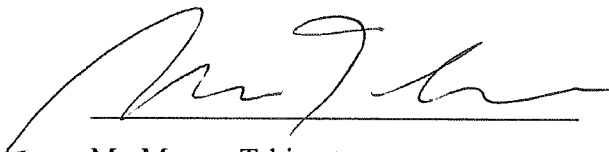


ATTACHMENT

JOINT MID-TERM EVALUATION REPORT
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT ON THE REDUCTION OF SEISMIC RISK
FOR BUILDINGS AND STRUCTURES

Bucharest, March 17, 2005



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ABBREVIATIONS

Center	The National Center for Seismic Risk Reduction, Romania
C/P	Counterpart
INCERC	Building Research Institute, Bucharest
JICA	Japan International Cooperation Agency
MLIT	Ministry of Land, Infrastructure and Transport, Japan
MLPTL	Ministry of Public Works, Transports and Housing, Romania
MLPAT	Ministry of Public Works and Territorial Planning, Romania
MTCT	Ministry of Transport, Construction and Tourism, Romania
NILIM	National Institute for Land and Infrastructure Management, Japan
NCSRR	The National Center for Seismic Risk Reduction, Romania
ODA	Official Development Assistance
PDM	Project Design Matrix
The Project	The Project on the Reduction of Seismic Risk for Buildings and Structures in Romania
UN	The United Nations
UTCB	Technical University of Civil Engineering Bucharest



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Introduction

0-1. Objectives of the Evaluation Study

- (1) To verify the actual result compared to the plan (result of inputs, result of activities and achievement of the Project purpose) and to assess the performance of the Project.
- (2) To judge the value of the Project based on the “Five Evaluation Criteria”, that are;
Relevance, Effectiveness, Efficiency, Impact and Sustainability.
- (3) To draw useful recommendations to the Project and lessons learned from the Project.
 - Recommendations to the implementing people and stakeholders of the Project to improve or strengthen the performance and effect.
 - Lessons learned for planning, implementing and evaluation of future projects

0-2. Members of the Joint Evaluation Team

(1) The Romanian team

- Leader Dr. Radu Vacareanu, Director, NCSRR
- Member Dr. Tudor Postelnicu, Head of Division I, NCSRR
- Member Dr. Alexandru Aldea, Head of Division II, NCSRR
- Member Dr. Cristian Arion, Head of Division III, NCSRR
- Member Dr. Emil-Sever Georgescu, Head of Division IV, NCSRR

(2) The Japanese team.

- Leader Mr. Masaru Takimoto, Japan International Cooperation Agency
- Member Dr. Isao Nishiyama, Ministry of Land, Infrastructure and Transport
- Member Mr. Harunobu Murakami, Ministry of Land, Infrastructure and Transport
- Member Ms. Ai Yamazaki, Japan International Cooperation Agency
- Member Mr. Michiyuki Kemmotsu, Chuo Kaihatsu Corporation

0-3. Schedule of the Evaluation Study

From March 14, 2005 to March 18, 2005

(JICA dispatched a consultant member from March 7, 2005 to Romania for the preparatory works such as collecting information and data)

Chapter 1. Outline of the Project

1-1 . Background of the Project

Romania is a country in Europe that is notorious for earthquakes. In its history it has often been damaged by great earthquakes, which damage has concentrated in particular at the capital city, Bucharest.

On March 4, 1977, an earthquake of moment magnitude 7.5 occurred in Vrancea County. At this time, most of the damage was concentrated in Bucharest. It was recorded that 1,578 people (1,424 people in Bucharest) were killed and the cost of the damage was 2 billion dollars (2/3 of that in Bucharest). Moreover, 1.4 billion dollars of this sum, which was 70 percent of the total loss were caused by building collapse.

Seismologists are forecasting that another earthquake of the comparable magnitude as the great earthquake of 1977 will occur in the near future, based on the analysis of the recurrence period. The Romanian government considers it important to retrofit fragile buildings that might collapse due to the predicted earthquake in Bucharest. If the recent action for retrofitting the buildings by the Romanian government is looked at, following a government ordinance, buildings were classified in to four categories (I-IV) according to the seismic risk level, and 122 buildings in Bucharest were recognized as Class I (most susceptible to be damaged by earthquake). In regard to these buildings, a more detailed inspection was implemented. After seeing the results, Ministry of Public Works, Transports and Housing (MLPTL)¹ declared its intention to gradually put the retrofitting scheme for the 122 buildings into practice. However, there are no cost/time effective retrofit techniques available in Romania. Also, as the basic data for grounding proper seismic design have not been accumulated/analyzed in depth, the appropriate seismic design method for retrofitting, which is prepared based on the data, has not been developed.

In August 1998, at the initiative of UTCB, the Romanian government through MLPAT² requested the Japanese Government to dispatch some experts of earthquake engineering. Then the several schemes of cooperation, such as exchange of experts, etc. has been made, and on August 1, 2002, the Record of Discussions were signed between H. E. Mrs. Ileana Tureanu, the Secretary of State,

¹ The ministries were reorganized. and MLPTL now becomes Ministry of Transport, Construction and Tourism (MTCT)

² MLPAT reorganized to MLPTL in 2001.

MLPTL, Romania and Mr. Junichi Murakami, Leader of, Japanese Project Design Team, Japan International Cooperation Agency (JICA), Japan and the Project on the Reduction of Seismic Risk for Buildings and Structures started from October 1, 2002 with the planned period of 5 years until September 30, 2007.

1-2. Summary of the Project

The summary of the Project as written in the Record of Discussion August 1, 2002, is as follows;

1) The Overall Goal

Measures against earthquake-induced disasters in Romania are strengthened.

2) The Project Purpose

Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved.

3) Outputs

1. Effective and low-cost retrofit techniques are developed by Center³ and acquired by structural engineers.
2. Regulations/ codes concerning seismic issues for both new buildings and existing ones are improved by MLPTL and Center.
3. Post- earthquake evaluation techniques of the damaged buildings are developed by Center and acquired by structural engineers.
4. Disaster prevention education for the citizens is improved by Center.

1-3. Target Building

A JICA Project Advisory Mission was conducted in September 2004, and at the Joint Coordination Committee held on September 7, 2004, the importance of retrofitting not only the buildings built before 1940 but also the soft story buildings built in 1960s was recognized. The Romanian side and Japanese side both agreed to expand the target buildings of the Project to the buildings built after 1940 until 1977 with special focus on soft story buildings.

³ The National Center for Seismic Risk Reduction (NCSRR) was established under MLPTL in 2002. Its main purpose is to implement the Romanian-Japanese Project.

Chapter 2. Methodology of Evaluation

2-1. Methodology of Evaluation

The evaluation study was conducted by the Joint Evaluation Team consisting of Japanese members and Romanian members. The Japanese members were nominated by JICA and the Romanian members were nominated by NCSRR. The evaluation was conducted based on the “JICA Guidelines for the Project Evaluation, revised version of March, 2004”. JICA Guidelines follow mostly “the Principles for Evaluation of Development Assistance, 1991 “ issued by the Development Aid Committee (DAC) of the Organization of Economic Cooperation and Development (OECD) and consists of three parts, namely;

- (1) Verification of the project performance comparing the actual results of the Project with the project design summarized in the Project Design Matrix (PDM).
- (2) Value judgment of the Project from the viewpoints of the five evaluation criteria: relevance, effectiveness, efficiency, impact and sustainability.
- (3) Recommendations for the future of the Project and Lessons learned from the Project for the planning and implementation of other Projects.

In order to conduct the evaluation survey, two evaluation grids, Performance Grid and 5-Criteria Evaluation Grid, were made in advance to clarify what data or information are needed. The grids were filled through the examination of the reports and records of the Project, the findings from the interviews as well as questionnaire survey to the Japanese experts and to the Romanian counterpart personnel and other related organization officials, and the direct observations of the laboratory.

2-2. Criteria of Evaluation

The Team reviewed all the activities and achievements and evaluated the Project based on the following five criteria:



(1) Relevance

An overall assessment of whether the Project purpose and overall goal are in keeping with the donor policy and with recipient needs and priorities.

(2) Effectiveness

A measure of whether the Project purpose has been achieved. This is then a question of the degree to which the outputs have contributed towards achieving the intended Project purpose.

(3) Efficiency

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A measure of the production of outputs (results) of the Project in relation to the total inputs of resources. In other words, how economically various inputs have been converted into outputs.

(4) Impact

The positive and negative changes for the society that have been produced directly and indirectly as the result of the Project, which were foreseen and unforeseen consequences.

(5) Sustainability

An overall assessment of the extent to which the positive changes achieved by the Project can be expected to last after the completion of the Project.

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Chapter 3 Performance of the Project

Performance of the Project (Inputs, Activities, Objectives, Process) is shown in Annex 3. 5-Criteria Evaluation Grid.

3-1. Inputs to the Project

The planned inputs and the actual inputs made so far are shown in Annex 2. Performance Grid. Generally, both Romanian and Japanese Inputs are appropriately made in accordance with the plan and were effectively used for the Project activities.

3-2. Outputs of the Project

The planned outputs and the actual outputs appeared so far are also shown in Annex 2. Outputs have been appearing generally in accordance with the plan and it is likely that all the planned outputs will appear by the end of the project period. In order to measure the degrees of the progress, indicators were set in PDM but Joint Evaluation Team found it difficult to measure the degree using those set indicators as the tool for measuring the degree of the progress. The recommendation to revise the indicators will be made later in this report.

3-3. Achievement of the Project Purpose (Forecast)

As the tool to measure the achievement degree of the Project Purpose, that is, "Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved" the following four indicators were set in PDM;

- (1) Number of buildings/ housing units retrofitted by technology introduced by Center, and number of residents and users of the buildings/ housing units
- (2) Number of buildings/ housing units that are expected to be designed based on technical manuals or regulations introduced by Center, and the number of residents and users of those buildings/ housing units
- (3) Level of the structural engineers' skills on post- earthquake evaluation for earthquake-damaged buildings
- (4) Disaster prevention preparedness of citizens.

The Joint Evaluation Team observed that the Project has been making steady progress towards the Project Purpose, but found it very difficult to measure the degree of the progress using the above indicators. For, example, the indicator 1 would largely depend on factors outside the project scope. The recommendation to revise the indicators will be made later in this report.

Chapter 4. Evaluation Results

The analysis of the Project by 5 evaluation criteria is shown in Annex 3. 5-Criteria Evaluation Grid. The followings are the summary of the analysis.

4-1 . Relevance

The description of the Project Document, stating that the Project has the Relevance, is still valid. The Japanese Prime Minister H.E. Junichiro Koizumi expressed in his address to the UN World Conference on Disaster Reduction (WCDR), held in January 2005, that Japan should initiate international cooperation in disaster reduction. H.E. Laszlo Borbely Romanian, Minister Delegate for Public Works and Territory Planning, chaired the cluster 4 (Reducing the Underlying Risk Factors) in the said Conference (WCDR). The Hyogo Declaration adopted on the last day of the said conference states that disaster risks are a disincentive for sustainable socio-economic development, and emphasize the importance of disaster prevention and preparedness. So, the project is consistent with the national policy of Japan and of Romania.

The implementing system to establish NCSRR under MTCT as the implementing agency of the Project, with the two major research centers of earthquake engineering in Romania, INCERC and UTCB as the cooperating agencies, is appropriate. The approach of the project setting the target as improvement and dissemination of technology for retrofitting earthquake vulnerable housing units in Bucharest city is also appropriate.

However, the following problem was identified.

PDM set “Number of buildings/ housing units retrofitted by technology introduced by Center” as the main indicator for the measurement of the achievement degree of the Project Purpose. It is difficult to set the target on number of buildings/ housing units retrofitted by technology introduced by Center, as this depends so much on the factor outside the scope of the Project.

4-2. Effectiveness

It is sure that the Project is making progress towards the achievement of the Project Purpose and the Outputs of the Project is contributing for it. The project is effective in that sense. However, as the target figures of indicators are not shown and it is difficult to judge whether the Project Purpose will be achieved or not. Thus the effectiveness is not clear either.

4-3. Efficiency

Both Romanian and Japanese inputs were generally made appropriately in accordance with the plan

and contributed effectively to the achievement of outputs. Efficiency of the project is rather good. It will become more efficient if the following problems are solved.

