

References

- Abdalla, I., Babiker, S., El-siddig, K., Möller, D., and Buerkert, A. (2012). Effects of red brick production on land use , household income , and greenhouse gas emissions in Khartoum , Sudan. , 113(1), 51–60.
- Adalberth, K. (1997, jul). Energy use during the life cycle of buildings: a method. *Building and Environment*, 32(4), 317–320. doi: 10.1016/S0360-1323(96)00068-6
- Afrin, H. (2017). A Review on Different Types Soil Stabilization Techniques. *International Journal of Transportation Engineering and Technology*, 3(2), 19. doi: 10.1177/014610798301300406
- Alpan, I. (1970). The geotechnical properties of soils. *Earth-Science Reviews*, 6(1), 5–49. doi: 10.1016/0012-8252(70)90001-2
- Amu, O. O., Bamisaye, O. F., and Komolafe, I. A. (2011). The Suitability and Lime Stabilization Requirement of Some Lateritic Soil Samples as Pavemen. *Journal*, 2(1), 29–46.
- Andersson, K., Allard, B., Bengtsson, M., and Magnusson, B. (1989). Chemical composition of cement pore solutions. *Cement and Concrete Research*, 19(3), 327–332. doi: 10.1016/0008-8846(89)90022-7
- Annie Paul, S., Boudenne, A., Ibos, L., Candau, Y., Joseph, K., and Thomas, S. (2008, sep). Effect of fiber loading and chemical treatments on thermophysical properties of banana fiber/polypropylene commingled composite materials. *Composites Part A*:

Applied Science and Manufacturing, 39(9), 1582–1588. doi: 10.1016/j.compositesa.2008.06.004

Ardanuy, M., Claramunt, J., and Toledo Filho, R. D. (2015). Cellulosic fiber reinforced cement-based composites: A review of recent research. *Construction and Building Materials*, 79, 115–128. doi: 10.1016/j.conbuildmat.2015.01.035

Arizzi, A., Brümmer, M., Martín-Sánchez, I., Cultrone, G., and Viles, H. (2015). The influence of the type of lime on the hygric behaviour and bio-receptivity of hemp lime composites used for rendering applications in sustainable new construction and repair works. *PLoS ONE*, 10(5). doi: 10.1371/journal.pone.0125520

Arooz, F. R., and Halwatura, R. U. (2018). Mud-concrete block (MCB): mix design and durability characteristics. *Case Studies in Construction Materials*, 8(December 2017), 39–50. doi: 10.1016/j.cscm.2017.12.004

Arooz, R., Lakmini, R., and Halwatura, R. (2015). Mud-Concrete Block Construction Community Centers for War Victim Communities in Batticaloa, Sri Lanka. In *Making built environments responsive* (pp. 1–14).

Assaedi, H., Shaikh, F. U., and Low, I. M. (2016). Effect of nano-clay on mechanical and thermal properties of geopolymers. *Journal of Asian Ceramic Societies*, 4(1), 19–28. doi: 10.1016/j.jascer.2015.10.004

ASTM, and International, A. (2006). Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). *ASTM Standard Guide*, D5521-05, 1–5. doi: 10.1520/D2487-11.

Bahar, R., Benazzoug, M., and Kenai, S. (2004, oct). Performance of compacted cement-stabilised soil. *Cement and Concrete Composites*, 26(7), 811–820. doi: 10.1016/j.cemconcomp.2004.01.003

Bal, H., Jannot, Y., Quenette, N., Chenu, A., and Gaye, S. (2012). Water content dependence of the porosity, density and thermal capacity of laterite based bricks with

millet waste additive. *Construction and Building Materials*, 31, 144–150. doi: 10.1016/j.conbuildmat.2011.12.063

Basha, E. A., Hashim, R., Mahmud, H. B., and Muntohar, A. S. (2005). Stabilization of residual soil with rice husk ash and cement. *Construction and Building Materials*, 19(6), 448–453. doi: 10.1016/j.conbuildmat.2004.08.001

Begum, R., Habib, A., and Begum, H. (2014). Adobe Bricks Stabilized With Cement and Natural Rubber Latex. *Ijese.Org*(4), 36–38.

Benefits, P., and Materials, B. (2009). Building with Brick : Sustainable and Energy Efficient. (December).

Bignozzi, M. C. (2011). Sustainable cements for green buildings construction. *Procedia Engineering*, 21, 915–921. doi: 10.1016/j.proeng.2011.11.2094

Bogahawatte, V. T. L. (2009). Science Education Series Building Materials in Sri Lanka. (August), 1604–1609.

Bogahawatte, V. V. (1993). *Building materials in Sri Lanka* (Unpublished doctoral dissertation). National Building Research Foundation.

Brandt, A. (1994). *Cement-based composites: Materials, mechanical properties and performance*. Taylor and Francis.

British Standards Institution BSI. (2006). Steel, concrete and composite bridges - Part 2. Specification for loads. , *BS 5400-2:(1)*, 32–34.

