

## Ziqitza Healthcare Limited: Scaling Emergency Medical Services across India

### Introduction

Sweta Mengal, CEO of *Dial 1298 for Ambulance*, sat at her desk in anticipation. She had just received word that her home state of Rajasthan had awarded 1298, the lowest-cost bidder, a three-year contract to manage over 300 ambulances in the state, effectively quadrupling the number of ambulances operated by 1298 and doubling the population served to up to 100 million.<sup>1</sup> As 1298's first statewide government contract, this would mark a new chapter in the company's history as it expanded across India. After just a few short years of acting as the CEO, Sweta was seeing progress toward the original founders' mission to provide world-class ambulance service for all of India's population, regardless of socioeconomic status.

At the same time, Sweta was anxious about the challenges presented in the Rajasthan contract. 1298 would have to maintain its current quality level while acclimating to the ambulance infrastructure provided by the Rajasthan government and would have to find talented, socially-minded staff (the core of the current organization) in an extremely short time frame. Sweta was also apprehensive about working with the government, which had very little experience partnering with private medical services across India. Would the Rajasthan government dilute 1298's operations and the brand she had worked so hard to build? In all, were government partnerships the best way for 1298 to scale its business?

### Company Overview

Ziqitza Healthcare Limited (ZHL) and 1298, ZHL's branded ambulance service, were founded in 2002 with the mission of providing emergency medical services to all Indian citizens, regardless of their ability to pay. Derived from the Sanskrit words *chikitsa*, meaning "medical treatment," and *zigyasa*, meaning "quest for knowledge," Ziqitza is the brainchild of Naresh Jain, Manish Sacheti, Ravi Krishna, and Shaffi Mather, the latter of whom recognized the need for quality EMS services when his mother had a health emergency and could not obtain transport other than the household car.<sup>2</sup>

Due to the high prevalence of accidents, cardiac arrests, and other problems requiring emergency ambulance care in urban areas, 1298, with an initial investment of \$1.5 million from the Acumen Fund, started operations in Mumbai in 2002 and in Kerala soon afterward. It is currently contemplating expanding to other cities in India.

In April of 2005, the founders began their first year of operation with ten ambulances and a state-of-the-art call center in Mumbai, all financed with their own private capital. The ambulances were equipped with sophisticated, life-saving medical devices, allowing doctors and paramedics to administer oxygen and to monitor, shock, and pace a patient's heart. The round-the-clock call center was designed with features such as a detailed digital mapping of the city, an ambulance tracking system, and an advanced medical priority dispatch software.

## Demand for Emergency Medical Services in India

---

India, by virtue of statistics, is a country that needs high-quality ambulance services nationwide. One of the most disaster-prone areas in the world, almost 57% of India's land mass is vulnerable to earthquakes, 68% to drought, 8% to cyclones, and 12% to floods.<sup>3</sup>

Man-made disasters are also plentiful in India, where the ratio of traffic accidents per 1000 vehicles is 21.3 times higher than the world average. Mumbai has about 60,000 emergency cases per month, out of which only 10% are serviced by ambulances.<sup>4</sup> Whether the accidents are natural or man-made, 30% of accident victims in India die due to delays in transportation to medical facilities after an accident occurs, greater highlighting the need for speedy responses to tragedies. Unlike the United States, India does not have a universally recognized, enforced, and publicized access number (911) that is dedicated for safety or medical emergencies. Further, for those Indians who do have access to it, ambulance service is not covered by health insurance.

ZHL initially decided to target Mumbai because it is the largest metropolis in the country, with over 1,000 hospitals serving a population of approximately 17.4 million. More importantly, 40% of that population earns less than \$4 dollars a day, which makes it an ideal place for the efficiency and discipline of 1298 ambulance operations to help the poor.

## Competitive Environment

---

The majority of Mumbai citizens use rickshaws or taxis for emergency transport due to their low cost, high availability and familiarity. Public ambulances run by hospitals and NGOs are available but not widely used due to the predominantly accurate perception of their unreliability and lack of timeliness. Most private ambulances in Mumbai act as "hearse" ambulances, transporting dead bodies rather than saving lives, and therefore do not compete with ZHL.<sup>5</sup> As an EMS (Emergency Medical Service) private ambulance, 1298 has demonstrated a competitive advantage in timeliness and quality as compared to other modes of transportation, as indicated by **Table 1**.

## ZHL Business Model

---

ZHL's long-term goal is to reach every emergency caller within 15 minutes or less. Though the average response time around the world is eight minutes, the traffic conditions and city infrastructure of Mumbai and other Indian cities make even a 15-minute goal quite challenging.

