

**NATIONAL  
BUILDING  
RESEARCH  
ORGANISATION**

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**2013  
ANNUAL REPORT**

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Ministry of Disaster Management



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## About NBRO

NBRO is a leading R&D and technical service provider institution where experts from multiple disciplines have teamed up and dedicating its services to creating a disaster resilient safe environment while recognising importance of sustainable development in the country. The nation is facing a diversity of problems in their living environment due to rumbling mountains, soft grounds, polluted air, contaminated water, poor construction and substandard building materials etc. NBRO is geared up to provide suitable solutions to maintain and improve the quality of life of all citizens.

Landslide hazard identification, zonation, mapping, vulnerability assessment, awareness, mitigation, Landslide Risk Assessment Reporting (LRAR) and issuing landslide early warning are commonly known services of NBRO. Geotechnical engineering investigations of most large infrastructure development projects in the country is undertaken by NBRO in its soils testing laboratory. NBRO with its vast experience in the field now contemplates in extending their capabilities to regularize geotechnical investigation and reporting works in the country. Testing of building materials for suitability in construction and certification is done at its well-equipped materials laboratory. Project Management division offers services on project management of construction projects and also a unique service of condition reporting of damaged buildings. Human settlements planning and developing cost effective housing are classical services of NBRO.

Presently NBRO is extending their scope to disaster resilient housing and few model houses are being designed and built. Disaster risk assessment and environmental quality assessment of water, wastewater, soil, sediment, air and emissions ensuring safety of humans and environment, and related studies leading to impact studies and status management are other services widely sought from NBRO.

NBRO depends heavily on the revenue generated by carrying out consultancy work to meet its recurrent expenditure. In addition, the Government of Japan provides financial and technical assistance to some critical landslide mitigation projects. The World Bank provides financial assistance for hazard risk mitigation in landslide hazard-prone schools in the Central Province. The Government of Norway provides financial and technical assistance for landslide risk reduction projects and for capacity building of NBRO in ground subsidence studies. Furthermore, some other collaborating institutions and foreign donor agencies have also come forward granting funds for research and project work of NBRO.

## CHAIRPERSON'S STATEMENT



As the Chairperson of the Interim Management Committee of NBRO and the Secretary to the line ministry, the Ministry of Disaster Management, I take pleasure in presenting this Annual Report of National Building Research Organisation (NBRO) for the year 2013, together with Consolidated Financial Statement before you. In this, you will find a full cross section of NBRO's technical capabilities and how NBRO continue to maintain its financial sustainability over the years.

NBRO today is a mature institution in the country. As a line agency under the Ministry of Disaster Management, NBRO plays a predominant role in disaster management, and considerable portion of funds given to disaster management by the Treasury are invested in the NBRO's landslide mitigation projects. NBRO is now a leading research and development institution in the country to which the government now allocates yearly research grants and outcome of the R&D work is published and presented in its annual research symposium. In its customary manner, NBRO retains its position as a premier multi-disciplinary technical services provider in the country and continue to play a significant role in the national development process.

In 2013, NBRO performed well fulfilling its obligations in landslide hazard identification, zonation, mapping, vulnerability assessment, mitigation, awareness creation and early warning that are commonly known responsibilities of NBRO. Issuance of Landslide Risk Assessment Reports for development activities in landslide prone areas has been meticulously carried out by NBRO through its district offices.

Peradeniya Landslide Mitigation Project is the landmark event in the recent history of NBRO, the

outcome of which permits much needed safe passage to commuters in Colombo-Kandy main road and it is visibly appreciated by the affected community and by concerned authorities as well. Padiyapelalla Landslide Mitigation Project was also completed and ceremoniously handed over to the community to much of their joy and relief. Mitigation of Garandi Ella landslide is in progress and Punchi Rattota mitigation commenced in 2013.

NBRO conducted resistivity tomography studies to learn about the subsurface where incidents of ground subsidence were observed in Matale district. NBRO sought the assistance of Norwegian Geotechnical Institute to conduct subsurface investigations using Ground Penetrating Radar equipment. NBRO will continue studies in view of minimizing impacts and making the place safe to live.

With its unique service of issuing condition reports of buildings, especially to buildings damaged or needing retrofitting and improved structural integrity, the project management function of NBRO has become a hive of consultancy activity. In addition, testing the quality of building materials and monitoring adherence to environmental quality standard are the NBRO services sought most.

NBRO performance presently at a high peak made it possible to win at competitive bidding in consultancy work. As a result, many prestigious projects were awarded to NBRO, like Reservoir Water Quality and Sedimentation Studies for Dam Safety and Water Resources Management Project and the geotechnical investigation and design components of the proposed extension to Southern Expressway.

NBRO made a strong endeavour to collaborate with leading local and foreign institutions especially that are in disaster management field. This effort led NBRO to establish fruitful international collaborations paving way onto ongoing joint research studies.

As a leading institution in disaster management field, NBRO ventured deeply into disaster resilient concepts, promoting disaster resilient planning & disaster resilient construction. A manual, as the

first ever comprehensive document on disaster resilient construction in Sri Lanka, has been compiled by NBRO. Based on the manual several disaster resilient model houses have been constructed in various parts of the country aiming National Safety Day and Dayata Kirula Exhibition etc .

In conclusion, I am delighted to report that NBRO performed at its very best in the year 2013, as evident from its noteworthy financial performance. Since 2010, a significant net annual profit has been recorded every year, and the consolidated revenue of year under review LKR 261.8 is highest ever reported in the history of the NBRO reflecting a growth of 25 % over the previous year 2012. LKR 11.22 Mn. has been recorded as net profit for the year concerned.

In appreciation of the staff contribution to the successful performance, decisions were taken to pay a bonus to employees, and a welfare medical insurance scheme was introduced to their benefit.

I express my sincere gratitude to H.E the President and Hon. Ministers of National Council for Disaster Management (NCDM), Hon. Mahinda

Amaraweera, Minister of Disaster Management, and Hon. Dulip Wijesekara, Dy. Minister of Disaster Management for their kind guidance and paving way to this success. I wish to thank the Members of Interim Management Committee of NBRO (IMC) for the support given to us. I also wish to thank Director General of NBRO and team without whose dedicated effort this success would not have been possible. In addition I express my thanks to the Director Generals of other institutions under my ministry and our stakeholders for their continued confidence on us.

I am sure NBRO will strive hard working in pursuit of its corporate goals and the national goals, and thus make all our endeavor a worthy accomplishment.



**S M Mohamed**  
**Chairperson**  
**Interim Committee of Management,**  
 National Building Research Organisation  
 (Secretary / Ministry of Disaster Management)



## EXECUTIVE REPORT



It indeed is a great pleasure to compile this Annual Report and the Financial Statement of NBRO for the year ended on 31<sup>st</sup> December 2013.

2013 has been a year of remarkable achievements on the records of NBRO's history; year with highest ever turnover, most number of assignments completed, largest value of projects in progress, highest number in new staff intake, highest total staff strength in its cadre and most training programs conducted for its staff.

The market for project work has been dynamic and the competition has been quite strong, in spite of which, NBRO has been very competitive, winning the bids of most of the prestigious project consultancy work. This gave rise to an unprecedented amount of work in hand and resulted in a sharp increase in the yearly revenue. In this regard, I am happy to proclaim that NBRO as a reputed public enterprise excelled its performance in all areas, and it is heading successfully towards achieving its corporate objectives in a challenging socio-economic environment.

The success of NBRO winning very competitive bids and also been awarded many projects by the government is due to its very high level of performance. The staff has been very productive, keeping to tight time schedules. Delays in work had been avoided and clients are pleased as their requirements have always been met satisfactorily. This has led NBRO into having a strong and very competitive edge over other organizations.

Today, NBRO is certainly a much respected and well managed organisation in the country and we have built a good reputation as one among the most trusted technical service providers in

disaster management, housing, construction and environmental sectors.

As a line agency of the Ministry of Disaster Management, NBRO at present strongly focuses its attention in to disaster resilience. Most of the Research & Development efforts of NBRO among other felids is now mainly in disaster resilience field. The government allotted NBRO LKR 11.0 Mn for research and dutifully, NBRO utilized most of these funds to disaster management related research. Outcome of this research and development work has been disseminated in a fruitful way and published presented in the Annual Symposium of NBRO.

In view of mainstreaming disaster resilient construction concepts into building and construction industry, a manual titled 'Disaster Resilient Construction Manual' was compiled by NBRO as a R&D work with the guidance of an advisory panel of academic and trade consultants. As there were frequent reports on schools having surroundings prone to various hazards like landslides, NBRO took a proactive decision to develop locally a risk assessment method and compiled last year "School Safety Toolkit" for conducting hazard risk assessment in local schools.

Further research was conducted into improving efficiency of landslide hazard mapping using computer applications. A drought prediction tool using Palmer Drought Severity Index method was developed and tested as a trail in a study area in North Central Province. Outcome of this research will immensely benefit water forecasters in disaster management, planners in irrigation and power sectors and the farmers in agriculture alike.

Another important research study led to development of a cement block using bottom ash waste from the coal-fired power plant in place of traditional river sand. As its engineering properties were found to be satisfactory, the study is continued to test the use of developed blocks in actual construction, before introducing them to the local market. Fly ash from the coal plant is yet another waste material like bottom ash, posing disposal problems due to its ability pollute the environment. A study is performed to

extract Nano-Silica from fly ash and use in making concrete. It is expected that the new concrete material will be much stronger than conventional concrete, and lighter in comparison. Thus new concrete will be an ideal material in disaster resilient construction.

### CONTRIBUTION TOWARDS NATIONAL DEVELOPMENT

NBRO considers assisting the government in national development and thus enriching the quality of lives by alleviating poverty through Disaster Risk Reduction as a key goal. A national goal has been set to achieve 95% reduction in loss of lives and 40% reduction in loss of property due to disasters. In this NBRO as the focal point for landslide studies in the country has a vital role to play.

Landslide hazard zonation and mapping with annual grants given by GOSL have been tasks assigned to NBRO for a considerable long time. NBRO trained staff of local government bodies how to refer these zonation maps before granting approval on any construction or development activity in a landslide hazard-prone area. If such activity takes place in a risk zone, NBRO has to inspect and give recommendation to local authority through the Landslide Risk Assessment Report (LRAR) issuance process. NBRO now has ten district offices functioning full time in landslide prone districts for the LRAR issuance work. About 7500 applications for LRAR have been processed in 2013 adding to a total of 30,000 applications processed since the process inception in 2011 March.

Landslide early warning is a very important responsibility assigned to NBRO. Presently NBRO has a network of five automated rain gauges located in high landslide risk areas, continuously transferring data from to computers in NBRO for analysis and real time landslide hazard forecasting. This enables landslide early warning by NBRO and deciding on evacuation when necessary. United Nations Development Programme, Japanese International Cooperation Agency and Norwegian Geotechnical Institute all assisted in this important task. Further, 37 more automated gauges in various locations were added to existing network in 2013.

Peradeniya Landslide Mitigation Project commenced in 2009, was completed in 2013. This project costing about LKR 102.7 Mn

benefitted the dwellers and commuters of Peradeniya town making the town a safe place to occupy. NBRO's effort in this project has been appreciated by the affected community and local authorities whose prime concern was safety from the landslide danger. This project mainly used the techniques of removal of overburden and improvement of drainage to stabilize the slope.

Padiapelalla Landslide Mitigation Project was the other major mitigation project completed in 2013 spending about LKR 49.5 Mn. and it was then handed over to the community. Many different slope stabilization methods, land re-shaping, retaining structures, turfs, surface drains, subsurface horizontal drains, and soil nailing, were used in this mitigation project.

Garandi Ella Landslide Mitigation project commenced in 2011 has steadily been progressed. Punchi Rattota Landslide Mitigation project was started in 2013 and investigations were carried out for detailed design for mitigation measures.

