

**Evaluation on Budget of  
Major State Basic Research Development Program Project**

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## Summary of Major State Basic Research Development Program

- Called “973 Program” in short
- Start time: started in March of 1997; executed in June of 1998
- Two types of Project: field project and basic science frontier project
- Field project: including 6 fields, namely agriculture, energy, information, resource & environment, population & health, and material. At present, 65 projects have been approved.
- Basic science frontier projects : covering mathematics, physics, chemistry, astronomy, geology and biology. At present, 13 projects have been approved.
- Term of project: typically 5 years; “2+3” rolling execution.
- 2 years after the execution, an evaluation will be conducted. The execution objectives for the later 3 years will then be adjusted according to the evaluation.
- Structure of project: 2-level structure. Each project contains several subprojects. The number of subprojects is commonly limited to 10.
- Main source of fund: special fund of major state basic research (national financial appropriation)
- Support Intensity of national financial special fund:
- Field project: commonly RMB 20~30 million per project in five years.
- Basic science frontier project: RMB 20 million or lower per project in 5 years.
- Administration authority of “973 Program”: the Ministry of Science and Technology(MST)
- Administration authority of “973 Program” fund: MST and the Ministry of Finance

## **Part One**

### **Management of Major State Basic Research Development Program and the Project Fund**

#### **1 . Main Objectives of 973 Program**

- Focusing tightly on critical topics of national economy, social development and scientific development in agriculture, energy, information, resource & environment, population & health and material, to conduct multi-subject comprehensive study and provide the theoretical criteria and scientific foundation for solving questions.
- Planning relevant important and exploring frontier basic research.
- Cultivating and training excellent talents with superior science quality and creativity addressing development in 21<sup>st</sup> Century.
- Mainly constructing certain high-standard scientific research bases able to undertake national key scientific and technological tasks and establishing several multi-subject comprehensive scientific research centers.

#### **2 . Scope and condition for establishing 973 project**

973 projects shall meet at least one of the following requirements:

- The relevant basic research shall tackle major issues in the medium and long-range development of the State and cater to the major demands of the social, economic, scientific and technological development of the State;
- The relevant basic research shall explore the basic scientific laws for the purpose of tackling major issues of the most advanced science, and shall reflect the cross-linking and comprehensiveness of disciplines;
- The relevant basic research shall occupy a place in the most advanced science in the world, giving full play to the superiority and special characteristics of China and reflecting the characteristics of the country's natural, geographical and humane resources.

973 projects shall satisfy the following requirements as well:

- Having creative academic thought, and scientific as well as feasible research

lines or technological schemes;

- Having definite and advanced research objectives with key research points stressed, capable of organizing scientists on multi-disciplines to carry out cross-link and comprehensive research into key issues;
- Having a scientific research group with top-level academic leader, active academic thought, excellent research achievements, united cooperation, and rational structure;
- Having good research conditions, capable of making full use of the existing research and working bases for the research work.

### 3 . Establishing procedure of 973 project

- **Issue guidelines:** On the basis of opinions from individual scientists and relevant departments, the MST shall work out and issue periodically guidelines to the 973 projects (or major supporting directions).
- **Submit proposals:** Scientists and relevant departments (individual or collective) shall prepare proposals according to the guidelines and submit them within the stipulated period to the MST through the units they belong (or directly).
- **Accept application:** The joint office for 973 program projects (hereinafter referred to as the joint office) shall be organized and established by the MST and the National Natural Science Foundation of China to take charge of the acceptance of project application, qualification examination, formulation of appraisal plan and organization of appraisal, etc.
- **Appraisal:** Appraisal of 973 program projects shall be carried out in the following three steps:

**Preliminary appraisal:** Preliminary appraisal shall be carried out separately in several groups according to the specific conditions of different projects, either in the form of conference appraisal or to be combined with correspondence appraisal. The joint office shall select and organize a number of experts specializing in the relevant field and with a deep understanding of the scientific issues and the application background of the projects in each group to form an expert team for preliminary appraisal of the relevant projects.

**Initial appraisal:** Initial appraisal shall be undertaken generally in the form of conference in separate groups. The expert team for initial appraisal shall be

established by the joint office and shall consist of senior experts familiar with the relevant work, and management experts may be invited if necessary. The expert team shall appraise the project proposals, listen to the reports and defenses by the person proposing the project and handle democratic appraisal before giving scientific, objective and just comments of the initial appraisal on the importance, science, feasibility, academic leader as well as the research group of the proposed projects and deciding on the order of projects in the form of nominal ballot. And the comments of the initial appraisal shall be summarized and arranged by the joint office into an initial appraisal report to be submitted to the Expert Advisory Group for examination and approval.