It has 13 full-time staff and 17 part-time staff and 3 key positions out of 6 are occupied by part-time staff who has their specific other jobs in INCERC and in UTCB. The above mentioned fact reduces the efficiency of communication with the Japanese experts.

Indicators for the Project Purpose and for the Project Outputs are not clear. This makes monitoring of progress difficult.

4-4. Impacts

The Project has impact on the overall goal, i.e. "Measures against earthquake- induced disasters in Romania are strengthened." However the indicator for the Overall Goal is not clearly set and it is difficult to predict when it will be achieved.

The new ordinance which requires agreement of the majority of, not all of, residents for retrofitting (issued in August 2003) is one of the important impacts of the project.

No negative impacts are observed.

4-5. Sustainability

Earthquake disaster reduction is one of important issues of Romania and the new government of Romania is expected to the support to the project at least as made by the previous government. Ability of each counterpart staff is high. However, NCSRR is an organization established with the purpose to implement mainly the Romanian-Japanese Project. The current frame of the project, NCSRR as the implementing agency with UTCB and INCERC as the cooperating agencies is good during the project period.

Chapter 5. Conclusion

It is highly evaluated that the Project is making progress towards the achievement of the Project Purpose. Inputs to the Project by both Romanian and Japanese sides such as personnel, equipment, facilities, trainings, etc., and the activities implemented by the Project are effectively contributing to the smooth progress. Among all, the support and cooperation from the related organizations, MTCT, UTCB and INCERC of Romania and JICA, Building Research Institute and NILIM/MLIT of Japan facilitated the progress of the Project to a great extent.

In implementing the Project, the establishment of objective and indicators, the formulation of structure, and the preparation of facilities are the basis. Common recognition among related persons to the Project is the most important issue.

With respect to what extent the project should conduct the necessary activity for the purpose of the technology developed in the Project being applied to the actual buildings and housings, different related person has different opinion, such as to endorsement of manuals, to actual design, and application to actual buildings and housings.

Even the Mid-term Evaluation Team encountered different understandings, the scope was to establish a common understanding for the purpose of the Project.



Mid-term evaluation team understood what the project purpose is as follows;
After developing the manuals on (i) seismic evaluation, (ii) retrofit design, (iii) retrofit construction method, (iv) input ground motion, and (v) new seismic design, those are endorsed as official and effect manuals by MTCT. In addition, the contents of those manuals shall be disseminated to the engineers through seminars or training courses. Furthermore, in order that, especially the retrofit design technology for existing buildings in the said contents is applied to vulnerable buildings and housings soon, the dissemination activity toward owners of buildings and housings shall be conducted.

For the dissemination activity to owners of buildings and housings, there is not a clear method to measure the effectiveness appropriately. Considering these points, the current indicators of the results may be almost relevant. But in this case, each indicator needs clear target value. In particular, with respect to the extent of the usage of facilities (the number of experiment, the number of data), only micro tremor observation shows both target value and present value, and strong motion observation does not show target values because of the unpredictable characteristics of earthquake occurrence. Also, with respect to the structural experiment (column and wall), borehole drilling (location, depth, specimen, the number of experiment), it is necessary to set up the target value for the proper management of the project progress.

The mid-term evaluation team reviewed the periodical report issued every 6 months, which is an in-house one and is not released outside. But it includes contents being worth of publication as the NCSRR Report. In this case, the serial number should put on the said Report, which improves public relations of the NCSRR and dissemination of NCSRR's technology. The mid-term evaluation team was informed about the publication of several papers in national and international conferences presenting results of NCSRR activities. Nevertheless, the evaluation team suggested to improve the publishing activities and the following contents might be considered for publication.

- 1) Introduction of capability of facilities in the NCSRR
- 2) Prompt report of record of micro tremor observation
- 3) Prompt report of record of strong motion observation
- 4) Test result of soil collected at the core boring
- 5) Prompt report of structural experiments
- 6) Technical documentation for engineers and pamphlets for citizens

It is obvious that the main indicator of the achievement of the Project Purpose (number of buildings/housing units retrofitted by technology introduced by Center) will not be attained even if all the planned outputs of the Project are obtained and the level technology of structural engineer and awareness of citizens are improved. Although this project is a technical cooperation project, not a project actually implementing retrofitting works, the technologies introduced by the Center need to be verified at actual field in order to be disseminated. It must be studied what measures can be taken by the Center, as well as by MTCT and JICA, in order that the technology developed is to be applied to a certain actual retrofitting site(s) and all the related organization are required to take the possible measures effective.

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Chapter 6. Recommendations

(1) The Project should conduct detailed design for actual retrofitting work on vulnerable buildings using the technology developed by the Center. The current activities are surely effective for the achievement of the Project Purpose, but not effective enough. In order to strengthen the achievement of the project purpose, it is required that the developed technology is verified through its application to actual retrofitting work. This is not an easy task and utmost efforts by all parties concerned are required.

It is recommended that all parties, especially NCSRR, MTCT and JICA, shall study what is needed and what can be done and every parties concerned shall do whatever effective and possible.

(2) NCSRR and partner institutions should work together with MTCT to create the legal framework for continuous training of technical experts and certified engineers. MTCT and UTCB should issue legal certificates for participants in technical seminars and/or courses organized by NCSRR, UTCB and INCERC.

(3) The Project should involve MTCT personnel in charge of disaster preparedness of citizens to the activities of Division 4.

(4) The Project should publish the achievements of the Project, such as reports and experimental data.

(5) MTCT should propose to the Ministry of Culture to review the criteria used to list of the buildings of architectural importance of which the façade cannot be altered by outside retrofitting.



(6) The current scheme of the project implementation, NCSRR as the responsible organization for implementation of the project with the cooperation by UTCB, INCERC and JICA will function well at least during the project period. However, the scheme after the project period to continue the activities aiming toward the achievement of the Overall Goal is not clear. It is recommended that the future scheme shall be studied and agreed by the parties concerned at the latest by the end of March 2007 (6months before the termination of the project).

(7) State of the art equipment was donated by JICA to the NCSRR, Japanese experts were dispatched to Romania for installation and operation and C/Ps were trained in Japan in order to use the mentioned facilities. It is strongly recommended to efficiently use the equipments towards achieving the purpose

of the Project.

(8) Revision of PDM

PDM shall be amended as shown in Annex 1b.

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Names of the Project: The Project on Reduction of Seismic Risk for Buildings and Structures **Main Target Group: Civilians in Bucharest, Romania**

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Measures against earthquake-induced disasters in Romania are strengthened.</p> <p>Project Purpose Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved.</p>	<p>1. Number of citizens who are expected not to be injured and/or killed by earthquake damage 2. Value of economic losses that are expected to be prevented from earthquake damage</p> <p>1. Number of buildings/ housing units retrofitted by technology introduced by Center, and number of residents and users of the buildings/ housing units 2. Number of buildings/ housing units that are expected to be designed based on technical manuals or regulations introduced by Center, and the number of residents and users of those buildings/ housing units 3. Level of the structural engineers' skills on post- earthquake evaluation for earthquake-damaged buildings 4. Disaster prevention preparedness of citizens</p>	<p>1. MLPTL/ Center report or survey report 2. Survey report</p> <p>1-1. Report explaining number of retrofitted buildings, issued by MLPTL and other ministries 1-2. Questionnaire survey to contractors 2. Report explaining number of buildings that will be constructed by MLPTL and other ministries 3. Questionnaire survey of seminar effect to the seminar participants 4. Questionnaire survey of seminar effect to the seminar participants</p>	<p>Veri -Residents and users' consensus on retrofitting works will be obtained. -Building structure is properly maintained by the residents. (Residents do not damage or remove structural elements.) -Other concerned ministries owning 1st class importance buildings finance retrofitting works.</p>
<p>Outputs 1. Effective and low-cost retrofit techniques are developed by Center and acquired by structural engineers. 2. Regulations/ codes concerning seismic issues for both new buildings and existing ones are improved by MLPTL and Center. 3. Post- earthquake evaluation techniques of the damaged buildings are developed by Center and acquired by structural engineers. 4. Disaster prevention education for the citizens is improved by Center.</p>	<p>1-1. Number of examined buildings/ housing units 1-2. Number of technical manuals 1-3. Number of seminars on retrofit techniques, structural engineers attended the seminar, and evaluation of the seminar by the participants 2-1. Availability of experiment equipment and facilities (number of experiments and data) 2-2. Number of technical manuals and regulations, including draft of the new code which are newly developed or improved by Center 2-3. Number of seminars on regulations/ codes concerning seismic issues, structural engineers attended the seminar, and evaluation of the seminar by the participants 3-1. Number of technical manuals 3-2. Number of seminars on quick inspection of damaged buildings, structural engineers attended the seminar, and evaluation of the seminar by the participants 4-1. Number of seminars on earthquake disaster prevention, citizens attended the seminar, and evaluation of the seminar by the participants 4-2. Number of printed matters published by Center, and evaluation of the printed matters by citizens</p>	<p>1-1. MLPTL/ Center report 1-2. MLPTL/ Center report 1-3. MLPTL/ Center report and questionnaire survey 2-1. MLPTL/ Center report 2-2. MLPTL/ Center report 2-3. MLPTL/ Center report and questionnaire survey 3-1. MLPTL/ Center report 3-2. MLPTL/ Center report and questionnaire survey 4-1. MLPTL/ Center report and questionnaire survey 4-2. MLPTL/ Center report and questionnaire survey</p>	

<p>Activities</p> <ul style="list-style-type: none"> 1-1. To examine the building seismic performance listed in the MLPTL's retrofit projects 1-2. To support and evaluate MLPTL's retrofit projects 1-3. To study the methods of building retrofitting (strength and ductility, and displacement-based methods) 1-4. To prepare manual explaining retrofit methods 1-5. To disseminate the technical information to structural engineers by seminar 2-1. To prepare equipment and facilities for seismic structural testing 2-2. To implement experiment and analyze data 2-3. To study the methods of seismic design (shear strength and ductility, and displacement-based design) 2-4. To prepare equipment for strong-motion earthquake record (underground, free field and building) 2-5. To collect ground information (microtremor characteristic, underground soil condition) and analyze/accumulate the data 2-6. To prepare equipment and facilities for soil test/ investigation 2-7. To study the methods for soil test 2-8. To accumulate the data on earthquake intensity corresponding to ground condition 2-9. To accumulate the data on input earthquake -ground-motion to buildings 2-10. To prepare the manual of input design earthquake- ground- motion 2-11. To disseminate the technical information to structural engineers by seminar 2-12. To prepare draft of technical manuals, regulations and new codes 3-1. To collect information concerning post- earthquake evaluation techniques (quick inspection of damaged buildings and judgment of damage degree) 3-2. To prepare technical manual explaining the methods of post- earthquake evaluation techniques 3-3. To disseminate the technical information to structural engineers by seminar 4-1. To investigate disaster prevention preparedness of the citizens 4-2. To disseminate information on disaster prevention preparedness to the citizens by seminar 4-3. To publish printed matter concerning disaster prevention preparedness to the citizens 	<p>Inputs (Japanese side)</p> <ul style="list-style-type: none"> 1. Dispatch of expert experts: 3 persons -Number of long-term experts: 3 persons -Number of short-term experts: Approx. 6 persons per year <p>2. Acceptance of counterpart training: Approx. 4 persons are accepted every year</p> <p>3. Equipment provision</p>	<p>(Romanian side)</p> <ul style="list-style-type: none"> 1. Arrangement of counterparts and administrative staffs 2. Necessary budget 3. Necessary facilities 	<p>-Economic conditions of each side do not get worse. -Trained engineers remain active for ongoing projects.</p> <p>Pre-conditions -Great earthquake does not occur before the Project is completed. -Unexpected severity of earthquake is not identified</p>
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Name of the Project: The Project on Reduction of Seismic Risk for Buildings and Structures