Project proposals that were forwarded seeking assistance for mitigating landslides, the Japanese International Cooperation Agency (JICA) has come forward with generous grants for a project to mitigate four identified high risk landslides.

Proposals made to the World Bank on a project to mitigate unstable slopes near schools in Kandy district had been successful and initial work have been started.

### EXTENDING NBRO EXPERTISE

NBRO has been able to contribute to many major infrastructure development projects in the country. Often NBRO provided geotechnical investigations and technical knowhow on foundation engineering and designs with a view of creating disaster resilience in the country. NBRO's contribution to construction of expressways had been significant and NBRO continues to extend its assistance in the remediation of failed slopes in Southern Expressway project. Recently NBRO signed an

agreement to assist the Road Development Authority to stabilize unstable slopes in main national roads in the central highland of the country.

Incidents of ground subsidence were observed in Matale district and NBRO has been able to conduct resistivity tomography studies to learn about the subsurface using their resistivity analysis apparatus. The studies identified subsurface cavities in affected areas. As further studies were needed NBRO resorted to seek the assistance of Norwegian Geotechnical Institute renowned for its capacity in such studies. Together, NBRO and NGI conducted subsurface investigations using Ground Penetrating Radar equipment and their findings were presented in a well-attended technical seminar. NBRO continues to study the subsidence phenomena in view of minimizing impacts.

Collaborative studies conducted with Vanderbilt Institute of Energy and Environment went on to its third year, one major outcome of it being developing a model to predict water availability. This model has been presented to stakeholders and reviewed. The studies continue on climate change issues and agricultural decision making and adaptation to precipitation trends in Sri Lanka, and periodically the outcome of which is reviewed by a committee of stakeholders.

NBRO was awarded the study 'Consultancy Services for Water Quality and Sedimentation Studies' in Dam Safety and Water Resources Planning Project of Ministry of Irrigation and Water Resources. Extending over a two year period and bring in revenue over fifty million rupees, this project is a coveted study NBRO won after highly competitive bidding. Such awards are now making NBRO an organisation having a very competitive edge.

**OUTCOME**

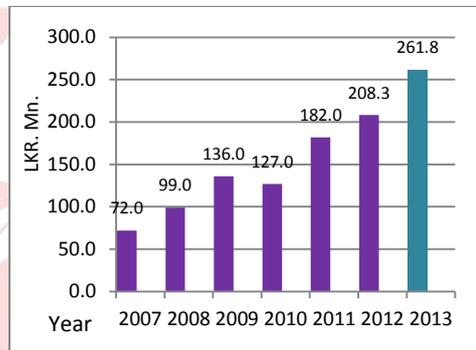
NBRO's landslide disaster risk reduction programmes had been very rigorous as a result of which the vulnerability due to landslide hazard in the country has been significantly reduced over

the past decade. Such risk reduction activities included landslide mapping, site investigations, issuing early warnings in emergency situations based on continuous monitoring of landslide risk, hazard mitigation, and conducting training and awareness of vulnerable communities.

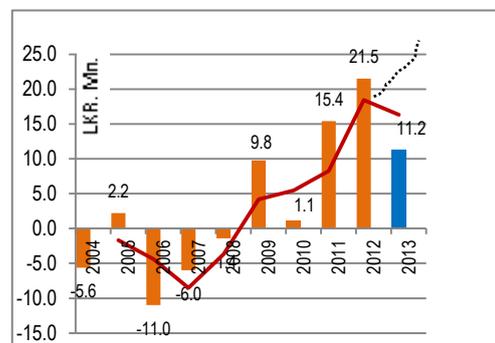
These have become key instruments in the national disaster risk reduction programmes by which the government has been able invest on upcountry development through well-planned risk management systems, while making remarkable savings on disaster relief and rescue.

**REVENUE**

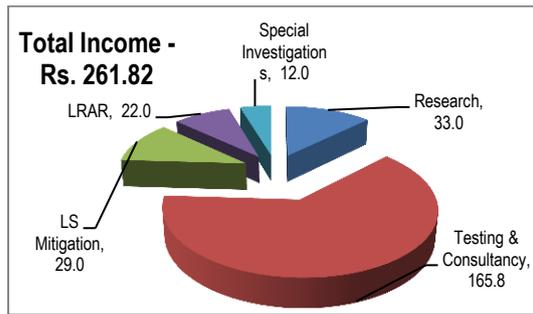
NBRO generates revenue for its recurrent expenditure mainly through consultancy & testing services offered to state and private sectors. As such NBRO heavily relies on its self-earned revenue to provide for staff salaries and most institutional expenses.



Total income for last seven years



Each year from 2010 onwards, NBRO recorded a net profit. Consolidated revenue of the year under review is the highest reported in the history of the NBRO. Total operating revenue LKR 261.8 Mn. reflects a growth of 25% over the previous year 2012. In this, the revenue component of around LKR 165.82 Mn. from testing and technical services shows remarkable growth.



Income by Category - 2013

- Efficiency improved after giving opportunities to staff for foreign training and international exposure.

**FUTURE PLANS**

NBRO Corporate Plan shows an ambitious project implementation program anticipated in the coming years. Garandiella and Punchiraththota Landslide mitigations will be completed fast as ongoing priority projects with GOSL funds. Stabilisation of unstable slope in Pashanwatta, Gampaha & Rectification of failed Slope at Diyathalawa Main Bus Stand will commence in 2014 for which the Treasury has allocated funds under new projects.

In “Integrated Landslide Mitigation project” four high risk landslides will be mitigated with JICA aid in central highland of the country. Funds are being sought for stabilizing other landslide sites.

World Bank Programme for Improving Climate Resilience is providing funds of 7.0Mn.USD for mitigating unstable slopes near 18 identified most vulnerable schools in Kandy district and project work will be continued in 2014.

In addition remediation of failed slopes in Southern Expressway project and assisting Road Development Authority to stabilize unstable slopes in main national roads in the central highland of the country will be continued.

**CONSTRAINTS**

Some obstacles for NBRO remain hindering its development, and they are:

- Draft Act of NBRO has been now finalised and awaiting enactment by the Parliament.
- NBRO functions as a self-funded institution and at the same time, all government regulations are applied being a public enterprise. It is a bottle-neck when meeting demands of diverse group of clients and to meet the project tasks within given targets.
- Retaining of existing staff at NBRO is usually difficult because better remuneration, fringe benefits and facilities are offered by others.

**INITIATIVES FOR PRODUCTIVITY IMPROVEMENTS**

NBRO in 2013 recorded remarkable progress to which the following actions proved to be productive.

- Ministry of Disaster Management has broadened the scope of NBRO and thus revitalized and improved its performance.
- Treasury funds given for capital expenditure were effectively utilized to increase NBRO capacity by procuring important equipment, enabling NBRO to carry out specialized investigations.
- NBRO paid an annual bonus and incentive on encashment unutilized medical leave for all staff members.

**PARTNERSHIP WITH PRIVATE SECTOR**

NBRO encourages private sector involvement in high-tech consultancies and consequently, it collaborates with them in expediting complex projects. This has become a necessity for NBRO as maintaining a strong interaction with the private sector helps in completing difficult assignments of private sector clients who seek NBRO services in multiple disciplines such as geotechnical engineering, environment testing and assessments, landslide hazard risk assessment, and building material testing etc.

**APPRECIATION**

I take this opportunity to express my sincere gratitude to the Hon. Mahinda Amaraweera, Minister of Disaster Management, Hon. Dulip Wijesekara, Dy. Minister of Disaster Management and Mrs. S M Mohamed, Secretary of the Ministry of Disaster Management and Chairperson of Interim Management Committee whose direction

and guidance have paved NBRO the way to this success. Members of IMC and Audit & Management Committee, the Director Generals of Department of Budget, Department of General Treasury, National Planning Department, Disaster Management Centre, and the Department of Meteorology, deserve great appreciation. In addition, I express my sincere thanks to our stakeholders and valued customers for their continued confidence on us.

Above of all, we will not be able to achieve these goals without the help of dedicated employees of NBRO. Superiority of our performance is attributed to this remarkably competent team, their knowledge, skills and professionalism which is the backbone of NBRO. I am particularly delighted with the energy and enthusiasm with

which they have dealt with the challenges of 2013.

Our team members are supportive of each other and collaborate across teams to share ideas and achieve great outcomes. We will continue working cooperatively to improve the performance further, and accomplish our corporate objectives.



**Eng. (Dr.) Asiri Karunawardena**  
**Director General**



### **OUR VISION**

“Creating a safer built environment”

### **OUR MISSION**

Promote and sustain research and development and provide technical services for disaster risk reduction and safer built environment

### **CORPORATE GOALS**

- To become centre of excellence in DRR and ensuring safer -built environment
- To ensure institutional sustainability
- To be a competent technology provider
- To continue functioning as the national focal point for landslides and associated geo hazards
- To continue as a centre for technological information

## MANAGEMENT OF NBRO

Presently a Cabinet approved Interim Management Committee (IMC) with Secretary of the line ministry as the Chairperson guides and directs the administrative, financial and management functions of NBRO.