Bui, Q. B., Morel, J. C., Venkatarama Reddy, B. V., and Ghayad, W. (2009). Durability of rammed earth walls exposed for 20 years to natural weathering. *Building and Environment*, 44(5), 912–919. doi: 10.1016/j.buildenv.2008.07.001

Cai, Y., Shi, B., Ng, C. W. W., and sheng Tang, C. (2006). Effect of polypropylene fibre and lime admixture on engineering properties of clayey soil. *Engineering Geology*, 87(3-4), 230–240. doi: 10.1016/j.enggeo.2006.07.007

- Carreon, D. G. (2006). Stabilization of marginal soils using recycled materials. , 65.
- Cesaretti, G., Dini, E., De Kestelier, X., Colla, V., and Pambagui, L. (2014, jan). Building components for an outpost on the Lunar soil by means of a novel 3D printing technology. *Acta Astronautica*, 93, 430–450. doi: 10.1016/j.actaastro.2013.07.034
- Chang, I., and Cho, G. C. (2012). Strengthening of Korean residual soil with -1,3/1,6-glucan biopolymer. *Construction and Building Materials*, 30, 30–35. doi: 10.1016/j.conbuildmat.2011.11.030
- Chang, I., Prasidhi, A. K., Im, J., and Cho, G. C. (2015). Soil strengthening using thermo-gelation biopolymers. *Construction and Building Materials*, 77, 430–438. doi: 10.1016/j.conbuildmat.2014.12.116
- Chang, I., Prasidhi, A. K., Joo, G.-w., and Cho, G.-c. (2012). An Alternative Method for Soil Treatment using Environmentally- Friendly Biopolymer.
- Chengula, D. (2018). *Improving cementitious properties of blended pozzolan based materials for construction of low cost buildings in mbeya region, tanzania*. Kassel University Press.
- Choy, J. H., Choi, S. J., Oh, J. M., and Park, T. (2007). Clay minerals and layered double hydroxides for novel biological applications. *Applied Clay Science*, 36(1-3), 122–132. doi: 10.1016/j.clay.2006.07.007
- Christoforou, E., Kyllili, A., Fokaides, P. A., and Ioannou, I. (2015). Cradle to site Life Cycle Assessment (LCA) of adobe bricks. *Journal of Cleaner Production*, 1–10. doi: 10.1016/j.jclepro.2015.09.016
- Ciancio, D., Beckett, C. T. S., and Carraro, J. A. H. (2014). Optimum lime content identification for lime-stabilised rammed earth. *Construction and Building Materials*, 53, 59–65. doi: 10.1016/j.conbuildmat.2013.11.077

Cole, R. J., and Kernan, P. C. (1996). Life-Cycle Energy Use in Office Buildings. , 31(4), 307–317.

Cowan, H. (1998). *From wattle and daub to concrete and steel: The engineering heritage of australia's buildings*. Melbourne University Press.

Crawford, R. H. (2011). Life Cycle Water Analysis of an Australian Residential Building and Its Occupants. , 10.

Cristelo, N., Glendinning, S., Miranda, T., Oliveira, D., and Silva, R. (2012). Soil stabilisation using alkaline activation of fly ash for self compacting rammed earth construction. *Construction and Building Materials*, 36, 727–735. doi: 10.1016/j.conbuildmat.2012.06.037

Daniel T. Potts. (n.d.). *Mesopotamian Civilization: The Material Foundations - Daniel T. Potts - Google Books*.

Darius Vaz, A., Nixon, D. D., and Kaliveer, N. (2012). Geopolymer Paver Blocks.

Davidovits, J. (2005). *Geopolymer, green chemistry and sustainable development solutions: Proceedings of the world congress geopolym 2005*. Geopolymer Institute.

Davidovits, J. (2008a). *Geopolymer chemistry and applications*. Geopolymer Institute.

Davidovits, J. (2008b). *They built the pyramids*. Geopolymer Institute.

Davidovits, J., and Morris, M. (1988). *The pyramids: an enigma solved*. Hippocrene Books.

Davis, A. (1904). *Portland cement*. Offices of the Stone Trades Journal.

Davis, A. (1924). *A hundred years of portland cement, 1824-1924*. Concrete Publications Limited.

Davis, A. (2015). *Portland cement (classic reprint)*. Fb andC Limited.

Deboucha, S., and Hashim, R. (2011). A review on bricks and stabilized compressed earth blocks. *Scientific Research and Essays*, 6(3), 499–506. doi: 10.5897/SRE09.356

den Biggelaar, C. (1998). Soil properties analysis. , 12.

Dias, W. P. S. (2013). Factors Influencing the Service Life of Buildings. *Engineer*, XXXXVI(04).

Dissanayaka, R. (2016). Construction of Ancient Houses in Sri Lanka. *The Sixteenth Regular Report*, 16.

Donkor, P., and Obonyo, E. (2015). Earthen construction materials: Assessing the feasibility of improving strength and deformability of compressed earth blocks using polypropylene fibers. *Materials and Design*, 83, 813–819. doi: 10.1016/j.matdes.2015.06.017

D’Orazio, M., Cursio, G., Graziani, L., Aquilanti, L., Osimani, A., Clementi, F., ... Amoroso, S. (2014). Effects of water absorption and surface roughness on the bioreceptivity of ETICS compared to clay bricks. *Building and Environment*, 77, 20–28. doi: 10.1016/j.buildenv.2014.03.018

Dutil, Y., and Rousse, D. (2012). Energy costs of energy savings in buildings: A review. *Sustainability*, 4(8), 1711–1732. doi: 10.3390/su4081711

Eires, R., Camões, A., and Jalali, S. (2013). Earth architecture : ancient and new methods for durability improvement. *Structures and Architecture : Concepts, Applications and Challenges*, 962–970.

