

Local Capacity Building: A Logistics Perspective in Disaster Relief

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ABSTRACT

With the growing number of disasters in recent years, and the main impact being on countries with poor social and physical infrastructure, as part of the bigger aim of humanitarian sector in helping communities develop, building local capacities becomes an important issue to consider. Considering logistics taking up more than three fourth of relief operations, the purpose of this paper is to connect local capacity building (LCB) to the logistics realm in disaster relief.

A systematic review of literature was made to reach a definition framework for LCB and to link it with logistics in a disaster relief setting. Based on the keywords from this literature review, a conceptual framework for LCB projects was developed.

The definitions given for capacity building differ from context to context. This paper, first conducting a topical review on these different contexts, presents a systematic definition for LCB, and connects it with humanitarian logistics. The systematic approach, taken in defining LCB, depicted *people* as glue behind the concept followed by a number of keywords. Further, the suggested conceptual framework sets achievable milestones for practitioners to reach sustainable capacity, leading to mitigation in logistics cost in the response phase of disaster relief, and reducing the perceived disaster risk by the people.

Key Words: Capacity Building, Disaster Relief, Humanitarian Logistics, Sustainable Development.

1. Introduction

"Give a man a fish and you feed him for a day. Teach a man to fish and you'd feed him for a lifetime" (Old wisdom). When it comes to contexts such as humanitarian aid, this can be an insight into *sustainable change*. This means the higher purpose of humanitarian aid in helping communities reach sustainable growth and livelihoods and not just mere delivery of required goods (Coulter, Walker, Hodges, 2007); a move from modernization of developing countries towards deeper measures in reducing poverty. This trend is visible in development programs, for instance the move from industrialization and measures such as direct budgeting in low income countries, towards more social welfare programs leading to macroeconomic stability for a sustainable economic growth. Such as the WFP local and regional procurement programme to source locally, in 1991 in Burundi, Congo, Rwanda, Tanzania, and Uganda, which made the annual procurement, increased from 28,000 tonnes in 2000 to a peak of 171,000 tonnes in 2005 (WFP, 2006). However, due to lack of available resources as well as lack of knowledge, political structures, and etc. such directions towards localization are not always possible. Consequently, the notion of Local Capacity Building (LCB) rises; to build on existing resilience to strengthen the local communities' abilities to do for themselves (IFRC, 2004).

Research has indicated that the number of disasters and hence affected people are increasing by fold in recent years (IFRC, 2009). Moreover, logistics accounts for 80 percent of the disaster relief (Van Wassenhove, 2006), which is mainly allocated to the response phase (Kovács, Matopoulos, Hayes, 2009). Thus, by improving local logistic capacities the cost of logistics in the response phase will be mitigated. On the other hand, considering the variables Yodmani (2002) has recognized for disaster risk being vulnerability and disaster consequence with direct impact, and capacity with inverse, improving local capacities will also result in reduction of the disaster

risk perceived by the people. Thus, building the local logistics capacities of communities is of great importance and can highly contribute to the disaster relief sector. International organizations have noticed the importance of such programmes and organizations like UNICEF and Sweden's leading development aid agency (SIDA) have allocated a recognizable amount to capacity building projects (SIDA 2009; UNICEF, 2008). The Swedish secretariat of evaluation (UTV) has alone allocated 36 percent of its budget share allocated from the Swedish Government to capacity building.

When dealing with a relief programme a number of different obstacles prevent the natural flow of necessary goods to the region. The infrastructure is usually damaged and not fully functioning. Roads are usually out of order and local communication lines are cut (Long & Wood, 1995). On the other hand, in a relief situation getting basic survival goods to the area at the right time in the right place is of critical importance. Goods such as medicine and health care, water and sanitation, shelter and others are often vital to the survival of the population in these regions. Or as Beamon et al. (2008) put it, the industrial concepts of lost sales and backorders translate to loss of life (Balcik, Beamon, Smilowits, 2008; Beamon and Kotleba, 2006).

Southern Sudan has undergone civil war for more than fifty years, which has extremely affected the region's growth especially in the healthcare system. Medical as well as other related supplies are so scarce in the region that they have to be imported from neighbor countries (USAID, 2009). UN has recognized access and capacity as the two main obstacles in relief (UNIMS, 2009). There are less than 200 kilometers of paved road available and during the rainy season even this is partly lost. As a result, up to 75 percent of the population has no access to any health care (USAID, 2009).

