## Contents

### Part I  Keynote Lecture

1  **Formation and Risk Reduction of Landslide-Dammed Lakes Resulted by the M\(_s\) 8.0 Wenchuan Earthquake: A Brief Review and a Proposal**  
   Peng Cui, Zhi-man Su and Xiao-qing Chen  
   3

2  **Local Scale Seismic Landslide Susceptibility Assessment Based on Historic Earthquake Records Combined with Accelerometer Monitoring and Ambient Noise Data**  
   Janusz Wasowski, Vincenzo Del Gaudio, Domenico Casarano, Piernicola Lollino and Sandro Muscillo  
   11

3  **Use of Indirect Evidence for the Prehistoric Earthquake-Induced Landslides Identification**  
   Alexander Strom  
   21

4  **Bhedetar Landslide, Eastern Nepal: Aftermath of the Sikkim Earthquake (18th September 2011)**  
   Vishnu Dangol, Hiroshi Yagi and Daisuke Higaki  
   31

5  **Classification of the Geomorphology, Geology and Movement Types of Earthquake Landslides**  
   Daisuke Higaki and Shinro Abe  
   37

6  **The Collapse Process of Granular Slopes Under Seismic Forcing**  
   Hsien-Ter Chou, Ching-Fang Lee and Su-Chin Chen  
   45

7  **Slope Motion Response and Failure Under Strong Earthquakes: Recording, Monitoring and Modeling**  
   Runqiu Huang  
   59
# Part II  JLS-ELRP WG Report

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Secondary Hazards Associated with Coseismic Landslide</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Takashi Okamoto, Masaaki Sakurai, Satoshi Tsuchiya, Hiroyuki Yoshimatsu, Kiichiro Ogawa and Gonghui Wang</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Effects of Existing Prevention Works on Earthquake-Induced Landslides</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Akira Nakamura, Tomoyuki Noro, Kiyoteru Maruyama, Bateer Hasi, Yasuo Ishii and Nobutoshi Ikeda</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>An Examination of the Stability of an Earthquake-Induced Landslide and Landslide Dam</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>Ryoichi Ohno, Satoshi Niwa, Hideya Iwata and Sachihiko Ozawa</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Warning/Evacuation and Monitoring Methods for Earthquake-Induced Landslides</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>Michiya Irasawa, Akira Suemine and Yuichi Ueno</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Historical and Prehistoric Earthquake-Induced Landslides in Japan</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Subcommittee for Historical Earthquake Landslide Studies in the Earthquake-Induced Landslide Program, the Japan Landslide Society (JLS-ELRP)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The Classification and Features of Earthquake-Induced Landslides in the World</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Masao Yamada, Gonghui Wang and Keiji Mukai</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Relationship Between Geological Structure and Landslides Triggered by the 2007 Mid-Niigata Offshore Earthquake</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Tamotsu Nozaki and Baator Has</td>
<td></td>
</tr>
</tbody>
</table>

# Part III  Case Study

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Catastrophic Landslides of Pyroclastics Induced by the 2011 off the Pacific Coast of Tohoku Earthquake</td>
<td>139</td>
</tr>
<tr>
<td></td>
<td>Masahiro Chigira, Akito Nakasuji, Shinya Fujiwara and Masayuki Sakagami</td>
<td></td>
</tr>
</tbody>
</table>
16 Earthquake-Induced Landslides in the Roadside Slopes of East Nepal After Recent September 18, 2011 Earthquake .......................... 149
Ranjan Kumar Dahal, Netra Prakash Bhandary, Manita Timilsina, Ruichi Yatabe and Shuichi Hasegawa

17 Characteristics of Earthquake-Induced Landslides in Heavy Snowy Area: The Case of the Northern Nagano Prefecture Earthquake, March 12, 2011, Japan ..................... 159
Baator Has, Kiichiro Ogawa, Satoshi Onoda, Tomoyuki Noro, Kiyoteru Maruyama and Akira Nakamura

18 Types and Characteristics of Typical Landslides Triggered by the M8.0 Wenchuan Earthquake ................. 169
Xiuzhen Li and Jiming Kong

19 Study on the Development Characteristics of a Typical Case of Sliding-Flow Type Landslide Induced by Wenchuan Earthquake ........................................ 179
Jiming Kong, Peifeng Han and Yun Cui