Emmanuel, E., Perrodin, Y., Keck, G., Blanchard, J. M., and Vermande, P. (2005). Ecotoxicological risk assessment of hospital wastewater: A proposed framework for raw effluents discharging into urban sewer network. *Journal of Hazardous Materials*, 117(1), 1–11. doi: 10.1016/j.jhazmat.2004.08.032

EN12390:2004. (2003). Shape, dimensions and other requirements for specimens and moulds. (August).

Erandi, N. G. N., Sakunthala, W. C., and Udamulla, K. M. L. A. (2013). Use of Bottom Ash as Fine Aggregate in Manufacturing Concrete Paving Blocks. , 69–74.

Fay, R., Treloar, G., and Iyer-Raniga, U. (2000). Life-cycle energy analysis. *Building Research and Information*, 28(1), 31–41. doi: 10.1080/096132100369073

Feist, W. (1997). Life-Cycle Energy Analysis: Comparison of Low-Energy House, Passive house, Self-Sufficient House. *Passive House Institut*, 13.

Fouchal, F., Gouny, F., Maillard, P., Ulmet, L., and Rossignol, S. (2015). Experimental evaluation of hydric performances of masonry walls made of earth bricks, geopolymere wooden frame. *Building and Environment*, 87, 234–243. doi: 10.1016/j.buildenv.2015.01.036

Galán-Marín, C., Rivera-Gómez, C., and Petric, J. (2010, aug). Clay-based composite stabilized with natural polymer and fibre. *Construction and Building Materials*, 24(8), 1462–1468. doi: 10.1016/j.conbuildmat.2010.01.008

Geiger, W., and Rickmers, C. (1992). *Cūavasa: Being the more recent part of the mahāvāsa* (No. pt. 1). Asian Educational Services.

Geiman, C. M. (2005). Stabilization of Soft Clay Subgrades in Virginia Phase 1 laboratory Study. , 97.

Gouny, F., Fouchal, F., Pop, O., Maillard, P., and Rossignol, S. (2013). Mechanical behavior of an assembly of woodgeopolymerearth bricks. *Construction and Building Materials*, 38, 110–118. doi: 10.1016/j.conbuildmat.2012.07.113

Güllü, H. (2014). Factorial experimental approach for effective dosage rate of stabilizer: Application for fine-grained soil treated with bottom ash. *Soils and Foundations*, 54(3), 462–477. doi: 10.1016/j.sandf.2014.04.017

Hall, M. R. (2007). Assessing the environmental performance of stabilised rammed earth walls using a climatic simulation chamber. *Building and Environment*, 42(1), 139–145. doi: 10.1016/j.buildenv.2005.08.017

Halwathura, R. (2016). *Mud-Concrete Block, National Intellectual Property Office; 17616, E04C 1/100, B28B, B28C.*

Hamidul Islam D. (2012). *Use of Material in Residential House Design: An Optimisation Approach Balancing Life Cycle Cost and Life Cycle Environmental Impact* Hamidul Islam (Unpublished doctoral dissertation). RMIT University, Melbourne, Australia.

Hammond, G. P., and Jones, C. I. (2008). Embodied energy and carbon in construction materials. *Proceedings of the Institution of Civil Engineers - Energy*, 161(2), 87–98. doi: 10.1680/ener.2008.161.2.87

Hammond, M. (1990). *Bricks and brickmaking*. Shire.

Harris, P., von Holdt, J., Sebesta, S., and Scullion, T. (2006). Part 3: Cementitious, Chemical, and Mechanical Stabilization: Recommendations for Stabilization of High-Sulfate Soils in Texas. *Transportation Research Record*, 1952(1), 71–79. doi: 10.3141/1952-08

Hashemi, A., Cruickshank, H., and Cheshmehzangi, A. (2015). Environmental Impacts and Embodied Energy of Construction Methods and Materials in Low-Income Tropical Housing. *Sustainability*, 7(6), 7866–7883. doi: 10.3390/su7067866

Hejazi, S. M., Sheikhzadeh, M., Abtahi, S. M., and Zadhoureh, A. (2012). A simple review of soil reinforcement by using natural and synthetic fibers. *Construction and Building Materials*, 30, 100–116. doi: 10.1016/j.conbuildmat.2011.11.045

H.Kosmatka, S., and L.wilson, M. (2011). *Design and Control of Concrete Mixtures*.