Lack of logistics knowledge such as inventory management, procurement, point of order, etc., can become a preventing issue in situations like this. The local personnel handling the goods, not having the proper knowledge, might place the orders either too late or too little, which will end with lack of goods in facilities and cause long lead times in delivery. Thus, in most cases there will be a lack of the necessary good at the needed place at the required time. Hence, a logistics LCB project aiming for increase of this knowledge, passed by for example professional workshops, can greatly contribute in facilitating flow of goods to the region. (USAID, 2009)

However, considering the importance of LCB and its contribution to relief projects, there is no clear study connecting the concepts. Thus, the aim of the paper is to build a conceptual framework for LCB projects that contributes to enhancement of social and physical infrastructures of the region in responding to disasters. Hence, in the first part of the paper a literature review is conducted to define LCB, and then connections within disaster relief and logistics are made. Thereafter, using this definition as groundwork, a conceptual framework for such LCB projects in a disaster relief setting is developed.

2. Research design

The initial step towards writing this paper was a topical exploratory review of works on capacity building in humanitarian logistic/SCM and development aid, in order to understand the importance of *LCB* in logistics and disaster relief. This literature study showed that a clear definition of the concept is missing, thus in the first section of the paper, a review of 18 articles in logistics/SCM, development studies, organizational management, disaster relief, and other related fields of research was conducted. The rationale in selecting these contexts was to first reach a

general definition of capacity building and then move to the more specific context of humanitarian logistics and disaster relief.

The concept was broken down to: *Capacity*, *Capacity Building* and *Local Capacity Building* (table 1). Then, the keywords used to define each concept were extracted according to the frequency of usage in different texts, and to their conceptual meaning in describing each of the three concepts. The table was formed in a consecutive manner, first listing capacity keywords, and then capacity building to complement capacity, and finally LCB in the same way.

The search was started with the meaning of capacity then moving to capacity building as the main keyword. Thereafter, the synonymous words for CB used in the first texts were chosen as keywords in further search. Consequently, the key words were as follows: capacity building, development studies, organizational capacity, building on resilience, community capacity. To reach a general view of the concept, the articles were chosen from different research streams of development studies, food chemistry, healthcare, organizational development, nonprofit management, and then more specific humanitarian logistics texts of disaster and disaster management, were chosen. The articles were mainly chosen from academic journals of Int'l development, management research, management development, public administration and development, food chemistry, disasters, and disaster prevention and management. However, a PhD thesis and a final report on healthcare from Harvard Institute for Int'l development, as well as two field reports from IFRC, UNDP, a technical advisory paper from UN, a study from Ford Foundation, and a book published by Alliance for nonprofit management were also included widen the scope of the study and to bring the practitioners' view into the definition. The commonalities and differences were listed so that the final conclusion could be made.

Following the classification, the table was analyzed and after conducting the definition for LCB, the connections in a *disaster relief* setting were cited, and the importance of the concept in the *logistics* area of disaster relief was shown.

A further exploratory research on non profit organizations' reports and studies was done to find a practical example of the issue to further elaborate the concept and set the ground for the next part of this paper in developing a conceptual framework, and the case of Southern Sudan was chosen. Firstly, because of its current condition of extreme need of disaster relief; secondly, the poor conditions of existing infrastructure capacity (physical, logistical like access, and social like knowledge); finally, due to the nature of the capacity building project that was conducted in the region, being both in the logistics context and development aid.

In the second part of the paper, to develop a conceptual framework for a LCB projects, a *systemic* approach was taken. Systemic approach is analyzing the individual elements while synthesizing the whole. Barlett (2001) notes Systemic thinking combines system analytics with system synthetics. He further describes how analysis is a powerful thinking tool for understanding the parts of a situation, while synthesis, on the other hand, is a powerful thinking tool for understanding how the parts of a situation work together. Thus, according to the definition of systemic thinking, the *individual* elements of the project should be determined, the inter-connections depicted, and then the function of the *whole* sought after. In order to find these elements and determinants in a systemic manner, and further validate them, there should be a two step approach of investigating the theoretical realm on one hand, and the empirical on the other. This paper, addresses the earlier, develops a conceptual framework based on findings from literature. In depicting this conceptual framework the following thoughts for a LCB project were answered: *what* to do, *how* to do it, and *what results* to achieve. Further, the example of Sudan

was mapped using this framework. Even though, the case chosen in this paper is just one example, the framework can be used in a more general sense, given the foundation being from the outskirts of the definition in literature. However, further studies should be conducted in this area.

3. Prior Research on Capacity Building

3.1 Defining Capacity building

The literature review on capacity building (CB) showed that there are several different definitions in different contexts. In order to understand the CB concept better this paper separated the first element being capacity itself, then finds the definition of the concept when put together, and finally defines the concept of Local Capacity Building (LCB). Larbi (1998) also emphasizes the difference between “capacity” and “capacity building”, saying the absence of capacity necessitates capacity building, concluding how the latter should be based on the first. However, in defining capacity the same problem exists, there are many different definitions depending on the context it’s related to, which makes it hard to define.