### MINISTER IN CHARGE OF THE SUBJECT

**Hon. Mahinda Amaraweera**  
Minister of Disaster Management

**Hon. Dulip Wijesekara**  
Dy. Minister of Disaster Management

### INTERIM MANAGEMENT COMMITTEE

**Mrs. S. M. Mohamed (Chairperson)**  
Secretary, Ministry of Disaster  
Management

**Dr. Asiri Karunawardena,**  
Director General, National Building Research  
Organisation

**Maj. Gen. Gamini Hettiarachchi (Retd.),**  
Director General, Disaster Management  
Centre

**Mr. G S Kumara**  
Director,  
Department of Treasury Operations

**Mr. Sanjeewa Wijesinghe,**  
Deputy General Manager Civil Works  
Central Engineering Consultancy Bureau

**Mr. H U R Fonseka,**  
Chief Accountant, Ministry of Disaster  
Management,

**Mr. Lalith Chandrapala**  
Director General, Department of Meteorology

### AUDIT & MANAGEMENT COMMITTEE

**Mrs. S K Samarasinghe**  
Audit Superintendent, Government Audit  
Branch

**Eng. (Dr.) Asiri Karunawardena**  
Director General, National Building  
Research Organisation

**Mr. G S Kumara**  
Director, Department of Treasury  
Operations

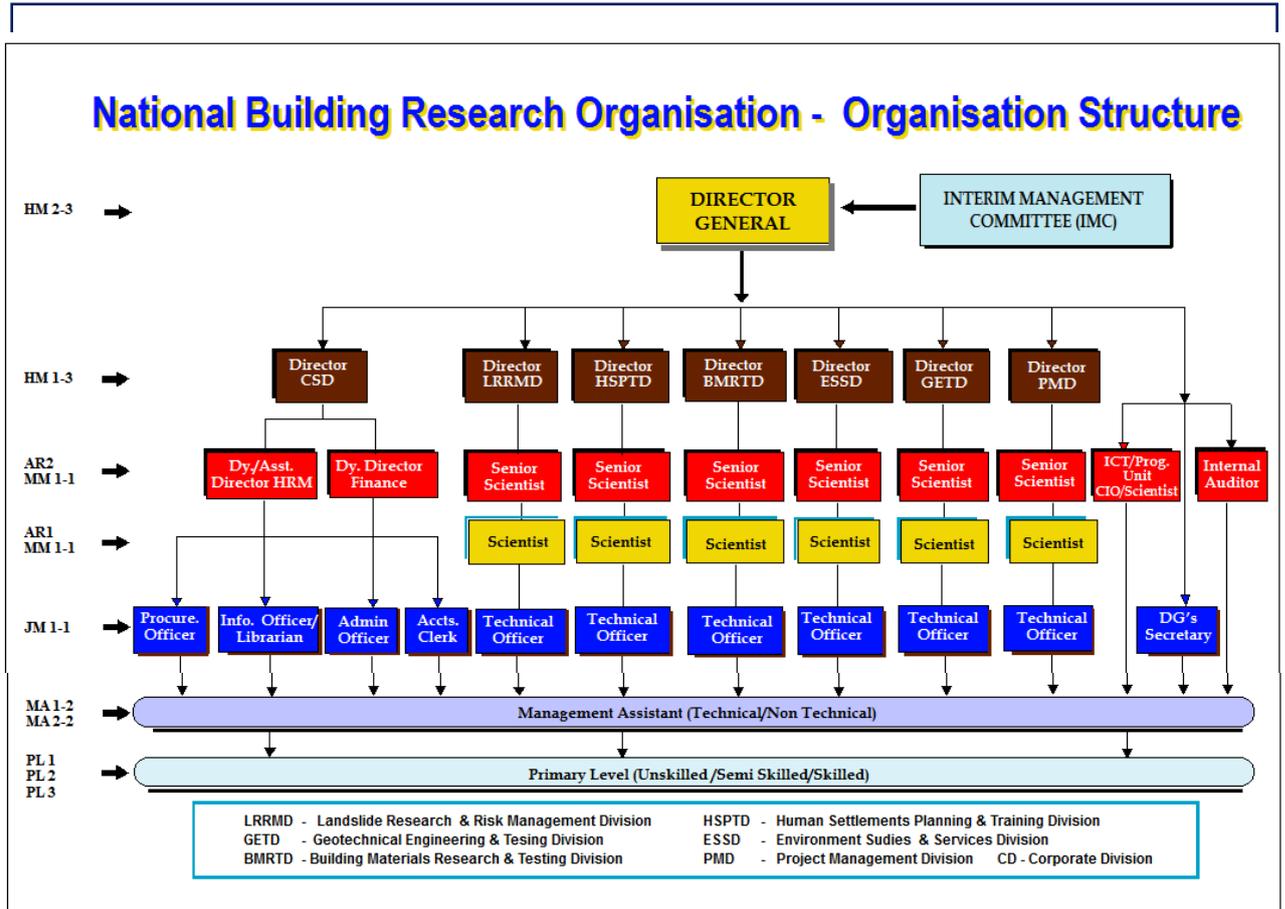
**Mr. R K Jayaweera**  
Director (Corporate),  
National Building Research Organisation

**Mr. Sanjeewa Wijesinghe,**  
Deputy General Manager, Central  
Engineering Consultancy Bureau

**Mrs. W A R D S Thudugala**  
Deputy Director (Finance), National Building  
Research Organisation

**Mr. P Rupasinghe**  
Internal Auditor,  
National Building Research Organisation

**ORGANISATION STRUCTURE**



**SENIOR MANAGEMENT**

**Director General**

Eng. (Dr.) Asiri Karunawardena

**Director,  
Corporate Division**  
Mr. R. K. Jayaweera

**Director, Landslide Research &  
Risk Management Division**  
Mr. R.M.S Bandara

**Director, Human Settlements  
Planning & Training Division**  
Mr. Kishan Sugathapala

**Director, Environmental Studies &  
Services Division**  
Mrs. Sardanee V Dias

**Director, Geotechnical Engineering  
& Testing Division**  
Mr. Kithsiri N Bandara

**Director, Project Management  
Division**  
Mr. M I D H Wijewickrama

**Head, Building Materials Research & Testing Division**  
Mrs S. Muthurathna

## OPERATIONAL HIGHLIGHTS-2013

Progress of NBRO over the past three years had been very impressive. As a result of which National Building Research Organisation (NBRO) is now a leading technical service provider in the country and also is a reputed research and development institution. Having experts from multiple disciplines and necessary facilities, NBRO's expertise today range widely from geotechnical engineering, building materials technology, human



settlements planning, environmental management & engineering and project management to many other varied fields like landslide mitigation, ground subsidence, disaster resilience and drought adaptation.

At present NBRO serves as the research arm and the technical service provider of the Ministry of Disaster Management. NBRO recognizes the need to solve disaster related problems faced by the nation in their living environment, and is geared up to provide technical interventions to maintain and improve the quality of life of the people.

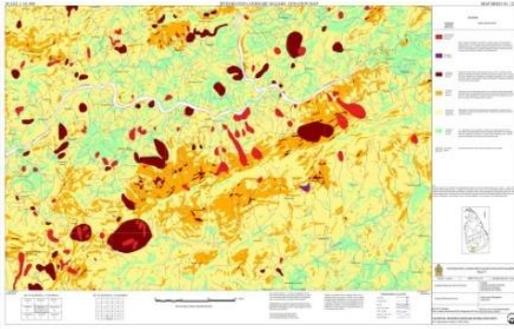
During the year under review NBRO carried out the following specific tasks in line with its designated functions and Annual Action Plan:

### GOSL Funded Projects

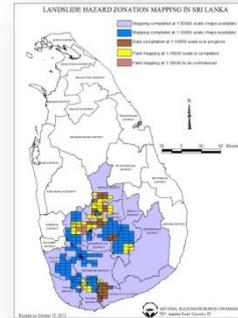
#### Landslide Hazard Zonation Mapping Programme (LHMP):

This project is funded by the government for identification of spatial distribution of landslide hazard by producing 1:10,000 and 1:50,000 maps. This program covers 26,252 sqkm in landslide prone district under 1:50,000 scale mapping and all maps are now available for public use. 4440 sqkm covering 110 maps have been produced at 1:10,000 scale. Extended program (2013-2015) covers mapping of 1389 sq km in Kegalle, 2113 sq.km in Ratnapura, 1860 sq.km in Kandy & 1188 sq.km Nuwara Eliya district.

These maps are used in landslide hazard assessment, national and regional level planning by various institutions, issuing landslide early warning and in the Landslide Risk Assessment Report issuance process. LKR 22.0 Mn has been spent for the program and 11.8 no. of Maps covering 470 sq.km in Kegalle district have been produced. Most of these maps are available in the NBRO website ([www.nbro.gov.lk](http://www.nbro.gov.lk)). NBRO successfully carried out its entrusted important duty of issuing landslide early warning during inclement weather.



A Landslide Hazard Zonation Map



Area Covered under LHMP

### Landslide Risk Assessment Reporting Process (LRAR)

NBRO carried out the issuance of Landslide Risk Assessment Reports and recommendations when needed for all types of development and construction activities in landslide prone areas since March 2011 as a pre-requisite for building permits approved by the local authority. Total 30,866 applications received since its inception and 30,281 file have been attended with a 209 rejected application. Total application of 7,508 alone processed for year 2013.

Total expenditure incurred in the process is LKR 32.3 Mn. for which GOSL provided LKR 22.0 Mn. A sum of LKR 6.3 Mn. was recovered by charging a nominal fee for processing application while the shortage of LKR 4.0 Mn. have been spent from the NBRO revenue as contribution to national development.

### Landslide Special Investigations

NBRO performed investigations for identification of risks associated with nearby human settlements, infrastructure and plantations and provided immediate recommendations to the District and Divisional Secretaries/ other governmental institutions to ensure the safety of life and property if a landslide were to occur. 653 investigations have been done over the requests of District and Divisional Secretaries/ other governmental institutions. Total amount spent for the process is LKR 12.0 Mn. for which funds have been provided under the government grant.

### Landslide Mitigation Work

#### Mitigation of Peradeniya & Padiyapellella Landslides

NBRO recently completed the mitigation of Peradeniya, and Padiyapalalla landslides spending LKR 13.9 Mn of internal funds as the Treasury has not provided the funds for targeted activities in 2012. Padiyapellella mitigated landslide was handed over to community by Hon. Minister of Disaster Management Mr. Mahinda Amaraweera and Hon Minister of Private Transport Services Mr. C B Ratnayaka in a ceremony held at the site on 8th June 2013.

**Padiyapalella**

Total estimated cost : LKR 51.3 Mn  
 Time period : 2009 – 2012, (2013)  
 Total Expenditure : LKR 49.51



**Peradeniya**

Total estimated cost : LKR 102.0 Mn  
 Time Period : 2009 – 2012, (2013)  
 Total Expenditure : LKR 102.7 M



**Mitigation of Garandiella Landslides**

Mitigation of Garandiella Landslide commenced in 2011 due to the severe landslide threat, and as an alternative to relocation of 50 houses that were under the threat, relocation of Kothmale town or construct earthen dam to divert debris flow, diversion of debris flow downstream before Kothmale reservoir, or re-routing of few main roads.

Total estimated cost : LKR 98.0 Mn.  
 Time period : 2012– 2017

Government of Sri Lanka has funded for the mitigation of Garandiella landslide.

Total Estm'd Cost	Allocation of Funds			
	2011	2012	2013	2014
LKR 98.0Mn	5.0	14.82	29.0	30.0

Major activities of construction & development of two major diversion canals for surface water diversion have been done and the total length of 165 meters have been completed as scheduled. Apart from that construction of 3 nos. 50 m deep drainage wells for installation of automatic pumps have been completed by the National Water Resources Board. Erosion control measures are also implemented and all major activities are continued in 2014 as well.



## Research & Development Program

The government provided LKR 11.0 Mn to NBRO to carry out research. These funds were effectively utilised for the following research projects, which as a main concern, focused on the research on disaster resilience. Final results were presented in the NBRO Symposium held in December.

1. **Development of ‘Disaster Resilient Housing Construction Manual’:** In this work, a manual was compiled to assist home builders and construction professionals in incorporating disaster resilient features into the design and construction, and also in learning correct construction techniques.
2. **Constructing Disaster Resilient Houses Designed for Major Disasters:** In this research project, model houses were designed with disaster resilient features and they will be constructed as a pilot study. The details are:
  - 3 model houses in Hambanthota district resilient to landslide and flood under the NBRO research program
  - 3 No. Disaster Resilient Model Housing Units for Floods, Landslides and Tsunamis in line with “National Safety Day Commemoration Programme – 2013”
  - 3 No. Disaster Resilient Model Housing Units for Floods, Landslides and High Winds in line with “Deyata Kirula National Development Programme – 2014”
3. **Research Study on GIS Modeling for Increasing the Accuracy in Landform Mapping:** This study focused on developing techniques for integrating GIS techniques into present landform mapping.
4. **Developing a Tool Kit to Assess School Safety for Landslides:** In this study a risk analyzing tool was compiled that can be used to (i) assess risk levels of landslide, flood and cyclone hazards, (ii) decide on appropriate mitigatory measures in existing schools, (iii) prioritize such mitigation projects, and (iv) provide appropriate design of new schools.
5. **Preparation of Drought Index for Local Level Decision Makers:** In this study, methodologies were developed for studying and predicting wet and dry weather periods in the country using past data and accurate forecasting techniques, and this would benefit water forecasters and agriculture planners to learn beforehand water availability for their functions.
6. **Research on Verification of Effectiveness of the horizontal drilling machine specially for soil nailing works in the landslide mitigation activities:** In this project the application of soil nailing as a tool for landslide risk reduction and the effectiveness of horizontal drilling machine in this work were studied.
7. **Development of light-weight building blocks with bottom ash from coal fired thermal power plants:** In this project, bottom ash from the power plant, which is presently a waste material needing disposal was used as a substitute to sand in the development of new type of a cement block.
8. **Use of nano fly ash for enhancing properties of concrete:** Use of nano fly ash particles to enhance properties of concrete was studied in this research. Outcome of this research is expected to lead to new concrete materials having superior strength and characteristics that can make structural members smaller and compact, and that can be used in disaster resilient construction.
9. **Geotechnical characteristics of unsaturated lateral soils in upcountry in Sri Lanka:** This project gathered soil properties by collection and analysis of various soil samples from different areas in the upcountry.

