

The Asian Tsunami and Problem-Based Learning for Postgraduate Students in Sri Lanka

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The Asian Tsunami struck Sri Lanka on December 26, 2004. Sri Lanka was the second worst affected country after Indonesia, and this natural disaster killed in excess of 35,000 people and displaced over 1 million. The article explores the Tsunami Disaster Management Program developed by one Sri Lankan university: the Postgraduate Institute of Management at the University of Sri Jayewardenepura. The program encouraged postgraduate students to undertake a range of recovery management projects to improve the operation of temporary camps and restore the livelihoods of tsunami survivors. The article examines the steps taken by postgraduate students to diagnose problems within the camps and implement a comprehensive range of solutions. The recovery management projects enhanced postgraduate students' managerial skills in diagnosis and analysis, planning and goal setting, leading teams and conflict resolution as well as their awareness of their social responsibilities to local communities at a time of national crisis. The article also highlights a number of lessons for other educational institutions contemplating changing their curricula to promote a stronger focus on problem-based learning.

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This article explores how one Sri Lankan university, the Postgraduate Institute of Management (PIM) at the University of Sri Jayewardenepura, based in Colombo, Sri Lanka, developed a Tsunami Disaster Management Program in the aftermath of the tsunami of January 26, 2004. The program provided opportunities for some 165 master of business administration (MBA) and master of public administration (MPA) students to work on relief projects for survivors of the tsunami in 69 temporary camps across Sri Lanka. The article examines this program in terms of the problem-based learning (PBL) experiences it provided Sri Lankan management students and the outcomes it achieved for the survivors of the tsunami. The article argues that alongside the considerable assistance to communities struggling in the aftermath of the tsunami, the program assisted management students to hone their leadership, planning, and problem-solving skills in a most challenging environment.

Management education is often criticized for failing to prepare students adequately to cope with real-world managerial problems. For example, the traditional MBA curriculum has been criticized for producing graduates who do not have the ability to communicate effectively, set goals, lead teams, or think intuitively (Bennis & O'Toole, 2005; Bigelow et al., 1999; Mintzberg, 2004; Pfeffer & Fong, 2002, 2004). In addition, employers require business graduates who have the ability to analyze and solve organizational problems and demonstrate an awareness of the global challenges facing organizations (Bigelow, 2004; Coombs & Elden, 2004).

The PBL approach seeks to develop these essential managerial competencies within the classroom through the development of a student-centered approach to learning (Peterson, 2004; Sherwood, 2004). Barrows and Tamblyn defined PBL as “the learning that results from the process of working toward the understanding or resolution of a problem” (as cited in Peterson, 2004, p. 633). It makes use of real-world problems to provide the context within which students develop an understanding of management concepts and techniques and develop skills in organizational diagnosis and problem solving (Bigelow, 2004).

By developing solutions to real organizational problems, students can also improve their reasoning and cognitive learning skills (Brownell & Jameson, 2004). Finding a solution to such problems involves students in a cycle of tasks that includes defining the problem, undertaking research, weighing alternatives, and making a presentation of the solution (Bigelow, 2004). The development of a solution requires students to create links between theory and practice and to justify the logic behind their recommendations (Peterson, 2004). To make these links, students need to have a solid understanding of the key management concepts, theories, and techniques relevant to their subject to ensure that they have the understanding and knowledge required to develop solutions to particular real-world problems (Miller, 2004). The process of formulating such recommendations also assists students in appreciating the value of a logical approach to diagnosis, in decision making, and in persuading others that their solutions are appropriate (Brownell & Jameson, 2004). In addition, the PBL approach encourages students to engage in problem solving in a collaborative environment and present their findings for feedback and evaluation (Miller, 2004).