Main Target Group: Civilians in Bucharest, Romania

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal</p> <p>Measures against earthquake-induced disasters in Romania are strengthened.</p> <p>Project Purpose</p> <p>Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved.</p>	<p>Within 5 years after the completion of the Project, number of housings evaluated and retrofitted as well as newly built using the outcomes of the Project will increase to such extent that is satisfactory to stakeholders (including administrative agency, academic institution, professional association)</p> <p>1. By the end of the Project period (September 30, 2007), technology introduced by Center will be incorporated in the detailed design of retrofiting for one or more buildings built before 1940 and for one or more buildings built after 1940.</p> <p>2. By the end of the Project period, technical manuals and guidelines for seismic evaluation and retrofiting as well as input ground motion will be endorsed by the Romanian authorities.</p>	<p>1.MTCT/ Center report or survey report</p> <p>2.Survey report</p>	<p>Residents and users' consensus on retrofiting works will be obtained.</p> <p>-Building structure is properly maintained by the residents. (Residents do not damage or remove structural elements.)</p> <p>-Other concerned ministries owning 1st class importance buildings finance retrofiting works.</p>
<p>Outputs</p> <p>1. Effective and low-cost retrofit techniques are developed by Center and acquired by structural engineers.</p> <p>2. Regulations/ codes concerning seismic issues for both new buildings and existing ones are improved by MTCT and Center.</p> <p>3. Post- earthquake evaluation techniques of the damaged buildings are developed by Center and acquired by structural engineers.</p> <p>4. Disaster prevention education for the citizens is improved by Center.</p>	<p>1-1. Not less than 1 technical manual on effective and low-cost retrofit techniques are developed (1 manual including retrofiting works)</p> <p>1-2. Not less than 8 seminars on effective and low-cost retrofit techniques are held and not less than 400 structural engineers participate.</p> <p>1-3. Not less than 80 % of participants to the seminar are satisfied.</p> <p>2-1. Not less than 4 technical manuals on earthquake resistant design (new building or retrofiting) are newly developed or improved by Center (4 manuals include; (1) seismic evaluation of existing buildings (2) seismic retrofiting design (3) input design earthquake ground motion (4) seismic design for new building)</p> <p>2-2. Not less than 4 seminars on manuals are held and not less than 200 structural engineers participate</p> <p>2-3. Not less than 80 % of participants to the seminar are satisfied.</p> <p>3-1. Not less than 1 technical manual on post-earthquake evaluation techniques of the damaged buildings are developed (manual shall include the following subjects; (1) quick inspection of damage (2) damage degree evaluation)</p> <p>3-2. Not less than 5 seminars on post-earthquake evaluation techniques of the damaged</p>	<p>1-1. Report explaining number of retrofitted buildings, issued by MTCT and other ministries</p> <p>1-2. Questionnaire survey to contractors</p> <p>2. Report explaining number of buildings that will be constructed by MTCT and other ministries</p> <p>3. Questionnaire survey of seminar effect to the seminar participants</p> <p>4. Questionnaire survey of seminar effect to the seminar participants</p> <p>1-1. MTCT/Center report</p> <p>1-2. MTCT/Center report</p> <p>1-3. MTCT/Center report and questionnaire survey</p> <p>2-1. MTCT/Center report</p> <p>2-2. MTCT/Center report</p> <p>2-3. MTCT/Center report and questionnaire survey</p> <p>3-1. MTCT/Center report and questionnaire survey</p> <p>3-2. MTCT/Center report and questionnaire survey</p> <p>4-1. MTCT/Center report and questionnaire survey</p> <p>4-2. MTCT/Center report and questionnaire survey</p>	

Narrative Summary	Verifiable Indicators	Means of Verification	Important Vera	Assumptions
	<p>buildings are held and not less than 250 structural engineers participate.</p> <p>3-3. Not less than 80 % of participants to the seminar are satisfied.</p> <p>4-1. Not less than 5 seminars on earthquake disaster prevention are held and not less than 250 citizens participate.</p> <p>4-2. Not less than 80 % of participants to the seminar are satisfied.</p> <p>4-3. Not less than 2 printed matters on earthquake disaster prevention are published by Center (2 printed matters; (1) legal incentives for retrofitting (2) disaster preparedness).</p> <p>4-4. Not less than 80 % of citizens who read the printed matters are satisfied</p>	<p>Inputs (Japanese side)</p> <p>1. Dispatch of expert experts: 3 persons -Number of long-term experts: Approx. 6 persons per year</p> <p>2. Acceptance of counterpart training: Approx. 4 persons are accepted every year</p> <p>3. Equipment provision</p>	<p>(Romanian side)</p> <p>1. Arrangement of counterparts and administrative staffs</p> <p>2. Necessary budget</p> <p>3. Necessary facilities</p>	<p>-Economic conditions of each side do not get worse.</p> <p>-Trained engineers remain active for ongoing projects.</p> <p>Pre-conditions</p> <p>-Great earthquake does not occur before the Project is completed.</p> <p>-Unexpected severity of earthquake is not identified</p>
<p>Activities</p> <p>1-1. To examine the building seismic performance listed in the MTCT's retrofit projects</p> <p>1-2. To support and evaluate MTCT's retrofit projects</p> <p>1-3. To study the methods of building retrofitting (strength and ductility, and displacement-based methods)</p> <p>1-4. To prepare manual explaining retrofit methods</p> <p>1-5. To disseminate the technical information to structural engineers by seminar</p> <p>2-1. To prepare equipment and facilities for seismic structural testing</p> <p>2-2. To implement experiment and analyze data</p> <p>2-3. To study the methods of seismic design (shear strength and ductility, and displacement-based design)</p> <p>2-4. To prepare equipment for strong-motion earthquake record (underground, free field and building)</p> <p>2-5. To collect ground information (microtremor characteristic, underground soil condition) and analyze/accumulate the data</p> <p>2-6. To prepare equipment and facilities for soil test/ investigation</p> <p>2-7. To study the methods for soil test</p> <p>2-8. To accumulate the data on earthquake intensity corresponding to ground condition</p> <p>2-9. To accumulate the data on input earthquake-ground-motion to buildings</p> <p>2-10. To prepare the manual of input design earthquake-ground-motion</p> <p>2-11. To disseminate the technical information to structural engineers by seminar</p> <p>2-12. To prepare draft of technical manuals, regulations and new codes</p> <p>2-13. To establish a database of existing data on structural testing</p> <p>3-1. To collect information concerning post-earthquake evaluation techniques (quick inspection of damaged buildings and judgment of damage degree)</p> <p>3-2. To prepare technical manual explaining the methods of post-earthquake evaluation techniques</p> <p>3-3. To disseminate the technical information to structural engineers by seminar</p> <p>4-1. To investigate disaster prevention preparedness of the citizens</p> <p>4-2. To disseminate information on disaster prevention to the citizens by seminar (such as legal incentives for retrofitting, disaster preparedness.)</p> <p>4-3. To publish printed matter concerning disaster prevention preparedness and retrofitting to the citizens</p> <p>5-1. To select the target building for introducing new technology</p> <p>5-2. To make proposals for retrofitting the target building</p>				

Annex 2 . Performance Grid

(1) Inputs

Description of Inputs	Planned inputs	Actual inputs	Remarks
A. Inputs by Romanian side			
1. Assignment of counterpart personnel.	Secretary of State, MTCT (Minister Delegate for MLPTL since Dec.2004)	Ileana TUREANU till Dec. 2004 Laszlo BORBELY from December 2004	Ms. Tureanu have resigned due to the change of Government in December 2004. Mr. Laszlo Borbely, the Minister Delegate for the public works and territory planning is now positioning charge of the project..
1a. Supporting institutions	Vice Secretary General, MTCT	Gheorghe TOMOI/ALA	Medical leaves since January 2005
	Rector, UTCB	Dan STEMATIU	Succeeded Prof. Petre Patrut April, 2004
	General Director, INCERC	Dan LUNGU	No change since the project started.
	Director, TGDC	Cristian STAMATI/DE	No change since the project started.
1b. NCSRR staff	Director, NCSRR	Radu VACAREANU 02.10.10-	Dr. Vacareanu from the beginning through to now.
	Division 1	Currently total 5 (P3, F2)	3 Part-time C/P were assigned in November 2002. 2 Full-time C/P were added later, 1 in Sept. 03 and another in Sept. 04. In addition 2 C/Ps left the Project soon after training in Japan.
	Division 2	Currently total 7 (P5, F2)	1 Full-time and 3 Part-time C/P were assigned in November 2002. Others were added in 2003.
	Division 3	Currently total 12 (P8, F4)	1 full time (head of division)and 2 part-time C/P were assigned in November 2002. Other 7 were added in 2003.
	Division 4	Currently total 2(P2)	1 part-time C/P was assigned in November 2002 and 1 additional in April 2004.
2. Assignment of administrative personnel	Accountant	Currently 2	Assigned 1 in November 2002 but left January 03. Assigned 2 in February 2003.
	Secretary	No secretary now	Assigned two but both left. 1 02.11-03.07, 1 03.04-04.09
	Human resources	1	Assigned since November 2002
	Administrator	1	Assigned since February 2003
3. Necessary facilities	Land, buildings and facilities necessary for the Project	A part of building of INCERC was transferred to NCSRR according to Ord. No. 54/2002 and provided as the Project/NCSRR Headquarters.	Working site is divided in two places as follows. Div. 1 NCSRR Headquarter and UTCB site Div. 2 NCSRR Headquarter and UTCB site Div. 3 NCSRR Headquarter and UTCB site Div. 4 NCSRR Headquarter only
	Room and space necessary for installation and storage of equipment	The Project is also using part of office and laboratory space of UTCB at no cost.	
	Office space and facilities necessary for the Japanese experts		
	Other facilities mutually agreed upon as necessary		

Annex 2 . Performance Grid

(1) Inputs

Description of Inputs	Planned inputs	Actual inputs	Remarks
4. Necessary budget		2003: 10,006 million lei 2004: 10,420 million lei Total for 2 years 20,426 million lei	Through October to December, 2002, there were some problems as the project is started during the year and no budget was allocated beforehand. From the year 2003, there have been no problem.
Overall Inputs by Romanian			Romanian Inputs are generally in accordance with the plan and appropriate. All inputs were effectively used for the Project activities.
B. Inputs by Japanese side			
1. Long-term experts	Div. 1. Seismic retrofitting & design Div. 2. Earthquake observation and Div. 3. Soil testing Coordinator	A. Mikame 02.9.30-05.2.28. 29M T. Kaminosono 04.9.21-05.2.28. 5.27M N. Hurukawa 02.9.30-04.9.29. 24M	No long-term expert was dispatched in soil testing investigation. Since September, 2004, two experts were dispatched in Seismic retrofitting division.
2. Short-term experts	Total 3 experts About 6 experts per every fiscal year.	I. Tojo 02.9.30-05.2.28. 29M Total 4 experts 68.27MM	Structure 1 Structure 3. Seismic Motion 2 Structure 4. Seismic Motion 1, Soil Test 3
3. Training of counterpart personnel in Japan and other country	Approx. 4 trainees per year	JFY2002(02.10-03.03) 1 expert JFY2003(03.04-04.03) 5 experts JFY2004(04.04-05.03) 8 experts Total 14 experts	(In case dispatched through two fiscal years, counted in the first year only) Structure 3, Soil Test 1, Administration 3, IISEE 1, 3 rd Country Training 1 Structure 2, Seismic Motion 1, Soil Test 1, IISEE 1, 3 rd Country Training 2 Structure 2, Seismic Motion 1, Soil Test 1, Administration 1, Public Education 2, IISEE 1, 3 rd Country Training 3
4. Provision of equipment	Equipment for strong ground motion observation Equipment for soil testing and ground investigation Equipment for structure experiment	Total 27 trainees JFY2002 JKY37,776 (Center) JFY2003 JKY103,784 (UTCB) JFY2004 JKY8,563 (UTCB) Total 150,123 thousand Japanese yen	(In case dispatched through two fiscal years, counted in the first year only) Equipment for strong ground motion observation and Equipment for soil testing and ground investigation were delivered in May, 2003. Equipment for structure experiment was installed in May 2004. 10 Technician in total was dispatched for installment.
5. Operating expenses	1,000 Japanese Yen	Ordinary Expenses Special Expenses Total	Break down of Special Expenses
	JFY2002(02.10-03.03)	1,800	International Seminar 800
	JFY2003(03.04-04.03)	3,000	Rapid evaluation network.1,380
	JFY2004(04.04-05.03)	3,312	Education video 766. Extension seminar 572. Rapid evaluation network 858
	Total	8,112	12,488

Annex 2. Performance Grid

(1) Inputs

Description of Inputs	Planned inputs	Actual inputs			Remarks
	JFY2005 (Budget)	3,312	1,091	4,403	
Overall Inputs by Japanese Side					Extension seminar 572. Conference (Russia and Greece) 519 Japanese Inputs are generally in accordance with the plan and appropriate. All inputs were effectively used for the Project activities.