**Table 1**  
**Modes of Transport in Urban India**

	Overview	Advantages	Disadvantages
<b>Auto Rickshaw</b>	<ul style="list-style-type: none"> <li>Primary mode of transportation for non-vehicle-owning lower or middle class</li> </ul>	<ul style="list-style-type: none"> <li>High availability</li> <li>Highly economical</li> <li>Familiar mode of transport</li> </ul>	<ul style="list-style-type: none"> <li>Restricted by law to enter in certain areas of city</li> <li>Very unstable mode of transport</li> <li>No life support service on-board</li> <li>No indication to traffic of emergency transport</li> </ul>
<b>Taxi</b>	<ul style="list-style-type: none"> <li>Primary mode of transportation for non-vehicle-owning middle class</li> </ul>	<ul style="list-style-type: none"> <li>High availability</li> <li>Economical</li> <li>Familiar mode of transport</li> </ul>	<ul style="list-style-type: none"> <li>No life support service on-board</li> <li>No indication to traffic of emergency transport</li> </ul>
<b>Private Vehicles</b>	<ul style="list-style-type: none"> <li>Primary mode of transportation for vehicle-owning middle or upper class</li> </ul>	<ul style="list-style-type: none"> <li>Available as needed</li> <li>Familiar mode of transport</li> </ul>	<ul style="list-style-type: none"> <li>No life support service on-board</li> <li>No indication to traffic of emergency transport</li> </ul>
<b>Public Ambulances</b>	<ul style="list-style-type: none"> <li>Ambulances run by NGOs, privately- held, and government entities</li> </ul>	<ul style="list-style-type: none"> <li>Connected to hospitals where emergencies can be addressed</li> <li>Indication to traffic of emergency transport</li> </ul>	<ul style="list-style-type: none"> <li>Generally unreliable to reach emergency caller in a timely manner</li> <li>Generally no life support service on-board</li> </ul>
<b>Private Ambulances: EMS</b>	<ul style="list-style-type: none"> <li>Emerging part of the market with new international players</li> </ul>	<ul style="list-style-type: none"> <li>Generally reliable to reach emergency caller in a timely manner</li> <li>Life support service on-board</li> <li>Indication to traffic of emergency transport</li> </ul>	<ul style="list-style-type: none"> <li>Varying rates from extremely high to competitive</li> </ul>

Source: Review of Urban Transportation in India

### Ambulance Service

ZHL ambulance service consists of a Life Institute of Health Sciences (LIHS) doctor, a driver and a helper. All ambulances have air-conditioning, mild soundproofing and silicone sealing in joints. They also have a collapsible trolley stretcher and a stair chair on board. ZHL offers two types of ambulances:<sup>6</sup>

- *Basic Life Support (BLS)*: Ambulances that provide transport to patients who do not require extra support or cardiac monitoring; Includes oxygen administration, splint treatment, and CPR (cardiopulmonary resuscitation) capabilities
- *Advanced Life Support (ALS)*: Ambulances that provide transport to patients who need a higher level of care; Includes the above, plus defibrillator, ECG, cardiac monitor, portable ventilator, suction machine, resuscitation kit, electrocardiogram, emergency medicines and pulse oximeter

### **Ambulance Control Room**

ZHL's 24/7 control room employs ProQA Emergency Medical Dispatcher Software, state-of-the-art technology based on internationally accepted protocols.<sup>7</sup> The software enables real-time tracking of ambulances, using GPS to ensure the closest ambulance can reach an emergency caller. All control room staff are trained EMDs (Emergency Medical Dispatchers) who carefully question callers to determine the type of emergency, extent of injuries suffered, and possible instructions before the ambulance arrives. EMDs also stay in contact with the ambulance staff to coordinate with the medical workers at area hospitals.

### **Pricing: Cross-subsidy Model**

In order to serve customers who come from all different economic backgrounds, ZHL employs a tier-pricing structure based on ability to pay: High-income populations pay the standard fee of 275 Rs (Rupees) for BLS and 675 Rs for ALS, the underprivileged pay a subsidized rate of 50% of the fees they incur, and accident victims and the extremely poor receive services for free.<sup>8</sup> The type of customer is determined by the hospital to which patients are taken. Patients taken to reputable, full-service hospitals are charged the standard rates; those taken to general wards in government hospitals are charged subsidized rates.

By employing a tiered-pricing strategy, ZHL is able to provide high-quality EMS to the significant urban population that lives in poverty. In its first year of operation, ZHL provided free services to approximately 2,500 patients.

### **Strategic Partnerships**

Since its establishment, 1298 has developed key relationships to maintain the company's world-class management and service. ZHL founders spent two years researching various ambulance service models around the world, eventually partnering with the London Ambulance Service as a guiding business model. Lifesupporters Institute of Health Sciences (LIHS), Mumbai's premiere emergency care training center, has provided medical training to 1298 staff and other services. Over the years, ZHL has expanded its partnerships to:

- New York Presbyterian Hospitals
- University Hospital of Cornell and Columbia Medical Schools
- Harvard Humanitarian Initiative
- AAPI — American Association of Physicians of Indian Origin
- AHA — American Heart Association

Ziqitza has built relationships with complementary social services in Mumbai as well. Ambulance Access for All, a nonprofit with a similar mission of promoting quality EMS, has provided ZHL with six free ambulances to grow its operations.<sup>9</sup> Additionally, 1298 has coordinated with the Mumbai Fire Brigade in times of disaster, where the fire brigade informs the 1298 control room and ambulances to respond to an emergency. ZHL also has partnerships with ten railway stations in Mumbai, so that medical attention is available for train victims in the shortest time possible.

ZHL has also leveraged corporate relationships. Corporate sponsors, such as Tata AIG, have given monetary support to ZHL in exchange for corporate social responsibility advertising on the sides of 1298 ambulances. Sponsorships such as these have enabled Ziqitza to maintain a financially sustainable business model in just a few years.