- Hossain, K. M. A., Lachemi, M., and Easa, S. (2007). Stabilized soils for construction applications incorporating natural resources of Papua new Guinea. *Resources, Conservation and Recycling*, 51(4), 711–731. doi: 10.1016/j.resconrec.2006.12.003
- housing programme 2011, J. (2011). JANASEVANA National Housing Symposium 2011 and Common Amenities..
- Hu, Y., Zhang, P., Li, J., and Chen, D. (2015). Stabilization and separation of heavy metals in incineration fly ash during the hydrothermal treatment process. *Journal of hazardous materials*, 299, 149–157. doi: 10.1016/j.jhazmat.2015.06.002
- Illampas, R., Ioannou, I., and Charmpis, D. C. (2014). Adobe bricks under compression: Experimental investigation and derivation of stress-strain equation. *Construction and Building Materials*, 53, 83–90. doi: 10.1016/j.conbuildmat.2013.11.103
- James, J., and Kasinatha Pandian, P. (2014). A study on the early UCC strength of stabilized soil admixed with industrial waste materials. *International Journal of Earth Sciences and Engineering*, 7(3), 1055–1063.
- James, J., and Pandian, P. K. (2015). Soil Stabilization as an Avenue for Reuse of Solid Wastes : A Review. *Acta Technica Napocensis: Civil Engineering and Architecture*, 58(1), 50–76.
- Jayasinghe, C. (2011). Embodied energy of alternative building materials and their impact on life cycle cost parameters. *Icsecm*, 1–20.
- Jayasinghe, C., and Kamaladasa, N. (2007, nov). Compressive strength characteristics of cement stabilized rammed earth walls. *Construction and Building Materials*, 21(11), 1971–1976. doi: 10.1016/j.conbuildmat.2006.05.049
- Jayawardana, D. L. N. B., Ukwatta, U. P. A. S., Weerakoon, W. M. N. R., Pathirana, C. K., and Abeyruwan, H. (2012). Variability of Chemical Composition of Some Cements Available on the Sri Lankan Market. *Annual Research Journal of SLSAJ*, 12, 11–15.

Joseph, P., and Tretsiakova-McNally, S. (2010). Sustainable Non-Metallic Building Materials. *Sustainability*, 2(2), 400–427. doi: 10.3390/su2020400

Joseph A. Demkin, A. I. o. A. (n.d.). *The Architect's Handbook of Professional Practice - Joseph A. Demkin, American Institute of Architects - Google Books.*

Juarez, C., Duran, A., Valdez, P., and Fajardo, G. (2007). Performance of "Agave lecheguilla" natural fiber in portland cement composites exposed to severe environment conditions. *Building and Environment*, 42(3), 1151–1157. doi: 10.1016/j.buildenv.2005.12.005

Kapsalis, V. C., and Symeonidis, N. (2009). Earth Building . Models , Technical Aspects , Tests and Environmental Evaluation. (September), 3–5.

Keoleian, G. a., Blanchard, S., and Reppe, P. (2001). Life-Cycle Energy, Costs, and Strategies for Improving a Single-Family House. *Journal of Industrial Ecology*, 4(2), 135–156. doi: 10.1162/108819800569726

Knox, R. (1681). *An historical relation of the island ceylon, in the east indies: Together with an account of the detaining in captivity the author and divers otherenglishmen now living there, and of the author's miraculous escape.* R. Chiswell.

Kodituwakku, K., and Katupotha, J. (2014, 10). Sigiriya museum: a visual narration of a tangible heritage of sri lanka.
doi: 10.13140/RG.2.1.3612.9763

Komnitsas, K. A. (2011). Potential of geopolymmer technology towards green buildings and sustainable cities. *Procedia Engineering*, 21, 1023–1032. doi: 10.1016/j.proeng.2011.11.2108

Lambert, F., and Rinaudo, M. (1985). On the thermal stability of xanthan gum. *Polymer*, 26(10), 1549–1553. doi: 10.1016/0032-3861(85)90092-8

Latifi, N., Rashid, A. S. A., Siddiqua, S., and Horpibulsuk, S. (2015). Micro-structural analysis of strength development in low- and high swelling clays stabilized with magnesium chloride solution - A green soil stabilizer. *Applied Clay Science*, 118, 195–206. doi: 10.1016/j.clay.2015.10.001

Lemougna, P. N., Madi, A. B., Kamseu, E., Melo, U. C., Delplancke, M.-P., and Rahier, H. (2014). Influence of the processing temperature on the compressive strength of Na activated lateritic soil for building applications. *Construction and Building Materials*, 65, 60–66. doi: 10.1016/j.conbuildmat.2014.04.100

Li, J., Tang, C., Wang, D., Pei, X., and Shi, B. (2014). Effect of discrete fibre reinforcement on soil tensile strength. *Journal of Rock Mechanics and Geotechnical Engineering*, 6(2), 133–137. doi: 10.1016/j.jrmge.2014.01.003

Li, Z. (2006, oct). A new life cycle impact assessment approach for buildings. *Building and Environment*, 41(10), 1414–1422. doi: 10.1016/j.buildenv.2005.05.034

Lima, S. A., Varum, H., Sales, A., and Neto, V. F. (2012). Analysis of the mechanical properties of compressed earth block masonry using the sugarcane bagasse ash. *Construction and Building Materials*, 35, 829–837. doi: 10.1016/j.conbuildmat.2012.04.127

Lorenz, K., Lal, R., Preston, C. M., and Nierop, K. G. J. (2007). Strengthening the soil organic carbon pool by increasing contributions from recalcitrant aliphatic bio(macro)molecules. *Geoderma*, 142(1-2), 1–10. doi: 10.1016/j.geoderma.2007.07.013

Lynne C. Lancaster. (n.d.). *Concrete Vaulted Construction in Imperial Rome: Innovations in Context - Lynne C. Lancaster - Google Books.*

Maïni, S. (2010). Compressed stabilized earth blocks and stabilized earth techniques research and development by the auroville earth institute (AVEI). (November).

Malhotra, V., and Mehta, P. (1996). *Pozzolanic and cementitious materials*. Gordon and Breach.

Maniatidis, V., and Walker, P. (2003). A Review of Rammed Earth Construction. (May).