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
1.Effective and low cost retrofit techniques are developed by Center and acquired by structural engineers.	1-1. To examine the building seismic performance listed in the MTCT's retrofit projects	02.10-03.03 RO version of Report on 1 st and 2 nd Screening Method of Japanese Seismic Evaluation Method (1-1.1-4.1-5) Annual report on Technical Assistance for MTCT Retrofitting Projects (1-1.1-2) 03.04-03.09 RO version of Report on 3 rd Screening Method of Japanese Seismic Evaluation Method (1-1.1-4.1-5) 03.10-04.03 Report on Applicability of the Japanese Seismic Evaluation Method to Romanian Buildings (1-1.1-4.1-5) Annual report of technical assistance for MTCT Retrofitting Projects (1-1.1-2) 04.04-04.10 Framework of the Manual for Seismic Evaluation of Buildings in Romania (1-1.1-4.1-5)	This activities shown in the left column were completed already. Further improvement will be continued till the end of the project. All the planned activities will be completed by the end of the project
	1-2. To support and evaluate MTCT's retrofit projects	02.10-03.03 Annual report on Technical Assistance for MTCT Retrofitting Projects (1-1.1-2) 03.04-03.09 03.10-04.03 Annual report of technical assistance for MTCT Retrofitting Projects (1-1.1-2)	This activities shown in the left column were completed The 3 rd short-term expert is now dispatched. In the past the detailed study was difficult due to lack of required information on the existing buildings. Some information were obtained on a certain building and it is expected that he can discuss the detailed plan of retrofitting with CPs, design engineers, etc Another seminar introducing Japanese new retrofitting technology was held in February 2005. All the planned activities will be completed by the end of the project

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	<p>1-3. To study the methods of building retrofitting (strength and ductility, and displacement-based methods)</p>	<p>02.10-03.03 FM version of Report on Japanese Quick Inspection and first-aid restoration Method for damaged buildings (3-1,3-2,3-3) RO version of Report on Ductility Upgrading Method of Japanese Seismic Retrofitting (1-3,1-4,1-5) 03.04-03.09 Report on Applicability of the Japanese Seismic Retrofitting Method to Romanian Buildings (1-3,1-4,1-5) 03.10-04,03 Planning of the Structural Test to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11) 04.04-04.10 Implementation on Structural Experiments to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11) In 2004, Experiment on columns was conducted in May and September.</p>	<p>The activities shown in the left column were completed</p> <p>With regards to structural experiments, the plan was made in March, 2004, but items to be experiments are so many and the priority must be studied. In order to proceed all experiments needed for the development of reasonable technology for retrofitting old buildings, positive attitude of C/PS, budget allocation by MTCT and cooperation from design company are essential.</p> <p>.All the planned activities will be completed by the end of the project</p> <p>Experiment in September was on Romanian specimen but some problems in specimen making and in quality control of concrete were noticed. And additional dispatch of short-term expert and training of CP in Japan was considered necessary.</p>

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	1-4. To prepare manual explaining retrofit methods	02.10-03.03 RO version of Report on 1 st and 2 nd Screening Method of Japanese Seismic Evaluation Method (1-1.1-4.1-5) 03.04-03.09 RO version of Report on 3 rd Screening Method of Japanese Seismic Evaluation Method (1-1.1-4.1-5) RO version of Report on Ductility Upgrading Method of Japanese Seismic Retrofitting (1-3.1-4.1-5) 03.10-04.03 Report on Applicability of the Japanese Seismic Evaluation Method to Romanian Buildings (1-1.1-4.1-5) Report on Applicability of the Japanese Seismic Retrofitting Method to Romanian Buildings (1-3.1-4.1-5) Planning of the Structural Test to Develop the Retrofitting Technique (1-3.1-4.1-5.2.2.2.11) 04.04-04.10 Framework of the Manual for Seismic Evaluation of Buildings in Romania (1-1.1-4.1-5) Implementation on Structural Experiments to Develop the Retrofitting Technique (1-3.1-4.1-5.2.2.2.11)	In December, 2004, English draft of the manual was finished. CP is now under training in Japan. After his return, he will include the results of structure test and other outputs of the project and complete the Draft I by the end of March, 2005. With regards to structural experiment, it is still undergoing as mentioned in 1-3, and the relevant results will be incorporated in the draft. After completion of Draft I, it will be publicized and will be used as the materials for seminars, etc. Further improvement will be made continuously till the end of the Project. The planned activities were almost completed and all the planned activities will be completed by the end of the project

Annex 2. Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	1-5. To disseminate the technical information to structural engineers by seminar	02.10-03.03 RM version of Report on 1 st and 2 nd Screening Method of Japanese Seismic Evaluation Method (1-1,1-4,1-5) Technical/Awareness seminar (1-5,2-11,3-3,4-2) 03.04-03.09 RO version of Report on 3 rd Screening Method of Japanese Seismic Evaluation Method (1-1,1-4,1-5) RO version of Report on Ductility Upgrading Method of Japanese Seismic Retrofitting (1-3,1-4,1-5) 03.10-04.03 *Report on Applicability of the Japanese Seismic Evaluation Method to Romanian Buildings (1-1,1-4,1-5) *Report on Applicability of the Japanese Seismic Retrofitting Method to Romanian Buildings (1-3,1-4,1-5) Planning of the Structural Test to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11) *Technical/Awareness seminar (1-5,2-11,3-3,4-2) 04.04-04.10 *Framework of the Manual for Seismic Evaluation of Buildings in Romania (1-1,1-4,1-5)	This activities shown in the left column were completed . But, the related seminars on *marked items were not held yet. In February 2005, Seminar on new retrofitting technology of Japan was held. The planned activities will almost be completed by the end of the project
2.Regulations/ codes concerning seismic issues for both new buildings and existing ones are improved	2-1. To prepare equipment and facilities for seismic structural testing	02.10-03.03 Report on Structural Testing Facilities, Testing Methods and Data Processing Methods (2-1,2-2,2-11) 03.10-04.03 Operation manual on structural experiment (2-1) 04.04-04.10 Installation of Reaction Frame for Seismic Structural Testing (2-1)	This activities shown in the left column were completed . The experiment held in September, 2004, revealed that there are problem in quality control of concrete materials. Additional equipment for quality control was requested.

Annex 2 . Performance Grid

(2) Activities

Expected output by MTCT and Center.	Activities Planned	Activities Implemented	Remarks
	2-2. To implement experiment and analyze data	02.10-03.03 Report on Structural Testing Facilities, Testing Methods and Data Processing Methods (2-1,2-2,2-11) 03.10-04.03 Operation manual on structural experiment (2-1) Installation of Reaction Frame for Seismic Structural Testing (2-1).	Some structural experiment were done but as there are so many experiments desired to be done, the experiment plan shall be reviewed with prioritization Experiments for developing retrofiting technology originally planned to be done in 2004 is delayed to May/June of 2005. The planned activities will almost be completed by the end of the project
	2-3. To study the methods of seismic design (shear strength and ductility, and displacement-based design)	02.10-03.03 Report on Structural Testing Facilities, Testing Methods and Data Processing Methods (2-1,2-2,2-11) RM version of Report on Shear Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) 03.04-03.09 Report on Experimental Tests of RC Column in BRI(2-2) 03.10-04.03 Planning of the Structural Test to Develop the Retrofitting Technique RO version of Report on Ductility Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) (1-3,1-4,1-5,2-2,2-11) 04.04-04.10 Report on Experimental tests of RC Column in UTCEB (2-2) Implementation on Structural Experiments to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11)	The planned activities were completed in 2003
	2-4. To prepare equipment for strong-motion earthquake record (underground, free field and building)	03.04-03.09 Installation/ Operation manual of strong motion observation equipment (2-4)	Currently it is required to go to all observation points to collect the data. Networking by tele-transmitting is under study. Problems were solved together with Oyo Company
	2-5 Conduct training appropriate to each target group.		The planned activities were completed. Updating of data base is done continuously.

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	2-6. To prepare equipment and facilities for soil test/ investigation	03.04-03.09 Operation manual of soil testing / ground investigation (2-6)	The planned activities were completed in 2003. Truck mounted drilling machine was provided and soil testing is done by CPs. However, due to the safety reason, the rig cannot be left at field without night watch. From technical reason the rig cannot be removed from the borehole before the test is finished. The wagon for night watch. and to proceed the survey in wider area is needed. The planned activities will be completed by the end of the project. Following additional requests are made by CP Large diameter drilling bit and pipe for expanding soil of Bucharest
	2-7. To study the methods for soil test	02.10-03.03 Report on Ground survey /prove technique (2-7) 03.04-03.09 Report on Ground survey /prove technique (2-7) 03.10-04.03 Summary of ground information based on ground survey and investigation (2-7) 04.04-04.10 Summary of ground information based on ground survey and investigation (2-7) Report on ground investigation techniques (2-7) Report on indoor soil testing techniques (2-7)	The planned activities were completed in 2004
	2-8. To accumulate the data on earthquake intensity corresponding to ground condition	02.10-03.03 Data collection plan of earthquake intensity according to ground condition (2-8,2-9) Study report on past earthquake records (2-8,2-9) 03.04-03.09 Study report on micro tremor and ground condition (2-5,2-8) 04.04-04.10 Reference study on the deep ground structure and effect of ground condition (2-5,2-8)	The left activities have been done but it was found that the provided micro tremor is not appropriate for Romanian soil, which need equipment for long wave. Additional request for Micro Tremor equipment with higher ability was made. The planned activities will be completed by the end of the project period, provided that suitable micro tremor equipment is provided in time.

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	2-9. To accumulate the data on input earthquake ground-motion to buildings	02.10-03.03 Data collection plan of input earthquake ground motion to building (2-9) 03.04-03.09 Study report on past building vibration characteristics (2-9) 03.10-04.03 Report on micro tremor measurement for evaluation of building vibration characteristics (2-9) 04.04-04.10 Report on micro tremor measurement for evaluation of building vibration characteristics (2-9)	The left activities were completed and all the planned activities are likely to be completed by the end of the project.
	2-10. To prepare the manual of input design earthquake-ground motion	Not started tet.	According to the plan of operation it is planned to be done in 2005-2007.
	2-11. To disseminate the technical information to structural engineers by seminar	02.10-03.03 RM version of Report on Shear Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) 03.04-03.09 Report on Structural Testing Facilities, Testing Methods and Data Processing Methods (2-1,2-2,2-11) Technical/Awareness seminar (1-5,2-11,3-3,4-2) RO version of Report on Ductility Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) 03.10-04.03 Report on applicability of the Japanese Earthquake-Resistant Design Method to Romanian buildings (2-3,2-11,2-12) Planning of the Structural Test to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11) Technical/Awareness seminar (1-5,2-11,3-3,4-2) 04.04-04.10 Implementation on Structural Experiments to Develop the Retrofitting Technique (1-3,1-4,1-5,2-2,2-11)	All the planned activities are likely to be completed by the end of the project period

Annex 2. Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	2-12. To prepare draft of technical manuals, regulations and new codes	02.10-03.03 RM version of Report on Shear Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) 03.04-03.09 RO version of Report on Ductility Designing Method of Japanese Seismic Evaluation Method (2-3,2-11,2-12) Study report on ground motion characteristics (2-11,12) 03.10-04.03 Report on applicability of the Japanese Earthquake-Resistant Design Method to Romanian buildings (2-3,2-11,2-12) 04.04-04.10 Report on ground vibration characteristics (2-11,12)	All the planned activities are likely to be completed by the end of the project period
	2-13 To make data base of the results of structural experiment.		All the planned activities are likely to be completed by the end of the project period
3.Post-earthquake	3-1. To collect information	02.10-03.03 RM version of Report on Japanese Quick Inspection and first-aid restoration	All the planned activities are likely to be completed by the end of the project period