## Key Staff

As an EMS provider, ZHL has carefully developed its staffing to ensure a high level of patient care. Since recruiting trained medical staff is challenging in India and there is virtually no concept of ambulance paramedics, ZHL provides EMS training modules for its doctors and paramedics through LIHS. ZHL has also specifically targeted alternative medicine doctors, due to the scarcity of conventional doctors. Alternative medicine doctors would professionally benefit from LIHS training and higher pay compared to typical alternative medicine income. At the same time, this helps 1298 maintain a steady pool of potential ambulance doctors.

As a social enterprise, ZHL recruits exceptional individuals who believe in the social mission and potential of 1298 to manage the day-to-day operations of the business. Staffing these individuals has been done mostly by word-of-mouth and within the greater network of the original founders.

## Marketing

As virtually the only player in the EMS ambulance market, the founders developed and launched a marketing campaign in Mumbai that cost about five million Rs in the first two years of 1298's operation. Sweta and her team have continued with similar marketing strategies.

ZHL has targeted most of its marketing efforts toward hospitals. For medical staff, ZHL has offered special training programs on the importance of using life support ambulances for medical emergencies and directing hospital emergency calls to 1298. ZHL has also printed more detailed paramedical education readings for hospitals.

ZHL has utilized various forms of media, from radio announcements to billboards, in order to attract 1298 customers and promote awareness of EMS ambulances as a viable mode of transport. Additionally, ZHL's First Aid and Basic Life Support workshops can also be seen as marketing the importance of EMS ambulance services.<sup>10</sup>

Emergency calls have increased in 1298's first few years, growing at an impressive 30 to 40 percent each year (See **Exhibit 1**). However, recent call growth has plateaued, with no significant increases seen from new marketing campaigns.

## Other Services

### *First Aid and Basic Life Support Workshops*

With LIHS, 1298 has started a community initiative to create "First Responders" in Mumbai by providing free training to college students. LIHS doctors conduct three-hour workshops on medical and trauma emergencies, from fractures to cardiac arrest, where students learn basic CPR techniques and automated external defibrillator (AED) utilization. ZHL aims to create public awareness about first-aid and the need for ambulances by empowering youth to help those around them in a medical emergency.

### *1298 Women's Helpline*

ZHL partnered with the Sheriff of Mumbai, Dr. Indu Shahani, to launch the 1298 Women's helpline in January 2008. The helpline aims to assist women against sexual harassment and violence, and receives around 20 to 25 calls on a daily basis. To move this initiative forward, ZHL, the Sheriff of Mumbai, the Akshara Foundation, and Times Foundation have also developed the Women's Resource Directory, launched in September 2009. The directory includes phone numbers of over 75 NGOs in Mumbai who specialize in

various issues, including counseling services, temporary housing, legal support, and health support for women. The Women's Directory is available free of cost at the Times Response office and the Dial 1298 for Ambulance office.<sup>11</sup>

#### *1298 Rescue Efforts*

ZHL has demonstrated a commitment to rescue response in large-scale emergencies:

- The state of Bihar was devastated by floods in August 2008. 1298 dispatched five ambulances to aid various relief camps and organized a collection drive with the Sheriff of Mumbai and the India Oil Corporation.<sup>12</sup>
- Mumbai experienced terrorist bombings in July 2006. 1298 was instrumental in emergency transport, supplying over 50% of the ambulances that day and transporting 125 victims in the three-day post-period.<sup>13</sup>

## **ZHL Growth**

---

### **Acumen Fund Investment**

Acumen Fund primarily supports ventures that deliver goods and services to the poor through equity or debt financing. Additionally, the 501(c)(3) nonprofit provides management guidance, from taking board seats to placing direct support of short-term staff at their investments. Acumen Fund has invested over \$34 million in 30 ventures in countries such as Kenya, Pakistan and Uganda (as of 2008) and hopes to grow its portfolios to \$100 million in 60 to 80 enterprises, aiming to impact 50 million lives.<sup>14</sup>

Before making an investment, Acumen Fund performs a very thorough due diligence, using a framework derived from the venture capital industry. This involves evaluating the management team, business model, firm value, and exit strategies (See **Exhibit 2**). Additionally, Acumen Fund has developed its own Best Available Charitable Option (BACO) Model that helps the organization evaluate its investments against other charitable options that provide similar services or products (See **Exhibit 3** for an example BACO analysis).

In 2007, Acumen Fund took a \$1.5 million equity stake, 30% of ZHL, to fund expansion of the ambulance service. After careful valuation analysis, 1298 proved to encompass both the robust business model and the social mission that Acumen Fund seeks in its investments. Though at the time ZHL only had ten ambulances, by 2010 it was able to scale to 51 ambulances in Mumbai and 30 in the state of Kerala.

### **Launch in Kerala**

With Acumen Fund's investment, 1298 was able to expand into the Kerala cities of Ernakulam and Thrissur by the end of 2008, starting with five ALS ambulances. The service area was then expanded to cover two more areas, Alleppey and Kottayam, in June 2008, with an additional fleet of five ALS and ten BLS ambulances, making a total of ten ALS and ten BLS ambulances in Kerala. 1298 aims to cover all of Kerala by the end of 2010.<sup>15</sup>

Though 1298 has specific ambulances for Kerala, the control room operations that receive emergency calls remains in Mumbai. ZHL has been able to maintain 18% subsidized or free calls for the 10,000 calls per-year average in Kerala.