Such problem-solving skills may be combined with the development of affective learning skills, whereby students have an opportunity to experience the challenges that managers face in different cultural settings or when confronted by a variety of ethical dilemmas (Brownell & Jameson, 2004). Students learn that problem solving in a managerial context does not often conform to a rational decision-making process. The problems that managers confront in the workplace are frequently ambiguous and multidimensional and require choices to be made from among a multiplicity of alternatives (Brownell & Jameson, 2004). When exposed to real managerial challenges, students can also develop an understanding of the distinction between tacit managerial knowledge, which is more intuitive and emerges from observation and practice, and the more explicitly documented and codified knowledge contained in textbooks or academic journals (Sherwood, 2004). The PBL approach therefore has the potential to develop students' cognitive and affective learning skills as they become aware of a range of different perspectives and approaches to dealing with managerial problems within work organizations. The article seeks to

explore the experiences of students at the Postgraduate Institute of Management who adopted a PBL approach to the diagnosis of organizational problems affecting survivors of the tsunami located in temporary camps. These students also implemented a range of solutions to improve camp management from January to May 2005 and undertook a range of development projects to restore the livelihoods of tsunami survivors from March 2005 to April 2006.

IMPACT OF THE ASIAN TSUNAMI

The Asian Tsunami struck the coast of Sri Lanka on Sunday, December 26, 2004, following a 9.0-magnitude earthquake on the Richter scale some 100 miles off the coast of the Indonesian island of Sumatra. The tsunami waves had catastrophic repercussions for Sri Lanka's northern, eastern, and southern coasts and caused destruction as far as 2 km inland in some areas. Over 35,000 people were confirmed dead, 15,000 were injured, and over 1 million people were displaced (of whom over 150,000 lost their livelihoods). Children, women, and the elderly were the most severely affected. Some 150,000 houses were destroyed or damaged. The fisheries sector suffered the most in social and economic terms, accounting for 90% of all deaths, 55% of displaced families and destroyed houses, and 50% of estimated job losses. Ten out of 12 major fishing harbors were completely destroyed, including support facilities, such as ice plants, and 81% (22,940) of fishing vessels were damaged or destroyed (*Sunday Observer*, 2005). The tourist sector was also severely affected by the tsunami, with substantial property damage and job losses. The physical assets lost were estimated at US\$1.5 billion, or 4.5% of gross domestic product (GDP), while the loss of income of some US\$330 million in the fisheries and tourism sectors amounted to a further 1.5% of GDP (Asian Development Bank, 2005). The tsunami also destroyed some 1,615 km of road network and 72 hospitals, and it damaged or destroyed 182 schools, displacing over 100,000 children. In addition, railways, telephone lines, and the water supply were substantially damaged.

OPPORTUNITY FOR PROBLEM-BASED LEARNING AND RECOVERY MANAGEMENT

In response to such significant loss of life and destruction of livelihoods and physical infrastructure, PIM was determined to play an active role in the recovery stage in the aftermath of the tsunami. The director of PIM, Gunapala Nanayakkara, noted that

a brief survey of posttsunami responses and activities in Sri Lanka to manage relief, recovery, and reconstruction efforts of various actors revealed to us that the nation's ability to undertake this complex and immediate task was poor and unorganized. As a matter of fact, PIM was in search of an effective program elsewhere for us to establish links with and undertake projects in devastated areas. We did not find such a program in government or elsewhere. The faculty decided to launch its own program, incorporating a number of new initiatives so that the institute's resources and energy are focused on finding and implementing solutions to the burning needs of the people in the affected areas of the country and give our postgraduate students an opportunity to contribute to the national effort and get involved in an action learning process. (Postgraduate Institute of Management, n.d., Disaster Management Program section, para. 1)

PIM decided to become involved in the recovery process by redirecting the efforts of all postgraduate students and faculty into tsunami relief efforts for a 6-month period. This effort also involved donations of a proportion of the wages of faculty into the PIM Disaster Management Fund to provide resources for relief projects. The fund received voluntary contributions of between 10% and 25% of the monthly salaries of faculty and a donation of LKR 5,000 from students. PIM also established two new courses for students to undertake in disaster management: System Applications in Disaster Management and Formulation and Implementation of Development Projects. The institute's students were requested to visit temporary camps in seven tsunami-affected districts, study the situations they found, and make proposals for management

projects. In total, some 165 postgraduate students from the MBA and MPA degree programs who were employed full-time as senior managers and administrators and who studied on a parttime basis were allocated to work in 69 camps. Twelve faculty members were assigned to assist the student teams. Initially, over 100 proposals were received, which broadly fell into four categories: recovery and rehabilitation projects, business development projects, institutional capacity building projects, and surveys and assessments. In January 2005, the Disaster Management Program Unit was established to coordinate and implement these proposals effectively.