Minke, G. (2001). Construction manual for earthquake-resistant houses built of earth. *Building Advisory Service and Information Network*.

Mithraratne, N., and Vale, B. (2004, apr). Life cycle analysis model for New Zealand houses. *Building and Environment*, 39(4), 483–492. doi: 10.1016/j.buildenv.2003.09.008

Monahan, J., and Powell, J. (2011, jan). An embodied carbon and energy analysis of modern methods of construction in housing: A case study using a lifecycle assessment framework. *Energy and Buildings*, 43(1), 179–188. doi: 10.1016/j.enbuild.2010.09.005

Muhammad, B., and Ismail, M. (2012). Performance of natural rubber latex modified concrete in acidic and sulfated environments. *Construction and Building Materials*, 31, 129–134. doi: 10.1016/j.conbuildmat.2011.12.099

Nagaraj, H., Sravan, M., Arun, T., and Jagadish, K. (2014). Role of lime with cement in long-term strength of Compressed Stabilized Earth Blocks. *International Journal of Sustainable Built Environment*, 3(1), 54–61. doi: 10.1016/j.ijsbe.2014.03.001

Naskar, S., and Chakraborty, A. K. (2016). Effect of nano materials in geopolymers concrete. *Perspectives in Science*, 8, 273–275. doi: 10.1016/j.pisc.2016.04.049

Needham, J., Daniels, C., and Menzies, N. (1996). *Science and civilisation in china: Volume 6, biology and biological technology, part 3, agro-industries and forestry*. Cambridge University Press.

Nematchoua, M. K., Raminosoa, C. R. R., Mamiharijaona, R., René, T., Orosa, J. A., Elvis, W., and Meukam, P. (2015, oct). Study of the economical and optimum thermal insulation thickness for buildings in a wet and hot tropical climate: {Case} of {Cameroon}. *Renewable and Sustainable Energy Reviews*, 50, 1192–1202. doi: 10.1016/j.rser.2015.05.066

Nicholson, P., Shaw, I., Henderson, J., Morkot, R., Peltenburg, E., Quirke, S., ... White, R. (2000). *Ancient egyptian materials and technology*. Cambridge University Press.

Noble, A. (2007). *Traditional buildings: A global survey of structural forms and cultural functions*. I. B. Tauris.

Nolte, H., John, S., Smidsrød, O., and Stokke, B. T. (1992). Gelation of xanthan with trivalent metal ions. *Carbohydrate Polymers*, 18(4), 243–251. doi: 10.1016/0144-8617(92)90089-9

Norman, S. (2015). *Sinhala thupawansaya*. S.Godage Brothers (Pvt) Ltd.

Nurul, K., Arch, A. M., and Architects, G. S. (2010). Earth Construction in Improving the Tradition Botswana : Reviving and Improving the Tradition. In *Caa dhaka 2013* (p. 12).

Pacheco-Torgal, F., and Jalali, S. (2012). Earth construction: Lessons from the past for future eco-efficient construction. *Construction and Building Materials*, 29, 512–519. doi: 10.1016/j.conbuildmat.2011.10.054

Padavic, M., and Mulligan, M. (2002). Resurrection : Rammed Earth Construction.

Paula, S. (2006). *Wattle and daub*. Shire Publications.

Per, J., and Tongbo, S. (2017). *History of concrete: A very old and modern material*. World Scientific Publishing Company.

Peris Mora, E. (2007). Life cycle, sustainability and the transcendent quality of building materials. *Building and Environment*, 42(3), 1329–1334. doi: 10.1016/j.buildenv.2005.11.004

Petrillo, A., Cioffi, R., Ferone, C., Colangelo, F., and Borrelli, C. (2016). Eco-sustainable Geopolymer concrete blocks production process. *Agriculture and Agricultural Science Procedia*, 8(8), 408–418. doi: 10.1016/j.aaspro.2016.02.037

Pinto, J., Cruz, D., Paiva, A., Pereira, S., Tavares, P., Fernandes, L., and Varum, H. (2012, sep). Characterization of corn cob as a possible raw building material. *Construction and Building Materials*, 34, 28–33. doi: 10.1016/j.conbuildmat.2012.02.014

Pooliyadda, S. P., and Dias, P. (2000). *Energy Content and Carbon Emission* (Unpublished doctoral dissertation). University of Moratuwa.

Posi, P., Teerachanwit, C., Tanutong, C., Limkamoltip, S., Lertnimoolchai, S., Sata, V., and Chindaprasirt, P. (2013). Lightweight geopolymer concrete containing aggregate from recycle lightweight block. *Materials and Design*, 52, 580–586. doi: 10.1016/j.matdes.2013.06.001

Pranjic, A. M., Mulec, J., Muck, T., Hlandnik, A., and Mladenovic, A. (2015). The bioreceptivity of building stone. *Geophysical Research Abstracts*, 17.

Provis, J., and van Deventer, J. (2013). *Alkali activated materials: State-of-the-art report, rilem tc 224-aam*. Springer Netherlands.

Raddin, J. B. (1964). *The Sumerians: Their History, Culture and Character*. (Vol. 113). doi: 10.1001/archinte.1964.00280080145038

Rael, R. (2009). *Earth architecture*. Princeton Architectural Press.