Table 1 was developed to classify the keywords used to define each concept. The keywords were chosen according to the frequency of usage in different texts in describing each of the three concepts. The chosen disciplines were management, organizational studies, logistics and supply chain management, development studies, community development, as well as disaster relief. It should also be noted that the keywords were chosen according to their conceptual meaning and follow one another in a consecutive manner. This means, the keywords for capacity building are complements of the ones for capacity, and in the same manner, the keywords for LCB are complements for the two previous ones. Finally, the most emphasized keywords for each concept

are underlined in table 1, and later used to develop a conceptual framework for LCB projects in the next section of this paper.

Capacity	Capacity Building	Local Capacity Building
<u>Knowledge</u>	Strengthening	<u>People</u>
<u>Resilience</u>	Developing	Participation
Potential	Improvement	<u>Sustainable growth</u>
Ability	Program development	<u>Sustainable change</u>
Produce/Perform/Deploy	Empowerment	Flexibility
	Effectiveness	Community development
	Survive/Adapt/Thrive	Education/Public health
	Better service	International Aid
	Sustain	Vulnerability/Risk reduction
		<u>Holistic approach</u>

Table 1 Keywords in defining Capacity, CB, and LCB (See Appendix for the list of references used for the classification)

To give a clearer view of each concept and how it is used in relevant texts it is useful to mention some definitions. Merriam Webster defines capacity as “*the legal competency or fitness; the potential or suitability for holding, storing, or accommodating; an individual’s mental or physical ability; the facility or power to produce, perform, or deploy.*” (MerriamWebster online, 2009)

Linnell (2003) has given a definition of capacity apt for our discussion, “*Capacity is an organization's ability to achieve its mission effectively and to sustain itself over the long term. Capacity also refers to the skills and capabilities of individuals*” (Linnell, 2003, p.1). Lane and Wolf (1990), talk about people’s ability to govern, and emphasize the role of participation in defining capacity. They state that the administrative capacity rests on people and thus issues like motivation, attitudes and performance are of importance. The importance of the human factor is backed by many researches in different contexts.

From analyzing the classification made in table 1, capacity is defined as the knowledge, resilience, potential, or ability of an individual or community to produce, perform, deploy, or manage its objectives in a sustainable manner.

Consequently, CB is strengthening organizational or individual abilities in order to sustainably achieve its objectives. In a general view, Philbin, A. (1996) has defined it as the "*process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in the fast-changing world.*" (Philbin, 1996, P.1) Linnell (2003) notes that capacity building can be in context of any process within an organization, such as improvement of governance, leadership, mission and strategy, administration (including human resources, financial management, and legal matters), program development and implementation, fundraising and income generation, diversity, partnerships and collaboration, evaluation, advocacy and policy change, marketing, positioning, planning, etc.

Hence, capacity building can be concluded as enhancing capacity attributes of an individual or community (such as knowledge, physical or social infrastructure, competencies, etc.), to sustainably change to reach higher level of performance, effectiveness, and service level.

3.2 Local Capacity Building in Disaster Relief

Moving to the disaster relief context, Kovács et al. (2009), mention that different distinct phases are recognized in a disaster relief operation. Each one of these phases has its own characteristics in logistics operations and drivers. *Immediate response* is the phase right after a disaster happens, where the main driver is time in delivering vital supplies, rescue, and shelter for the beneficiaries with objectives of survival. *Reconstruction* (sometimes referred to as merely recovery in a more detailed focus), is the phase following response having reconstruction and resettlement in its

agenda (Kovács et al., 2009). Finally, there is the *Preparedness* phase where the objective is strengthening and preparing regions to prevent or mitigate the impact of disasters if and when they strike.

The focus of LCB projects is on the two latter phases. The objective, extracted from the definition analysis, is to enhance and strengthen the local capacities of the region and thus the physical and social infrastructures of the region to better response in disaster situations. However, these measures should also be considered during the reconstruction phase (as part of recovery) otherwise there would be need of reactive measures to enhance what has been done, and thus waste of resources. Kovács et al. (2009) emphasize this fact, arguing that “*the reconstruction phase can indeed be planned more in advance, and thus focus on cost instead of time efficiencies*” (Kovács et al., 2009, p.190). Hence, it can be said that the reconstruction and preparedness are interrelated and entangled in enhancing local capacities in order to mitigate the disaster impacts. Cost-benefit analysis of a wide range of initiatives, from local to global levels, shows that every \$1 spent on mitigation can typically save \$4-10 in the cost of recovering from disasters (IFRC, 2009; Actionaid, 2002).

To go back to the findings from the table 1, in defining *capacity* the most common words were the ability/potential/power to produce/perform/deploy. Extending to the more related contexts of logistics and disaster relief, the two words of resilience and knowledge were replaced in literature and widely used to describe capacity. This shows the importance of knowledge as one of the key elements of a community’s capacity. Manyena (2006) notes that development practitioners have recognized relief programmes with emphasis on building on local knowledge as more likely to succeed.