### Organic Expansion Plan

In line with its original mission to provide EMS ambulance services across India, ZHL has developed a long-term vision of expansion. Having built a successful model in both Mumbai and Kerala, 1298 seeks to expand to the top eight cities of India—Hyderabad Chennai, Bangalore, Pune, Calcutta, New Delhi, Ahmedhad, Jaipur—by 2013.

Rapid population increase from large-scale immigration due to high economic growth in these urban areas has resulted in increased demand for better transport, putting excessive pressure on cities' existing infrastructure. **Table 2** shows the significant population density of these burgeoning cities.

**Table 2**  
**Population Growth of Indian Cities (in thousands)**

City	Population (2001 Census)	Population (2010 Estimate)	Growth
Mumbai	11978	13830	15.5%
Ahmedabad	3520	3959	12.5%
Bangalore	4301	5438	26.4%
Calcutta	4573	5138	12.4%
Chennai	4343	4617	6.3%
Hyderabad	3637	4069	11.9%
Jaipur	2323	3211	38.2%
New Delhi	302	241	-20.2%
Patna	1366	1876	37.3%
Pune	2538	3446	35.8%

Source: India City Population

New Delhi, Chennai, Bangalore, and Hyderabad all face acute transport management problems that lead to air pollution, congestion, and large loss of productivity. As a result, the tourism ministries in these cities have embarked on ambitious projects in the past two decades to ameliorate the urban transportation situation. New Delhi began the Delhi Metro project in 1998, which in the past decade has put into commission four different transit lines that have significantly helped to relieve congestion. The city of Chennai has built major arterial roads that run in an east-west or north-south direction. As urban transportation is being rapidly modernized in many of these cities, ZHL sees the coming years as an ideal opportunity to provide EMS services under these more manageable road conditions.

### ZHL's Pilot in Patna, Bihar

In 2009, the Bihar government approached Ziqitza with a unique proposition. The state wanted to run a pilot project with 1298 to provide quality ambulance services in Patna, the state's capital (population 1.7 million).

Ziqitza agreed to the public-private partnership, dispatching five BLS and five ALS ambulances. Emergency callers pay a reduced, flat rate of 300 Rs under this government-subsidized model, compared to the market rate of 675 Rs for ALS ambulance transport. The pilot program maintains a focus on the poor. Impoverished callers are funded by the Bihar Health Ministry's Patients' Welfare Committee and do not have to pay for transport.<sup>16</sup>

Additionally, 1298 receives ten Rs lakhs<sup>i</sup> per month from the Bihar Health Ministry to operate in Patna, with the prospect of scaling across the state based on the success of the city pilot. It should also be noted that the toll-free calling number is not “1298” but “108,” Patna’s original emergency call line.<sup>17</sup>

## Public-Private Partnerships

There is no single accepted international definition of a public-private partnership (PPP). PPP generally involves a contract between a private party and a public sector authority, in which the private party supplies a public service or project and assumes substantial technical, operational and financial risk in the project.

In some types of PPP, the cost of using the service is taken on by the users of the service and not by the taxpayer. In other types of PPPs, capital investment is made by the private sector (on the strength of a contract with the government) to provide specific services, and the cost of providing the service is borne wholly or in part by the government. Government contributions to a PPP may also be in-kind or free, usually of already existing assets. The government may also support the project by providing revenue subsidies, including tax breaks, or by providing guaranteed annual revenues for a fixed period.

PPPs are therefore more than service contracts (where a firm only provides time and expertise), but some would include these agreements in the definition of public-private partnerships.

### India

The government of India defines public-private partnerships as the following:

- Public Private Partnership (PPP) Project means a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges.
- Private Sector Company means a company in which 51% or more of the subscribed and paid-up equity is owned and controlled by a private entity.<sup>18</sup>

Since economic reforms in the early 2000s, India has had around ten years of experience managing private sector investment in public infrastructure and public-private partnerships. In order for India to maintain its high economic growth, the Planning Commission of the Government of India has set aside \$494 billion to invest in public-private partnerships in the Eleventh Five-Year Plan, effective from 2007 to 2012.<sup>19</sup> Given the large resource requirements and the budgetary and borrowing constraints, the Government of India has been encouraging private sector investment and participation in all sectors of infrastructure (See **Exhibit 4**). It has recognized that while public investment in infrastructure would continue to increase, private participation needed to expand significantly to address the existing deficit in infrastructure services.

Public-private partnerships have met varying degrees of success, with great progress being made in the telecommunications and transportation sectors. Progress across states has been uneven, with some states having undertaken far more PPPs than others have and developing stronger frameworks for PPPs to ensure successful projects (See **Exhibit 5** for the investment breakdown across states and sectors).

### State of Rajasthan

Rajasthan lies between the wealthy north and the growing west of India, a strategic location conveniently providing access to two of the largest consumer markets in India. Improvements in social infrastructure over the last decade have contributed to population growth of 28%, significantly higher than the national average of 21%.<sup>20</sup>

i A lakh is a unit in the Indian numbering system equal to one hundred thousand.