The main focus of the Disaster Management Program Unit was to undertake recovery and rehabilitation projects in temporary camps across Sri Lanka. There were some 40,000 families seeking shelter in over 400 camps by the end of January 2005. The focus on recovery and rehabilitation emphasized improving the organization and management of these temporary camps, providing transitional shelter in the form of temporary housing, and restoring family livelihoods. The main objectives of the students' projects were to provide a secure and stable living environment for the families living in temporary camps and to ensure that tsunami survivors had access to temporary housing, either on their own land or on land provided by the government.

The relief effort was carried out as a joint program with the Ministry of Home Affairs, the line ministry responsible for administering temporary camps through the district and divisional secretaries, and the frontline coordinators for government services, the Gramma Niladahrīs, who represented the first point of contact between citizens in local communities and access to government services. The Ministry of Relief, Rehabilitation, and Reconciliation was responsible for the distribution of food aid. In the northeast of the country, the government coordinated relief and recovery activities with the Liberation Tigers of Tamil Eelam (LTTE), a separatist movement that was observing a cease-fire when the tsunami struck. The LTTE controlled regions in the north and east of the country and provided tsunami survivors with temporary shelter, food, and prepared plans for reconstruction. The LTTE also actively participated in district-level task forces and undertook their own needs assessment (Asian

Development Bank, 2005). The divisional secretariat and Gramma Niladahri officers were the focal points for the Sri Lankan government's tsunami relief and recovery work. They were assigned the tasks of providing temporary shelter in temples, churches, and schools; distributing government grants; and collecting information from families affected by the tsunami. The divisional secretaries also coordinated with urban councils, government institutions, nongovernmental organizations (NGOs), and private donors to provide relief and support services (such as garbage collection, power, and water) to the refugee centers (Table 1).

TABLE 1
Distribution of Graduates to Camps

District	Colombo	Kalutara	Galle/ Ahanggama	Matara/ H'tota	Balapitiya Akurala	Hikkadauwa Tricomalee	Kahawa
Camps allocated	9	9	8	13	10	8	2
Students (teams)	14	10	10	10	13	10	2
Faculty supervisors	02	02	02	02	02	02	01

SOURCE: Data from "University response to December 26 tsunami disaster," by A. K. L. Jayawardana, January 1, 2006, Sunday Times.

METHODS

The program established by PIM in response to the tsunami involved some 165 students in 78 student teams comprising two or three students (9 teams consisted of three members, while 69 teams had two members). The teams were actively involved in camp activities on weekends, when they had time off from their full-time jobs. Students adopted an observer-participation approach to data gathering. They were closely involved in activities, which provided them with an opportunity to understand the people and the problems they experienced in seeking to organize and manage the temporary camps.

The initial diagnosis of the camps undertaken by students involved identifying the shortages experienced by tsunami survivors and the limitations of the camps'

infrastructure in areas such as temporary shelters, water, and sanitation. Other areas diagnosed by students included food and nutrition levels and the adequacy of health care, camp security, camp administration, child care, and education. In-depth interviews were conducted with various stakeholders to gain an understanding of camp security arrangements and the causes of conflicts between camp residents and local communities. Those interviewed included camp administrators, representatives from the local community, camp residents, the local Gramma Niladahrís and other government representatives, Buddhist and Catholic priests, and representatives of donors and security personnel. The interviews followed a semistructured format and generally lasted 30–45 min. The interviews were conducted in the camps and in district offices.