20 Geomorphologic and Geologic Features of Landslides Induced by the 2011 Off the Pacific Coast of Tohoku Earthquake, in Shirakawa Hills, Fukushima Prefecture .................................. 189
Hiroyuki Sugimoto, Toshiya Takeshi, Tadakazu Uto and Hiroki Honma

21 A Long-Traveling Landslide in Deep Snow Conditions: A Case Study of the Tatsunokuchi Landslide Induced by the 2011 North Nagano Prefecture Earthquake ................. 203
Shintaro Yamasaki and Hidehisa Nagata

22 Re-Evaluation of Factors Controlling Landslides Triggered by the 1999 Chi–Chi Earthquake .................. 213
Chyi-Tyi Lee

23 Earthquake-Induced Landslides in Slovenia: Historical Evidence and Present Analyses ........................ 225
Matjaž Mikoš, Mateja Jemec, Mihael Ribičič, Magda Čarman and Marko Komac

24 Karstification as a Predisposing Factor of Seismically Triggered Landslides: Case Study from the Crimean Mountains (Ukraine): Introduction to the Problem ............. 235
Jan Hradecký, Tomáš Pánek, Karel Šilhán and Veronika Smolková
25 Low-Gradient Megalandslides at the Northern Boundary of the Caucasus-Crimean Orogen: Seismically Induced? Tomáš Páněk, Jan Hradecký, Karel Šilhán, Alexander Strom, Veronika Smolková and Oleg Zerkal

26 On the Tasikmalaya Earthquake Induced Landslide in Indonesia: Field Investigation Aly Ahmed, Budi Brahmantyo and Keizo Ugai

27 Damages of Hillside Embankments in Sendai City During the 2011 Great East Japan Earthquake Tomohiro Mori, Yoshio Tobita and Takashi Okimura

28 Common Geographic and Geological Features of Earthquake-Induced Landslides in Northern Ibaraki Prefecture Yuichi Ueno

29 A Review of Recent Case Studies of Landslides Investigated in the Tien Shan Using Microseismic and Other Geophysical Methods Almaz Torgoev, Laura Lamair, Isakbek Torgoev and Hans-Balder Havenith

30 Topographical and Geological Features of Landslides Occurred in Kamikashiwazaki District in Tochigi Prefecture Causing by Great East Japan Earthquake Yoshimi Usui, Hiroshi Shimada, Hiroyuki Innami, Kiyoshi Amao, Takami Kanno and Tomoyuki Hiramatsu

31 Predicting Volume and Runout of Single Gully Debris-Flow Using Hypsometric Integral Value in the Wenchuan Earthquake Area Huaizhen Zhang, Jianrong Fan and Qing Liu

32 Features of Two Adjacent Landslides in Western Gunma Prefecture, Japan Hiroshi Hasegawa, Yasuhito Sato, Yoshiyuki Kotei and Yukio Hatakeyama

33 Case Study on Heavy Rainfall-Induced Reactivation of Seismically Disturbed Slope Caused by the 2011 off the Pacific Coast of Tohoku Earthquake Yoshimi Usui, Hiroshi Shimada, Hiroyuki Innami, Kiyosi Amao, Koji Higashi and Hideki Kawabata
34 The Characteristics of Landslides Induced by the Wenchuan Earthquake Based on High Spatial Resolution Remote Sensing Images
Jianqiang Zhang and Fenghuan Su

35 A Case Study of Behavior Observation of Landslide Induced by Snowmelt After an Earthquake
Hiroomi Nakazato, Daisuke Shoda, Keisuke Inoue and Hisato Suzuki

36 Landslides Induced by a 7.6 Magnitude Earthquake in the Northern Part of Pakistan on October 8, 2005 and Landslide Risk Reduction Through Implementation of Non-Structural Measures
Yasushi Momose and Pucai Yang

37 Research on the Triggering Factors Analysis and Relevant Countermeasures of FaTing Mountain Landslide Induced by Wenchuan Earthquake
Linrong Xu, Zheng Han, Shuyang Chen and Hongwei Chen