The Rajasthan government has initiated steps aimed at streamlining the PPP approval processes to help provide better quality public infrastructure:

- The Board of Infrastructure Development and Investment Promotion (BIDI) has been formed to facilitate approval of concessions and clearances for large-scale infrastructure projects.
- Economic Policy & Reforms Council (EPRC) is a state-level think-tank comprised of corporate leaders, eminent educators, specialists and economists, with the Chief Minister as chairperson to develop further initiatives to promote economic growth.
- Empowered Committee on Infrastructure Development (ECID), under the chairmanship of the Chief Secretary, has jurisdiction over all public-private partnerships and is responsible for conceptualizing, approving projects, and resolving all interdepartmental issues.

Rajasthan was the first Indian state to formulate a policy for build-operate-transfer (BOT) PPP projects, in 1994. The Rajasthan Road Development Act (2002) encourages private sector participation in the construction of financially viable bridges, bypasses, rail over-bridges, tunnels, etc. In November 2005, the Government of Rajasthan and Infrastructure Leasing and Financial Services Limited partnered to construct the “Mega Highways Project,” which cost approximately 1,200 Rs crore.<sup>ii</sup> Rajasthan has completed 29 BOT or public infrastructure outsourcing projects, costing 366 Rs crore, in addition to developing state-of-the-art highways.<sup>21</sup>

In addition to developing road infrastructure, Rajasthan has promoted PPPs in urban development projects related to transportation, waste, information technology, and automobiles. There has been little partnership activity in the medical and health sectors, outside of subsidizing specific medical tests for poorer citizens.

---

## The Need to Scale

As Ziqitza continues to strategically expand its operations and increase its geographic reach, management faces the challenge of increasing market penetration at the possible expense of reaching its most important segment—the poor.

In 2009, two Acumen Fellows working with ZHL surveyed Mumbai residents living below the poverty line, asking questions such as the following: “What do you do when you get sick? How do you get to the hospital? Which ambulances do you call? Why wouldn’t you call an ambulance? Who helps you when you get sick?” The aim of the survey was to elicit an understanding of the segment most unaccustomed to any form of healthcare, in a culture of very low utilization of EMS services overall.<sup>22</sup>

Though 1298’s cross-subsidy model enables the business to maintain a subsidized (or poor) customer base, it does not set a target for the absolute number of subsidized emergency calls or percentage of the poor served. The current low call growth, despite continued marketing strategies and the fractional rate of 10% of emergency cases served by ambulances in Mumbai, this stagnant overall market penetration implies that many more poor individuals can be reached and positively impacted through 1298’s services.

While public-private partnerships will enable ZHL to grow the absolute number of the poor served, is this the best time or the optimum model to scale across India? How does an organization decide whether to saturate its current markets further or move on to new markets? Which method will allow for longer-term sustainability and facilitate a higher future social impact?

---

ii A crore is a unit in the Indian numbering system equal to ten million (or 100 lakhs).

Sweta looked out her window to the Mumbai traffic and remembered why she had returned to India after working in the United States for several years. Though she had enjoyed her time in the US, she had missed the exciting unpredictability that came with every day in India. Without fully knowing what the future of this unprecedented EMS partnership in Rajasthan would hold, Sweta recognized she had to carefully consider the potential costs and benefits of working with the government. Though she was energized by this new opportunity, Sweta was committed to making the right choice for her company, staff, and the people that 1298 works hard to serve.

DO NOT COPY

## Exhibits

### Exhibit 1

#### ZHL Call Growth

Year	Total No. of Calls	Free/Subsidized Calls
2005	10763	23%
2006	14265	18%
2007	18649	19%
2008	26886	16%

Source: Dial 1298 Ambulance HSBC PowerPoint

### Exhibit 2

#### Acumen Fund Capabilities Assessment Matrix

Subcategories		1	2	3	4
Commitment to Acumen Fund mission	Commitment to BoP	Has demonstrated little commitment to serving BoP customers	Some stated interest and tentative explorations into BoP starting to generate lessons learned	Stated interest and tentative explorations into BoP starting to generate lessons learned	Strong stated commitment to BoP markets and significant experience to date
	Commitment to market solutions	Believe charity or government aid is the best approach to supporting the BoP	Believes subsidies or government contracts are required to make markets effective	Believes in using subsidies or government to stimulate private markets	Firm commitment to finding market-based solutions to delivering critical goods and services to the poor
	Ambition to scale	Willing to consider moderate expansion at current site	Willing to expand at current site and replicate program at other sites; with potential to hit 10x growth	Ambitions to grow by an order of magnitude and beyond within five years	Aspirations to create regional, national, or international program that reaches 1M consumers
Financial Sustainability	Cost recovery	Recovers less than 10% of its costs	Recovers 10%-50% of its cost	Recovers 50%-100% of its costs	Recover over 100% of its costs
	Financial plan	Poor financial plan in place, lacking adequate controls	Financial plan in place, but disconnected from organization's operations (good accounting by not good planning)	Financial plan is an operational tool with clear targets; some weak assumptions, but otherwise fundamentally sound	Financial plan fully integrated into operation's and strategy; well crafted and carefully designed
	Timeline for sustainability	Not seeking financial sustainability; or just starting to discuss options for sustainability, but no real business model in place	Taking steps toward sustainability, but likely achievable in 6 to 10-year time horizon	Projected to be sustainable in less than 5 years	Currently sustainable