Moving to the next important finding of the classification is the importance of initial identification and recognition of objectives and desired outcome, as well as the key players (involved people). The involved *people* were the most important element noticed in the papers reviewed. Their participation, education/public health, as well as community development were highlighted in each text. So for instance the LCB programme conducted in Sudan with objective of developing logistics capabilities would have a different definition from the one hoping to improve the road infrastructure capacity of the region, both in terms of objective and players; the latter aims for physical enhancement involving the related local government and constructors, while the first reaches for enhanced knowledge with local practitioners and trainers involved.

Moreover, the other findings were sustainability, vulnerability and risk, aid, and the nature of the approach. The issue of sustainability becomes even more important when it comes to LCB in disaster relief. Almost all of the articles discussing LCB mentioned sustainable change and sustainable growth at least once and mostly mentioning flexibility as a key element. Decreasing vulnerability and risk were also commonly described as elements of LCB; however, they can be described as the outcome of a LCB project, which concept will be elaborated more in the next section of this paper. International aid was described as a key driver in more than half of the articles when dealing with poor countries. Finally, several articles mentioned that LCB should be a holistic approach taking all its various aspects and elements into account simultaneously.

Concluding from the analysis of table 1, LCB in disaster relief is defined as an attempt to bring in the elements and characteristics built upon the existing potentials, to bring flexibility so that the development projects serves in harmony with the changes overcoming the addressed society, in order to achieve sustainable capacity, leading to a sustainable growth.

3.3 Connecting LCB to logistics

However, it might come to mind why it is important to build local capacities in the logistics realm of disaster relief. To depict this importance, a number of facts and figures should be noted. Quotes show that up to 80 percent of costs in a relief project are attributed to logistics and transportation (Van Wassenhove, 2006). Moreover, considering the three phases of disaster relief, i.e. response, reconstruction, and preparedness, the main cost of such a project is directed to the response phase (Kovács et al., 2009). As illustrated in figure 1, the idea is that by attributing more resource into the reconstruction and preparedness phase of a relief programme, the huge amount of resources dedicated to the response phase will be mitigated, that is partly by putting more in building up the existing capacities in the preparedness phase.

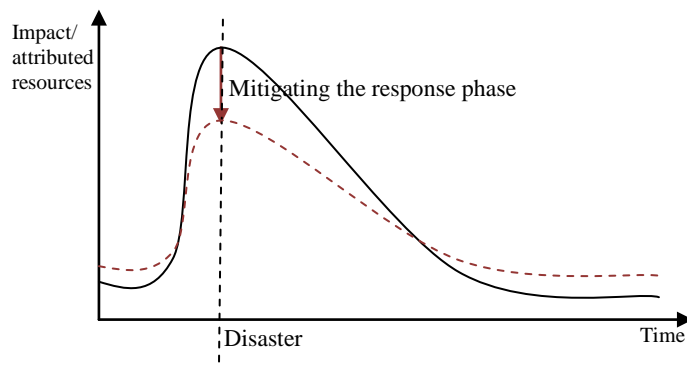


Figure 1 mitigating the response phase impact

To add to this, Yodmani (2002) recognized the following formula (originally taken from Ward (1999)), showing hazard, vulnerability, and capacity as variables of disaster risk. According to the equation, people's perception of the risk associated with the occurring disaster depends on the severity of the hazard itself and the vulnerability of the affected people, and at the same time the capacity of the community to manage in the situation. Hence, by increasing this capacity, the associated risk will be reduced.

$$Disaster\ Risk = \frac{Hazard \times Vulnerability}{Capacity}$$

In this equation *hazard* is the likelihood of experiencing any natural or human-made hazard or threat in the community; the nature and behavior of each of the hazards the community is exposed to. *Vulnerability* identifies what elements are at risk and why they are at risk (unsafe conditions resulting from dynamic pressures which are consequences of root or underlying causes). Finally, *disaster risk* is identified as people's perception of risk, meaning the measurement of the community's disaster risks based on people's perception (Yodmani, 2002).

Consequently, building local capacities is critical in reducing vulnerability and risk perceived by the local community. Considering the argument on logistics costs and resources in a relief setting, building logistics capacities of the local community will mitigate the overall costs and impacts of the project. Hence, LCB projects within the logistics realm contribute in both cost and resource as well as in risk and vulnerability aspects.

4. The case of Sudan

To understand the concept of LCB better we can look at the case of Sudan. Sudan, is located in northeast Africa, and is the largest country on the continent. Southern Sudan is an area called the Tambura County. There has been a civil war between north and south Sudan for more than 50 years. This has extremely influenced the growth of Southern Sudan's health system.

According to USAID Africa Report “Childhood deaths due to infectious diseases are increasing, maternal mortality rates are among the highest in the world due to a lack of access to skilled antenatal care, HIV/AIDS-already widespread in the region-has emerged as a significant threat due to high-risk practices.” Moreover, drugs, medical supplies and any other such as blankets are

extremely scarce in Southern Sudan. In addition, few of the local practitioners have the logistics knowledge to ensure the availability of needed supplies in facilities (USAID, 2009).