In addition, camp residents were provided with a list of open-ended questions and were asked to document their observations on issues such as food distribution, the level of relief received from the government, and the psychological impact of the tsunami. The students also interviewed families affected by the tsunami using a guided questionnaire, which assisted them

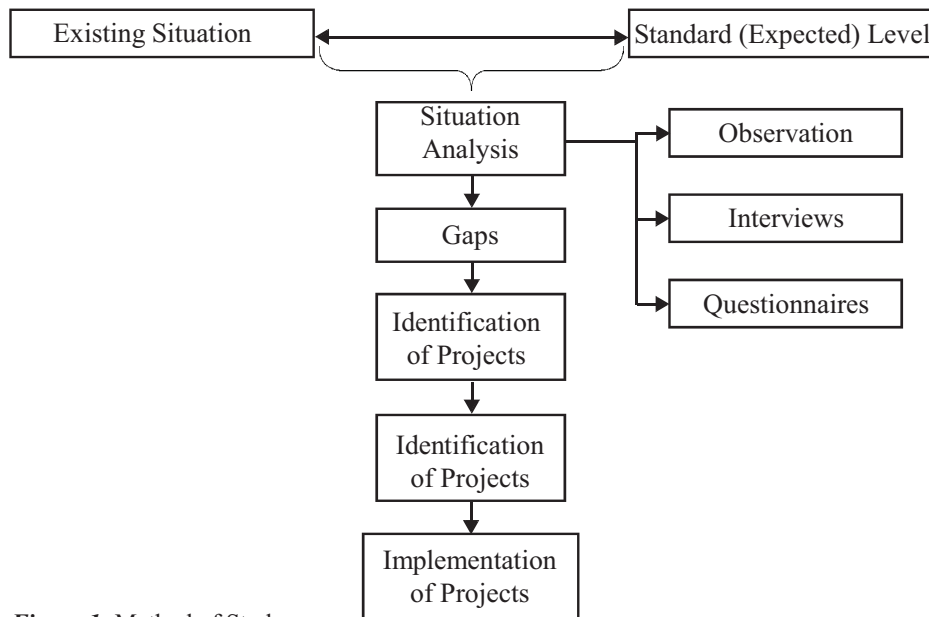


Figure 1: Method of Study

SOURCE: Project survey data.

in gathering information on the past employment histories of camp residents, the extent of their losses of livelihood, and their expectations about the future. The students also gathered information regarding the educational needs of children in the camps and where camp residents had previously lived. Administrative data were also gathered from records held by the divisional secretariat as well as from records maintained within each camp.

After analyzing a camp's location, the adequacy of shelter provided to camp residents, and the ability of residents to reestablish their livelihoods, the student project teams identified gaps between what camp residents might expect, when compared with international standards of camp management, and the daily reality they experienced. For a schematic of the method of study, see Figure 1.

IMPLEMENTATION OF THE STUDENTS' RECOVERY MANAGEMENT PROJECTS

To translate the initial diagnosis into an action plan, the students prioritized the needs of each camp and identified what resources they had at their disposal and how much time would be required to implement particular solutions. They also identified potential project sponsors and donors, undertook a preliminary division of tasks, and prepared a work schedule and action plan of milestones to be achieved. In addition, students had to consider how their plans would be implemented and how project outcomes could be measured quantitatively.

The initial situation analysis conducted by the students formed the basis for the improvements initiated within the camps. On the basis of the motivational theories of Maslow (1970) and Alderfer (1972), many projects first identified camp residents physiological, safety, and security (existence) needs for food, water, health, sanitation, first aid, secure pathways (trenches), and so on, in the camps. In analyzing camp infrastructure facilities, student groups explored the availability of adequate shelter and security, the adequacy of camp administration, and the level of information being provided to camp residents. The students next focused on the availability of water, sanitation, and the supply and distribution of food.

The students then addressed the sociopsychological needs of camp residents in the areas of health care, education, and child care. The students also explored the possibility of forming teams and committees to manage camp affairs. Postgraduate students considered the provision of temporary shelters and the potential for restoring the livelihoods of camp residents. A student team analyzing one camp noted the following:

When observing cooking of meals in the camp, we noted that cooking was done in bulk for the entire camp, without considering individual requirements. There was a common kitchen, which was used for this purpose, and unfortunately, it was seriously lacking very rudimentary items needed such as aluminum dishes, milk strainer, coconut scraper, buckets for carrying water, containers for storing spices, detergents and sponges for cleaning the kitchen utensils. Naturally, food cooked and given to residents hardly met with their needs. (MBA/MPA Case Presentation, Rejeepra Camp, January 2005)

