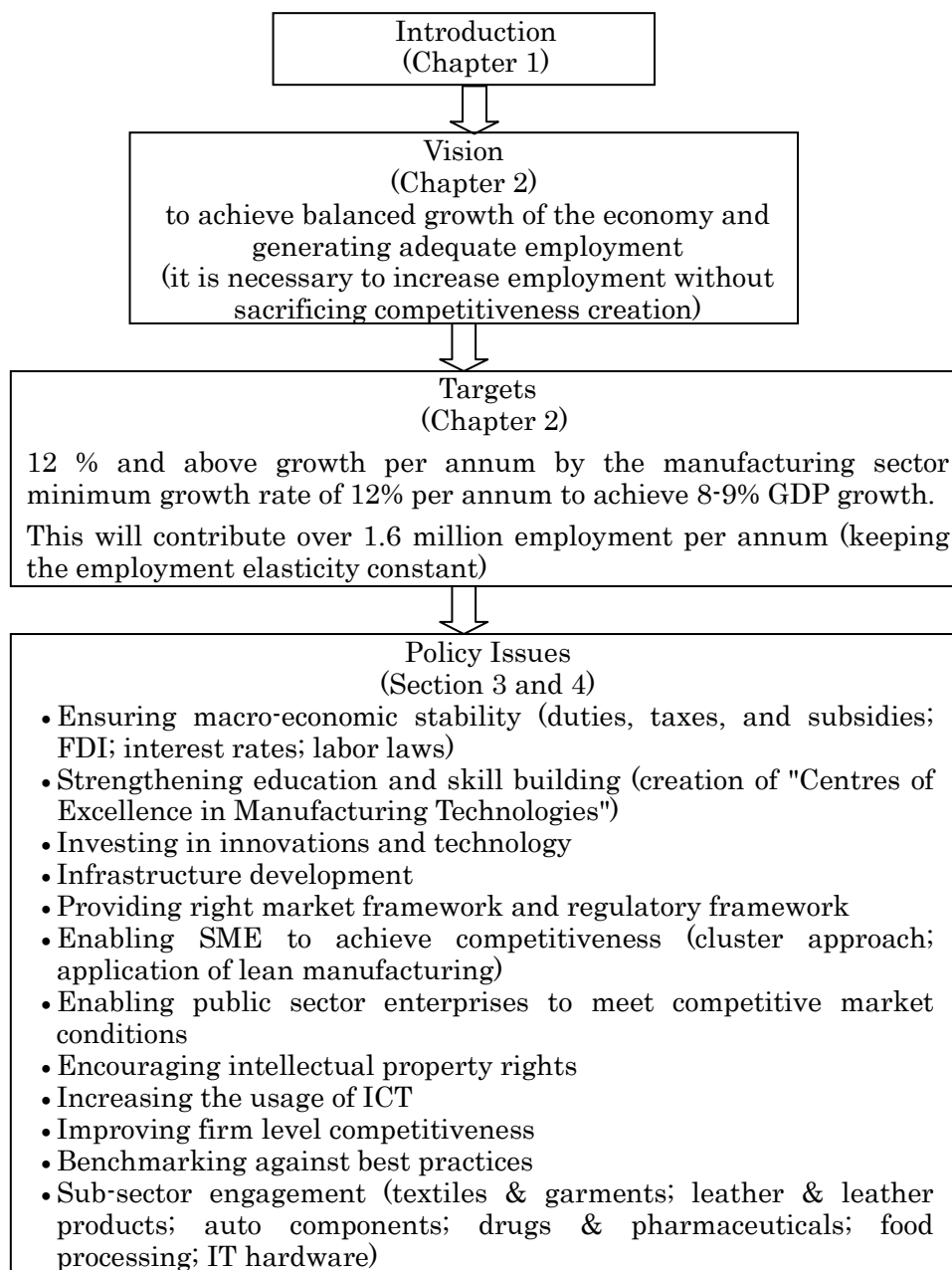


Exhibits:

- 1) analysis on international competitiveness
- 2) map for technological development for prioritized industries
- 3) export-import development (2002-2004)
- 4) projected growth 2005-09

Appendix Figure 6

India: National Strategy for Manufacturing



Appendix Figure 7

India: Industrial Policy of the State of Maharashtra