**Comprehensive appraisal:** The expert commission of comprehensive appraisal shall comprise of the members of the Expert Advisory Group and the representatives of the experts for initial appraisal. Chaired by the Expert Advisory Group, the conference for comprehensive appraisal shall, based on the initial appraisal report, the defenses of the person proposing the project and the opinions of the relevant departments, make comprehensive appraisal of the proposed projects through collective discussion and nominal ballot before giving comments on the project appraisal and proposing the order according to priority of the projects to be established.

- **Suggestions on project establishment:** The Expert Advisory Group shall examine and discuss the result of comprehensive appraisal and make suggestions on the establishment of 973 program projects.
- **Finalize:** The suggestions on the establishment of 973 program projects of the Expert Advisory Group shall be finalized after the examination and approval by the ministerial administrative meeting of the MST.

#### **4 . Fund management of 973 project**

The funds for 973 program projects are mainly from the special state financial allocations. The budget and the final accounts shall be worked out by the MST, and joint subsidization through multi-channels shall be encouraged. The funds shall be managed under a task system, in the form of full-amount budgeting, process controlling and full-cost accounting. The project funds must be calculated separately, with special funds for special uses. The MST shall work in conjunction with the

Ministry of Finance or authorize other agencies to carry out periodical supervision, inspection and tracking of the use and the management of the project funds; and the departments in charge of the project and the unit undertaking the project shall handle regular examination and supervision of the management and the use of the funds.

## **5 . Expenditure Budget of 973 Project**

The expenditure budget of special fund includes the preparation expense, project expenses and unpredictable expense.

- **Budget reserves**, under the management of the MST, are for expenses for project selection, tender declaration, project appraisal and project management;
- **Project expenses** refer to personnel expenses, equipment expenses, management expenses and expenses for international cooperation and exchanges and other relevant expenses occurring during the project research after the project establishment.

**Personnel expenses** refer to the service expenses for all personnel directly involved in the project research.

**Equipment expenses** refer to those for the purchase and trial-production of the instrument, equipment, samples and sample machines in the research process.

**Management expenses** refer to all expenses for organizing and supporting the project research by the unit in charge of the project, including fees charged for the use of existing instrument, equipment and houses, direct administrative personnel expenses as well as other relevant expense.

**Expenses for international cooperation and exchanges** refer to the expenses for the project researcher going abroad during the research and the expenses for foreign experts working in China.

**Other relevant expenses** refer to material expenses, fuel expenses for the project and any other direct operating expenses, etc. Apart from the above mentioned expenses.

- **unforeseeable expenses** refer to the expenses hard to predict in the budgeting of the project funds but likely to occur during the research and the expenses deriving from the price discrepancy due to the price increase in equipment and materials as well as the salary increase. The unforeseeable expenses shall be subject to the unified management and redistribution by the MST.

## 6 . Approval Procedure of 973 Project Budget

MST and the Ministry of Finance will jointly form the budget committee to examine the project budget and finalize the budget. The detailed procedure is as follows:

- **Declaration of Budget:** after establishing the project, the project executor and supporting organization shall jointly compile the project fund budget (taking the subproject as the basic unit). Upon the examination and seal of governing authority of supporting organization, the budget report, together with the project objective report, shall be submitted to MST.
- **Evaluation and Reply of Budget:** MST entrusts the National Center for Science and Technology Evaluation(NCSTE) to conduct the evaluation on the project special fund budget and provide the project budget evaluation report. The budget committee organizes the project budget reply and invites the chief scientist and financial supervisor of project to give relevant reply.
- **Submission of Evaluation Report:** according to the reply, NCSTE shall make corresponding revision and submit the formal project budget evaluation report.
- **Initial Examination of Budget:** the budget committee will examine the project budget evaluation report and initially determine the budget of project and each subproject.
- **Release and Feedback of Initial Budget Examination Result:** the budget committee will release the project budget result on various media for supervision by the public and settlement of objection and finally determine the project fund budget. The budget committee will then feedback the project budget result and subproject budget to the project executor. The project executor will provide the confirmation suggestion on each subproject.
- **Approval and Formal Issue of Budget:** the budget committee will finally determine the budget of project and each subproject. The Ministry of Finance and MST will jointly issue the fund budget of project and each subproject.
- **Implementation of Appropriation:** MST is responsible for noticing the project budget result to the supporting organization and make the appropriation according to schedule.