Part IV Mechanism

38 On the Initiation and Movement of Hanokidaira Landslide from the 2011 Tohoku Earthquake, Japan
Gonghui Wang, Akira Suemine, Yoshiya Hata and Toshitaka Kamai

39 Numerical Insights into Mechanisms of Earthquake-Induced Catastrophic Landslides on Gentle Slopes in Liquefiable Soils
Aurelian C. Trandafir, Ko-Min Tjok and Xiaoyan Long

40 Effects of Excess Pore Water Pressure on the Displacement of Failed Dip Slopes in 2004 Niigata-Ken Chuetsu Earthquake
J. L. Deng, H. Kameya, Y. Miyashita, J. Kuwano, R. Kuwano, J. Koseki and L. Z. Chen

41 Velocity-Displacement Dependent Friction Coefficient and the Kinematics of Giant Landslide
Jia-Jyun Dong, Che-Ming Yang, Wei-Lun Yu, Chyi-Tyi Lee, Yuki Miyamoto and Toshihiko Shimamoto
42 The Interpretation for Landslide Mechanism and The Proposal of Landslide Countermeasures in Abay Gorge in Ethiopia .......................... 405
Masao Yamada, Kensuke Ichikawa, Takeshi Kuwano, Tomonari Takeuchi and Atsushi Nakagawa

43 Development of a Cyclic Box Shear Apparatus to Elucidate Mechanisms of Earthquake-Triggered Landslides .................. 417
Yoichi Hasegawa, Tatsuya Shibasaki and Takanari Yamasaki

44 Empirical Modal Decomposition of Near Field Seismic Signals of Tsaoling Landslide ................... 421
Kuo-Jen Chang, Shao-Kuan Wei, Rou-Fei Chen, Yu-Chang Chan, Pi-Wen Tsai and Chih-Yu Kuo

45 Examining Fluidisation Mechanisms of Hikagemori Landslide Triggered by Iwate-Miyagi Nairiku Earthquake in 2008 by Laboratory Soil Tests ............ 431
Yasuhiro Okada, Ushio Kurokawa and Shiho Asano

46 Shaking Table Test of Embankment on Inclined Ground Affected by Rainfall ......................... 437
Takaki Matsumaru, Motoaki Suga and Ryosuke Uzuoka

47 Dynamic Ring Shear Characteristics of Artificially Cemented Sand ........................................ 445
Motoyuki Suzuki, Hiroshi Takahara and Takeo Umezaki

48 Re-Estimation Method of Landslide-Triggering Rainfall Thresholds After an Earthquake with the Two Conceptual Models .................. 455
Yasuhiro Shuin, Norifumi Hotta, Masakazu Suzuki, Keigo Matsue, Kazuhiro Aruga and Toshiaki Tasaka

49 Niaozhisuo Landslide Dynamic Process ............. 465
Yunsheng Wang, Qiang Li, Yun Chen, Junfeng Wu, Junsheng Yue and Qinlong Hu

50 Initiation and Motion Mechanism of the Donghekou Rapid and Long Runout Landslide Triggered by the 2008 Wenchuan Earthquake, China .......... 473
Fawu Wang, Ping Sun, Lynn Highland and Qiangong Cheng

51 Natural Gas Eruption Mechanism for Earthquake Landslides: Illustrated with Comparison between Donghekou and Papandayan Rockslide-Debris Flows . . . . . 485
Quentin Z. Q. Yue
52 Three-Dimensional Stability Analysis for Evaluation of Drainage Effect for Earthquake-Triggered Large Landslides ............................. 495
Atsushi Nakamura, Masashi Koizumi, Fei Cai and Keizo Ugai

53 Centrifuge Model Tests on Seismic Slope Failure .......... 501
Chiharu Mikuni, Satoshi Tamate, Tomohito Hori and Naoaki Suemasu

54 Genetic Types of Large-Scale Landslides Induced by the Wenchuan Earthquake ................................. 511
Q. Xu, S. Zhang and X. J. Dong

55 Kinetic Friction Coefficient and Mass Movement Process of Large Rock Avalanches Triggered by the Wenchuan Earthquake ................................. 521
Jiawen Zhou, Zhiman Su and Xingguo Yang

56 Topographic Effect on Seismic Slope Behavior in a Shaking Table Test ........................................... 529
Qiang Xu and Hanxiang Liu