Another student team working in a camp in Galle 143 km from Colombo observed,

In the camps we visited, initial camp conditions were far from satisfactory. There was no proper sanitation. In one camp in Galle, there was only one toilet for 67 families. In many instances, the electricity supply was not available, and only a limited water supply was given. People had to live on the ground covered by a 6-foot tent in high temperatures and humidity. There were no communication facilities or sometimes not even a decent place to cook their food. There was hardly a focus on camp administration, supplies and storage, or health care. Gramma Niladahriss had to bear the major burden moving from one camp to another, and they did not have sufficient resources to meet the needs of thousands of people. (MBA/MPA Case Presentation, I. D. H. Watta, Galle District, February 2005)

Following this situation analysis and diagnosis, the first stage of the recovery process required the students to develop an improved system of camp

administration. This stage involved students in the construction of a register of camp residents and a more orderly system for supplying and distributing food. As one of the student groups observed,

Initially, in our camp, there was no register of camp residents. When people bring aid, or distribute food, others in the community also come to the camp and pose as tsunami victims. Our first task was to register the people, identify the actual victims, and provide the facilities to those who were really displaced. After registration, we were able to reduce the number of meals cooked by nearly 40%. (MBA/MPA Case Presentation, Mhanidaramaya, Hikkaudwa, January 2005).

The students were also actively involved in the provision of water and sanitation facilities and in the development of proper food distribution in the camps. In the first stage of the implementation of the students' action plans, they constructed toilet blocks, provided access to drinking water, improved cooking facilities, and established more efficient systems of food supply and distribution. In conjunction with their work in improving camp facilities, the students also initiated links with government officials, NGOs, and local communities bordering the camps. Each student group had a reference file where requests for funds, action plans, and project reviews were documented. All requests for funds were submitted through a faculty supervisor, who personally visited the camps with the student groups. Students also maintained a visual storyboard of the camps at PIM. Each storyboard contained a collection of pictures of the actions undertaken by students in the various camps and documented the progress being made by each team. The funds for these projects were given to students from the PIM Disaster Management Fund, to which NGOs and other donors contributed generously. The fund raised LKR 15 million in a period of 2 months. In addition, students were encouraged to locate potential donors and secure additional funds for camp improvements.

During the second stage of the recovery process, from February 2005, the student teams attended to the sociopsychological needs of camp residents. They identified the most vulnerable groups as women and children:

For instance, children attended schools prior to the disaster, but now it was very difficult for them to attend those schools as they were located far away from the camp, and not only did it take a long time to get there, but also they needed money for bus fares. We needed to help them. (MBA/MPA Case Presentation, Jayaeskara Watte, Akurla, February 2005)

In Stage 2 of the recovery process, student teams provided children in the camps with school uniforms, arranged transport, and provided books and facilities for studying within the camps. Students also encouraged women and children to become more actively engaged in camp activities and actively encouraged the delegation of work to women and children. The students also established camp-based teams during their weekend visits, assigned responsibilities to camp residents for managing the day-to-day activities of the camps, and monitored their progress from one weekend to the next. The teams also attempted to improve food distribution and reduce the number of conflicts within the camps. Over time, much of the organization and coordination of camp activities were gradually devolved to camp residents. As a result, they became less dependent on camp administrators and local government representatives.

In improving camp conditions, PIM students faced several challenges. They needed to get the cooperation of government representatives, in particular, the Gramma Niladahri; identify donors; procure supplies; encourage camp residents to participate in camp activities; and establish processes for the resolution of conflicts within the camps. Issues varied from camp to camp. In some camps, there was considerable cooperation from Gramma Niladahris, while in others, they received little, if any, assistance from these government representatives. As one of the student teams reported,

In our camp, the Gramma Niladahri did not come most of the time. The camp was left alone. We had to go to the divisional secretary to get things sorted out, and the camp had to be administrated by us. The camp was put up in a temple, and the priests had no way of helping the people. The only consolation is the security provided by the police. (MBA/MPA Case Presentation, Goduwa Gangaramya, February 2005)

In the third stage of the recovery process, students focused on implementing what were transitional but critically important solutions to the needs of camp residents. By March 2005, over 500,000 people still did not have their own shelters. Students focused on the provision of temporary shelters for these tsunami survivors. Nevertheless, in the south of Sri Lanka, a substantial proportion of camps were located in Buddhist temples that had neither the facilities nor the resources to manage hundreds of families. In response, student teams in the south of Sri Lanka focused on securing more appropriate temporary accommodation for the tsunami survivors living in temples and ultimately succeeded in providing alternative accommodation for families occupying six temples.