Even more, the accessibility to the region is very difficult. Lise Grande, the United Nation (UN) Deputy Humanitarian Coordinator in the region has stated that while there are many constraints in southern Sudan, two of the most difficult are *access* and *capacity*. Presently, there is less than 200 kilometers of paved road in the whole region. “At the best of times, we have access to only 40 per cent of the areas we need to get to. During the rainy season, we lose even this,” she stated. “In terms of capacity, the point is that there isn’t enough,” whether it is on the part of the Government, UN agencies or Non Governmental Organizations (NGOs) (UNIMS, 2009). As a result, up to 75 percent of the population is estimated to have no access to a health care center or unit (USAID, 2009). Even when they do, there might be a lack of required medicine.

In order to address this gap, the Sudan Health Transformation Project (SHTP), a USAID supported program, developed a local workshop titled "Improving Logistics Capacity," in July 2008 in Juba, the capital of Southern Sudan. The workshop passed education on basic logistics information on the purpose of a logistics system, what essential information must be collected in order to make good logistics decisions, how such information moves within a logistics system, how to assess stock levels, and when to take action to prevent an overstock or a stock out. The participants were mainly represented by the local practitioners and the local government which were familiar and experienced with the lack of supplies in health centers and units (USAID, 2009). Further capacity buildings within the area can include building transportation infrastructure in accordance to the environment conditions of the region.

In an ideal outcome of this program, participants' efforts, ideas, and experiences in implementing their new found logistics knowledge can lead to the local government building its own national logistics system in the future. In the next part of this paper, in order to reach this ideal outcome, this case and the findings from the definition section are used as a ground for developing a conceptual framework for LCB projects.

5. A conceptual Framework for Local Capacity Building projects

Due to the complexity of logistics/SCM by itself, and the even more complexity when brought into a disaster relief setting, a *systemic* approach was apt to develop a conceptual framework for LCB projects. Thus, in line with systemic thinking, the *individual* elements of the project were determined, the inter-connections depicted, and then the function of the *whole* plotted.

Referring to literature, the first element in conducting any project should be a solid and clear *objective* from the premise. As first noted by Peter Drucker (1954) these objectives should be specific, measurable, attainable, realistic, and time bound (S.M.A.R.T.). This statement is of great importance in the LCB context and, as observed in the previous section of this paper, several authors have also emphasized the importance (such as: Pavlovic et al., 2009; Allen, 2006; Manyena, 2006; Light & Hubbard, 2002; Kauzya, 2002; UNDP, 1997).

Light and Hubbard (2002) recognize three different levels when it comes to objectives and desired outcomes: Grant Output, Community Outcomes, and Mission Impact (fig. 2). Even though the grant output of the project is the easiest to measure the outcome from, the organizational outcomes in the short run and the mission impacts in the longer can act as determinants of the success in achievements. The main mission impacts recognized by IFRC World Disaster Report (2004), for a LCB project are:

- “Coping with the impact of disasters;
- Recovery from disasters and “bouncing back”; and
- Adaptation to cope better with future risks”.

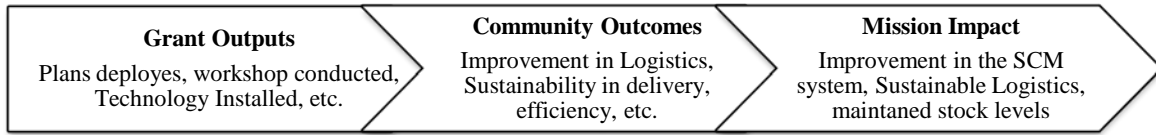


Figure 2 Measuring the CB Outcomes for a logistics LCB project (retrieved from Light et al., 2002, p.28)

In line with setting objectives, the constraint and existing resource (capacity) gaps of the local community should be recognized, so they can be planned for and empowered. According to Tadele & Manyena (2009) this means building on existing resilience, defined as local capabilities and potentials, which determines the nature and extent of the objective, which in terms will define the extent of the CB project (Kauzya, 2002). Manyena (2006) in an earlier paper mentions the importance of building on local capacity and knowledge in order to be successful in the development intervention for relief programmes, calling it “*the affirmative rather than endless needs assessments and reactions to negatives*” (Manyena, 2006, p.813). Extracting from this argument, existing resilience and resources, both physical and social resources, should also be noted as one of the determining elements of LCB projects.

Other determinants of the LCB projects can also be found from the outskirts of the set objective. Looking at table 1, people and their participation, potentials, and responsibilities were noted vital. Thus, the involved people, determining the involved actors, are considered the first element in developing the framework. Identifying the involved people is a measure taken to find the key players and stakeholders in the project. As mentioned before, identifying the key actors in the project is one of the initial factors of defining the concept of CB and LCB. This issue was

mentioned in most of the literature reviewed in that section, and further emphasizes the role people in the context.