57 Evaluation of Effective Stress of an Unsaturated Soil Under Cyclic Loading ........................................ 537
T. Nishimura

58 Analysis of the Factors Affecting Slope Failures Distribution Within Northern Kanto Area due to The East Japan Great Earthquake ................................. 547
Takanori Kimura, Akihiko Wakai and Kunihiro Higuchi

59 Landslide Risk Evaluation in a Suffered Inland Area in Tochigi Prefecture Due to the Great East Japan Earthquake ......................... 555
Asumi Tabata, Akihiko Wakai, Kazunori Hayashi, Norihiro Tanaka and Shinro Abe

Part V Simulation

60 Dynamic Simulation and Analysis of High-Speed and Long Run-Out Landslide Triggered by the Wenchuan Earthquake, China ................................. 567
Yuan Jiao Zhang, Long Zhu Chen, Ai Guo Xing and Chao Qi
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>Simulation of the Largest Landslide Caused by the 2008 Wenchuan Earthquake by Rapid-Landslide-Movement Simulation</td>
<td>T. Satoshi, S. Kyoji and N. Osamu</td>
</tr>
<tr>
<td>62</td>
<td>Pseudo-Static Stability Analysis of High Fill Slopes by the Shear Strength Reduction FEM</td>
<td>Ting-Kai Nian, Dong-Chen Li, Hai-Yang Xu and Guang-Qi Chen</td>
</tr>
<tr>
<td>63</td>
<td>Fully Coupled Dynamic Effective Stress Analysis of the Nigiri Landslide Triggered by 2004 Niigata-Chuetsu Earthquake</td>
<td>Fei Cai, Keizo Ugai, Akihiko Wakai and Seiichiro Kuroda</td>
</tr>
<tr>
<td>64</td>
<td>Numerical Analysis of Two Wooden House Damages Induced by Dune Liquefaction During 2007 Niigata Chuetsu-Offshore Earthquake</td>
<td>Lingyu Xu, Fei Cai, Guoxin Wang, Keizo Ugai, Akihiko Wakai, Qingqing Yang and Atsuo Onoue</td>
</tr>
<tr>
<td>65</td>
<td>Three-Dimensional Virtual Reality Modeling of the Cikangkareng Rock Avalanche in Indonesia</td>
<td>Andhitiawarman Nugraha and Keizo Ugai</td>
</tr>
<tr>
<td>66</td>
<td>Numerical Analysis of the Largest Landslide Induced by the Wenchuan Earthquake, May 12, 2008 Using DDA</td>
<td>Yingbin Zhang, Guangqi Chen, Lu Zheng and Yange Li</td>
</tr>
<tr>
<td>67</td>
<td>Extension of the Liquefaction Strength Concept Under Cyclic Loading to the Modeling of Volcanic Clayey Soils</td>
<td>Shigeki Tanaka, Hirotatsu Usami, Keisuke Matsushita and Akihiko Wakai</td>
</tr>
<tr>
<td>68</td>
<td>Parametric Numerical Study of Seismic Slope Stability and Verification of the Newmark Method</td>
<td>Almaz Torgoev and Hans-Balder Havenith</td>
</tr>
<tr>
<td>69</td>
<td>Numerical Simulation of Granular Flows by DDA</td>
<td>Qingqing Yang, Fei Cai, Keizo Ugai, Zhiman Su and Lingyu Xu</td>
</tr>
<tr>
<td>70</td>
<td>Analysis of a Embankment Landslide in Baoji-Chengdu Railway Induced by the 2008 Wenchuan Earthquake</td>
<td>Shu-Wei Sun, Wei-Xin Dong, Yu-Zhen Yu and Jing Zheng</td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>71</td>
<td>Mechanism and Stability Analysis of the 2010 Yushu Earthquake (Ms7.1)-Induced Landslide Based on Point Safety Factor of Stress State</td>
<td>Wu Honggang, Yang Tao, Ma Huimin and Zhang Hongli</td>
</tr>
<tr>
<td>72</td>
<td>Strong Motion Estimation at the Kanaga Landslide, Nasukarasuyama City, Induced by the 2011 off the Pacific Coast of Tohoku Earthquake (MW 9.0) Based on Empirical Site Amplification and Phase Effects</td>
<td>Yoshiya Hata, Gonghui Wang, Atsushi Nozu and Toshitaka Kamai</td>
</tr>
<tr>
<td>73</td>
<td>Finite Element Simulation for An Earthquake-Induced Landslide Considering Strain-Softening Characteristics of Sensitive Clayey Loam</td>
<td>Tomoyuki Fukushima, Keisuke Matsushita, Hirotatsu Usami and Akihiko Wakai</td>
</tr>
<tr>
<td>74</td>
<td>Case Studies on Seismically Induced Slope Failures in Terms of Energy</td>
<td>Takaji Kokusho and Tomohiro Ishizawa</td>
</tr>
</tbody>
</table>