10. **Preliminary survey on use of ground vibration for the determination of landslide hazard:** As ground vibration can trigger landslides, this project studied how the monitoring of ground vibration can be used to assess and predict landslide hazard in vulnerable areas.
11. **Research on Vulnerability and risk assessment for land subsidence** In this project, resistivity analysis was carried out to model cavities underneath earth surface in selected areas first, and then vulnerability and risk assessment were carried out. Studies were carried out to relate hydrology to land subsidence and learn more about gas pressure and chemical reactions in sinkholes. Outcome of studies were used in subsurface mapping and in preparing procedures for designing resilient foundations in such land subsidence prone areas.
12. **3-D resistivity survey to investigate subsurface conditions of Land subsidence occurred in Rideewita, Pthalwatte in Kalutara:** In this project, ground subsidence issues in Rideewita and Pthalwatte areas in Kalutara district were studied.
13. **Risk Management around Matale in Central Province:** Ground subsidence is presently a critical issue in Matale area. This research study was on developing risk management in the affected area.

**Remarkable achievements in 2013**



- Preparation of lightweight building block using bottom ash of coal fired power plant.
- Introduce a computer based model to make efficient the process of land use map preparation for LHMP
- Development of Disaster Resilient Housing Construction Manual
- Introduce drought index for local level decision makers
- Successfully completed NBRO symposium 2013



**Procurement of Equipment**

LKR 18.0 Mn. had been allocated by the General Treasury to procure equipment for lab, field & research work for capacity building in NBRO. Several major equipment including field accessories including IT related equipment have been procured under this grant.

## Major Consultancy Projects

### Reservoir Water Quality and Sedimentation Studies

A major study "Reservoir Water Quality and Sedimentation Studies" for Dam Safety and Water Resources Management Project of the Ministry of Irrigation and Water Resources Management was undertaken and this work will continue up to 2015. Details of the project are as follows;

Total project value: LKR 64. 7 Mn. won under competitive bidding.

Client : Dam Safety and Water Resource Planning Project, Ministry of Irrigation & Water Resources

Project Period : June 2013- March 2015

Study:

- ☉ Analysis of WQ data bases. Polgolla, Kothmale, Kalawewa.
- ☉ Monitoring watershed water quality, Monitoring Reservoir water quality in Polgolla, Kothmale, Kalawewa
- ☉ Preparation of a watershed management plan for Polgolla reservoir
- ☉ Bathymetry survey of Polgolla, Inginitiya, Kalawewa, Rantambe.
- ☉ Procurement of water quality monitoring & Bathymetry survey equipment for MASL



Monitoring of reservoir water quality

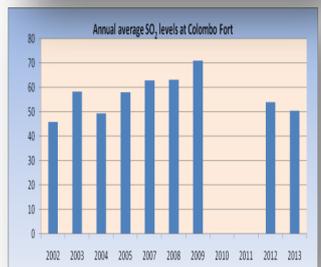
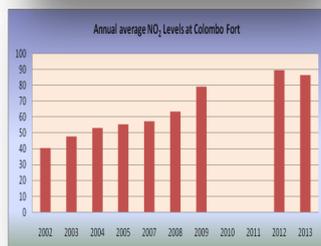
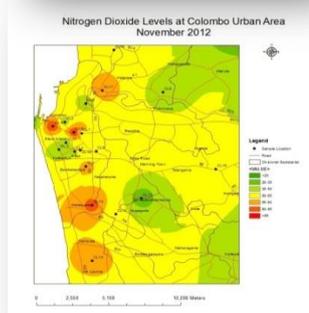
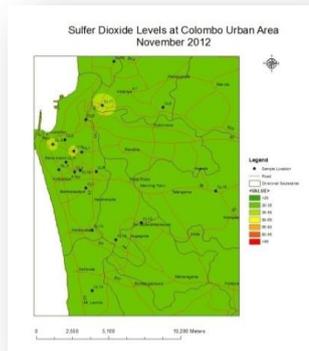
### Other Studies

Other important studies are:

- Developing a Web-based User Friendly Software for Interpretation and Dissemination of Water Quality Data of Pavithra Ganga Project of Ministry of Environment.
- Additional studies on natural environment for review of feasibility study and preparation of detailed design and bidding documents - Moragolla Hydropower Project Sri Lanka for Nippon Koei Co. Ltd.



## Establish Policy and a Methodology to Study Ambient Air Quality in Main Urban Cities in Sri Lanka by using Passive Air Quality Monitoring Technique - 2013



Department of Motor Traffic in collaboration with Ministry of Environment and Natural Resources has taken an initiative to collect data on air quality at identified cities especially in provincial capitals to evaluate the impact of vehicle emissions on ambient air quality with the intention of implementation of VET (Vehicle Emission Testing) programme to other 6 provincial areas. NBRO carried out measurements of this study to ascertain air quality levels at major cities in Colombo, Gampaha, Kalutara, Rathnapura and Galle districts.

Funded by; VET funds through Registration of Motor Vehicles  
Objective: To establish the ambient air quality database in main urban areas

Methodology: Monitoring ambient air quality using low investment passive sampling techniques.

Aim: Analyzed data is to be used in decision making in urban air quality management and transport planning for vehicular emission reduction

Project Component:

1. Colombo, Gampaha, Kalutara, Rathnapura & Galle,  
Allocation - LKR 1.90 Mn. for 2012-2013

2. Kandy, Kurunegala, Anuradapura & Badulla  
Allocation - LKR 1.50 Mn. for 2013-2014

Study Methodology:

Sampling locations to represent different environmental conditions in urban areas in

Colombo (19), Gampaha (11), Kalutara (05),  
Ratnapura(11), Galle (06) Horana (05)

Monthly average exposure levels of SO<sub>2</sub> and NO<sub>2</sub> are being measured.

## Geotechnical Investigation Projects

NBRO conducted geotechnical investigations especially in important infrastructure projects in the country. This included ground exploration as well as testing of geo materials in its well equipped laboratory. Further, research on understanding the behaviour of residual soil, expansive soil and peaty soil and finding appropriate construction technologies over the problematic soil types have given prime concern in the year under review.

### Soil Investigation for Expressway from Godagama to Andarawewa Phase II - Beliatta to Andarawewa

Client	:	Road Development Authority
No. of boreholes investigated	:	43 Nos.
Project Duration	:	2 months
Project Cost	:	LKR 8.60 Mn.
Status	:	Project completed successfully



Geotechnical investigation in progress

### Soil Investigation for Greater Colombo Waste Water Management Project Kirulapone South Catchment Area

Client	:	Ministry of Local Government and Provincial Councils
No. of boreholes investigated	:	58 Nos.
Project Duration	:	2 months
Project Cost	:	LKR 4.40 Mn.
Project completed successfully		

#### Kirulapone North Catchment Area

No. of boreholes investigated	:	69 Nos.
Project Duration	:	1 ½ months
Project Cost	:	LKR 5.04 Mn.
Status	:	Ongoing



Geotechnical investigation in progress

### Soil investigation and recommendation for the Meethotamulla solid waste disposal site

Client – Colombo Municipal Council (CMC)  
 Project – LKR 2.40 M

From the detailed investigation study, it was found that the subsurface failure had initiated through a soft soil formation, specially peat & organic silt, which occurs below the landfill across the site. A retaining structure (soil and rock fill) was proposed as a feasible and economical option for the site



Investigations at Meethotamulla solid waste disposal site

### Project Management Work

NBRO offered project management services for some important construction projects in the past few years. NBRO offered as a consultancy service the condition assessment of buildings, evaluation of damaged buildings, and preparation of condition reports including recommendations for defect rectification and structural stability. There was a high demand for this service in the recent past.

### Project - Construction of the National Centre for Non-Destructive Testing for Atomic Energy Authority

Client - Atomic Energy Authority  
 Construction of National Centre for Non-Destructive Testing (NCNDT) for Atomic Energy Authority under the Ministry of Technology, Research and Atomic Energy is underway. Total Estimated Cost of the project is LKR 345 M.

PMD has been entrusted to provide the Consultancy Services on construction supervision and payment certifications to the Contractor, Sri Lanka Land Reclamation and Development Corporation (SLLR&DC) during the construction period.

NBRO Cost - LKR 3.1 Mn  
 Status - ongoing



Construction work in progress

**Project - Independent investigation on cracks on buildings at Kantale- Trincomalee Road section**

**Client - World Bank funded Road Sector Assistance Project**

PMD provided consultancy service for conducting a crack survey in 88 houses & commercial buildings along the Kanthale - Trincomalee main road affected by recent road rehabilitation work.



Some photographs showing major cracks



### Other Income Generating Activities

- ✚ Provision of technical consultancy services in the fields of landslide studies and services, geotechnical engineering, project management services, building materials, human settlements planning and environmental management were continued and this work continued to strengthen the financial viability of the institution.
- ✚ NBRO continued providing its services for testing of construction materials, and testing for condition assessment of buildings and structures.
- ✚ NBRO continued providing its services for testing of water, wastewater, air quality, emissions, noise levels and vibration for environmental studies and many such studies on various infrastructure development projects were undertaken. They are summarised below;

Activity/ Division	No of Consultancy Jobs	No of Testing Jobs	Total Income Generated (LKR. Mn.)
Landslide Research & Risk Management Division	1375	-	34.58
Geotechnical Engineering & Testing Division	41	31	36.13
Environment Studies & Services Division	3	496	31.15
Building Materials Research & Testing Division	-	2,389	27.54
Project Management Division	55	-	19.66
Human Settlements Planning & Training Division	10	-	10.14
<b>Total</b>	<b>1,484</b>	<b>2,916</b>	<b>159.20</b>

## Foreign Collaborating Projects

### NBRO - NGI / RNE (Colombo) Technical Cooperation Project

NBRO in collaboration with Norwegian Geotechnical Institute commenced the project "NBRO-NGI Institutional Cooperation on Mitigation of Natural Disasters due to Climate Change". This co-operation permitted the two parties (NBRO and NGI) to share each other's experiences in geo-hazards with emphasis on landslides and make collaborative efforts in finding solutions to the various problems caused by landslides in Sri Lanka. The financial assistance received through the Royal Norwegian Embassy (RNE) in Colombo. Several automatic rain gauges were installed under this project.

The NBRO - NGI jointly conducted investigation under this technical corporation for development of possible mitigation strategy for the ground subsidence occurred in Matale district. The Government of Norway trained NBRO staff in the NGI and extended grants for a Ground Penetration Radar (GPR) equipment to study the ground subsidence in Matale district. They further assisted in providing latest techniques like using INSAR satellite images and aerial maps to study plausible subsidence of important places. This project is continuing up to June 2014.



Ground subsidence studies in Matale by NBRO & NGI Team

### NBRO -Vanderbilt Institute for Energy and Environment (VIEE) of USA Technical corporation project



Sampling at different locations

NBRO collaborated with Vanderbilt Institute for Energy and Environment (VIEE) of USA to conduct a five year study "Agricultural Decision-making and Adaptations to the Precipitation Trends in Sri Lanka" (ADAPT-SL) starting from 2012. This study aims at development of regional level drought indices coupled with short- and long-term drought forecast methods. As water scarcity is now a growing concern, farmers find themselves challenged by new conditions that require adaptation to farming practices without relying on traditional practices to manage water.

The research draws on the core disciplines of psychology, sociology, hydrology, and engineering in order to investigate the issues among paddy farmers within the Mahaweli River Watershed (MRW) of Sri Lanka.

VIEE and NBRO also collaborated to conduct a pilot survey of 193 farmers in five communities throughout the dry zone to assess cultivation practices, perceptions of environmental change, perceptions of water scarcity and actions taken to adapt to drought.

NBRO established Climate Research Unit (CRU) at the HSPTD for carrying out work related to this project. VIEE donated water quality test kits to NBRO under this project.