Kauzya (2002) denotes this importance by saying that the appropriate way to address the issues of CB for local governance is to first identify the key players and stakeholders and analyze what capacity they possess and what they lack. He further notes that by doing this assessment on each player's capacity and vis-à-vis their roles, each player's capacity is strengthened to play the role more effectively. For instance, in Southern Sudan, for conducting the logistics workshop, the capacity of the local practitioners and the trainers as well as the funders, and the role each play should be illustrated. Then by outlining the available resources, the desired outcome will be set in the auspice of the constraints and thus feasible to achieve. Accordingly the right change strategy can be chosen.

Setting objectives, involved people, and existing knowledge and resilience were among the most reiterated keywords found in defining LCB, while sustainable change and growth as well as having a holistic approach were the other determinants. Further investigating literature on models supporting the idea of LCB determinants, Light and Hubbard (2002) recognized four elements of a CB project in an organizational setting; desired outcome, change strategy, champions, and resources. The authors identify these elements to be vital in shaping the "*size, shape, and ultimate success of the CB engagement*" (Light and Hubbard, 2002, p.5), noting that these factors are all interrelated and entangled in one another. The comparison of these elements from an organizational management context, with the findings from the definition analysis in this paper, concluded similar concepts (fig.3).

Determinants from Light & Hubbard 2002	Keywords for LCB definition (from table 1)
Desired outcome	Objective
Resources	Existing knowledge and resilience
Champions	People
Change strategy	Sustainable Strategy
---	Holistic approach

Figure 3 comparing determinants from Light and Hubbard (2002) Study and findings from this paper

Sustainable strategy refers to a change strategy chosen for enhancement of people and existing capacity, while having sustainable growth as the outcome. Holistic approach, on the other hand, is the element which several authors, especially in the disaster relief context, have recognized as the binding element between relationships among and between other determinants of a LCB

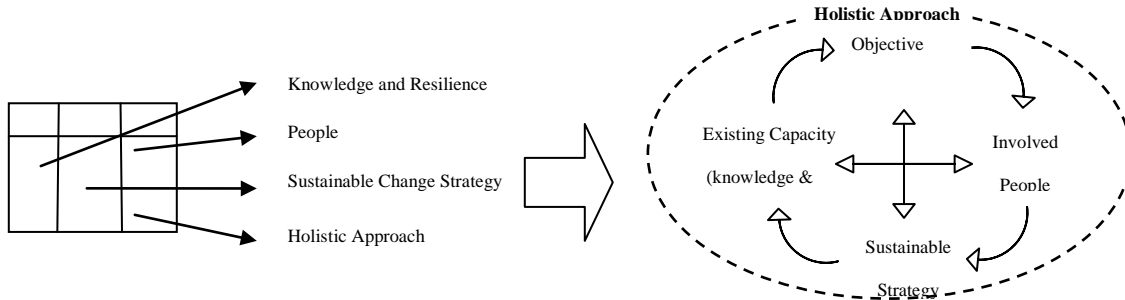


Figure 4 determinants of a logistic LCB project in disaster relief

project (such as: Tadele & Manyena, 2009; Kauzya, 2002; De Vita, Fleming, Twombly, 2001; Philbin, 1996). Figure 4 illustrates the formation of these elements in regards to one another, showing their interconnections. These elements constrain and derive one another, while the holistic approach bounds them together.

In the case of Southern Sudan, the *objective* or the *desired outcome* is the acquired Logistics training by the local personnel and improvement of the logistic capabilities. The *Sustainable strategy* would be the provision of training and mentoring e.g. workshops. The *involved people* are both the external trainers and involved NGOs, and internal local participants. The resources in our example can be both constraints and drivers such as the available fund and time, or the energy, etc.

In line with having a holistic approach towards the project, one way to connect the target actor and the available resource, whether it is the time fencing, the funding or the human resource, is to bring the two on the different axis of a diagram and see where the project fits. In the article by Light and Hubbard (2002) a similar graph is introduced to map at which level you want to conduct the project and for what duration (fig. 5). So, if for instance the LCB project is taken out in Southern Sudan in form of a workshop in order to develop their knowledge of Logistics in order to maintain their medical stock levels, as marked in the figure, it falls in the bottom middle right side of the chart.

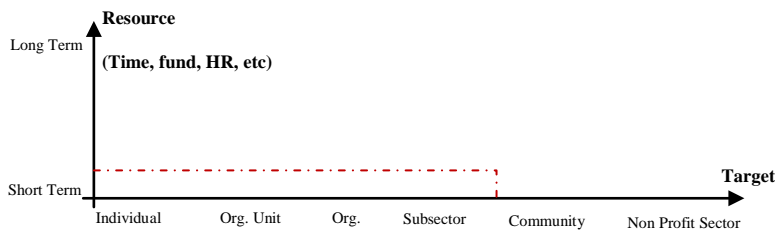


Figure 5 existing resource vs. involved people in a LCB programme, (adapted from Light et al. 2002, p.4)

Finally, Franks (1999) noted that the overall ability of individuals or a group to perform the responsibilities depends on the size of the task, the resources available, the framework they are discharged in, and their existing capabilities. Thus, integrating the findings of this paper, the conceptual framework depicted in figure 6 was developed.