<b>Potential for Scale</b>	Output	Reaching <10,000; no growth or falling output; one of many players at regional level	Reaching >10,000 people; no significant growth in scale from before; small player	Reaching >100,000 people; 5x prior output and small player at regional level	Reaching >1 million people; 10x prior output and leading player in solving regional or national problem
<b>Potential for Social Impact</b>	Impact of product on quality of life of the poor	Product/service has little potential to improve the quality of life of the poor; serious potential for unintended consequences	Product/service has some potential to improve the quality of life of the poor	Product/service has significant potential to improve the quality of life of the poor	Compelling evidence outlining the product's/ service's significant impact on quality of life of the poor
	Systems change	No identifiable systems change or potential unclear	Identifiable potential for minor systems change	Product/service demonstrates potential for significant systems change	Observable systems change in the industry resulting from the product, service or investment process
<b>Management Capacity</b>	CEO/ entrepreneurs	First-time entrepreneur with little or no business building experience; compelling but muddled vision and little capacity to lead	Entrepreneur with some experience in building a growing enterprise; clear vision	Entrepreneur with either compelling vision or strong capabilities and experience in managing growing enterprise (but not both)	Seasoned entrepreneur with numerous successful ventures; clear and compelling visionary with management experience and skills to build enterprise
	Management team	No management team beyond founder	Incomplete management team in key positions; several low-quality team players	Building team with most key positions filled with strong people; plausible successor on team	High-quality people in all major function leadership positions; strong number 2 identified

Source: Acumen Fund

### Exhibit 3

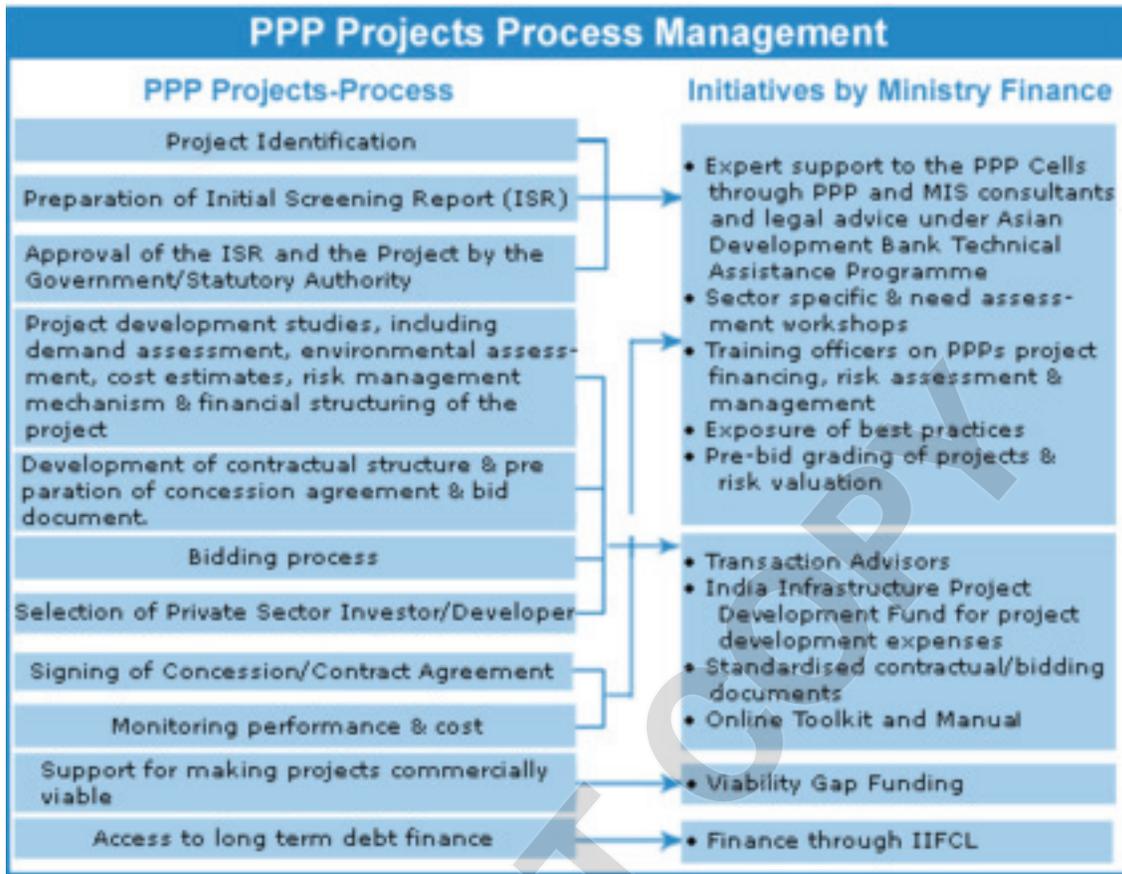
#### Acumen Fund's Example BACO Analysis of a Bed-Net Business