**Part VI Hazard Mapping and Risk Management**

| 75   | The Tree-Ring Reconstruction of Slope Instabilities Associated with Earthquakes (The Crimean Mts., Ukraine) | Karel Šilhán, Tomáš Pánek and Jan Hradecký                                                      |
| 76   | Case Example of GIS Utilization on Abay Gorge’s Landslide Survey in Ethiopia                                                                     | Yoshimizu Gonai, Satoru Tsukamoto, Mitsuya Enokida, Kensuke Ichikawa, Atsushi Nakagawa           |
|      |                                                                                                                                                    | and Tomonari Takeuchi                                                                             |
| 77   | Features and Distribution of Landslides in the 2011 Earthquake of the Pacific Coast of Tohoku                                                     | Shoji Doshida and Shoichiro Uchiyama                                                              |
| 78   | Quick Identification of Regional Earthquake-Induced Landslides Based on Sharp NDVI Change                                                      | Jiayuan Lin and Guiyun Zhou                                                                       |
| 79   | Earthquake-Induced Landslide Hazard Zoning of the Island of Hawai’i                                                                      | Peter Nicholson and Shailesh Namekar                                                              |
80 Assessment of Hazard and Contributing Factors of Landslides in Abay Gorge in Ethiopia
Takeshi Kuwano, Mitsuya Enokida, Satoru Tsukamoto, Kensuke Ichikawa, Atsushi Nakagawa and Tomonari Takeuchi

81 Risk Assessment for the Earthquake-Induced Slope Failures Using the Micro-Zoning Technique
Applied for Mountain Area in Japan
Akio Yamamoto, Shun-ichi Azuma, Yoshiaki Inagaki, Katsuhiro Shirai and Tetsuro Kitahara

82 Progressive Failure Cycles and Distributions of Earthquake-Triggered Landslides
Robert Parker, David Petley, Alexander Densmore, Nicholas Rosser, David Damby and Matthew Brain

83 Distribution of Landslides Induced in Iwaki City, Japan, by Two Large-scale Earthquakes in 2011
Go Sato, Kazunori Hayashi, Hiroshi Yagi and Daisuke Higaki

84 Assessment of Earthquake-Induced Landslides Triggered by Roudbar-Manjil Earthquake in Rostamabad(Iran) Quadrangle Using Knowledge-Based Hazard Analysis Approach
Mohammadreza Mahdavifar and Parham Memarian

85 Identifying Landslides Using Binary Logistic Regression and Landslide Detection Index
Wentao Yang, Peijun Shi and Lianyou Liu

86 A Comparison of Predicted and Observed Slope Failures Due to the 2004 Niigata-Ken Chuetsu Earthquake
J.-C. Jiang and S. Nakano

87 Distribution Characteristics and Slope Structure Types of Landslide/Rock Fall Along the Roads in the 2010 Yushu Earthquake (Ms7.1) Disaster Area
Hongli Zhang, Honggang Wu, Daoyong Wu and Huimin Ma

88 Estimating the Strength Parameters of Geological Formations Using Fuzzy Sets and its Application in Generating Seismic-Landslide Hazard Maps
Reza Majidi Feijani, Mohammad Reza Mahdavifar and Mohammad Kashanchi
89 Detection of 2011 off the Pacific Coast of Tohoku Earthquake-Induced Landslide Deformation Using InSAR

Hiroshi P. Sato, Basara Miyahara, Takaki Okatani, Masayuki Yamanaka, Akira Suzuki, Tatsuo Sekiguchi, Mamoru Koarai, Izumi Kamiya and Hiroshi Yagi

