# Performance Comparison of LLMs in Fact and Relationship Extraction

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| **Metric** | **Paper** | **Manual** | **DeepSeek** | **ChatGPT** | **Mistral 24B** |
| Total facts identified | P1  P2  P3  P4 | 32  46  66  21 | 15  15  70 | 25  10  15 | 62  27  73 |
| Total unique nodes | P1  P2  P3  P4 | 90  188  268  59 | 27  78  154 | 78  36  56 | 108  28  108 |
| Total relationships extracted | P1  P2  P3  P4 | 30  67  74  21 | 15  29  102 | 22  10  15 | 62  27  52 |
| Matching facts with manual | P1  P2  P3 |  | 2 (6.25%)  3 (6.52%)  59 (89.39%) | 11 (34.38%)  1 (2.17%)  11 (16.67%) | 11 (34.38%)  4 (8.70%)  57 (86.36%) |
| Missed facts compared to manual | P1  P2  P3 |  | 30 (93.75%)  43 (93.48%)  7 (10.61%) | 21 (65.63%)  45 (97.83%)  55 (83.33%) | 22 (68.75%)  42 (91.30%)  9 (13.64%) |
| Hallucinated /incorrect | P1  P2  P3 |  | 11 (34.38%)  2 (4.35%)  2 (3.03%) | 3 (9.375%)  9 (19.57%)  2 (3.03%) | 0 (0%)  0 (0%)  0 (0%) |

Paper 1: Diversity of fishing gears and crafts used for harvesting the Asian seabass, Lates calcarifer along the Bay of Bengal, Bangladesh coast

Paper 2: Fishing Gears and Practices in the Bukbhora Oxbow Lake: Implications for Biodiversity Conservation in South-west Bangladesh

Paper 3: When hazards become disasters: Coastal fishing communities in Bangladesh

Paper 4: Small in Scale, Big in Contributions: Advancing Knowledge of Small-Scale Fisheries in Bangladesh