	Acumen Fund Investment	Traditional Charity
<b>Financial Cost</b>	\$325,000 loan (6% interest) + \$130,000 in-kind support - \$422,500 loan payment + interest = \$32,500 Net Cost	\$325,000 grant
<b>Social Impact</b>	7 million long-lasting insecticide nets produced	92,857 traditional nets produced
<b>Result</b>	\$0.02 to supply a person with a year of malaria protection	\$0.84 to supply a person with a year of malaria protection.
<b>BACO Ratio</b>	42	

Source: Acumen Fund Roadshow Document

### Exhibit 4

#### Government of India Public-Private Partnership Framework



Source: Ministry of Finance, Government of India

### Exhibit 5

#### Public-Private Partnership State and Sector Investment Breakdown

STATE WISE FIGURES						
States	Total Number of Projects Based on Value of Contracts					
	Total Number of Projects	Based on 100 crore	Between 100 to 250 crore	Between 251 to 500 crore	More than 500 crore	Value of contracts
Andhra Pradesh	63	1062.93	1554.27	3188.53	33473.7	39279.43
Bihar	2	4	0	418.04	0	422.04
Chandigarh	14	15	0	0	0	15
Chhattisgarh	4	70	304	464	0	838
Delhi	9	95	0	408.2	10374	10877.2
Goa	2	30	220	0	0	250
Gujarat	27	130.06	277.22	3360.9	14943.71	18711.89

Haryana	2	0	0	756	0	756
Jharkhand	6	131	550	0	0	681
Karnataka	95	980.39	1692.55	12203.31	24615.6	39491.85
Kerala	11	114	112	615.5	11131	11972.5
Madhya Pradesh	37	1027.32	1117.28	2694.95	2949	7788.55
Maharashtra	285	118.5	745.5	1099.84	32061.95	34025.79
Orissa	16	235.1	0	500	6888.34	7623.44
Pudducherry	2	0	0	419	1867	2286
Punjab	19	537.26	434.72	572	0	1543.98
Rajasthan	49	523.92	783.79	833	3112.7	5253.41
Sikkim	24	175.59	558	2669	13708	17110.59
Tamil Nadu	30	143.31	555.6	6412.87	5340	12451.78
Uttar Pradesh	5	0	0	1458.57	649.21	2107.78
West Bengal	5	0	200	1214.4	641	2055.4
Inter-State	13	160.45	195	2294.67	5984	8634.12
<b>Total</b>	<b>450</b>	<b>5638.83</b>	<b>9299.93</b>	<b>41582.78</b>	<b>167739.21</b>	<b>224175.8</b>

#### SECTOR WISE FIGURES

Sector	Total Number of Projects	Based on 100 crore	Between 100 to 250 crore	Between 251 to 500 crore	More than 500 crore	Value of contracts
Airports	5	0	0	303	18808	19111
Education	1	93.32	0	0	0	93.32
Energy	24	175.59	558	2669	13708	17110.59
Ports	43	96	970	2440	62992.95	66498.95
Railways	4	0	102.22	905	594.34	1601.56

<b>Roads</b>	271	3162.5	5526.49	32861.87	60453.92	102004.7
<b>Tourism</b>	29	742.56	674.52	0	1050	2467.08
<b>Urban Development</b>	73	1283.86	1468.7	2403.91	10132	15288.47
<b>Total</b>	<b>450</b>	<b>5638.83</b>	<b>9299.93</b>	<b>41582.78</b>	<b>167739.21</b>	<b>224175.8</b>