Raj, P. (2005). *Ground improvement techniques (pb)*. Laxmi Publications Pvt Limited.

Ramezanianpour, A. (2013). *Cement replacement materials: Properties, durability, sustainability*. Springer Berlin Heidelberg.

Ranaweera, M. P. (2004). Ancient stupas in Sri Lanka Largest brick structures in the world. , 1–9.

Rashid, A. S. A., Latifi, N., Meehan, C. L., and Manahiloh, K. N. (2017). Sustainable Improvement of Tropical Residual Soil Using an Environmentally Friendly Additive. *Geotechnical and Geological Engineering*, 1–11. doi: 10.1007/s10706-017-0265-1

Reddy, B. V. V. (1994). Pressed soil-cement block: an alternative building material for masonry. , 1, 425–433.

Reddy, B. V. V., and Jagadish, K. S. (2003). Embodied energy of common and alternative building materials and technologies. , 35, 129–137.

Research, N. E., and of Sri Lanka, D. C. (2009). Specifications for Compressed Stabilized Earth Blocks: SLS 1382- Part 2; Test Methods.
doi: 10.1520/C0109

Richard F. Heitzmann, Mark Fitzgerald, J. L. S. (1985). *Geopolymer Chemistry and Applications - Joseph Davidovits - Google Books*.

Rohintan,Emmanuel. (2004). Estimating the environmental suitability of wall materials preliminary results from Sri Lanka. *Building and Environment* 39, 39, 1253–1261.

Roma, L. C., Martello, L. S., and Savastano, H. (2008). Evaluation of mechanical, physical and thermal performance of cement-based tiles reinforced with vegetable fibers. *Construction and Building Materials*, 22(4), 668–674. doi: 10.1016/j.conbuildmat.2006.10.001

Rujikiatkamjorn, C., Indraratna, B., and Chu, P. (2005). *Ground improvement: Case histories*. Elsevier Science.

- Saljnikov, E., and Cakmak, D. (2016). *Chemical soil stabilization*. Auris Reference.
- Salvador, S. (1995). Pozzolanic properties of flash-calcined kaolinite: A comparative study with soak-calcined products. *Cement and Concrete Research*, 25(1), 102–112. doi: 10.1016/0008-8846(94)00118-I
- Samal, S., Ray, A. K., and Bandopadhyay, A. (2015). Characterization and microstructure observation of sintered red mud-fly ash mixtures at various elevated temperature. *Journal of Cleaner Production*, 101, 368–376. doi: 10.1016/j.jclepro.2015.04.010
- Sartori, I. (2008). *Modelling energy demand in the Norwegian building stock* (No. July).
- Scheuer, C., Keoleian, G. a., and Reppe, P. (2003, nov). Life cycle energy and environmental performance of a new university building: modeling challenges and design implications. *Energy and Buildings*, 35(10), 1049–1064. doi: 10.1016/S0378-7788(03)00066-5
- Scott, R., and Schoustra, J. (1968). *Soil: mechanics and engineering*. McGraw-Hill.
- Shen, W., Zhou, M., and Zhao, Q. (2007). Study on lime-fly ash-phosphogypsum binder. *Construction and Building Materials*, 21(7), 1480–1485. doi: 10.1016/j.conbuildmat.2006.07.010
- Shobha, M. S., Shashidhar, C., and Rao, S. H. (2013). Strength Studies Of Natural Rubber Latex Modified High Performance Concrete. , 2(4), 187–193. doi: 10.1177/2393957514555052
- Silva, M. F., Pineda, E. A. G., Hechenleitner, A. A. W., Fernandes, D. M., Lima, M. K., and Bittencourt, P. R. S. (2011). Characterization of poly(vinyl acetate)/sugar cane bagasse lignin blends and their photochemical degradation. *Journal of Thermal Analysis and Calorimetry*, 106(2), 407–413. doi: 10.1007/s10973-011-1475-z

Suzuki, M., Oka, T., and Okada, K. (1995). The estimation of energy consumption and CO₂ emission due to housing construction in Japan. *Energy and Buildings*, 22(2), 165–169.

Takano, A., Pal, S. K., Kuittinen, M., Alanne, K., Hughes, M., and Winter, S. (2015). The effect of material selection on life cycle energy balance: A case study on a hypothetical building model in Finland. *Building and Environment*, 89(March), 192–202. doi: 10.1016/j.buildenv.2015.03.001

Talakokula, V., Vaibhav, and Bhalla, S. (2016). Non-destructive Strength Evaluation of Fly Ash Based Geopolymer Concrete Using Piezo Sensors. *Procedia Engineering*, 145, 1029–1035. doi: 10.1016/j.proeng.2016.04.133

Thakur, V. K., Singha, A. S., and Thakur, M. K. (2011). Biopolymers Based Green Composites: Mechanical, Thermal and Physico-chemical Characterization. *Journal of Polymers and the Environment*, 20(2), 412–421. doi: 10.1007/s10924-011-0389-y

Thomas, J. (2002). *Chemical soil stabilization: A laboratory comparison of the effectiveness of three liquid products and lime*. University of Texas at Austin.

Thormark, C. (2002). A low energy building in a life cycle its embodied energy , energy need for operation and recycling potential. , 37, 429–435.

Tian, X. (2011). *Visionary journeys: Travel writings from early medieval and nineteenth-century china*. Harvard University Asia Center.