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
<p>evaluation techniques of the damaged buildings are developed by Center and acquired by structural engineers</p>	<p>concerning post-earthquake evaluation techniques (quick inspection of damaged buildings and judgment of damage degree)</p>	<p>Method for damaged buildings (3-1,3-2,3-3) 03.04-03.09 RO version of Report on Japanese Post-Earthquake Inspection and restoration Method for damaged buildings (3-1,3-2,3-3) 03.10-04.03 Report on applicability of the Japanese Post-Earthquake Inspection and Restoration Method to Romanian buildings (3-1,3-2,3-3) 04.04-04.10 Framework of the Manual for Post-Earthquake Inspection and Restoration (3-1,3-2,3-3) 02.10-03.03 RM version of Report on Japanese Quick Inspection and first-aid restoration Method for damaged buildings (3-1,3-2,3-3) 03.04-03.09 RO version of Report on Japanese Post-Earthquake Inspection and restoration Method for damaged buildings (3-1,3-2,3-3) 03.10-04.03 Report on applicability of the Japanese Post-Earthquake Inspection and Restoration Method to Romanian buildings (3-1,3-2,3-3) 04.04-04.10 Framework of the Manual for Post-Earthquake Inspection and Restoration (3-1,3-2,3-3)</p>	
	<p>3-2. To prepare technical manual explaining the methods of post-earthquake evaluation techniques</p>	<p>02.10-03.03 RM version of Report on Japanese Quick Inspection and first-aid restoration Method for damaged buildings (3-1,3-2,3-3) 03.04-03.09 RO version of Report on Japanese Post-Earthquake Inspection and restoration Method for damaged buildings (3-1,3-2,3-3) 03.10-04.03 Report on applicability of the Japanese Post-Earthquake Inspection and Restoration Method to Romanian buildings (3-1,3-2,3-3) 04.04-04.10 Framework of the Manual for Post-Earthquake Inspection and Restoration (3-1,3-2,3-3)</p>	<p>All the planned activities are likely to be completed by the end of the project period</p>

Annex 2. Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	3-3. To disseminate the technical information to structural engineers by seminar	02.10-03.03 RM version of Report on Japanese Quick Inspection and first-aid restoration Method for damaged buildings (3-1.3-2.3-3) 03.04-03.09 RO version of Report on Japanese Post-Earthquake Inspection and restoration Method for damaged buildings (3-1.3-2.3-3) 03.10-04.03 Report on applicability of the Japanese Post-Earthquake Inspection and Restoration Method to Romanian buildings (3-1.3-2.3-3) 04.04-04.10 Framework of the Manual for Post-Earthquake Inspection and Restoration (3-1.3-2.3-3)	All the planned activities are likely to be completed by the end of the project period
4. Disaster prevention education for the citizens is improved by Center	4-1. To investigate disaster prevention preparedness of the citizens 4-2. To disseminate information on disaster prevention preparedness to the citizens by seminar	02.10-03.03 The first Questionnaire survey was made on the awareness of citizens. 02.10-03.03 Technical/Awareness seminar (1-5.2-11.3-3.4-2) 03.10-04.03 Technical/Awareness seminar (1-5.2-11.3-3.4-2) January 21, 05, JICA symposium on Disaster Management Cooperation at the UN Conference on Disaster Reduction March 04, Project participated Debate on TV October 03, Seminar at Japanese school February 21, 05, presentation at SPHERA Building center March 03, 05, Presentation at student house, Bucharest March 04, 05, Presentation in UTCB March 07, 05, training at Kindergarten, children and parents , presentation/training at International Nursery School, Bucharest	Now the second survey is undergoing. The third survey is planned to be done at the end of the project. All the planned activities are likely to be completed by the end of the project period All the planned activities are likely to be completed by the end of the project period. Supplementary presentation on earthquake preparedness.

Annex 2 . Performance Grid

(2) Activities

Expected output	Activities Planned	Activities Implemented	Remarks
	4-3. To publish printed matter concerning disaster prevention preparedness to the citizens	02.10-03.03 Newsletter (4-3) 03.04-03.09 Newsletter (4-3) Pamphlet on mitigation of earthquake disaster (4-3) 03.10-04.03 Newsletter (4-3) Educational video on mitigation of earthquake disaster (4-3) 04.04-04.10 Newsletter (4-3) Home page on Mitigation of earthquake disaster (4-3)	All the planned activities are likely to be completed by the end of the project period

Annex 2 . Performance Grid

(3) Attainments of Targets

Target	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year,2007	Remarks
Achievement of Project Purpose(Forecast) "Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved"	1.Number of buildings/ housing units retrofitted by technology introduced by Center.	1-1. Report explaining number of retrofitted buildings, issued by MTCT/ and other ministries	34 buildings/1283-1309 housings	122 buildings/3,716-3,742 housings	The figures are for buildings class I, built before 1940. There are 122 units in total. Retrofitting is complete for 5 units, undergoing for 9 units and under planning for 20 units CP Comments: · This indicator was introduced in a period when the Japanese counterpart was not well informed about real possibilities of implementation here. In fact, Romanian designers and even authorities are rather conservative about new strengthening methods that were not tested at large scale specimens here. · Due to the differences between the Japanese and Romanian types of structures, there must be a new understanding about expected figures. Thus, a more realistic idea is to aim at least at some designs of strengthening of buildings of 1963-1977 period, to be started and hopefully finished until 2007. · Some testings in NCSR-UTCB machine are strongly necessary in the mean time. · The guidelines concerning the techniques and the methods of retrofitting will be finished by the end of the Project . It is not appropriate to ask now the counting of post-factum retrofitted buildings The Project does not have information on newly built buildings.
	and number of residents and users of the buildings/ housing units	1-2. Questionnaire survey to contractors	5,182-5,236	14,864-14,968	
	2.Number of buildings/ housing units that are expected to be designed based on technical manuals	2.Report explaining number of buildings that will be constructed by MTCT/ and other ministries	? or regulations introduced by Center, and the number of residents and users of those buildings/ housing units	?	

Annex 2. Performance Grid

(3) Attainments of Targets

Target	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year, 2007	Remarks
	or regulations introduced by Center, and the number of residents and users of those buildings/housing units				<p>CP Comments:</p> <ul style="list-style-type: none"> This indicator was introduced in a period when the Japanese counterpart was not well informed about real possibilities of implementation here. In fact, Romanian designers and authorities are preparing the enforcement of the New Code P100-2005, harmonized with Euro code 8. Due to the differences between the Japanese and Romanian types of structures, there must be a new understanding about expected figures. Thus, a more realistic idea is to aim at least to introduce some code requirements that arise from best Japanese codes, while design remain to be a subject of some Pilot project, if funds are given.
	3.Level of the structural engineers' skills on post-earthquake evaluation for earthquake-damaged buildings	3.Questionnaire survey of seminar effect to the seminar participants		Target is not set	<p>No tool to measure the level is prepared and the target cannot be set</p> <p>CP Comments:</p> <ul style="list-style-type: none"> No such lessons were available in Romania before our project starts. This level is depending on the issuing of a Manual adapted to Romanian types of structures in Division 1, to be disseminated by Division 4, after MTCT endorsement. It is improving due to the dissemination activities of the Center (seminars) The level of the professional knowledge is to be improved by dissemination activity of the NCSRR, including scientific seminars.
	4.Disaster prevention preparedness of citizens	4.Questionnaire survey of seminar effect to the seminar participants	Level of citizens awareness is high	No target is set	<p>No target is set. However the first survey made in 2002/2003 shows that the level of citizens awareness is high. The problem does not exist in the awareness but in the difficulties of retrofitting in spite of the high awareness</p>

Annex 2. Performance Grid

(3) Attainments of Targets

Target	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year, 2007	Remarks
					<p>CP Comments:</p> <ul style="list-style-type: none"> • No such lessons were available in Romania before our project starts. • NCSRR and MTCT organized seminars with presidents of owners associations and some other citizens, as well as with media. • The main goal was to convince them about using the system of Romanian Government Ordinance no. 20/1994 in order to strengthen their high-rise buildings. • From the questionnaire surveys performed by NCSRR and MTCT resulted that the general knowledge level of citizens is rather high, but there are many problems that depend on specific aspects of the legal system in Romania, that needs to be improved. If one wants to increase the number of buildings to be strengthened, there is a need of more communication from the authorities with citizens and in this respect NCSRR can be an aid, but local authorities must put some more staff and less bureaucracy in this process. Citizens need the best designers and constructor companies for their buildings and do not want to be evacuated. • It is improving due to the dissemination activities of the Center (seminars) • The target will be achieved also by the dissemination activity.
Are outputs produced as planned?	<p>Will the Project Purpose be achieved in general?</p> <p>As the indicators set in PDM are not appropriate to judge the achievement of the Project Purpose. It is necessary to set the proper indicators</p> <p>CP comments</p> <ul style="list-style-type: none"> • Such indicators are difficult to be set, but NCSRR was a major factor to push MTCT and citizens to more strengthening. 				

Annex 2 . Performance Grid

(3) Attainments of Targets

Target	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year.2007	Remarks
	<ul style="list-style-type: none"> The retrofitting solutions are the task and responsibility of design companies involved in such activity. Their choice can't be influenced/forced by the NCSRR or MTCT. NCSRR is organizing dissemination seminars and will issue manuals. If technical and computational capabilities of the design companies in combination with the owners financial limitations and/or wishes will allow the implementation of technologies introduced by the Center it's something beyond the imagination of Romanian and Japanese counterparts within the Project. Just numbering the buildings is not sufficient for evaluating the success of the project. The new buildings are designed following the national regulations. The number of new buildings is unpredictable, it depends on the economic situation. It will not be easy to track which designer used the manuals issued by within the Project. It is important to ensure a good quality of the manuals and a sufficient number of printed copies to circulate within the construction industry. The success of the project should also be evaluated by the scientific and technical achievements of the NCSRR staff after the beginning of the project, since they are beneficiary of know-how transfer. The success of the Project may also be evaluated by the number of accelerometers installed and their percentage within the digital instruments in Romania; by the number of earthquake records; by the number of site investigations performed, etc. 				
	<ul style="list-style-type: none"> Nevertheless, the effectiveness of the Project must be measured through the final products of the own activity, such as manuals and guidelines. 		2,605	??	
1.Effective and low-cost retrofit techniques are developed by Center and acquired by structural engineers.	<ul style="list-style-type: none"> 1-1.Number of examined buildings/housing units 1-2.Number of technical manuals 1-3.Number of seminars on retrofit techniques, structural engineers attended the seminar, and evaluation of the seminar by the participants 	<ul style="list-style-type: none"> 1-1. MTCT// Center report 1-2. MTCT// Center report 1-3. MTCT// Center report and questionnaire survey 	1	??	
			5	8	
			330	500	
			??	??	
			very good, excellent		
2.Regulations/codes concerning seismic issues for both new buildings and existing ones are improved by	<ul style="list-style-type: none"> 2-1.Availability of experiment equipment and facilities (number of experiments 	2-1. MTCT// Center report	Very good except for micro tremor sensors	??	Micro tremor problem will be solved (JICA approved)
			17	42	This figures are for micro tremor measurement
			(2 sites – array, 2 bldg, 13 sites)	(8 sites – array, 4 bldg, 30 sites)	

Annex 2 . Performance Grid

(3) Attainments of Targets

Target	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year, 2007	Remarks
MTCTI/ and Center.	and data)		67 earthquake records 6 structural testing, 18 soil testing	??	67 records at NCSRR Seismic Network
	2-2.Number of technical manuals and regulations, including draft of the new code which are newly developed or improved by Center	2-2. MTCTI// Center report	3	3	
	2-3.Number of seminars on regulations/ codes concerning seismic issues,	2-3. MTCTI/ Center report and questionnaire survey	1	??	
	structural engineers attended the seminar,		50 120	200	
	and evaluation of the seminar by the participants		?	??	
3.Post-earthquake evaluation techniques of the damaged buildings are developed by Center and acquired by structural engineers.	3-1.Number of technical manuals	3-1. MTCTI// Center report	1	2	
	3-2.Number of seminars on quick inspection of damaged buildings, structural engineers attended the seminar and evaluation of the seminar by the participants	3-2. MTCTI// Center report and questionnaire survey	2	8-10	
			95 120	400-500	
			??	??	
			very good, excellent		

Annex 2 . Performance Grid

(3) Attainments of Targets

Target.	Indicators	Means of Verification	Achievement Status as of Evaluation Time	Forecast figures for September 30 of the target year,2007	Remarks
4.Disaster prevention education for the citizens is improved by Center.	4-1.Number of seminars on earthquake disaster prevention	4-1. MTCT// Center report and questionnaire survey	2	5	
	, citizens attended the seminar, and evaluation of the seminar by the participants		110 150-200 ??	250 ??	
	4-2.Number of printed matters published by Center, and evaluation of the printed matters by citizens	4-2. MTCT// Center report and questionnaire survey	2 1	??	
	Scientific paper in conference, seminars, etc., e. g. world conference		?? very good 9	??	
Appropriateness of indicators for outputs		Current indicators are not appropriate. It is necessary to set appropriate indicators to judge the achievement of outputs.			