817

Part VII Monitoring and Countermeasure

90 Ground Anchor Structure for Seismic Resistance and Its Applications

Koji Takeya

829

91 Analysis on the Time-Dependent Rotational Displacement of Retaining Wall During the Process of Earthquake

H. Q. Yang, D. Huang, X. P. Zhou and Y. Chen

839

92 Prevention Works for ‘Namasu landslide’ in Gunma Prefecture and Behavior of the Landslide During the 2011 Earthquake off the Pacific Coast of Tohoku

Senro Kuraoka, Tamiaki Fujiwara and Tadashi Kudo

849

93 Newly Developed Method of Predicting Slope Collapse Places Triggered by Faults Combined with $\gamma$-Ray and Magnetic Susceptibility Survey

Tatsuro Yoshimura and Naozo Fukuda

857

94 Observations on Earthquake Acceleration and Pore Water Pressure in a Hilly Region

Shiho Asano, Hirotaka Ochiai and Yasuhiko Okada

863

95 A Simplified Technique for Slope Stability Assessment Based on Insitu S-Wave Velocity Measurement

Mohsin Usman Qureshi, Suguru Yamada and Ikuo Towhata

871

96 Experimental and Analytical Studies of Landslides in the South of Ukraine Under the Action of Natural Seismic Impacts

O. M. Trofymchuk, I. I. Kaliukh, H. S. Hlebchuk and V. P. Berchun

883

Part VIII Landslide Dam and Post-Earthquake Phenomena

97 Rainfall Patterns of Post-seismic Debris Flows in the Wenchuan Earthquake Area

Wei Zhou, Chuan Tang and Chun-hua Zhou

895
98 The Future in the Tangjiashan Dammed-Lake Resulted from the M8.0 Wenchuan Earthquake: Discussion on Several Scientific Issues ......................................................... 901
Zhi-man Su, Peng Cui, Qing-qing Yang, Ugai Keizo and Fei Cai

99 Research on the Mechanism of Failure and Sediment Delivery of Landslide Dams in Debris Flow Channel .................................................. 907
Zhu Xinghua, Cui Peng, Zhou Gongdan, Chen Huayong and Tang Jinbo

100 Mechanism of Landslide-Debris Flow-Barrier Lake Disaster Chain After the Wenchuan Earthquake .............. 917
Q. Zou, Z. M. Su and X. H. Zhu

101 Statistical Analysis of the Key Factors of Landslide Induced by Wenchuan Earthquake .............................. 925
Runqiu Huang, Guo Li, Nengpan Ju and Jianjun Zhao

102 Simultaneous Debris Flows of 13 August 2010 in the Mianyuan River Basin, China ........................................... 937
Weile Li, Runqiu Huang, Chuan Tang and Qiang Xu

103 The Disaster Chain of Earthquake Induced Landslides ................................................................. 949
Guangqi Chen, Yange Li, Yingbin Zhang and Jian Wu

104 Post-seismic Surface Processes in the Zoumaling Gully in the Qingping Area, Southwestern China: Landslide, Debris-flow and Sediment Delivery .......... 959
Hong-zhi Chen, Zhi-man Su, Jian-zhong Wang and Zhi-quan Chen

105 Study on the Breakage Mode and Risk Analysis of Tangjiashan Barrier Dam ........................................ 965
Wen-jie Xu, Yu-xin Jie and Yu-zhen Yu

106 Characteristics, Hazards and Mitigation of Debris Flows Along Min River after the Wenchuan Earthquake ........ 975
Yonggang Ge, Peng Cui, Xingzhang Chen, Xinghua Zhu and Lingzhi Xiang

107 Multiple Predict Landslides in Giant Earthquake Struck Region: A Case Study in Chengdu, China .............. 989
Tian Hongling, Wang Meng, Yang Zongji and Qiao Jianping
Earthquake-Induced Landslides
Proceedings of the International Symposium on
Earthquake-Induced Landslides, Kiryu, Japan, 2012
Ugai, K.; Yagi, H.; Wakai, A. (Eds.)
2013, XVIII, 996 p. 843 illus., 627 illus. in color.,
Hardcover
ISBN: 978-3-642-32237-2