Tran, T. H., Govin, A., Guyonnet, R., Grosseau, P., Lors, C., Damidot, D., ... Ruot, B. (2014). Influence of the intrinsic characteristics of mortars on their biofouling by pigmented organisms: Comparison between laboratory and field-scale experiments. *International Biodeterioration and Biodegradation*, 86, 334–342. doi: 10.1016/j.ibiod.2013.10.005

Udawattha, C., Arooz, F., and Halwatura, R. (2016a). Energy content of walling materials- A comparison of Mud-Concrete Blocks, Bricks, Cabook and Cement

Blocks on tropics. *7th International Conference on Sustainable Built Environment*, 7(December), 30–42.

Udawattha, C., Arooz, R., and Halwatura, R. (2016b). Manufacturing framework and Cost optimization for Building Mud concrete Blocks (MCB). In *Mobilization modern technologies for sustainable development in asia* (p. 112).

Udawattha, C., Arooz, R., and Halwatura, R. (2016c). New Earth Walling Material: Integrating Modern Technology into Ancient Mud Wall. In *7th international conference on sustainable built environment 2016, kandy, sri lanka, 16th to 18th december 2016*.

Udawattha, C., Dilshan, P., and Halwatura, R. (2017). Use of fly ash as alternative stabilizer for Mud Concrete Block. In *The annual international research conference of kdu* (pp. 8–12).

Udawattha, C., Galabada, H., and Halwatura, R. (2017, dec). Mud concrete paving block for pedestrian pavements. *Case Studies in Construction Materials*, 7, 249–262. doi: 10.1016/J.CSCM.2017.08.005

Udawattha, C., Galkanda, H., Ariyaratne, I. S., Jayasinghe, G., and Halwatura, R. (2018). Mold growth and moss growth on tropical walls. *Building and Environment*. doi: 10.1016/j.buildenv.2018.04.018

Udawattha, C., Galkanda, H., and Halwatura, R. (2018). A Study on Natural Rain Surface Erosion of Different Walling Materials in Tropics. *2018 Moratuwa Engineering Research Conference (MERCon)(i)*, 84–89. doi: 10.1109/MERCon.2018.8421938

Udawattha, C., and Halwatura, R. (2016a). Comparative Study of Embodied Energy in Different Walling Materials. In *Proceedings of the international forestry and environment symposium 2016, department of forestry and environmental science, university of sri jayewardenepura, sri lanka* (p. 2016).

Udawattha, C., and Halwatura, R. (2016b, aug). Embodied energy of mud concrete block (MCB) versus brick and cement blocks. *Energy and Buildings*, 126(0), 28–35. doi: 10.1016/j.enbuild.2016.04.059

Udawattha, C., and Halwatura, R. (2016c). Thermal performance and structural cooling analysis of brick, cement block, and mud concrete block. *Advances in Building Energy Research*, 126(0), 28–35. doi: 10.1016/j.enbuild.2016.04.059

Udawattha, C., and Halwatura, R. (2017). Life cycle cost of different Walling material used to build affordable housing in tropics. *Case Studies in Construction Materials*, 7(November 2016), 15–29. doi: 10.1016/j.cscm.2017.04.005

Udawattha, C., and Halwatura, R. (2018, may). Geopolymerized Self-Compacting Mud concrete masonry units. *Case Studies in Construction Materials*. doi: 10.1016/j.cscm.2018.e00177

Udawattha, C., Silva, D., Galkanda, H., and Halwatura, R. (2018). Performance of natural polymers for Stabilizing earth blocks. *Materialia*. doi: 10.1016/J.MTLA.2018.07.019

Ven. Mahanama Thera, W. G. (1912). *The MAHAVAMSA*.

Venkatarama Reddy, B. V., and Prasanna Kumar, P. (2011, mar). Structural Behavior of Story-High Cement-Stabilized Rammed-Earth Walls under Compression. *Journal of Materials in Civil Engineering*, 23(3), 240–247. doi: 10.1061/(ASCE)MT.1943-5533.0000155

Vijaysankar, P. M., Anuradha, R., Sreevidya, V., and Venkatasubramani, R. (n.d.). Durability Studies of Geopolymer Concrete Solid Blocks. *International Journal of Advanced Scientific and Technical Research Issue*, 3(2).

Villamizar, M. C. N., Araque, V. S., Reyes, C. A. R., and Silva, R. S. (2012). Effect of the addition of coal-ash and cassava peels on the engineering properties of

compressed earth blocks. *Construction and Building Materials*, 36, 276–286. doi: 10.1016/j.conbuildmat.2012.04.056

Xu, H., van Deventer, J. S. J., and Lukey, G. C. (2001). Effect of Alkali Metals on the Preferential Geopolymerization of Stilbite/Kaolinite Mixtures. *Industrial and Engineering Chemistry Research*, 40(17), 3749–3756. doi: 10.1021/ie010042b

Yetgin, ., ÇAVDAR, Ö., and Çavdar, A. (2008). The effects of the fiber contents on the mechanic properties of the adobes. *Construction and Building Materials*, 22(3), 222–227. doi: 10.1016/j.conbuildmat.2006.08.022

Zhang, M., Guo, H., El-Korchi, T., Zhang, G., and Tao, M. (2013). Experimental feasibility study of geopolymer as the next-generation soil stabilizer. *Construction and Building Materials*, 47, 1468–1478. doi: 10.1016/j.conbuildmat.2013.06.017