**UNDP-NBRO Technical Corporations for enhancing real time landslide forecasting and early warning capacity by establishing automated rain gauge network.**

Project commenced in the year 2013 for establishment of 35 automated rain gauge stations in pre selected catchments in Badulla, Kandy, Kegalle, Kurunegala Matale & Nuwara Eliya districts. These rain gauges are used to obtain data for the issuance of landslide early warning to rural communities living in these districts. Landslide Research & Risk Management Division of NBRO implemented this project with LKR 18.70 Mn financial assistance of the UNDP - DRM program under USAID grant.



Installation of automated rain gauges in progress in selected catchments.



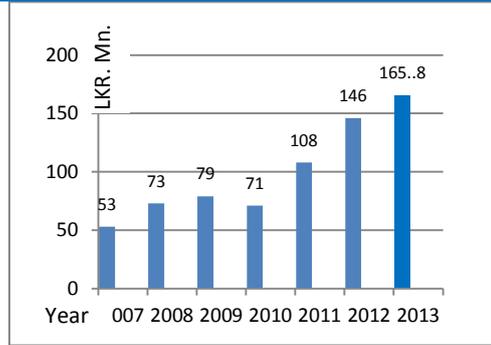
**FINANCIAL HIGHLIGHTS**

In 2013, NBRO recorded consolidated revenue of LKR 261.8 Mn. that reflects a growth of 25% over the previous year.

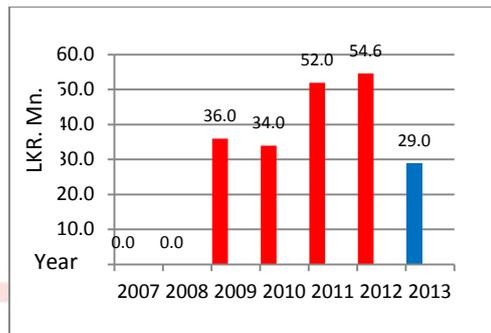
Revenue from customary NBRO services LKR 165.82 Mn. shows remarkable 13.7% growth in 2013. The institution depends mostly on this consultancy revenue generated to meet its recurrent expenditure.

LKR 29.0 Mn have been received under government grant for Garandiella landslides mitigation works. In addition LKR 13.96 Mn has been spent for the essential work at Peradeniya & Padiyapalella landslide mitigation work out of the NBRO revenue in 2013 as the total allocated funds were not adequately released by the Treasury in the end year 2012.

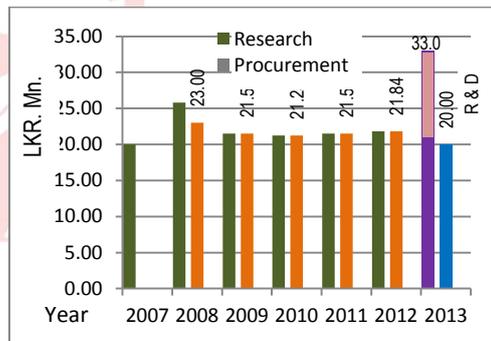
Ten district offices of NBRO have been functioning since March 2011 for issuance of Landslide Risk Assessment Reports for development work in landslide-prone districts. Total expenditure was LKR 32.3 Mn. Out of which LKR 22.0 Mn. was provided by the Treasury as recurrent expenditure and LKR 6.30 Mn. was received as nominal fee charged from applicants. The balance LKR 4.0 Mn was borne by NBRO revenue.



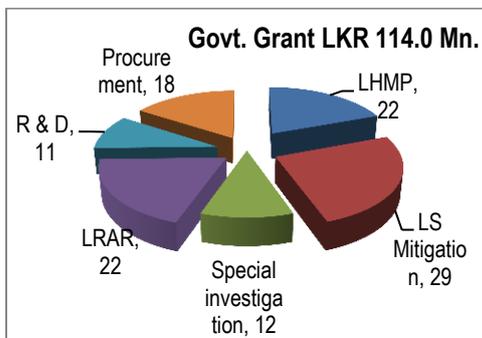
**Income by testing & consultancy**



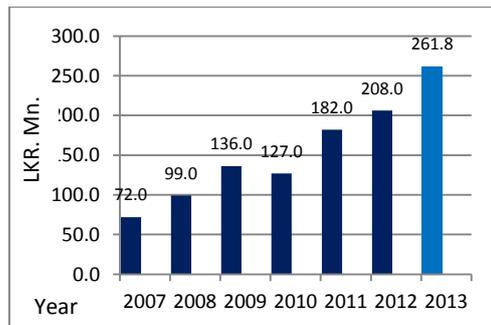
**Landslide mitigation budget**



**Research and procurement grant**



**Total income by category**



**Total income**

In addition, Research Grant for Landslide Hazard Mapping of LKR 22.0 Mn. together with LKR 11.0 Mn for the Research & Development was

received. Grant for Landslide Special Investigations of LKR 12.00 Mn. and Procurement Grant for lab & field equipment of LKR 18.00 Mn. were received from the Treasury as anticipated.

The total operating revenue for year 2013 was LKR 261.8 Mn. while total operating expenditure for the corresponding period was LKR 240.03 Mn. A net profit of LKR 11.22 Mn. was recorded in spite of the expenditure of LKR 13.9 Mn. spent for urgently completing Peradeniya and Padiyapallela landslide mitigation work from

NBRO revenue, as its contribution to national development effort.

The expenses on personal emoluments for the staff strength of 237 plus daily paid employees was LKR 126.7 Mn. as against the staff strength of 228 plus daily paid employees was LKR 107.2 Mn. in year 2012.

The institution growth and enhanced performance have been mainly due to the courageous effort of the management and the staff of NBRO.



## STATEMENT OF FINANCIAL POSITION

<i>For the year ended 31<sup>st</sup> December 2013</i>	2013 Rs.	2013 Rs.	2012 Rs.	2012 Rs.
<b>ASSETS</b>				
<b>Non - current assets</b>				
Property ,plant and equipment	71,262,553.07		67,510,842.20	
Sundry Debtors ( 1991 to 2010)	8,574,602.50		9,087,853.13	
		79,837,155.57		76,598,695.33
<b>Current Assets</b>				
Inventories	1,455,612.84		1,261,495.03	
Refundable Payments	476,816.92		830,984.42	
Work In Progress	17,666,169.91		12,450,889.42	
Sundry Debtors (2011 to 2013)	17,236,618.38		17,676,718.64	
Sundry Receivable / Grants & Projects	16,911,229.02		18,911,229.02	
Deposits	61,237,860.18		5,756,030.78	
Advances	12,024,450.05		5,834,485.73	
Prepayments	1,902,509.57		161,731.75	
Cash and Cash equivalents	24,334,897.15	153,246,164.02	57,383,591.05	120,267,155.84
<b>Total Assets</b>		<b>233,083,319.59</b>		<b>196,865,851.17</b>
<b>LIABILITIES</b>				
<b>Current liabilities</b>				
Sundry Creditors	831,402.67		1,373,802.67	
Accrued expenses	13,757,737.77		9,831,514.05	
Refundable Deposits	1,654,463.14		2,278,098.15	
Non-current liabilities				
Welfare fund	374,261.10		374,261.10	
Provision for Gratuity	41,615,419.97		36,709,313.75	
<b>Total liabilities</b>		<b>58,233,284.65</b>		<b>50,566,989.72</b>
<b>Total Net Assets</b>		<b>174,850,034.94</b>		<b>146,298,861.45</b>
<b>NET ASSETS / EQUITY</b>				
Assets acquired	2,264,497.95		2,264,497.95	
Revaluation surplus	27,875,989.31		27,875,989.31	
Government Grant	131,125,638.15		136,183,151.60	
Other Grants	0,082,517.64		27,701,789.81	
Accumulated Profit / (Loss)	(36,498,608.11)		(47,726,567.22)	
		174,850,034.94		146,298,861.45
<b>Total Net Assets / Equity</b>		<b>174,850,034.94</b>		<b>146,298,861.45</b>

## STATEMENT OF FINANCIAL PERFORMANCE

*For the year ended 31<sup>st</sup> December 2013*

		2013 Rs.	2012 Rs.
<b>Operating Revenue</b>			
Revenue	Annex 17	222,219,196.39	185,256,279.83
Other operating income	Annex 18	6,586,607.58	1,255,393.68
Research Grant		33,000,000.00	21,840,000.00
		261,805,803.97	208,351,673.51
<b>Operating Expenses</b>			
	Annex 19		
Personal emoluments		126,771,000.21	107,270,718.36
Travelling & Subsistence		6,219,969.94	7,165,126.20
Supplies and consumables used		15,639,563.98	12,395,115.55
Repair & Maintenance		8,233,088.18	7,088,100.03
Contractual services		55,456,024.51	41,435,342.46
Other operating expenses		27,718,110.22	18,895,330.02
<b>Total operating expenses</b>		240,037,757.04	194,249,732.62
<b>Surplus / (Deficit) from operating activities</b>		21,768,046.93	14,101,940.89
Laps Account			
Finance cost		(159,809.08)	(47,507.28)
Non operating expenses	Annex 20	(10,380,278.74)	7,407,231.10
Total non operating revenue (expenses)		(10,540,087.82)	7,359,723.82
<b>Net surplus / (deficit) for the period</b>		11,227,959.11	21,461,664.71

## CASH FLOW STATEMENT

For the year ended 31<sup>st</sup> December 2013

	Rs.	Rs.	Rs.
<b>Cash flows from Operating Activities</b>			
Surplus / (Deficit) for the year	11,227,959.11		
Research Grant	(33,000,000.00)		
Prior Year Adjustment	3,656,607.45		
	(18,115,433.44)		
<b>Adjustments for items not involving movement of funds</b>			
Depreciation	1,364,418.81		
Provision for Gratuity	6,359,611.03		
Gratuity Payment	(1,453,504.81)		
Prior Year Adjustment	(3,656,607.45)		
	(15,501,515.86)	(15,501,515.86)	
<b>Operating Profit before changes in Items of Working Capital</b>	<b>(15,501,515.86)</b>		<b>)</b>
<b>Changes in items on working capital</b>			
Decrease in Debtors (1991-2010)	513,250.63		
Increase in Inventories	(194,117.81)		
Decrease in Refundable Payments	354,167.50		
Increase in Working In Progress	(5,215,280.49)		
Decrease in Debtors (2011-2013)	440,100.26		
Decrease in Sundry receivable - Grants & Projects	2,000,000.00		
Increase in Deposits	(55,481,829.40)		
Increase in Advances	(6,189,964.32)		
Increase in Pre payments	(1,740,777.82)		
Decrease in Sundry Creditors	(542,400.00)		
Increase in Accrued expenses	3,926,223.72		
	(62,754,262.74)	(62,754,262.74)	
Decrease in Refundable Deposits	(623,635.01)		)
<b>Net Cash flows from Operating Activities</b>			<b>(78,255,778.60)</b>
<b><u>Cash flows from Investing Activities</u></b>			
Purchase of Fixed Assets		(24,501,775.30)	(24,501,775.30)
<b><u>Cash flows from Financing Activities</u></b>			
Government Grant (Research & Procurement)		51,000,000.00	
Other Grants (Raiinguages)		18,708,860.00	<b>69,708,860.00</b>
		(33,048,693.90)	
<b>Cash and cash equivalents beginning of the period</b>			<b>57,383,591.05</b>
<b>Cash and cash equivalents as at 31.12.2013</b>			<b>24,334,897.15</b>

## NOTES TO ACCOUNTS

### 1. Basis of Accounting

Financial Statements have been prepared on the basis of Generally Accepted Accounting Principles and Fundamental Accounting Assumptions including the followings. (The deviations if any have been disclosed in a separate note.)

