Message from first author Andreas Kappos:

I am pleased to attach the completed form for Greece (WHE_PAGER_form(AUThGreece).pdf); the work has been carried out by G. Panagopoulos (PhD student) and myself. We have been in continuous contact with Antonios Pomonis and this has proved to be a very fruitful exchange of opinion and data. We finally decided to submit two forms for Greece (one by Antonios and one by my group) since a number of features are different in each case, notably the number of building types, as also discussed in previous e-mails (with comments from Agostino Goretti to whom I am also copying this mail). A key difference between the two greek forms is that, while Antonios has included different classes for low-rise and high-rise buildings, but only a single class for the RC structural system, we decided (taking into account different factors) to have only one height class but two classes of RC structural system, i.e. frames (with masonry infills) and dual systems (frames + RC walls, and masonry infills). Despite such differences, we are pleased to note that the reported probabilities of collapse are similar for similar classes, either RC or URM.

In addition to the above form, I include for completeness another one (WHE_PAGER_form(AUTh_heavydamage).pdf) [SEE PAGE 3 HERE], wherein you will notice a different set of probability values. The difference between the 'main' and the additional form is that the first one follows the definition of collapse adopted by PAGER, i.e. physical collapse of at least part of the building, whereas the second one adopts a broader definition of collapse (what is usually called damage state 5, in a range from 0 to 5) i.e. collapse or heavy damage, that often leads to demolition after the earthquake; from the economic point of view the two cases are almost identical, but the number of casualties differs significantly in each case. I believe that this second form is important in the sense that at least some of the forms already included in the WHE-PAGER database convey to me the impression that they are based on the broader rather than the strict definition of 'collapse'; for instance the large probability values in the turkish form are much closer to those of Greece using the broader definition. If the first, strict, definition were used the differences certainly cannot be explained solely on the basis of different quality of construction.

Finally, re. the background of our input, the probability values (in both forms of my group) are based on a re-evaluation of our statistical and hybrid (analytical+statistical) data (I attach a recent paper on our approach), a key element in this re-evaluation being the % of buildings that actually collapsed among those rated as red+purple (damage state 5) in the 1986 Kalamata database, which was the only one wherein we found this type of information.

**Greece: Summary of Building Types, Vulnerability to Collapse and Occupancy**

Completed by**:** Andreas Kappos, Professor, Dept. of Civil Engineering, University of Thessaloniki, University Campus, 54124 Thessaloniki GREECE, ajkap@civil.auth.gr and G. Panagopoulos, Civil Engineer, MSc, Dept of Technical Services, University of Thessaloniki, panagop@civil.auth.gr

| WHE Construction Type or Material *refer to Table 2 for suggested category(ies)* (1) | Description of construction type (type of load-bearing structure) *(refer to Tables 2 and 3 for suggested categories and sources of data to help answer this question)* (2) | Estimate of probability of collapse (%) of the building type when subjected to the specified shaking intensity (expressed as a range) *(refer to instructions page 5)* (3) **MMI / EMS / MSK** | | | | Fraction of population who LIVES in this building type *(refer to instructions for help in estimating)* | | Fraction of WORKING population who WORKS in this building type *(refer to instructions on page 5 for help in estimating)* | | Peak average number of occupants per building *(refer to instructions on page 5 for help in estimating)* (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | IX (~0.65-1.24g) | VIII (~0.34-0.65g) | VII (~0.18-0.34g) | VI (~0.092-.18g) | urban areas (4) | rural areas (5) | urban areas (6) | rural areas (7) | |
| 16 | R/C Moment Resisting Frames Old Codes - Pre 1985 | 1 | 0.35 | 0.10 | 0.05 | 50 | 25 | | | |
| 16 | R/C Moment Resisting Frames Modern Codes - Post 1985 | 0.40 | 0.10 | 0.05 | 0 | 7.5 | 9 | | | |
| 19 | R/C Dual Structures (Frames + Shear Walls), Old Codes - Pre 1985 | 0.75 | 0.25 | 0.10 | 0.01 | 12.5 | 3 | | | |
| 19 | R/C Dual Structures (Frames + Shear Walls), Modern Codes - Post 1985 | 0.35 | 0.05 | .01 | 0 | 22 | 9 | | | |
| 1 | Stone masonry | 55 | 10 | 5 | 3 | 1.5 | 23 | | | |
| 9 | Unreinforced brick masonry | 7.5 | 1 | 0.1 | 0 | 5.5 | 30 | | | |
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Refer to Part 3 (next 3 pages) for tables and links that may help you fill out this form.

**Greece: Summary of Building Types, Vulnerability to Collapse and Occupancy [Assumes broader definition of collapse, as noted in discussion on page 1 here]**

Completed by**:** Andreas Kappos, Professor, Dept. of Civil Engineering, University of Thessaloniki, University Campus, 54124 Thessaloniki GREECE, ajkap@civil.auth.gr and G. Panagopoulos, Civil Engineer, MSc, Dept of Technical Services, University of Thessaloniki, panagop@civil.auth.gr

| WHE Construction Type or Material *refer to Table 2 for suggested category(ies)* (1) | Description of construction type (type of load-bearing structure) *(refer to Tables 2 and 3 for suggested categories and sources of data to help answer this question)* (2) | Estimate of probability of collapse (%) of the building type when subjected to the specified shaking intensity (expressed as a range) *(refer to instructions page 5)* (3) MMI / EMS / MSK | | | | Fraction of population who LIVES in this building type *(refer to instructions for help in estimating)* | | Fraction of WORKING population who WORKS in this building type *(refer to instructions on page 5 for help in estimating)* | | Peak average number of occupants per building *(refer to instructions on page 5 for help in estimating)* (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | IX (~0.65-1.24g) | VIII (~0.34-0.65g) | VII (~0.18-0.34g) | VI (~0.092-.18g) | urban areas (4) | rural areas (5) | urban areas (6) | rural areas (7) | |
| 16 | R/C Moment Resisting Frames Old Codes - Pre 1985 | 15 | 5 | 2 | 0.5 | 50 | 25 | | | |
| 16 | R/C Moment Resisting Frames Modern Codes - Post 1985 | 4 | 0.5 | .02 | 0 | 7.5 | 9 | | | |
| 19 | R/C Dual Structures (Frames + Shear Walls), Old Codes - Pre 1985 | 11.5 | 3 | .15 | 0 | 12.5 | 3 | | | |
| 19 | R/C Dual Structures (Frames + Shear Walls), Modern Codes - Post 1985 | 3 | .3 | .01 | 0 | 22 | 9 | | | |
| 1 | Stone masonry | 80 | 14 | 8 | 5 | 1.5 | 23 | | | |
| 9 | Unreinforced brick masonry | 37 | 4 | .6 | .2 | 5.5 | 30 | | | |
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Refer to Part 3 (next 3 pages) for tables and links that may help you fill out this form.