Zimmermann, M., Althaus, H. J., and Haas, A. (2005). Benchmarks for sustainable construction: A contribution to develop a standard. *Energy and Buildings*, 37(11 SPEC. ISS.), 1147–1157. doi: 10.1016/j.enbuild.2005.06.017

LIST OF PEER-REVIEWED JOURNAL PROCEEDINGS

JOURNAL PROCEEDINGS

1. Udawattha, C., De Silva, D. E., Galkanda, H., Halwatura, R. (2018). Performance of natural polymers for Stabilizing earth blocks. *Materialia*. doi.org/10.1016/j.mtla.2018.07.019
2. Udawattha, C., Galkanda, H., Ariyarathne, I. S., Jayasinghe, G., and Halwatura, R. (2018). Mold growth and moss growth on tropical walls. *Building and Environment*. doi: 10.1016/j.buildenv.2018.04.018
3. Udawattha, C., and Halwatura, R. (2018, may). Geopolymerized Self-Compacting Mud concrete masonry units. *Case Studies in Construction Materials*. doi: 10.1016/j.cscm.2018.e00177
4. Udawattha, C., and Halwatura, R. (2017b). Life cycle cost of different Walling material used to build affordable housing in tropics. *Case Studies in Construction Materials*, 7(November 2016), 1529. doi: 10.1016/j.cscm.2017.04.005
5. Udawattha, C., Galabada, H., and Halwatura, R. (2017, dec). Mud concrete paving block for pedestrian pavements. *Case Studies in Construction Materials*, 7, 249 262. doi: 10.1016/J.CSCM.2017.08.005
6. Udawattha, C., and Halwatura, R. (2016c). Thermal performance and structural cooling analysis of brick, cement block, and mud concrete block. *Advances in Building Energy Research*, 126(0), 2835. doi: 10.1016/j.enbuild.2016.04.059

7. Udawattha, C., Arooz, F., and Halwatura, R. (2016a). Energy content of walling materials- A comparison of Mud-Concrete Blocks, Bricks, Cabook and Cement Blocks on tropics. 7th International Conference on Sustainable Built Environment, 7(December), 3042.

CONFERENCE PROCEEDINGS

1. A Study on Natural Rain Surface Erosion of Different Walling Materials in Tropics in Moratuwa Engineering Research Conference.
2. Fly Ash-based Geopolymer Mud Concrete Block in Moratuwa Engineering Research Conference.
3. Character of Lime as an Alternative Stabilizer to Improve the Long-Term Strength of Mud Concrete Block, in 8th International Conference on Structural Engineering and Construction Management, ICSECM2017, 2017.
4. Use of fly ash as alternative stabilizer for Mud Concrete Block. International Conference on Sustainable Development
5. Comparative Study of Embodied Energy in Different Walling Materials. In Proceedings of the International Forestry and Environment Symposium in Department of Forestry and Environmental Science, University of Sri Jayewardenepura
6. Investigation on Elements and their Fraction of Building Construction Cost, in Moratuwa Engineering Research Conference
7. New Earth Walling Material: Integrating Modern Technology into Ancient Mud Wall
8. The Energy content of walling materials- A comparison of Mud-Concrete Blocks, Bricks, Cabook and Cement Blocks on tropics,
9. Life cycle cost and energy analysis of an Affordable house in Sri Lanka

10. The embodied energy and life cycle costing: A case study on basic dwellings in Sri Lanka, in National Green Conference 2016 at University of Kelaniya
11. Manufacturing framework and Cost optimization for Building Mud concrete Blocks MCB, in Mobilization Modern Technologies for Sustainable Development in Asia

BOOK PUBLICATIONS

1. Chameera Udawattha and Rangika Halwatura (November 5th 2018). Alternative Stabilizer for Mud Concrete, Cement Based Materials, Hosam El-Din M. Saleh and Rehab O. Abdel Rahman, IntechOpen, DOI: 10.5772/intechopen.76065.

PATENTS

1. Fly Ash stabilized mud concrete block for load-bearing walls - Patent Number 19495.
2. Rubber stabilized earth blocks for load-bearing walls - Patent number 19379.
3. Geopolymerized self-compacting mud block - Patent number 19567.

RESEARCH AWARDS

1. 2018 Elsevier Foundation Green and Sustainable Chemistry Challenge Top 50 No 13 in the world.
2. 2018 First author younger than 35 years old who has been accepted for publication in Building and Environment. *C. Udawattha, H. Galkanda, I.S. Ariyarathne, G.Y. Jayasinghe, R. Halwatura, Mold growth and moss growthmoss growth on tropical walls, Building and Environment*
3. 2017 Best Research Paper Award Udawattha, C., Dilshan, P., and Halwatura, R. Use of fly ash as alternative stabilizer for Mud Concrete Block. International Conference on Sustainable Development, (August), 8—12.
4. 2016 The Presidents Awards for Scientific Publication are given to Sri Lankan scientists with a local institutional affiliation who achieve a publication in the top 15% of Science Citation Index Expanded journals (ranked on their Impact Factor under each journal category based on SCI categorization of journals) *C. Udawattha, R. Halwatura, Embodied energyEmbodyied energy of mud concrete block (MCB) versus brick and cement blocks, Energy and Buildings*