Despite such successes, the student teams faced a range of challenges as they attempted to provide temporary accommodation for survivors of the tsunami. They needed to find funds, identify donors, secure land, hire contractors, procure supplies, and give priority to those people most in need of temporary shelter. In some instances, students convinced local people to accept the construction of temporary shelters on their own lands where government officials had been unable to find suitable land. As one of the student groups noted,

We went to district secretary and were told that no land was available.
We went with camp residents to people in the village. We were able to convince a community leader to provide some land to build 14 houses.
We managed to convince a Japanese donor to provide funds for temporary housing as most companies wanted only to fund permanent housing.
(MBA/MPA Case Presentation, Akurala North, Akurla, March 2005)

The temporary houses were built to United Nations High Commission for Refugees' standards, with adequate water and sanitation facilities, high roofs for ventilation, and separate areas for cooking. Houses were constructed with timber and galvanized sheet roofing and cement floors. Each house comprised some 400 ft² in total size and consisted of two rooms. The student teams also provided each house with basic furniture and kitchen utensils. A recipient of one house commented,

I lost everything to the tsunami. I was abroad for 10 years and I bought all household items. They were packed in boxes. All were washed away, I had nothing left. This house and furniture is all I have now, and I owe this to the gentlemen who cared for us. Because of them, we now at least are in a house. (MBA/MPA Case Presentation, recipient of a house at Akurla Housing Project, March 2005)

In the fourth stage of the relief project, the student teams focused on generating job opportunities for the displaced villagers whose livelihoods had been destroyed by the tsunami. The majority of tsunami survivors came from fishing communities and had lost their boats and fishing equipment. In other cases, the students found that the survivors had lost bicycles or sewing machines. The students developed a profile of the survivors and documented their needs for tools and equipment. They also approached donor agencies for the supply of boats, sewing machines, household items, and equipment for setting up mechanic shops and for fitting out the fishing boats. A recipient of equipment for restoring a motorcycle repair shop noted,

I lost my daughter, my cycle shop, and all what was saved in the last 15 years. Now I have only the clothes that I wear. I approached many government officials to get some help to rebuild my business, but I never got any assistance. Only these gentlemen from the university who are working in our camp understood my need and gave me the tools to restart my workshop. Now I earn at least 300 rupees per day. (MBA/MPA Case Presentation, recipient at Galle, March 2005)

Figure 2

**OUTCOMES FROM THE POSTGRADUATE INSTITUTE OF
MANAGEMENT RECOVERY MANAGEMENT PROJECTS FOR
CAMP RESIDENTS**

The projects initiated by PIM students in 69 camps from January to March 2005 made significant changes to camp infrastructure and to the lives of camp residents. In this period, student teams constructed some 206 temporary houses in six districts and restored normalcy to six temples. Each house cost approximately US\$500 and provided families with 400 ft² of living space comprised of two rooms. The project teams spent US\$189,266 in improving camp conditions and enabled some 890 persons to resume their livelihoods, which in turn benefited over 1,500 families. The teams' expenditure included US\$71,420 for welfare measures for camp residents and US\$117,846 for camp infrastructure improvements (Figure 2).

Some 161 students (98%) completed their projects in 12 weeks and submitted their final reports to the university as part of the fulfillment of their research/skill-based studies. The major learning outcomes of the PBL projects were the

development of skills in camp management, team building, influencing, and negotiating. As one of the students stated in his final presentation (Abesirigunawardana, Dharmadasa, & Jayasundara, 2005),

In a short period, we learned much from the camp project, more than the experience I gained in the last 5 years at my workplace. I did not know earlier that I had the capacity to lead such an effort, and now I am more convinced that I can take up any challenge in organizing, leading, and achieving results and in meeting desired objectives.