- (a) Going Concern
- (b) Accounting Policies consistently applied.
- (c) Revenue and expenditure are accrued in the year to which they relate.

### 2. Compliance with Sri Lanka Public Sector Accounting Standards (SLPSAS).

As per the circular No. PED/POL/CIR/2013-3 of Department of Public Enterprises, the Financial Statements for the year ended 31<sup>st</sup> December 2013, complies with SLPSAS 2 to 6 and fully compliance will be in 2014.

### 3. General Accounting Policies

#### (1) Depreciation policies.

- (a) Full depreciation is provided in the year of purchase and no depreciation is provided in the year of disposal for all fixed assets from year 2009.
- (b) Fixed assets are depreciated on straight line method at different rates as follows:

	%
Buildings	2.5
Machinery and Lab Equipment	20.0
Furniture & Fittings	10.0
Vehicles	20.0
General Office Equipment	20.0
Drawing Office Equipment	10.0
Tools	50.0
Library Books	5.0
Fire Extinguishers	10.0

- (c) Depreciation for granted assets has been deducted from the carrying value of grants as stipulated in Sri Lanka Accounting Standards.

#### (2) Valuation of Closing Stock

Materials utilized are valued at first in first out price and the closing stock has been valued at market price.

#### (3) Provision for Gratuity.

Provision for gratuity is calculated in accordance with the gratuity act.

#### (4) Provision for Bad Debtors.

A provision has been made for doubtful debtors on the basis of;

- (a) 1% Provision for debts outstanding over 2-10 years.
- (b) 25% provision for debts outstanding over 10 years.

**4. Government grants**

	2013	2012
	Rs.	Rs.
Grants for the procurement	18,000,000	21,840,000
Grants for the 04 Nos. of Vehicles	-	<u>11,000,000</u>
	<u>18,000,000</u>	<u>32,840,000</u>

**5. Bad debts written off during the year.**

An aggregated unrecoverable sundry debtors of private sector amounting to Rs.1, 253,980.87 have been written off during the year as per IMC paper no. 8-12/2013.

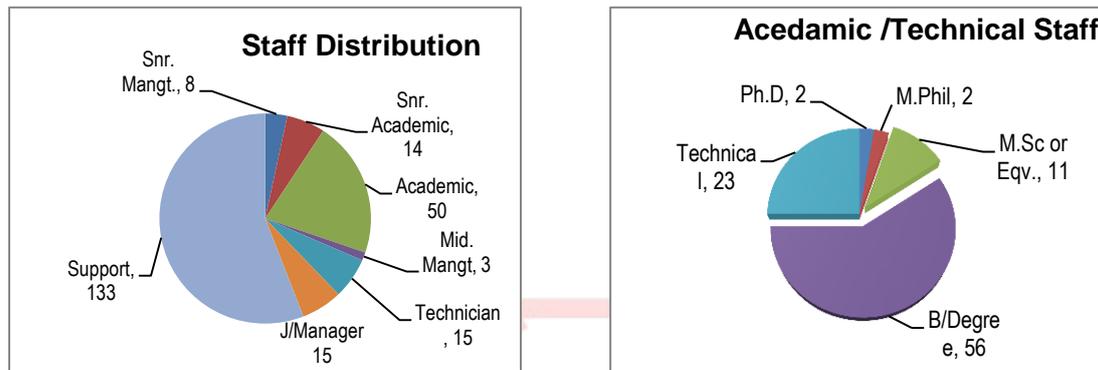
6. An amount of Rs.18,708,860/= has been received under UNDP-NBRO Technical Corporation for enhancing real time landslide forecasting and early warning capacity for establishing automated rain gauge network. The financial assistance was received from UNDP - DRM program under USAID grant.
7. Rs.13,957,790.36 from NBRO funds were utilized for completion of essential activities of Peradeniya, and Padiyapalalla landslide mitigation projects in 2013 as funds were not received from the Treasury for the said activities targeted in 2012.



**HUMAN RESOURCE /CAPACITY DEVELOPMENT**

NBRO’s Vision and Mission were set to develop its capacity to cater the Ministry’s DRR needs. With this in view NBRO is in the process of legalizing the institution mission by an act and developing staff capacities to deliver high standard outputs. Staff turnover is one of the inherent issues of NBRO during the recent past. Human resource and infrastructure needs of the institution are becoming a matter of serious concern with the increasing responsibilities the institution shoulder at present.

Recruitment of new employees for essential vacant positions was done. By now, 26 employees in 7 categories have been recruited. Total number of vacancies as at 31<sup>st</sup> Dec. 2013 was 45. A staff development program was initiated in 2013. Local and foreign training opportunities were widened and made available for our staff to enhance their experience and knowledge.



**STAFF RECRUITMENTS/ RETIREMENTS/ RESIGNATIONS – 2013**

No	Sal/ Code	Staff Category	No of Recruitment	No of Resignations	No. of Retirement
1	HM 1- 3	Senior Manager ( CEO)	01	--	-
2	HM 1-1	Senior Manager	05	-	-
3	MM 1-1	Middle Management	02	01	-
4	AR 2	Senior Academic/ Scientist	-	01	-
5	AR 1	Academic/ Scientist	13	06	-
6	MA 2-2	Management Assistant (Tech)	01	-	-
7	MA 1-2	Management Assistant (Non Tech)	02	03	-
8	PL 3	Primary Skilled	03	03	-
9	PL 1	Primary Unskilled	-	02	01
<b>TOTAL</b>			<b>26</b>	<b>16</b>	<b>01</b>

Total Cadre 237

**PROVISION OF LOCAL TRAINING – 2013**

No	Salary Code	Staff Category	No of people trained Locally
1	AR 1/2	Academic/ Research	24
2	MM 1-1	Middle Management	-
3	JM1-1	Junior Management	01
4	MA 2-2	Management Assistant (Tech)	06
5	MA 1-2	Management Assistant (Non Tech)	05
6	PL	Primary	01
<b>TOTAL</b>			<b>37</b>

## PARTICIPATION IN FOREIGN TRAINING/ SEMINARS & WORKSHOPS – 2013

No	Staff Category	No of people trained	No of people Participated in the Seminars & Workshops
1	Academic/ Research (Scientists)	12	05

## PARTICIPATION IN NATIONAL PROGRAMMES

### Dayata Kirula Development Exhibition – 2012, Oyamaduwa- Anuradhapura

The Deyata Kirula National Programme and Exhibition which is conducted every year by incorporating all the state institutions according to the Mahinda Chinthana Concept, took place from 23rd to 30th of March at the Hardy Technical College, Ampara centered on the Ampara district in year 2013.

NBRO participated in the exhibition by opening a stall. Models and posters on NBRO activities were displayed at the exhibition. NBRO staff members were deployed to explain the activities of NBRO and to educate the general public on landslide and associated disaster risk reduction. Based on this program, a special issue of the NBRO News Bulletin was released and distributed at the exhibition.

## NBRO ANNUAL SYMPOSIUM

The NBRO Annual Symposium of 2013 was held on 19th December 2013 at the Auditorium of Ministry of Disaster Management under the theme “Engineering in Disaster Resilience” and its technical sessions were held under the 3 subthemes namely ‘Geo-techniques for building resilience’, ‘Geosciences for disaster risk reduction’ and ‘Geospatial planning and resilient environment’.

At the inauguration session, a professional forum was held with a distinguished panel of experts namely (i) Mr. Vasantha Wijekulasuriya (Geotechnical Engineer, Coffey International) (ii) Eng. Mr. Shiromal Fernando (CEO, Civil and Structural Engineering Consultants Pvt. Ltd. and member of Technical Advisory Committee of DMC) and (iii) Emeritus Prof. Willie Mendis (Faculty of Architecture, University of Moratuwa). Each expert represented respectively one each of the above 3 Symposium subthemes. The forum was moderated by the eminent science writer and television presenter Mr. Nalaka Gunawardhane.

NBRO received many research papers for the 2013 Symposium from NBRO researchers as well as from external researchers from Sri Lanka and abroad, and 21 papers were accepted for publication in the Symposium Proceedings. The papers selected as significantly important were presented by the respective researchers. The Symposium was well-attended by stakeholders.

## CAPACITY DEVELOPMENT

NBRO is considered as the national focal point for landslide risk management in Sri Lanka. With the increasing trend of disasters and development boom, NBRO needs to address complex and challenging situations of disasters / development and entail to play a wider role by strengthening its capacities.

During the year 2013 NBRO were able to strengthen the capacity of equipment with the Assistance of the Government. LKR 18.0 Mn. was received to procure research, lab and field equipment.

## Following equipment were procured during the year 2013

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| a) Le Chatelier's Apparatus         | h) Pitot Tube/Bottle Cooler         |
| b) Ultrasonic Pulse Velocity Tester | i) Top Loading Autoclave            |
| c) Abrasion Machine                 | j) Thermostatic control water Bath  |
| d) Hygrometer                       | k) Air Quality Monitoring Equipment |
| e) Hand Held GPS                    | l) NMCC Diamond Core Bit            |
| f) TKN Analysis (Distillation)      | m) Hand Van Shear Vane Tester       |
| g) Thermocouple                     |                                     |





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கணக்காய்வாளர் தலைமை அறிபதி திணைக்களம்  
**AUDITOR GENERAL'S DEPARTMENT**



මගේ අංකය  
எனது இல. }  
My No. }

DE2/G/NBRO/1/13/19

මගේ අංකය  
உமது இல. }  
Your No. }

දිනය  
திகதி }  
Date }

19 December 2014

The Director General  
National Building Research Organization,

**Report of the Auditor General on the Financial Statements of the National Building Research Organization for the year ended 31 December 2013 in terms of Section 14(2)(c) of the Finance Act, No. 38 of 1971.**

The audit of financial statements of the National Building Research Organization comprised with the Statement of Financial Position as at 31 December 2013 Statement of Financial Performance, Statement of Changes of Equity and the Statement of Cash Flow for the year then ended and a summary of significant accounting policies and other explanatory information was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No. 38 of 1971. My comments and observations, which I consider should be published with the annual report of the Organization in terms of Section 14 (2)(c) of the Finance Act, appear in this report. A detailed report in terms of Section 13(7)(a) of the Finance Act was issued to the Chairman of the Authority on 31 October 2014.

**1.2 Responsibility of the Management for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Public Sector Accounting Standards and for such internal controls as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements whether due to fraud or error.

අංක 306/72, පොල්දූව පාර, බත්තරමුල්ල, ශ්‍රී ලංකාව. - இல. 306/72, பொல்தூவ வீதி, பத்தரமுல்லை, இலங்கை. - No. 306/72, Polduwa Road, Battaramulla, Sri Lanka

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### 1.3 Auditor's Responsibility

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My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Standards of Supreme Audit Institutions (ISSAI 1000 – 1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Organization's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. Sub - sections (3) and (4) of the Section 13 of the Finance Act, No. 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the Audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion

### 1.4 Basis for Qualified Opinion

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My opinion is qualified based on the matters described in paragraph 2.2 of this report.



## 2. Financial Statements

### 2.1 Opinion

In my opinion, except for the effects of the matters described in paragraph 2.2 of this report, the financial statements give a true and fair view of the financial position of the National Building Research Organization as at 31 December 2013 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

### 2.2. Comments on Financial Statements

#### 2.2.1 Sri Lanka Accounting Standards

The following observations are made.

- (a) Even though the grants amounting to Rs 25,493,260 received from various institutions and organizations for research and training purposes during the period from 1985 to 2005 and utilized for the purposes of development and training activities, it had been shown under grants continuously without making adjustments.
- (b) The provision for the payable amounting Rs 6,167,402 as at the end of the year under review on activities carried out under Gerandi Ella Land Slide Mitigation Project had not been made in the financial statements.
- (c) Even though a sum of Rs 11,641,621 had been shown in the Financial Performance Report as the research and development expenses that had been shown as Rs.10,735,000 in the detailed note presented for audit.
- (d) Recovery of receivables amounting to Rs 7,024,787 on services provided in 2012 to 09 external parties by the Land Slide Research and Mitigation Division had taken 02 years and such amount had been shown under the work- in - progress instead debtors.
- (e) The rainfall measurement equipment procured in 2014 at a cost of Rs 18,708,860 had been treated as the assets purchased in 2013 and provided depreciation amounting Rs 29,000 thereon.