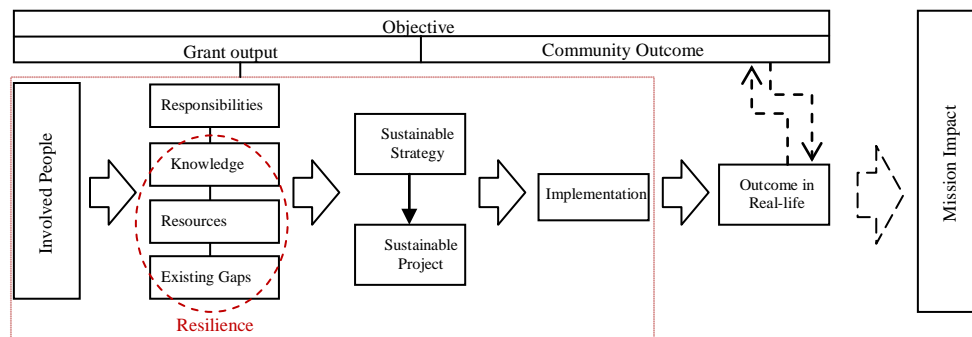


Figure 6 a conceptual framework for LCB Programme for disaster relief

As the framework depicts, in order to map the LCB project, the first step is to define the project according to objectives and the key players. The smaller scope objectives of the project (grant output and community outcome) plot the first phase of the project, while the bigger scope objective is the outcome. In line with the set objective, the involved players are plotted, and the existing capacity and resilience of each player and their role identified. The available resources and gaps are listed according to the responsibility of the involved actors. In this manner, the change strategy, determining the strategic *how*, is chosen in line with the set of objectives, the resource, and existing capacity constraints to reach the desired outcome. Finally, the sustainable project is implemented, the outcome is compared with the set objectives, and in case of existing gaps regenerated until the mission impact is reached and the community capacity is sustainably evaluated.

6. Discussion

In the last section of this paper, the suggested conceptual framework for a LCB project is examined through plotting the case of Sothern Sudan as shown in figure 7. In order to do this, as suggested earlier, the first step is to set actual objectives and desired outcomes of conducting such project, and thus having the *whole* in mind. In the case of Sudan, the *community outcome* was to improve logistics performance of the local employee, and the *mission impact* was building national logistics system for a sustainable growth.

After setting the preliminary objective, the individual elements should be plotted, and the first step is to find the involved players. Thus, the funders and the NGOs conducting the project, the trainers acting out in the workshops, and the local practitioners taking part in them, were found as the main actors. The next step is to plot each actor's responsibility in the project, while having in

mind the desired outcome as a constraint. One of the important findings here was the mutual responsibility of the trainers and local practitioners to identify gaps and the existing knowledge. This calls for a close collaboration of the NGO and the local community actors in mapping the existing resilience and capacity.