The head priest of a temple where one of the camps was situated stated the following:

If not for the PIM staff that assisted our temple, we would not have been able to look after the families in the Goduwa Ganagaramya Temple. The inmates had only one toilet. PIM managers provided more toilets and a proper place to cook food. They gave us a mobile phone so that at least we have contact with the outside world. They worked as if it were their own place and looked after the needs of the affected people. We are thankful to Prof. Gunapala Nanayakkara for helping this temple. (Data from "Restoring quality of life of the tsunami-affected," by A. K. L. Jayawarda, April 1, 2005, *The Island*.)

The World Bank (2001) has highlighted that the inclusion of local people in the recovery process has the potential to foster leadership, promote solidarity, and help reduce the psychological trauma caused by a natural disaster. The implementation of development projects involving local communities occurred from March 2005 to April 2006, by which date the Tsunami Disaster Management Program had completed projects worth in excess of US\$374,000. These projects brought substantial benefits to local businesses, families, and young children affected by the tsunami. During this phase, student teams identified priority sectors and donors. The priority sectors identified were fisheries and the coir industry. Before the tsunami struck, the majority of women on the south coast of Sri Lanka were employed in coir manufacturing, though almost all their coir manufacturing machines were destroyed by the tsunami.

Initially supported by the Export Development Board, PIM student teams launched a project to manufacture and distribute coir-making machines. Over 400 machines were distributed to affected families. A second priority area was the fisheries industry, where student teams launched a boat manufacturing project to manufacture and deliver 19 boats. Each boat was some 22 feet in length and was equipped with an outboard engine. The project was funded by a Czechoslovakian relief agency, the Adventist Development and Relief Agency, which donated US\$200,000 to manufacture 100 boats and to build an anchorage.

In implementing development projects in the coir and fishery industries (Table 2), the students enabled many communities to achieve a greater degree of financial independence and economic control over their working lives than they had previously enjoyed. For example, in many fishing communities, the boats were previously owned by middlemen, who bought the fish at relatively low prices. In the aftermath of the tsunami, boats to the value of US\$3,500 were provided directly to the fishermen, and a cooperative society was formed to manage these boats for the benefit of the entire community.

TABLE 2

Development Projects: May 2005–March 2006

<i>Sector/ projects</i>	<i>Preschools</i>	<i>Awarding scholarships to children</i>	<i>Restoring small business</i>	<i>Housing (permanent)</i>
No. of projects	7	6	8	2
Cost US\$	143,000	100,000	68,000	63,223

SOURCE: Data from “University response to December 26 tsunami disaster,” by A. K. L. Jayawardana, January 1, 2006, *Sunday Times*.

These cooperatives provided a significant improvement in the financial positions of individual families within these fishing communities, as one newly formed cooperative society member noted:

I went to sea with some other's boat and managed to live by the day. Today, I am the owner of the boat, and I will earn a better income. The society will organize things, and we will be able to live again with some pride. (MBA/MPA Case Presentation, recipient of a boat, Kalutara, April 2005)

CONCLUSION

The response of postgraduate students in Sri Lanka to the tsunami disaster demonstrates the substantial learning that can occur when students actively participate in the development of solutions to real-world managerial problems. In this case, MBA and MPA students in Sri Lanka developed their skills in the diagnosis and analysis of relief camp conditions, planned solutions to the problems experienced by tsunami survivors, led teams, and assisted in the development of new business ventures. These represent many of the key management skills that critics of current MBA teaching claim are lacking in the curricula of many business schools (Bennis & O'Toole, 2005; Mintzberg, 2004; Pfeffer & Fong, 2002). Sri Lankan postgraduate students also developed a range of negotiation and advocacy skills when working with local government officials and with NGOs and donor organizations.