## 7 . 973 Project and the Budget

By July of 2000, there had been established 78 projects in “973 Program”, including



65 field projects and 13 basic science frontier projects. There are totally established 730 subprojects. The projects apply for total budget of RMB 159.102 million for former two years, including special fund budget of RMB 121.424 million. Upon the evaluation and the examination by 973 Program Budget Committee, total budget of RMB 134.913 million for former two years has been approved, including special fund budget of RMB 97.276 million. The approved special fund sum is decreased by RMB 24.148 million than the applied sum. The average decrease is 19.9%. In the total approved project special fund budget, the filed projects hold 87.9% and the basic science frontier projects hold 12.1%.

**Part Two**  
**Evaluation on the Budget of Major State Basic Research  
Development Program Project**

**1 . Consignor of Evaluation**

The Finance Department of MST is the consignor of budget evaluation of 973 Program.

**2 . Objectives of Evaluation**

The main task of evaluation is to systematically assess the policy compliance, target relativity and economic rationality. And the objective is to provide decision-making reference for the budget examination and adjustment by 973 Program Budget Committee. According to the request of consignor, it is required to make evaluation on special fund budget during a certain execution period of project. Commonly, such period selected is the former 2 years or latter 3 years, to correspond with the “2+3” rolling execution method.

**3 . Content of Evaluation**

The content of budget evaluation is the special fund budget in the project budget (including personnel expenses, equipment expenses, management expenses, international cooperation and exchange expenses, and other relevant expenses), to analyze the policy compliance, target relativity and economic rationality of budget, including the analysis of the budget of each subproject.

Table 1 Examples of 973 Project Budget Evaluation Content

Budget Item	Example of Evaluation Content
Personnel Expenses	<ul style="list-style-type: none"> <li>• Whether the researchers listed for the project are authentic and whether they have relation with the project?</li> </ul>
Equipment Expenses	<ul style="list-style-type: none"> <li>• Whether the purchased/developed equipment has relation with the project objective?</li> <li>• Whether it is possible to share the large existing equipment and not to make additional purchase?</li> <li>• Whether the quotation is reasonable?</li> </ul>
Management Expenses	<ul style="list-style-type: none"> <li>• Does the management expense meet the requirement of policy?</li> <li>• Is each direct management member necessary for the project?</li> </ul>
International Cooperation & Exchange Expenses	<ul style="list-style-type: none"> <li>• Relation of content for going abroad with the project objectives.</li> </ul>
Other Relevant Expenses	<ul style="list-style-type: none"> <li>• Whether each budget concept is correct and whether there is any overlap?</li> <li>• Whether the structure of budget corresponds with the feature of relevant field?</li> <li>• Whether the quantity, time, price and average consumption per person of materials involved in each budget is reasonable? How about the comparison with the fair expense of similar project?</li> </ul>