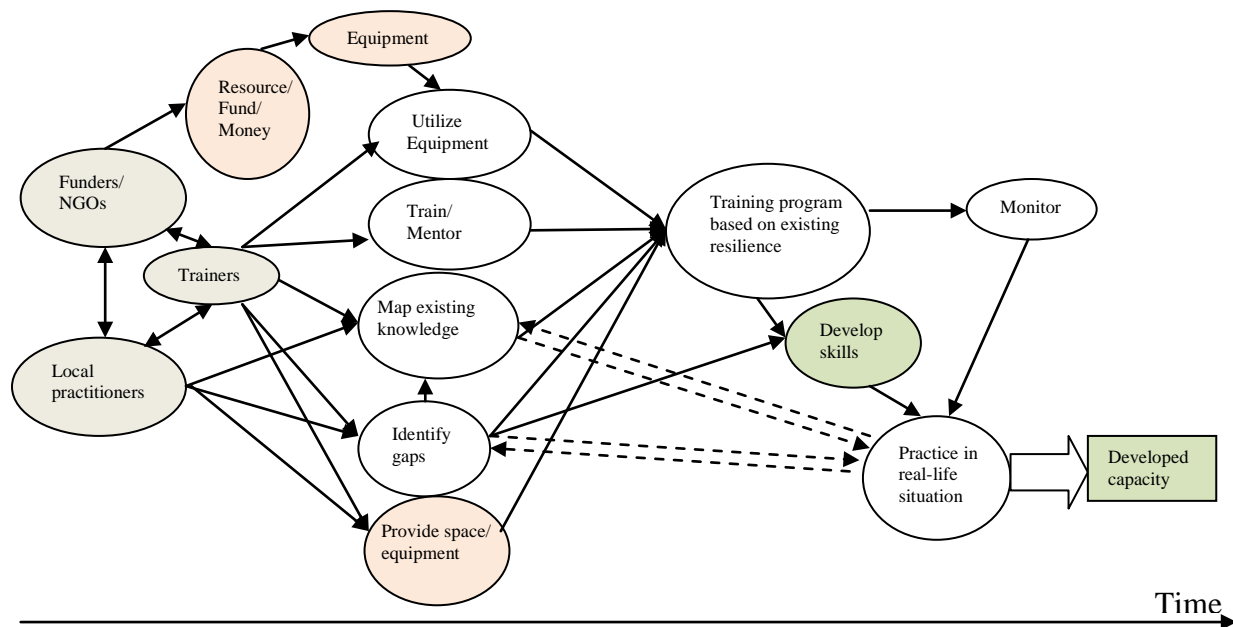


Figure 7 the mapped framework of LCB project in Southern Sudan using the proposed framework

Plotting out the existing capabilities, resources, and knowledge makes the missing links towards the set objective, clear. Hence, the project, the *logistics training programme* in Sudan’s case, is developed to fill out these identified gaps. Consequently, conducting the strategically plotted project will lead to the local practitioner’s developed skills, which in term by practicing in real-life situations will develop the logistics capacity of the region.

The following quote from USAID Sudan (2009, p.1) implicates how the local practitioners felt about their competencies’ development after the original project by SHTP: *One participant commented that the “workshop has acted to me as an eye opener. It has prepared me to handle the logistics department with confidence. From today, I am going to be a decision-maker.”*

Further on, by monitoring and evaluating this development in real-time situations and, at the same time, identifying the missing links towards a sustainable national logistics system, the project will be consecutively reevaluated towards the mission objective. Finally, the outcome will be the desired mission impact of a developed capacity reaching sustainable growth in the local region.

7. Conclusion and Final remarks

Local capacity building is the attempt to bring in the elements and characteristics built upon existing potentials, to bring flexibility in to development projects to harmonize growth with the changes overcoming the addressed society, in order to achieve sustainable capacity, leading to a sustainable growth. This development covers physical, social, and financial aspects of a society.

On the other hand, society is facing a growing number of disasters and thus affected communities each year, which in terms is absorbing noticeable amount of money and resources. Moreover, studies show more than three forth of this amount being from the logistics operations. Thus, efforts in making this section efficient and effective will contribute to the economy being generated in disaster relief.

This paper, realizing the contribution of strengthening physical and social aspects of logistics (such as physical infrastructure, logistics knowledge, professional practitioners, etc.) will bring to the humanitarian sector, investigates the existing literature on LCB, finds the connections to disaster relief and logistics within disaster relief, and develops a conceptual framework for plotting such projects.

The framework is developed from the outskirts of the definition analysis by the paper, looking into more general capacity building mappings, and extending the concepts to disaster relief. As the

findings in the definition analysis show, having a holistic approach, finding the existing and missing capacity links with the participation of local and other involved actors, are extracted mainly from the disaster relief/humanitarian context, making the framework rather specific for that setting. However, by changing the definition of the main elements recognized in this model to a more general concept (as found in Light and Hubbard (2002) study, the framework can be generalized for any CB project, reaching the set objectives for that specific setting.

Due to the same facts, the framework is a suggestion this paper has made from the findings in literature, some field reports, and the actual example of Sudan. Thus, the implication of this framework in real-time situations will give way for quantitative analysis and further validating it, and the results will set ground for further research and development.

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Appendix

The classification table for extracting keywords for defining Capacity, Capacity Building, and Local Capacity Building

Capacity		Capacity Building		Local Capacity Building		reference (total of 18)
Potential	9	Strengthening	17	Flexibility	12	Allen (2006)
Ability	11	Developing	15	Sustainable growth	17	Antwi et al. (2008) Antwi & Analoui (2008)
Produce/Perform/Deploy/Manage knowledge	14	Survive/Adapt/Thrive	8	Sustainable change	14	Brune (2005) Franks (1999)
	14	Improvement	17	Community development	13	Kauzya (2002) Lane & wolf (1990)
Resilience	12	Program development	11	Education/ Public health	16	Larbi (1998) Light (2002)
Sustain	7	Empowerment	13	International Aid	8	Linnell, (2003) Tadele et. al (2009)
		effectiveness	15	participation	13	Maneyana (2006)
		better service	7	Vulnerability/ Risk reduction	9	Merriam Webster (2009) Philbin (1996)
				People	17	Polvic et al. (2009)
				Holistic approach	14	UNDP (1997) World Disaster Report (2004) Hildebrand & Grinole (1995)