Five key lessons emerge from PIM's Tsunami Disaster Management Program experience that may assist other educational institutions contemplating changing their curricula toward a focus on PBL. First, PIM's experience highlights the importance of transformational leadership and the articulation of a clear set of values to guide the efforts of both faculty and students. The director of PIM, Professor Gunapala Nanayakkara, played a key leadership role in overseeing and directing the relief effort, though he also promoted a participative approach to decision making by actively involving faculty and students in the development of PIM's Disaster Management Program.

In addition, the director involved faculty and students in the development of a new set of values dedicated to restoring the livelihoods and communities of tsunami survivors. These new values were epitomized by the director's call

for “all persons with ability and purpose to Dedicate their ability, Innovate new ideas and Execute the solution” (Postgraduate Institute of Management, 2006, p. iii). The director demonstrated his commitment to these values by donating 25% of his salary to PIM’s relief and recovery fund for 6 months. This example encouraged many other faculty to also contribute between 10% and 25% of their wages to the fund for 6 months.

Second, PIM changed its educational focus and became a more action-oriented learning institution. For example, the MBA degree program title was altered to Making Business-Learning Action-Oriented. In the immediate aftermath of the tsunami, all students and faculty agreed to deviate from the standard MBA/MPA curriculum and to introduce two new compulsory disaster management classes: Systems Application in Disaster Management and Formulating and Implementing Development Projects. The systems application class focused on the actions needed by community subsystems for survival and growth. PIM’s Disaster Management Program focused on subsystems that included the family, economic production, and the restoration of educational systems from preschools to primary schools and high schools.

Third, PIM’s experience with disaster management highlights the need for new organizational structures to ensure that effective use is made of the managerial and leadership talents of the student body. The Disaster Management Program established four project units, each supervised by a faculty member. The four units focused on development projects, recovery and rehabilitation projects, business development, and research surveys and assessments. A structure was put in place whereby student teams were formed and placed under the supervision of faculty members on a district-by-district basis. A total of 165 students were divided into teams to manage relief and recovery operations in 69 camps across the country. Many of the students’ latent leadership skills came to the fore when called on to coordinate and manage relief activities. The program also tapped the students’ entrepreneurial skills, in cooperation with local communities, to reestablish small businesses and traditional economic activities.

Fourth, PIM's Disaster Management Program set clear but challenging goals for each student team to attain linked to tight deadlines. The project teams divided their activities into two major interventions. The first phase, from January to May 2005, focused on recovery, reconstruction, and rehabilitation projects. The priority for the second intervention phase, from May 2005 to March 2006, was on supporting development projects. These projects aimed to reestablish manufacturing enterprises and small businesses, distribute boats to fishing villages, construct permanent housing and community centers, facilitate teacher training, and provide scholarships to children affected by the tsunami. PIM successfully integrated these relief projects and the planning of new business ventures into a revised curriculum. Weekly meetings were held between all student teams and their supervisors that involved 3 hours of classroom-based work per subject. The 3 hours were devoted to student team reviews, the exchange of ideas, team presentations, and the dissemination of success stories. Students were also expected to write up their experiences in the camps as a major research project.

Finally, the disaster management program highlights the importance of implementing rigorous reporting and monitoring requirements to ensure that the projects are managed in a transparent and accountable manner. Key targets established for the student teams included ensuring that water and sanitation was available in the camps within 12 weeks, that a functioning administration system was established, and that health facilities and temporary housing were operational in the first 2 weeks. Each student group was also expected to identify between 10 and 15 people whose livelihoods they believed they could improve. In addition, there were several clearly developed processes for student teams to follow to undertake their analysis of camp conditions and to apply for funding for relief projects or for new business ventures. Student teams submitted situation analysis reports within 1 week of their first visit to a camp. They also identified areas for improvement and made requests for funding that described the activity to be undertaken, the estimated cost, and the time frame. These requests were initially approved by their supervisors and subsequently by the director. All funding allocations were recorded on a Web site to maximize transparency. Student teams also created a Web site to document progress reports

and displayed a storyboard showing all camp activities close to the entrance to each camp. That almost all students (98%) successfully complied with these challenging targets and the stringent reporting requirements outlined previously highlights the potential for educational institutions to combine an effective approach to disaster management and reconstruction with an active student-centered approach to learning.

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