- (f) Income on issue of Land Slide Risks Assessment Reports amounting to Rs.846,360 for the year under review from 15 Pradeshiya Sabhas and a sum of Rs.141,933 for the previous year from 08 Pradeshiya Sabhas had not been brought to account.

2.2.2. Accounts receivable

The following observations are made.

- (a) Even though the debtor balances aggregating Rs 4,602,121 representing 16 per cent of the total debtor balances as at the end of the year under review had remained over the period ranging from 5 to 17 years, action had not been taken to recover such balances.
- (b) An additional cost amounting to Rs. 10,500,000 incurred exceeding the proceeds received from the General Treasury in 2010 for procurement and research purposes had been shown in the financial statements as an amount receivable.

2.2.3 Lack of Evidence for Audit

Evidence such as progress reports, bills certified, etc. related to the balance of Rs.17,666,169 shown as work- in progress under Geo Technology Engineering and Research Division, Project Management Division and Land Slide Research and Risks Mitigating Section had not been submitted for audit.

2.3 Non- Compliance with Laws ,Rules, Regulation and Management Decisions

The following instances of non- compliances were observed in audit.

<u>Reference to Laws, Rules and Regulations, etc.</u>	<u>Non- compliances</u>
<ul style="list-style-type: none"> <li>(a) Section 9.4 of the Chapter XV of the Establishments Code of the Democratic Socialist Republic of Sri Lanka</li> </ul>	<p>The Warm Clothing Allowances on foreign travel should not be provided for officers more than once in a 05 year period. However, the Warm Clothing Allowances amounting to Rs 15,173 and Rs 15,176 had been provided to an officer in the years of 2012 and 2013 respectively.</p>
<ul style="list-style-type: none"> <li>(b) Financial Regulations of the Democratic Socialist Republic of Sri Lanka                             <ul style="list-style-type: none"> <li>(i) Financial Regulation 371(2)</li> </ul> </li> </ul>	<p>The advances granted should be settled immediately after completion of the intended purposes. However, contrary to the above requirements, advances aggregating Rs1,589,263 had been settled in 57 instances after delays ranging from 02 to 06 months.</p>



- (ii) Financial Regulation 371(5) All the advances granted should be settled as at 31 December of every year. Such unsettled balances at the end of the year under review amounted to Rs 455,277.
- (iii) Financial Regulation 757(a) and (b) Neither the Inventory Book had been closed at the end of the year under review nor certification issued by the officer- in- charge of the stores.
- (iv) Financial Regulation 1647 Even though a full Annual Board of Surveys should be carried out on 18 vehicles owned to the Organization and accessories, it had not been carried out for the year under review comprehensively.
- (c) Public Administration Circular No. 41/90 of 10 October 1990 Even though the fuel consumption of every motor vehicle of the Organization should be tested once in every 06 months, fuel consumption tests of motor vehicles of the Organization had not been carried out even once in the year under review.

#### **Financial Review**

#### **Financial Results**

The operating result of the year under review amounted to a surplus of Rs.11,227,959 and the corresponding surplus in the previous year amounted to Rs.21,461,664. Therefore a deterioration amounting to Rs.10,233,705 of the financial result was observed. When compared with the previous year, the income of various Divisions of the Organization had increased by Rs.36,962,917 whilst the research grant had also increased by Rs.11,160,000. However the increases of the operating expenses by Rs.63,637,836 had mainly affected for said deterioration.

#### **Operating Review**

#### **Performance**

The mission of the Organization is to minimize the risks on disaster and promotion of research and development activities by providing technical support for the purpose of secured environment. The basic activities of the Project are mapping of land slide and disaster risk zones, conducting of land slide risk mitigating projects and issuing risk assessment reports. The overall information regarding the performance achieved by the Organization in fulfilling of the mission and the activities are given below.



(a) Project on Mapping of Land Slide Disaster Risk Zones

The risk is assessed by the Organization through risk identification, determining of the limits of risky zones and mapping of connected risks into 1:10,000 and 1:50,000 scales. Therefore, it was scheduled to complete such maps covering 32,972 kilometres in 11 Districts. The following observations are made.

- (i) Under the Project on Mapping of Land Slide Disaster Risk Zones, it was scheduled to complete 168 maps into 1:10,000 scale covering 6,720 kilometres in 10 District. However, 58 maps covering 2,320 kilometres could not be completed at the end of the year under review.
- (ii) The periods to complete the mapping activities had been specified in the physical plans prepared for mapping purposes and it was observed that 58 maps remained half completed at the end of the year under review. Even though the financial progress of the mapping work is adjusted at the end of the year to be in line with the budget estimate, the details of the physical progress of the work and the provisions saved had not been made available to audit.

(b) Issue of Land Slide Risk Assessment Reports

According to the information made available for audit, Land Slide Risk Assessment Reports should be obtained through the respective Local Authorities by the parties who expected to construct buildings in the land slide risk areas, before the commencement of development activities. For that purpose, offices had been established by the Organization in 10 Districts. According to the information relating to the issue of Land Slide Risk Assessment Reports collected from Land Slide and Research Division and the District Offices, a sum of Rs 30,475,433 had been earned from issuing such reports. The following observations are made in this connection.

- (i) It was observed in audit that people living in the villages around the areas with land slide risks were not adequately made aware of the necessity of obtaining of such certificates and Grama Niladhari in respective areas had not taken action to maintain Co-ordination in this regard with the general public. Therefore it was observed that the certificates had not been obtained in connection with the constructions carried out privately.



- (ii) A data base on the application submitted for Land Slide Assessment Reports and the application rejected had not been maintained to prevent the re-submission of rejected applications and obtaining approval. Even though the Geo-Survey Reports issued by the Organization in connection with the construction of the Small Scale Electricity Project in the Grama Niladhari Division, Padiyapelella in Nuwara-Eliya District indicated that the land is vulnerable to land slide risk and not suitable for proposed construction, the party concerned carried out construction works at a cost of Rs 2,087,960 neglecting the report. The explanation of the Director General of the Organization in this connection was that the Organization does not have a legal right to take follow up action on the reports issued by the Organization and respective Local Authority should take action thereon.
- (iii) A sum of Rs. 27,466,943 had been recovered from the Pradeshiya Sabhas to issue such certificates and out of that a sum of Rs. 948,393 had not been remitted even as at 31 December 2013, thus indicating that a proper mechanism had not been implemented to remit the recoveries made by the Pradeshiya Sabhas.

(c) Gerandiella Landslide Risk Mitigation Project

The activities such as saving of 50 houses facing high risk of land slides, earth filling and construction of a dam to prevent debris flowing and reconstruction of several main roads, etc. had been scheduled to be implemented under this project during the period of 2012-2016. The estimated total cost of this project amounted to Rs. 93,011,363. Works valued at Rs 12,750,000 due to be completed during the previous year had not been completed and out of , works costing Rs.11,550,000 had not been included in the Action Plan for 2013.

**4.2 Staff Management**

Even though the Scheme of Recruitment of the Organization had been approved by the Department of Management Services on 02 March 2012, there were 57 staff vacancies as at 31 December 2013. Further, 41 employees had been recruited under contract basis for permeant posts. Vacancies for the posts of Management Assistant (Technical ) directly connected to the activities of the Organization had been 27 and the recruitments had been delayed by 02 years.



**5. Accountability and Good Governance**

**5.1 Establishment of National Building Research Organization**

This Organization had been established by the decision of the Cabinet of Ministers dated 29 September 1993, to establish a separate institution to perform the functions vested with the institutions such as Building Research Institute, State Engineering Corporation and Soil Research Laboratory of the Department of Buildings, etc. The Organization is not established under a Parliamentary Act as a State owned regulatory body and it was observed in audit that the action to be taken by the Organization against the persons involved in constructions made in the risky areas was limited.

**5.2 Annual Action Plan**

It was observed that the Annual Action Plan of the Organization had been prepared to achieve only for the financial targets and not based on physical target expected to be achieved. Therefore physical performances in connection with mapping of disaster risk zones and construction works done etc., made to minimize land slides could not be evaluated in the audit.

**5.3 Internal Audit**

The Internal Audit Section of the Organization comprised one officer and the matters on payments made to meet the various functions vested with the main Divisions of the Organization, progress on achievement of the physical performance, etc. had not be examined by the Internal Audit Unit.

**5.4 Budgetary Controls**

Significant variances between budgeted figures and actuals were observed in audit and it indicated that an adequate attention had not been paid in determination of financial targets for the Budget and lack of attention on follow up action taken to meet income and expenditure targets. Therefore it was observed that the Budget had not been made use of as an effective instrument of management control.

**5.5 Achievement of Environmental and Social Responsibility**

The responsibility of mapping of landslide risk areas by carrying out of studies on land slide occurring in the hilly areas of the country and issuing of Landslide Risk Assessment Reports on constructions made in such areas is vested in the Organization.



Through the mapping of landslide risk zones, the distribution pattern of risky areas are identified and such maps are used for the activities such as development of policies in national and provincial levels, preparation of development plans, issue of prior announcements of land slides and permits for the construction of building in the risky areas, etc.

In addition to the above matters, 06 module houses to withstand land slides, tsunami and floods, etc. had been constructed and a sum of Rs 2,677,773 had been spent as at 30 June 2013 thereon. A manual had been prepared by the Organization to instruct the people to withstand of natural disasters.

#### 6. **System and Controls**

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The observations made during the course of audit were brought to the notice of the Director General from time to time. Special attention of the management is needed in respect of the following areas of control.

- (a) Accounting
- (b) Debtors Control
- (c) Staff Administration
- (d) Project Management
- (e) Budgetary Control

W.P.C. Wickramaratne  
Acting Auditor General



Our Ref} NBRO/AD/2013/230

Your Ref}

Date} 2014.05.14

Auditor General,  
Auditor General's Department,  
No. 306/72, Polduwa Rd,  
Battaramulla.

**Auditor General's Report on the Financial Statements of National Building Research Organisation for the year ended on 31<sup>st</sup> Dec 2013 as per Sec.14 (2) (C) of Finance Act No.38 of 1971**

The clarifications on the Audit Report No. DE2/G/NBRO/1/13/19 of 10.12.2014 on above subject are given below.

**2.2 Comments on Financial Statements**

**2.2.1 Accounting deficiencies.**

- (a) Out of the grants received from 1985 to 2005 a sum of Rs.25,493,260/= has been annually shown under Other Grants in the Final Accounts. As there is no necessity to continually carry forward this under Other Grants, action will be taken to adjust this with the Consolidated Fund.
- (b) According to the monthly progress report on Garandiella Project prepared in 2013 by Landslide Research and Risk Management Division, Work-In-Progress of November 2013 was Rs. 23.79 Mn. Although this sum has been shown as Paid Bills in the Audit Report the Organisation has not paid such sum in 2013.

The financial progress of Garandiella Project as on 31<sup>st</sup> December 2013 had been shown as Rs. 29.96 by the Landslide Research and Risk Management Division. In the 2 (a) of Audit Report this sum has been shown as Total Expenditure. Payable expense as at the end of year has been shown as Rs.6,167,402 which is the difference of Work-In-Progress of the months of December and November (Rs. 29.96 – 23.79). The direct expenditure incurred for Garandiella Project in 2013 is Rs. 14 Mn. Together with Overhead Expenditure pertaining to these work components, the total expenditure borne by the Organisation for Garandiella Project in 2013 is Rs. 21.63.

