Humanitarian organizations' efforts to deliver aid to South Asia in response to the devastating tsunamis that struck just over six months ago were marred by a lack of logistics experts, inadequate methods for tracking the flow of relief supplies, and insufficient planning and assessments, a new report says.

The study, by the nonprofit Fritz Institute, in San Francisco -- with assistance from the international accounting firm KPMG and the Massachusetts Institute of Technology -- is based on a survey of some 100 officials in charge of logistics at 18 of the largest humanitarian organizations that responded to the disaster.

Sixteen of the organizations said they had to relocate logistics specialists to South Asia from other assignments because of a scarcity of experienced logisticians in the affected region. Additionally, only five organizations said they had access to software that would have enabled them to effectively "track and trace" relief materials and funds from the relief sites. A majority of the groups relied on "homegrown technologies," off-the-shelf spreadsheet packages, or manual methods to monitor where supplies were.

While most of the humanitarian groups had a process in place for assessing needs and coming up with a relief plan for the region, 11 of the organizations said their resulting plans fell short. Nearly half of the assessment teams did not include logistics experts, which the report says might have lead to unanticipated logistical bottlenecks hampering the flow of relief supplies and services.

The survey also found "limited collaboration and coordination" among relief groups. Though 14 groups said they worked with local authorities and the military, only 10 of the groups said they worked with other relief organizations to keep supplies moving.

Among the report's conclusions: Efficient humanitarian relief efforts require that a "pool of trained and experienced logistics professionals" be available for rapid deployment. Relief organizations are also encouraged to develop new ways to collaborate and coordinate their efforts before a disaster strikes.

"Logistics is the most under-recognized and under-resourced part of most humanitarian organizations because of the way money is allocated -- the focus is on the frontline and not the backroom that facilitates the frontline," says Anisya Thomas, the Fritz Institute's managing director. "If there is one lesson here it is how important logistics is to effective relief operations and how important it is to fund world-class logistics operations, including trained logisticians and new technology."