Annex 2. Performance Grid

(4) Process of Implementation

Verification Questions	Findings
1. Have Activities been conducted as planned? (Summary from verification grid)	Activities have been smoothly conducted as planned in general and most of the outputs are expected to be achieved by the end of the Project period (September 30, 2007) However, there have been some problems which caused delays, for example: The structural testing equipment arrived with a considerable delay.
2. Are there any problems in the methods of technical transfer?	No problem, except that • There were some language difficulties between Japanese experts and RO CPs. • Some technical papers were not available in English. • More practical know-how transfer is expected.
3. Are there any problems in the Project management?	
(1) Monitoring system	
1) How the Project has been monitored?	Once every 6 months. Japanese experts and Romanian counterpart staff jointly.
2) Was the result of monitoring reflected to the activities of the Project?	Monitoring has been done every six months jointly by Japanese experts and Romanian counterparts. As the indicators shown in PDM are not appropriate, it became difficult to make proper judgment of the degree of the progress.
(2) Decision making process	
How and by whom decisions among the Project were made?	The plan was prepared based on the technical reports, that had identified the main problems. The problems were analyzed together with the Japanese specialists to find the proper solutions. Based on them, the staff made the final decision. The enlargement of the plan was suggested by the Romanian Side having in view the very large number of the unsafe buildings built after 1950.
(3) Function of JICA headquarters and the Romanian Office.	
1) Did they corresponded well to the results of monitoring (change of the plan, etc.)?	Communications between the Project and JICA headquarters are well kept and functioned.
2) Did they provided appropriate advices/supports when needed?	There have not been major problems and advices/supports have been functioned well.
3) Was the communication with the Project Team good?	Very good Monthly meeting with JICA Romania Office is functioning.
4) Was the linkage with the domestic supporting agencies good?	Yes, very good
5) general situation of supporting/cooperating	Very good
(4) Communication system within the project (joint	

Annex 2 . Performance Grid

(4) Process of Implementation

Verification Questions	Findings
cooperation of Japanese experts and Romanian counterparts in trouble shooting, etc.)	
How was the communications between Japanese experts and Romanian counterparts?	
1) Situation of regular meetings	<ul style="list-style-type: none"> • The regular meeting with the participation of all the Romanian staff and all Japanese long term experts is taking place once a month. When some problems occurred we have direct meetings with the Japanese expert more often. I do not face any problems regarding the arrangements of meeting time with the Japanese experts. • Technical meetings are held weekly by each division .
2) Daily communication	<p>Generally good in spite of the following handicaps:</p> <ol style="list-style-type: none"> 1. Some Counterpart staffs are not full-time 2. There are two project sites, INCERC and UTCC.
3) Are there common understanding of the Project purpose? Was the joint effort made in trouble shooting, plan making, etc.?	Yes, common understandings were established through daily work and regular meetings.
4) Was the mutual trust established?	Yes, very good. As the key personnel of Romanian side were participated JICA group training of seismology and earthquake engineering mutual trust was established before the project started. Through the regular meetings and daily work the atmosphere of free discussion was Produced.
5) Do the Romanian counterpart staffs recognize this project as their own project? How was their ownership?	Yes, very good. Mind of participation by Romanian counterpart is high but as they are not full time, their time of participation is limited and their active proposals are not so often.
6) Any other comments	<p>JE Comments</p> <ol style="list-style-type: none"> 1. Some counterpart staff are not full time 2. Counterpart salaries are not enough <p>CP Comments</p> <p>Communication with counterparts in Japan was sometimes quite slow. Sometimes we had the feeling that documents sent from Romania are not shared, distributed or read. Even the Project is at it's middle, sometimes it seems to us that for some Japanese counterparts it has many unknown features.</p>
(5) How are the communications between the Project and the related Romanian organizations?	
1) MTCT Head office	Former Secretary of State ,MTCT, Ms Tureanu had a very good understandings on the Project and communication with MTCT was very good. At the beginning of Mr. Laszlo Borbely, the new Minister Delegate for the coordination for public

Annex 2 . Performance Grid

(4) Process of Implementation	Verification Questions	Findings
2) UTCB	works and territory management participated in the Kobe conference and his knowledge and understanding of the project was improved.	The Rector of UTCB understand and support the Project very well. Mr. Mikame has office in UTCB and he enjoys good relation with UTCB.
3) INCERC	A CP comments: Yes, very good. But, anyway, it would be better to have some agreement about how the relationships to be, how research is done etc. JE comments: Personnel relations with certain INCERC staff are good. But relation between INCERC and NCSRR is not clear.	A CP comments: Yes, very good. But, anyway, it would be better to have some agreement about how the relationships to be, how research is done etc. JE comments: Personnel relations with certain INCERC staff are good. But relation between INCERC and NCSRR is not clear.
4) TGDC	So far, the needs to communicate with TGDC was not so big and the relation has been fairly good..	So far, the needs to communicate with TGDC was not so big and the relation has been fairly good..
5) Others		
4. Is the ownership of the Counterpart organizations established?		
(1) Is the mandate of NCRSS clear and appropriate?	Yes, clear.	Yes, clear.
(2) Participation of the management of counterpart organizations to the Project.	Dr. Radu Vacareanu, the Director of NCSRR has been always positively participated. He is enthusiastic and very much capable. Relation with MTCT is good and relation with CP staffs is also good.	Dr. Radu Vacareanu, the Director of NCSRR has been always positively participated. He is enthusiastic and very much capable. Relation with MTCT is good and relation with CP staffs is also good.
(3) Allocation of budget necessary for the Project activities.	Problems come from the slowness of budget approval and to the limitations and rules in using the available budget. MTCT accepted investments related to the seismic network, which is acknowledged. Monthly salaries of staff is a problem. It is hard to keep within the staff the best young engineers with salaries close to the minimum national salary. It is hard to keep their work efficiency and enthusiasm in such conditions and on long term this create a high probability of loosing the staff. This is a real problem, since the staff was in it's large majority trained in Japan and familiar with the delivered equipment.	Problems come from the slowness of budget approval and to the limitations and rules in using the available budget. MTCT accepted investments related to the seismic network, which is acknowledged. Monthly salaries of staff is a problem. It is hard to keep within the staff the best young engineers with salaries close to the minimum national salary. It is hard to keep their work efficiency and enthusiasm in such conditions and on long term this create a high probability of loosing the staff. This is a real problem, since the staff was in it's large majority trained in Japan and familiar with the delivered equipment.
(4) Appropriate of counterpart personnel (number, quality, specialties, etc.)	A solution may be the legal possibility of obtaining additional payment from contracts with different partners. Generally it is appropriate, but some are not full-time. Division 4 does not have enough staff and worked with persons borrowed from other divisions.	A solution may be the legal possibility of obtaining additional payment from contracts with different partners. Generally it is appropriate, but some are not full-time. Division 4 does not have enough staff and worked with persons borrowed from other divisions.
(5) Smoothness of equipment delivery and facilities preparation	It was smooth in general but there are some comments: • Equipment delivered from Japan: Some softwares were delivered in versions that were not working, others late, some technical manuals are missing. Micro tremor sensor was a problem, but will be solved soon. Concerning the seismic network, there were some troubles with connections & installation but positive reaction from Oyo helped in solving the problem.	It was smooth in general but there are some comments: • Equipment delivered from Japan: Some softwares were delivered in versions that were not working, others late, some technical manuals are missing. Micro tremor sensor was a problem, but will be solved soon. Concerning the seismic network, there were some troubles with connections & installation but positive reaction from Oyo helped in solving the problem.
(6) Is the recognition to the project by implementing organizations, counterpart staff, target group and other related organizations high?	Yes, high.	Yes, high.
5. Were the pre-conditions to start the Project		

Annex 2 . Performance Grid

(4) Process of Implementation

Verification Questions	Findings
satisfied?	
(1) Great earthquake does not occur before the Project starts	This condition is met and there are no problem
(2) Unexpected severity of earthquake is not identified.	This condition is met and there are no problem
6. Any other comments on the implementation process	
Overall assessment of implementation process:	<p>There are several hampering factors against the smooth implementation the project, foe example:</p> <ol style="list-style-type: none"> 1. Counterpart staff are not well paid 2. Some counterpart staff are not full time engaged in the project. <p>However, in spite of the above hampering factors, the Project has been making smooth progress so far. But, because of the indicators shown in PDM are not appropriately set, it is difficult to check the degree of the progress. Indicators should be reviewed.</p>

Annex 3. 5-Criteria Evaluation Grid

(1) Relevance

		Findings	
Evaluation Question	Necessary information /data (indicators)		
Are there any change in recent years which affect the relevance of the Project?	<p>Have there been any political, economical or social changes, so significant as to give the positive or negative effect on the Project Purpose, on the Overall Goal, or on the implementation of the Project since the time of the signing of the R/D (August 1, 2002)?</p> <p>Are there any significant changes of role, activity, purpose, organization, personnel, etc., of the related organizations (MTCT, UTCB, INCERC, TGDC, etc.), which might have effect, either positive or negative, on the Project?</p>	<p>As the result of the general elections for the President and the Parliament, a new Government is formed in Romania and reshuffling of key personnel in many government offices are undergoing. The key persons at MTCT related to the Project is also changing. The impact on the Project of such changes is still un known, but it is expected that the new government will also take the reduction of seismic damage as an important issue for Romania.</p>	
Necessity	Are the Project Purpose and the overall Goal consistent with the needs of the society of the target area?	<p>The Secretary of State responsible for the Project quit MTCT. MTCT person responsible for technical matter also left the position. These changes are temporarily affecting the activities of the Project but the extent of the affect is still unknown.</p>	
	Are the Project Purpose consistent with the needs of the target group?	<p>Romania is a country in Europe that is notorious for earthquakes. In particular, earthquake damage has been concentrated in the capital city, Bucharest. In its history it has often been prone to damage by great earthquakes. An earthquake of moment magnitude 7.5 occurred in Vrancea region on March 4, 1977, killed 1,578 people (of which 1,424 in Bucharest) and damaged to the property of 2 billion dollars (2/3 of which are in Bucharest). And 1.4 billion dollars (70 percent of the damage) were caused by building collapse. Seismologists are forecasting that another earthquake of the same magnitude as the great earthquake of 1977 will occur around 2007 (30 years after the last great earthquake), this prediction is based on the assumption that the recurrence period of the earthquake similar to that one in 1977 is said to be 30 years. The Romanian government considers it important to retrofit fragile buildings that might collapse due to the predicted earthquake in Bucharest.</p> <p>The Romanian government issued an ordinance in 1994 and classified buildings in cities in four categories according to the degree of the collapse risk. and 122 in Bucharest were recognized as Class I (highest risk of collapse by earthquake). In regard to these buildings, a more detailed inspection was implemented. After seeing the results, MLPTL (now MTCT) declared its intention to gradually put the retrofitting scheme for the 122 buildings into practice. However, there are no cost/time effective retrofit techniques available in Romania. Also, as the basic data for grounding proper seismic design have not been accumulated/analyzed in depth, the appropriate seismic design method, which is prepared based on the data, has not been developed. The project responds to such needs.</p>	