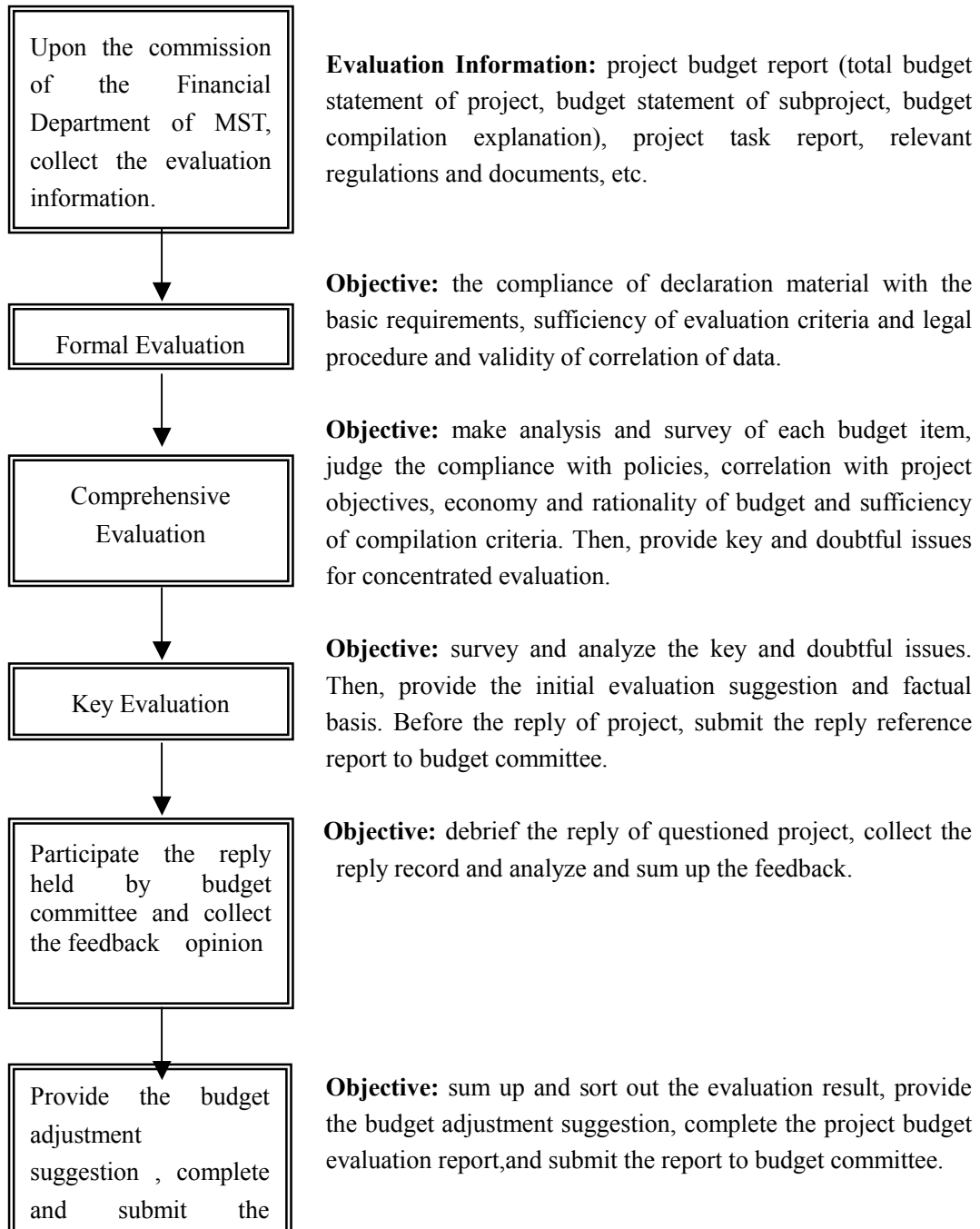
#### 4 . Principle of Evaluation

- **Clear Border:** only to assess the fund budget of project, without assessing the rationality of project objectives, technical method, supporting organization or other items for establishing the project.
- **Policy Compliance:** to strictly comply with relevant financial policy and administrative regulations.
- **Objective Correlation:** according to the project objective report, to analyze the correlation of budget with the objectives set forth for the budget period.
- **Economy and Rationality:** referring to the situation of similar research and considering the situation of China.
- **Solid Criteria:** the budget without solid criteria shall be questioned during the evaluation.
- **Reasonable Quantum and Structure:** the quantum, intensity and structure of budget shall accord with the characteristics of project and match the resource supply capacity.
- **Priority of Baseline:** if the application data is not consistent for same budget item provided by the budget compiler, the minimal data shall be adopted.
- **Reliability Evaluation:** during the evaluation of budget, analyzing and assessing the quality and reliability of compilation. The result provides basis for budget adjustment.

## 5 . Procedure and Method of Evaluation

### 5.1 Procedure of Evaluation

The budget evaluation adopts the three-step procedure, to make the formal evaluation, comprehensive evaluation and key evaluation.



## **5.2 Rule of Evaluation**

Standard rules are adopted in 973 project budget evaluation. The rules are made according to relevant policies, regulations and characteristics of R&D project expenditure, including:

- Rule of formal evaluation
- Rule of personnel expenses evaluation
- Rule of equipment expenses evaluation
- Rule of management expenses evaluation
- Rule of international cooperation & exchange expenses evaluation
- Rule of other relevant expenses evaluation
- Rule of reply

Divided also into

- Rule of policy compliance
- Rule of objective correlation
- Rule of economy and rationality
- Rule of solid criteria

## **5.3 Execution Method**

- Material examination
- Analysis of budget data
- Comparison of similar projects
- Expert consultation
- Survey of governing departments
- Survey of equipment manufacturers, agents and customers
- Seminar

## **5.4 Evaluation Manual**

- NCSTE has developed the evaluation manual for 973 project budget evaluation as reference by evaluation participators to standardize the activity and quality of evaluation. This manual has been recognized by the budget committee.
- The manual includes the evaluation task, objective, principle, criteria, content frame, rule, procedure, execution method, quality control and report format, etc.
- The manual has been adopted in three evaluation activities which cover totally 78 projects.