According to the Progress Report submitted by the Landslide Research and Risk Management Division the balance of the total of Rs. 29.96 (i.e. Rs. 29.96 – 21.63 = 8.33 Mn) has been paid the in the first few months of the year 2014.

As it was not possible to settle these accounts in 2013, we wish to kindly inform that these settlements will be done in 2014.

- (c) We wish to report that, as described by the schedule submitted with the Final Accounts, the sum of Rs. 10,735,000.00 shown as expenditure for Research & Development is correct.
- (d) A sum of Rs. 6.8 Mn receivable from Disaster Management Centre has been shown as Work-In-Progress in the Final Accounts of 2012. As funds will not be given by the General Treasury for this purpose, action has been taken to adjust this amount with the Consolidated Fund and then to write off from the books. From the difference of Rs. 224,787 between the Work-In-Progress of Rs. 7,024,787 and the said sum of Rs. 6.8 Mn, a sum of Rs. 9,130.26 was received from P. L. Wimala Wikramasiri (Receipt No. 8251) and the rest will be accounted as debtors as described below.

6529 - Agarapathana Plantation	6,530.16
6601 – P.G.H.Jayawicrama	5,828.57
6875 – R.N.K.Weragoda	5,371.43
7722 – J.J.J.Premarathna	12,285.71
7774 – C.A.C.Marikkar	6,168.00
8730 – Uma Oya Multipurpose Development	7,547.68
8732 – Lowe Lmastota Hydr Power (Pvt) Ltd	44,925.44
8913 – DMC	<u>127,000.00</u>
	<u>215,656.99</u>

- (e) In 2014, Rain Gauges worth Rs. 18,708,860 were procured with UNDP grants and considering as a necessity, Rain Gauges worth Rs. 145,000 were procured in 2103 with organizational funds. Depreciation of Rs. 29,000 for rain gauges procured with organizational funds has been shown erroneously as depreciation of rain gauges procured under UNDP. Action will be taken to correct this in 2014 Final Accounts.
- (f) Due to prevailing policy decisions and practices, when issuing Landslide Risk Assessment Reports, the reports issued before receiving payments were not taken into accounts until the payments are received. And from 2014, actions will be taken to account them as revenue at the time of report issuance.

### 2.2.2 Accounts Receivable

- (a) From debts older than 5 to 17 years totaling to Rs. 4,602,121, the sum of Rs.444,022.94 is the debts of Private Sector clients from which a sum of Rs. 2,495.00 has been recovered. Approval of the Interim Management Committee has been received to write off the balance of Rs. 441,521.94. After writing off Rs. 441,521.94 from books the balance Rs.4, 602,121 is the debts of Public Sector clients. Approval of the Interim Management Committee will be sought in December 2014 to write off his sum from books.
- (b) The sum of Rs. 10,500,000 is receivable from the General Treasury. As this sum will not be available from the General Treasury, action will be taken in 2014 to obtain the approval of the Treasury to adjust this with Consolidated Fund.

### 2.2.3 Non submission of evidences for Audit

Landslide mitigation projects, all the other projects and the site works of the Organisation are carried out by six divisions. In each division, works are carried out under scientists including engineers. These engineers and scientists certify the work reports and the technical director in-charge of division endorses the final certification. Accordingly, reports sent to Finance Division are accounted for and we wish to inform that all the bills have been forwarded to the Audit.

### 2.3 Non compliance with rules and regulations

#### (a) Clause 9.4 of Chapter XV Establishment Code

In 2012 an officer attending a conference in Japan was given Rs. 15,173.25 as warm clothing allowance, and in 2013, the same officer attending training in Norway was given Rs. 15,176.25 as warm clothing allowance. According to Clause 9.4, warm clothing allowance can be given to a officer once in five years, and hence, action has been taken to recover in full the sum of Rs. 15,176.25 from said officer.

#### (b) Financial Regulations

##### (i) FR 371 (2)

Incidents of delays in settling advance have been investigated. It was apparent that the main reason for the delay in settlement of advances is the difficulties of an officer engaged in projects in remote sites coming to the office to settle advances and during which time to deputize another officer in such sites. In addition, such projects have to be completed by target dates given by client organizations and officers working in such sites cannot come to Colombo again and again, for which reason this situation has risen. In certain circumstances, these officers have to complete one special project work assignment and then go to another project close by, thus resulting delays in settling advances.

##### (ii) FR 371 (5)

We wish to kindly inform that the Organisation by now has deployed a stronger control over settling of advances and issued internal circulars to that effect.

##### (iii) FR 757 (1) (a) & (b)

We wish to report that from 2014 steps will be taken to balance the inventories of the stores and obtain the signature of Store Keeper after the stock taking at the end of a year, according to FR 757 (1) (a), and to certify by the Store Keeper the documents given for stock verification.

##### (iv) FR 1647

Vehicle inspections have been performed according to FR 1647 (a). Such inspections have not been performed on individual parts of a vehicle. Concerned officers have been notified to perform inspections also on parts of a vehicle from 2014.

- (v) Public Administration Circular No. 41/90 dated 10<sup>th</sup> October 1990  
Steps have been taken to check fuel consumption of all vehicles once in six months according to the circular.

### 3. Financial analysis

#### 3.1 Financial Results

Operational expenses in 2013 were higher than that of 2012 because the self-earned revenue of National Building Research Organisation was used to complete Peradeniya and Padiyapellala landslide mitigation projects in place of funds from the General Treasury.

### 4. Operational Analysis

#### 4.1 Performance

##### (a) Landslide Hazard Zonation Mapping Project

- (i) Hazard zonation mapping work is carried out according to the following four steps.
- a. Conduct desk studies on maps giving topological features of the mapping area, aerial photographs prepared by Survey Department, and maps and reports giving geological data
  - b. Conduct field surveys in mapping area to obtain additional data
  - c. Enter data into the geographical data base and analyze
  - d. Prepare maps from analyzed data

Out of the above mentioned four steps, the Step (b) is difficult because of the large investment and time needed for field surveys. Mapping areas are often difficult areas to access even by foot and it becomes necessary to stay temporarily to complete the work, incurring heavy expenses.

Out of 58 maps covering an extent of 2320 sq. km. field surveys mentioned in the Audit Report, all the field work as above (b) has been completed in 2013.

In addition, the difficulties arose in some of the areas were more severe than that were anticipated when planning with presumptions and as a result, more expenses incurred.

Also we wish to inform that 7 maps out of the 58 maps were not planned under this programme. These 7 maps in Badulla district had been completed earlier but these were included as requested for a particular study by the Land Use Planning Department.

In mapping, nearly 90% of given funds were utilized for field work and 10% remaining for the balance work. In the circumstances the work of 51 maps could not be completed by end of 2013.

- (ii) The sum of Rs. 1,881,731.05 for mapping work entered as a sub-contract payment erroneously in the schedule submitted with 2013 Final Accounts should be removed from there as this expense is incurred for another project of the Organisation. Then the total expenditure for mapping project in 2013 is Rs. 20.1 Mn (i.e. 21.99 -1.88).

The total funds received from the General Treasury for mapping project was Rs. 22.0 Mn and after the settlement of expenses of Rs. 20.1 Mn for 2013, the balance sum of Rs. 1.9 Mn will be utilized to complete the preparation and printing of balance maps.

Accordingly, the sum of Rs. 1.9 will be adjusted against the Consolidated Fund and accounted for mapping work in 2014.

(b) Issuance of Landslide Risk Assessment Reports

- (i) Actions have been taken to inform heads of government institutions in landslide areas regionally about the risks in landslide-prone areas and to regulate the above landslide risk assessment reporting process.

In addition, actions will be taken to make aware Gramaniladharies through all Districts and Divisional Secretaries and thereby make aware the General Public to make this process successful.

- (ii) In the Landslide Risk Assessment Report issuance process, necessary precautions have been taken to prevent a new risk assessment being conducted while disregarding a previously issued report rejecting the approval of an application. Further, actions have been taken to mark locations in 1:50,000 maps indicating such rejected applications, and also to maintain a separate register on rejected applications. At the time of receiving a new application, 1:50,000 maps will be searched before commencing investigations to see whether any report has been issued previously issued on same site.

Further, we wish to inform that National Building Research Organisation has no assigned powers to follow-up on the reports issued.

Depending on applications received by our Organisation, investigations on ground stability are conducted and reports are issued to applicants within the powers assigned to NBRO. Further, the reports are issued subject to conditions stipulated in relevant circulars.

We wish to inform further that, according to the Section 4 of the Circular issued by Secretary of Disaster Management, the powers to verify whether construction is done as per NBRO recommendations are assigned to the relevant Urban Councils and Pradeshiya Sabhas.

- (iii) As requested by Pradeshiya Sabhas Landslide Risk Assessment Reports are issued before receiving payments considering the importance of this work. The practice so far has been to include the payments into accounts at the time of receipt. From 2014, actions have been taken to separately account for receivables on such reports.

(c) Garandiella Landslide Mitigation Project

According to the 2012 Action Plan, work for a sum of Rs. 27.56 was planned to be completed. A sum of Rs. 14.72 was received from the General Treasury, hence work components of the balance Rs. 12.74 was included into the estimate for 2013. Accordingly, a total sum of Rs. 30.15 was estimated for the year 2013.

4.2 Staff Administration

National Building Research Organisation is a self-funded organization where the expenditure is met by its own revenue. Therefore, the staff is maintained according to its activities and actions have not been taken to recruit staff for all approved permanent cadre positions.

In our organization like ours, it is difficult to maintain consistent activity levels as projects are obtained and work is done in a very competitive and varying market situation and staff has been recruited on contract basis whenever the quantity of work increases. In 2011, 157 permanent employees and 67 contract employees served the Organisation with approved cadre of 274.

By now, profitability of the Organisation has increased showing a progress and there is also an increase in work content and hence, actions will be taken to fill the remaining positions in approved cadre.

There are 36 positions for Management Assistants in the approved cadre out of which 4 permanent cadre positions have been filled. Interviews were conducted after advertising position in newspapers but recruitment has been difficult because of the qualifications required by the position and its salary scale.

<u>Date advertised</u>	<u>Date of interview</u>
28.09.2012	16.11.2012
28.11.2013	24.12.2013

5. Accountability and Administration5.1 Establishment of Organisation

Actions are being taken to establish the Organisation by a parliamentary act.

5.2 Annual Action Plan

The Organisation has taken necessary actions to attain the targets for physical progress set by the Annual Action Plan. Further we wish to inform that descriptive clarifications on hazard zonation mapping and landslide mitigation projects are given in 4.1(a) and (b).

5.3 Internal Audit

We wish to inform that in 2013 an Internal Auditor and Assistant have carried out audit work in the Organisation.

5.4 Budgetary Control

When estimates were prepared for landslide mapping, risk assessment report issuance and Garandi Ella mitigation projects, these estimates have been prepared while taking direct expenses and related other expenses, but the Overhead Expenditure has not been taken into estimates.

After taking all expenses incurred by the Organisation Overhead Expenditure has been absorbed and when doing this, 34 items which were not listed in the estimates have been included as Actual expenses as stated in the Audit Report.

Actions have been taken to include said expenses when preparing estimates in future.

Further, we wish to inform that all such expenses were met within the approved annual budget.

5.5 Environmental and Social responsibilities

We agree with the items mentioned under environmental and social responsibilities.

6. Systems and Controls

Actions have been taken to strengthen the systems and controls in the following fields for efficient management while paying due attention to the comments given in audit queries on the weaknesses in systems and controls.

Furthermore, we are pleased to report that, by paying due attention to systems and controls we wish to improve them.

- (a) Accounting
- (b) Debtor control
- (c) Staff administration
- (d) Project management
- (e) Budgetary control



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