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A3-1

Annex 3. 5-Criteria Evaluation Grid

(1) Relevance

Evaluation Question	Necessary information /data (indicators)	Findings
Priority	<p>Is the Project consistent with the National Development Policy of Romania?</p> <p>Is the Project consistent with Japan's ODA policy</p>	<p>In the Governance Program issued in February, 2001, 5 themes were established as the key issues for the national development. In the Action Plan for the above, followings are included as the "Activity items"</p> <p>To develop and harmonize the legislative and technical framework with regard to international regulations (i. juridical regulations facilitating intervention and insurance against seismic risk; ii. technical regulations concerning post-earthquake intervention; iii. technical regulations concerning seismic design) and to reduce seismic risk,</p> <p>To retrofit buildings according to the seismic code in force.</p> <p>The new ODA Charter of Japan, approved by the cabinet in August, 2003, sets 4 priority issues, that are poverty reduction, sustainable growth, addressing global issues (such as environmental problems, natural disasters, etc.), and peace-building. The project contribute to the solution of all four issues, especially No. 3 global issues such as natural disasters.</p> <p>The Prime Minister Koizumi expressed in his address to the World Conference on Disaster Reduction (WCDR) that Japan is pouring its energy into such international cooperative effort as launching "Initiative for Disaster Reduction through ODA" and further support for capacity building on disaster reduction in developing countries. The Romanian Minister Delegate for the Public Works and Territory Planning, H.E. Laszlo Borbely chaired the cluster 4 (Reducing the underlying risk factors" of the said conference WCDR. The Hyogo Declaration adopted on the last day of the said conference states "We are convinced that disasters seriously undermine the results of development investments in a very short time and therefore, remain a major impediment to sustainable development and poverty reduction.</p> <p>The project is consistent with the National Policy of Japan and of Romania.</p>
Appropriateness as the means to attain the target	<p>Is the Project appropriate as the means against the development issues in the field of the disaster mitigation of Romania?</p> <p>Is the project design appropriate in its approaches and methodology?</p> <p>Is the selection of NCSRR, an organization newly to be formed under MTCT, as an implementation agency and UTCB and INCERC as cooperating agencies appropriate?</p>	<p>The Strategy that is to promote improvement and dissemination of technology to reduce the loss of life and property caused by earthquake is appropriate.</p> <p>The approach to achieve the purpose through four components (development of retrofit technology, improvement of regulations/codes, dissemination of post-earthquake evaluation technology, disaster prevention education for citizens) is appropriate.</p> <p>NCRSS was established under MTPPL (now MTCT) by the Ordinance No. 54/2002 dated August 27, 2002, with the core objective of implementing the Romanian-Japanese Project for reducing the seismic risk of buildings as well as other national and international plans. INCERC and UTCB are two major research centers of earthquake engineering. The selection was appropriate.</p>

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A3-2

Annex 3. 5-Criteria Evaluation Grid

(1) Relevance

Evaluation Question	Necessary information /data (indicators)	Findings
	<p>Consistency with other projects under international cooperation or by Romania herself.</p> <p>Synergy or Offset/Overlap with other projects</p>	<p>Retrofitting of buildings is a priority issue of the Rumanian Government. Romania began to exchange information in the field of earthquake engineering/ seismology with other countries in 1989. At present, the projects which are financed by other foreign development agencies are focusing on seismology and seismic risk analysis of urban areas Romania (financed by the World Bank , EU and Germany.)</p> <p>At present, no international agency is giving support to Romania in the field of retrofitting residential buildings, that is an issue of high priority in Romania.</p>
	<p>Is the selection of main target group (Citizens of Bucharest) appropriate?(area, size, gender ratio, etc.)</p>	<p>The main target group in this Project is defined as being the residents of Bucharest. The reasons for this focus are as follows: the expected Project term is 5years; previous earthquakes have had the most impact in Bucharest, and Bucharest is the capital city and politically and economically the most important city.</p>
	<p>Is the benefit of the Project likely to be enjoyed by those other than the target group?</p>	<p>Although the immediate beneficiaries who are technically transferred are earthquake/structural engineers and geophysicists, the final beneficiaries are the common citizens, regardless of social class, sex, job, and race, etc. We can see the fairness in this Project, and therefore this Project is eligible for supporting by ODA.</p> <p>The direct target is the citizens of Bucharest, but the technology transferred through the Project will benefit the citizens of other cities in due time.</p>
	<p>Is the benefit and cost bearing fairly distributed?</p>	<p>During the project period of 5 years the Romanian Government is going to retrofit earthquake vulnerable buildings in Bucharest. More buildings will be retrofitted in due course.</p>
	<p>Can the technology of Japan meet the needs of the target group?</p>	<p>The United States, New Zealand, and some European countries as well as Japan are known as earthquake prone countries. If the number of researchers working in earthquake engineering and technical level of the countries are looked at, Japan and the United States are the most outstanding.</p> <p>The United States might be better in the viewpoint of theoretical approach, but in the viewpoint of practical approach on earthquake engineering (evaluation of seismic capacity and structure strengthening), Japan is ahead of the United States. As "technology on practical earthquake engineering" is a key respect in this Project, cooperation with Japan is of great benefit for Romania.</p>
Overall Relevance	<p>The Description of the Project Document, stating that the Project has the Relevance, is still valid.</p> <p>The Prime Minister Koizumi expressed in his address to the UN Conference on Disaster Reduction that Japan is pouring its energy into such international cooperative effort as launching "Initiative for Disaster Reduction through ODA" and further support for capacity building on disaster reduction in developing countries. The Hyogo Declaration adopted on the last day of the said conference states "We are convinced that disasters seriously undermine the results of development investments in a very short time and therefore, remain a major impediment to sustainable development and poverty reduction.</p> <p>The project is consistent with the National Policy of Japan and Romania.</p> <p>1. The Implementing system to establish NCSRR under MTCT as the implementing agency of the Project with the two major center of research in earthquake engineering in Romania, INCERC and UTCB as the cooperating agencies is appropriate. The approach of the project setting the target as improvement and dissemination of technology for retrofitting earthquake vulnerable housing units in Bucharest city is also appropriate.</p>	

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A3-3

Annex 3. 5-Criteria Evaluation Grid

(2) Effectiveness

Evaluation Questions	Necessary information/data (indicator)	Findings
Is the Project Purpose likely to be achieved?	Is the project purpose "Improvement and dissemination of technology for reducing building collapse in case of great earthquakes are achieved." likely to be achieved?	<p>In response to the questionnaires, 7 out of 8(3 JE and 5 CP) selected the answer as "will be achieved but only to such extent less than the extent I expected". Although the indicators were given, target figures are not set and it is difficult to judge the level expected by the project designer. The project purpose is "improvement and dissemination " of technology. It is necessary to establish the common understandings at which level the Project is aiming to improve and disseminate the technology. Especially for dissemination, the target should be set considering the limitation of time (only 5 years of the project period) and fund. Otherwise, it is difficult to judge whether the project purpose will be achieved or not, although it is observed that the project is making progress towards the improvement of dissemination.</p> <p>One Japanese expert made a comment that the Project purpose will be achieved if the followings are achieved.</p> <ol style="list-style-type: none"> 1. Tie-up with building designers 2. Improvement of salary for NCSRR staff (CPs) 3. Increase of the government budget for retrofitting the earthquake vulnerable buildings.
Cause and Effect (Outputs of the Project)	Will all the outputs of the Project effectively contribute to the achievement of the Project Purpose?	All the Outputs are designed to contribute to the achievement of the Project Purpose.
Is the Project Design made in such way that if all the designed outputs of the Project are attained, then the Project Purpose will be achieved?	Is the project design include all the necessary Outputs to achieve the Project Purpose?	<p>Outputs are well designed including all the important elements, namely "development of retrofitting technology", "improvement of regulations/codes", "evaluation technology of damaged building" and "education for citizens". However, the followings are necessary to disseminate the technology developed by the center to the actual existing buildings.</p> <ol style="list-style-type: none"> 1. New technologies must be verified through the experimental construction and fund for such verification work is necessary. 2. Participation of experienced design office and Person-in-charge of MTCT is essential. 3. Design competition will be useful for retrofitting old housing units built before 1940. 4. Finance mechanism for retrofitting shall be established. <ul style="list-style-type: none"> • Increase of operation budget • Increase of salaries for NCSRR staff
Are there any necessary conditions or effective means to ensure the achievement of the Project Purpose?	<ol style="list-style-type: none"> 1. Means which can be taken in the implementation process without amending the current PDM 2. Means that can ensure the Project Purpose by amending the Project Design (Inputs, Activities, Outputs, etc.) 	To set the opportunity for dialog between MTCT and citizens to clarify the existing problems and to formulate common understandings.

Annex 3. 5-Criteria Evaluation Grid

(2) Effectiveness

Evaluation Questions	Necessary information/data (Indicator)	Findings
<p>3. Outside conditions necessary for achievement of the Project Purpose, but beyond control of the Project.</p> <p>1. Among the contents of PDM (Inputs, activities, outputs, etc.) what are remarkably effective for the achievement of the Project Purpose?</p> <p>2. What are activities or other implementing process which are not written in PDM but conducted by the Project which were/likely to be effective for the achievement of the Project Purpose?</p> <p>3. What are the situations outside the Project, which facilitate or are likely to facilitate the achievement of the Project Purpose?</p>	<p>Financial support for retrofitting</p> <p>All the inputs as mentioned below contribute effectively to the achievement of the project purpose, such as; dispatch of Japanese long-term and short-term experts, assignment of counterpart personnel, training in Japan, provision of equipment, etc.</p> <p>Activity for quality control of concrete test piece and additional inputs thereof (additional equipment, short-term expert, CP training in Japan)</p> <p>Personal visits of Japanese and Romanian experts in some buildings at risk in downtown of Bucharest and individual discussions with citizens</p>	<p>The new ordinance (2003) that allow retrofitting by agreement of majority, not all, of residents. If the cooperation from design office is achieved then it will facilitate a lot.</p>
<p>What would hamper the achievement of the Project purpose_?</p>	<p>1. Among the contents of PDM (Inputs, activities, outputs, etc.) what hampered the achievement of the Project Purpose?</p> <p>2. What are hampering factors for the achievement of the Project Purpose, which occurred during the implementing process?</p> <p>3. What are the situations outside the Project, which hampered or are likely to hamper the achievement of the Project Purpose?</p>	<p>• NCSRR is divided in two locations, NCSRR and UTCB. This is sometimes hazardous for communications</p> <p>• Some important staffs are not full-time</p> <p>• All the equipment should have been ready in the first year.</p> <p>• Strong will is needed for the development of retrofitting technology for old housing units built before 1940.</p> <p>Schedule for seminars or public meetings were delayed</p> <p>Registration of vehicles were delayed</p> <p>Some CPs are not full-time.</p> <p>CPs are not well paid. Budget for implementation is small</p> <p>Only 2 long-term experts for 4 divisions.</p> <p>Know-how transfer is not yet sufficient</p> <p>Personal change after the change of government may affect the project</p> <p>Lack of all required technical information on the old buildings.</p> <p>Financial difficulty and difficulty in making resident consensus for retrofitting.</p>
<p>Overall Effectiveness</p>	<p>It is sure that the project is making progress towards the achievement of the project purpose and the outputs of the project is contributing for it. The project is effective in that sense. However, as the target figures of indicators are not shown and it is difficult to judge whether the project purpose will be achieved or not. Thus the effectiveness is also not clear.</p>	

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Annex 3. 5-Criteria Evaluation Grid

(3) Efficiency

Evaluation Questions	Necessary information/data (indicator)	Findings
Achievement of Outputs	Are Outputs likely to be achieved appropriately? (from the verification grid)	Outputs are coming out steadily, but it is difficult to judge the degree of the progress as the indicators are not clear.
Cause and Effect (Activities Plan)	Are Activities planned appropriately to achieve the Outputs?	Yes, appropriate in general. Activities for publicity on the procedures and application system of retrofitting shall be added.
(Inputs plan)	Are Inputs set appropriately in quality, quantity and timing to execute the planned activities?	
Appropriateness of inputs 1 Romanian inputs	1. Assignment of counterpart staff 2. Administrative staff 3. Offices and facilities 4. Allocation of necessary budget	Almost appropriate, though there are some problems. Ability and motivation of each individual is high. If the number of counterpart staff is increased, then the quality and quantity of activities will surely be increased. Division 4 has only one CP and increase is desired. Generally speaking CPs are more research minded rather than the actual construction work. Driver and worker for drilling truck was employed at the time rig was introduced. Further auxiliary staff will be employed when it become necessary. Almost appropriate. Secretary has resigned and is not refilled yet for long time. Almost appropriate The current offices are well comfortable. NCSRR is located in two different sites, NCSRR headquarter and UTCB Crane of laboratory is very old and maintenance is not good enough. In the first year (2002) allocation was not made as the project started in October. Since 2003, the budget allocation was secured but following comments were made by Japanese experts during the interview: 1. Salary for staff is not enough 2. Budget disbursement is not smooth
Overall inputs by Romanian side	Overall inputs by Romanian side	Romanian inputs were generally made appropriately in accordance with the plan and contributed effectively to the achievement of outputs.

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Annex 3. 5-Criteria Evaluation Grid

(3) Efficiency

Evaluation Questions	Necessary information/data (indicator)	Findings
Appropriateness of inputs 2 Japanese inputs	1. Long-term experts 2. Short-term experts	Almost appropriate 3 experts including one coordinator is dispatched now but there are 4 divisions of specialties. Romanian side wants experts for strong ground motion, seismic network, soil test, microtremor measurement and analysis, public awareness, etc. Development of technology for retrofitting old building built before 1940 will be the major issue from now. Romanian side expects more transfer of practical knowhow.
	3. Counterpart training in Japan	Almost appropriate Dispatch schedule has been delayed. Dispatch of some experts with new Japanese dissemination activities for Div. 4, is desired, especially directed to citizens Period of stay is too short. . Romanian side expects more transfer of practical knowhow.
	4. Provision of equipment	Appropriate and very effective. Scheduling was difficult as CPs have their own jobs other than the project activities.
	5. Operating expenses	Almost appropriate Equipment for strong ground motion observation and Equipment for soil testing and ground investigation were delivered in May, 2003. Equipment for structure experiment was installed in May 2004. It had been better if all equipment are ready in the first year. Microtremor sensors, acquisition system and related softwares had troubles. Some were fixed, some are under work. JICA has born some portion which are to be born by Romanian side.
Timing	Overall inputs by Romanian side Were Inputs made appropriately as planned? Were Activities done at appropriate time as planned?	Romanian inputs were generally made appropriately in accordance with the plan and contributed effectively to the achievement of outputs. Inputs were made generally in accordance with the Plan. It had been better if all the Equipment were provided in the first year. Due to the delay of disbursement of budget, delay of preparation, etc., activities were intensively done in the latter half of Japanese financial year. Some activities are suspended due to the review of budget by the new government. Structure experiment are behind the schedule
Are the Important Assumptions met?	1. Economic conditions of each side do not get worse. 2. Trained engineers remain active for ongoing projects	Although Romanian economy is recovering, financial situation is still tight. 2 INCERC engineer trained in Japan left INCERC due to low payment.

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Annex 3. 5-Criteria Evaluation Grid

(3) Efficiency

Evaluation Questions	Necessary information/data (indicator)	Findings
What factors facilitated the achievement of the Outputs?	Of the project design Of the implementation process Of the outside conditions	Input of equipment To prepare manual explaining retrofitting methods. To implement experiments and analyze data. To prepare draft of technical manuals, and guidelines. C/Ps had little experience of structure experiment, but through the extensive discussions their understanding of the meaning of experiment is remarkably improved. Through the meeting with citizens in which the former Secretary of State Ms. Tureanu and the Director of NCSRR Prof. Vacareanu also participated, the Project became able to analyze the difficulties of resident consensus. New Ordinance for formation of resident consensus, from all to majority Provision of technical information by residents of old housing units.
What factors hampered the achievement of the Outputs?	Of the project design Of the implementation process Of the outside conditions	Due to the security reasons, it is not safe to leave the drilling rig at the field without night watch. Wagon is requested. The drawings of targeted buildings are owned by private design company and the project had difficulties in collecting information for structural analysis and making proposals.
Cost efficiency	Are the achievement of the Project Purpose and the Outputs reasonable compared to the amount of inputs? Were there any alternative method to obtain higher results with same cost? Were there any alternative method to obtain outputs with less cost?	Japanese inputs are reasonable. Romanian side has difficulty of getting sufficient fund for activities due to the tight financial situation
Overall Efficiency	Both Romanian and Japanese inputs were generally made appropriately in accordance with the plan and contributed effectively to the achievement of outputs. Efficiency of the project is not bad. It will become more efficient if the following problems are solved. 1. Some C/P are not full time and they have also other duties in UTICB and in INCERC. 2. Indicators for the Project Purpose and the Outputs of the project is not clear. This makes monitoring of progress difficult.	

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Annex 3. 5-Criteria Evaluation Grid

(4) Impacts

Evaluation Questions	Necessary information/data (indicator)	Findings
Overall Goal		
(Attainability) Based on the results of Inputs, Activities and Outputs, is the Overall Goal likely to be achieved by September 2012? (Is it verifiable at 5 years after the Project terminates?)	Measures against earthquake- induced disasters in Romania are strengthened. 1. Number of citizens who are expected not to be injured and/ or killed by earthquake damage 2. Value of economic losses that are expected to be prevented from earthquake damage	Measures against earthquake- induced disasters in Romania will surely be strengthened. However as the target level is not shown, it is difficult when the Overall Goal will be achieved. Baseline: 1,424 (1977) Target: Not set Baseline: 2 billion dollars (1977) Target: Not set
(Impact of Overall Goal)	Will the achievement of Overall Goal give impact on the national Development Plan of Romania?	If the damage is actually reduced when a big earthquake really occurred. If the Overall Goal is achieved, then Romanian government and people will highly appreciate the Project. It will give impact on Japanese also.
(Cause and Effect)	Is the Project designed in such a way that the Overall Goal will be achieved if the Project Purpose is achieved and the Important Assumptions are met?	

Annex 3. 5-Criteria Evaluation Grid

(4) Impacts

Evaluation Questions	Necessary information/data (indicator)	Findings
<p>(Important Assumptions: Important Assumptions as shown in next column was set in PDM. Are such assumptions appropriate as of now? Will such assumptions come to reality?</p>	<p>1. Residents and users' consensus on retrofitting works will be obtained. 2. Building structure is properly maintained by the residents. (Residents do not damage or remove structural elements.) 3. Other concerned ministries owning 1st class importance buildings finance retrofitting works.</p>	<p>The New Ordinance of 2003 and the Project seminars for citizens helped lot for the citizens to understand the risks and the need of retrofitting. • It depends on how citizens respect the existing regulations, and how the State Inspectorate for Constructions is enforcing the existing regulations It is very likely that the above assumptions will be realized. • There is a positive attitude in all Ministries concerning the need of retrofitting, and serious efforts are made in this direction.</p>
<p>(Facilitating and Hampering factors)</p>	<p>Other any important conditions to achieve the overall goal other than the above assumptions? What could hamper the achievement of Overall Goal, other than the above important assumptions? What could facilitate the achievement of Overall Goal?</p>	<p>Time and financial constraints for implementing retrofitting work. Besides the general description of the will, it is very important that the funds for retrofitting of important public buildings be given in appropriate proportion to the number and timing of works to be faster.</p>
<p>Are there any impact, positive or negative, other than the achievement of the Overall Goal?</p>	<p>• Impact on the government policy, laws, regulations, standards, norms, etc. Impact on cultural/social aspect, such as gender, poverty, human right, etc., • Impact on personal affairs, organizations, budget, etc., of counterpart organizations</p>	<p>The Government issued a new ordinance in August 2003, changing from 100% agreement –t majority agreement. Through the seminar fo citizens, MTCT now realize importance of dialog with citizens Not observed Not observed</p>

Annex 3. 5-Criteria Evaluation Grid

(4) Impacts

Evaluation Questions	Necessary information/data (indicator)	Findings
	Impact on Environmental protection	Not observed
	• Impact on Technical aspect	Yes, to some extent
	• Impact on social/cultural aspect, such as gender, human right, poverty, etc.	Unknown
	• Impact on counterpart personnel, motivation, work load, income, etc.	Income: very low impact. Very low salaries, not motivating the effort and creating living difficulties. Not rewarding for young top engineers.
	• Any impact which acted negatively to specific people by race, religion, gender social status, etc.	Not observed
	• Any negative impact such as contamination of water and air, noise, increase of work load of female population, etc.	Not observed
Overall Evaluation of Impacts	The project has impact on the overall goal, i.e. "Measures against earthquake- induced disasters in Romania are strengthened." However the indicator for the Overall Goal is not clearly set and it is difficult to predict when it will be achieved. The new ordinance which require agreement of the majority of , not all of , residents for retrofitting is one of the important impacts of the project. No negative impacts are observed.	

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Annex 3. 5-Criteria Evaluation Grid

(5) Sustainability

Evaluation Questions	Necessary information/data (indicator)	Findings
Policy and registration aspect	<ul style="list-style-type: none"> • Will the political support be continued after the end of the Project? • Are the related laws and regulations well established or likely to be established? 	<p>Seismic risk reduction is a long term concern for Romania as for any earthquake prone country. Support will normally continue at least at current level. In case the Project can show any visible effect, then increase of future support could be expected.</p> <ul style="list-style-type: none"> • In fact, there are some changes in 2005 in the general legal framework of disaster management that are going to influence other regulations too, creating a good atmosphere for novelties. • As regulations directly related to this project, the guidelines for new strengthening methods as well as quick inspection of buildings are strongly necessary to be enforced as a result of JICA Project. • The laws and regulations in the filed are under revision and improvement. Joining European Union will bring the necessity of reaching a system of regulations similar in format and quality with Europe.
Institutional and financial aspect	<ul style="list-style-type: none"> • Institutional strength of NCSRR to continue the activities (personnel assignment, decision making process, etc.) Is the ownership of the counterpart organizations well secured? Was the budget sufficiently allocated for the activity? 	<p>NCRSS was established under MTPPL (now MTCT) by the Ordinance No. 54/2002 dated August 27, 2002, with the core objective of implementing the Romanian-Japanese Project for reducing the seismic risk of buildings as well as other national and international plans. As long as the project continues, their status is clear. It is not clear what will happen to NCRSS when the project terminate. But UTCEB, which is providing major support to NCSRR including important counterpart personnel, will surely continue the activity even if something happens to NCSRR.</p> <p>NCSRR was created especially for this purpose. It would be necessary to prepare an agreement and legal framework of what is going to happen after 2007</p> <p>Romanian staff salaries. Also since any contract within the Center is like producing funds for the State, no such supplementary effort and responsibility is attractive. However, Contracts and strong engines for developing the capabilities and outputs of the center. The contract management should be changed, it is depending not on the Center itself, but on the rules and regulations established by MTCT and Ministry of Finances.</p> <p>The uses of money in budgetary institution are very limited even in the case when you have the money in your account. Example: Some running cost (accessories, working tools, working clothes, boots, etc) were not covered from Center budget</p>
Technical aspect	<ul style="list-style-type: none"> How is the possibility that the expenses for the activities will increase in future? Will there be enough financial sources to cover it? • Are the methods of technical transfer used in the Project accepted? (technical level, social/traditional customs, etc.) • Are the maintenance of equipment done appropriately? 	<p>There is some conservative view of some Romanian engineers about some new Japanese methods of strengthening, but these can be overcome if some testing and pilot studies are provided, as well as a better communication and dissemination from concerned divisions of NCSRR.</p> <p>Equipment are new and well maintained so far. Operation of microtremor equipment had and have some troubles. Both sides are looking forward for a final solution. Sensors remain a major aspect.</p> <p>NO, there are no social and cultural aspects that could hamper the sustainability of the project.</p>
Social, cultural and environmental aspect	<ul style="list-style-type: none"> • Are there any possibility that the lack of consideration to gender, poverty, socially vulnerable, etc., hamper the sustainability? 	

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Annex 3. 5-Criteria Evaluation Grid

(5) Sustainability

Evaluation Questions	Necessary information/data (indicator)	Findings
	<p>• Any possibility that the lack of consideration to the environment hamper the sustainability?</p>	<p>It is unlikely.</p>
Others	<p>What are the main worries for the sustainability? (Comments by C/Ps)</p>	<ul style="list-style-type: none"> • 1. Future legal status of the Center. 2. Payment of assigned personnel. 3. Maintenance • To convert Japanese knowledge in requirements in Romanian codes, manual and guidelines and to pass them through all official examinations, i.e. necessary testings. • 1. Salaries and contract issues (see previous comments). 2. Efficiency and extent of know-how transfer. 3. Relations with other institutions in Romania, difficulty in obtaining existing data that are useful for the project. • 1. Well trained staff. 2. Level of income. 3. Budget allocation • 1. Level of income. 2. Budget dedicated to the Project
Overall Sustainability	<p>Earthquake disaster reduction is one of important issues of Romania and the new government of Romania is expected to continue the support to the project at least as made by the previous government. Ability of each counterpart staff is high. However, NCSRR is an organization established with the purpose to implement the project. In NCSRR some C/Ps are part-time staff since they have other duties in UTCB and INCERC. The current frame of the project, NCSRR as the implementing agency with UTCB and INCERC as the cooperating agencies are effective during the project period. But it is not clear what will happen to NCSRR after the project. It is necessary to establish, at latest 6 months before the end of project period, the frame how the related organization will continue the activities towards the Overall Goal after the termination of the Project period</p>	

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