Source: Department of Economic Affairs, Government of India

DO NOT COPY

- <sup>1</sup> Alex, Amit. Business Development Manager of Ziqitza Healthcare Limited. Interview. 23 April 2010.
- <sup>2</sup> Mather, Shaffi. "A New Way to Fight Corruption." TED (Technology, Entertainment, Design) Talks. December 2009.
- <sup>3</sup> "National Disaster Management." *Ministry of Home Affairs, Government of India*. <<http://ndmindia.nic.in/>>.
- <sup>4</sup> Mengal, Sweta. Chief Executive Officer of Ziqitza Healthcare Limited. Interview. 15 January 2010.
- <sup>5</sup> "Dial 1298 for Ambulance." *Ziqitza Healthcare Limited*. 30 January 2009. <<http://www.scribd.com/doc/11575031/Dial-1298-for-Ambulance-HSBC-PPT>>.
- <sup>6</sup> Ibid.
- <sup>7</sup> Ibid.
- <sup>8</sup> Taparia, Hans. Chief Executive Officer of Tasty Bite. Interview. 7 April 2010.
- <sup>9</sup> Alex, Amit. Business Development Manager of Ziqitza Healthcare Limited. Interview. 15 March 2010.
- <sup>10</sup> Ibid.
- <sup>11</sup> "Sheriff of Mumbai." *City of Mumbai*. April 2010. <<http://www.sheriffmumbai.com/>>.
- <sup>12</sup> "Bihar Flood Relief." *1298*. April 2010. <[http://www.1298.in/bihar\\_flood\\_relief.htm](http://www.1298.in/bihar_flood_relief.htm)>.
- <sup>13</sup> "Dial 1298 for Ambulance Newsletter." *1298*. October 2008. <<http://www.scribd.com/doc/8559861/Dial-1298-for-Ambulance-Newsletter-129802>>.
- <sup>14</sup> "Investment Discipline." April 2010. *Acumen Fund*. <<http://www.acumenfund.org/investments/investment-discipline.html>>.
- <sup>15</sup> "1298 in Kerala." *1298*. 05 June 2009. <[http://www.1298.in/1298\\_in\\_Kerala.htm](http://www.1298.in/1298_in_Kerala.htm)>.
- <sup>16</sup> "Chidambaram owned co to operate ambulances in Patna." *Jai Bihar*. <<http://jaibihar.com/chidambaram-owned-co-to-operate-ambulances-in-patna/20098966.html>>.
- <sup>17</sup> "Dial '108' for emergency medical attention." 04 June 2009. *Hindustan Times*. <[http://1298.in/press\\_releases\\_page.php?id=297](http://1298.in/press_releases_page.php?id=297)>.
- <sup>18</sup> "Public Private Partnerships in India." April 2010. *Ministry of Finance, Government of India*. <<http://www.pppinindia.com/index.php>>.
- <sup>19</sup> "India: Building Capacities for Public Private Partnerships." June 2006. *The World Bank*. <<http://www.un.org/esa/coordination/Alliance/Ex-PPP%20in%20India.pdf>>.
- <sup>20</sup> "Rajasthan." April 2010. *Ministry of Finance, Government of India*. <<http://www.pppinindia.com/introduction-rajasthan.php>>.
- <sup>21</sup> "Facilitating Public Private Partnership for Accelerated Infrastructure Development in India." *Asian Development Bank*. December 2006. <<http://www.adb.org/documents/reports/consultant/39659-ind/39659-ind-tacr.pdf>>.
- <sup>22</sup> "Will Sureka Dial 1298 for Ambulance?" *Acumen Fund*. 04 May 2009. <<http://blog.acumenfund.org/author/rkatz/>>. El es nustint, sandipsa int.
- <sup>23</sup> Videnim usciuntem corpore consequia dia volupicat venditibus, simpore rest ex et, con natium ium volorro riberspelite maionse nobitibus nobis mos et venim alibus, tem hiliam, im ut eveliciae occusda ernatusa natur repudam east, eiciaturem. Ficitia vernam quunt abo. Ut ipicit, quia doluptassi qui quae velliciam vel es perum volum si blam est alibus.
- <sup>24</sup> Itam fuga. Ihil id eatem erem quatusam volioris modit quo eos cusam entem ex entiscid et fuga. Ut untem et volorpossi odist, sitatur alitaqu aestiorerum, officae latias est eic to commolest, volor aut ducidi omnihite corum acepe consecum quis dem quate sam volorpore laut di rerae peribus apitioresti audam, exeriorias solores tenimos molutendus sequi sanda dolestota ant, ommodia ipsamet re nistrum et laut voloribus conem rera verore cuptam, tem laborendae res arum idipsus enderuntias re volor ad earciatquis doluptio omnima comnisi ntibus aut volut ant, ut et officilignit vero enimenis restiandant, quam vent ant.
- <sup>25</sup> Omnisqui occus maios sum ne moluptate que autem excepedic temped magnim adis expella voluptat quo tet quae soluptatur atius ium re sinimpore aliqui dem et magna di optate exerovid untis re pro moluptatem facerroria doluptae. Am eos venis mosam namus ide quosae porem qui inihitat quae simendia cum cuptae magnatio. Ro quo omni quam, voluptio estrum fuga. Ferum que ratio volupta susda nempel modiorestio volorepe dem imet derchillore prestio nsequis et endebis atemporem dolorem ea provid ut et lab ipsape este exeribea veliti ulpa seria ist minverum dis suntempori occabor eperuntis et evelibu sdandebit aut utem eritatem et quas vero expelit acit magnam alibus adis enis excest quidunt, esti ommoluptia sit volupta temporp oriasit andis excercit mos audigenit alit eos sed que nullignatas veligendunt, qui re, comnihil iusci ilitiunt aut occabor rupite exeribus alia con possentinus, si conserumqui omnimincil ipsumquid esectur, od quaepra sanis ulparib uscidebitist et voluptat harchilla delest estiatibus ari tem que esto quia doluptia commos suntio to officiet am ute volorerum que nonse comnime voluptiant facienienim qui derum harum qui sequatibus.

**Endnotes**

---

DO NOT COPY

**Notes**

---

DO NOT COPY

**Notes**

---

DO NOT COPY



William Davidson Institute  
AT THE UNIVERSITY OF MICHIGAN

Business Knowledge for  
Emerging Economies

The William Davidson Institute's (WDI) Research Associates collaborate with faculty from Michigan's Ross School of Business to produce teaching materials for top business schools. WDI is a nonprofit, independent, research and educational institute that creates, aggregates, and disseminates intellectual capital on global business and policy issues.

[www.wdi.umich.edu](http://www.wdi.umich.edu)



**GloboLens<sup>SM</sup>** is the online resource for business educators in need of material and teaching ideas on today's most relevant global issues, such as Social Impact, Social Enterprise, Base of the Pyramid, and Environmental Sustainability.

More than just a case repository, **GloboLens<sup>SM</sup>** features in-depth background materials for instruction, a searchable library of syllabi for developing business courses, community, and publishing support, as well as case studies, exercises and other teaching materials.

[www.globalens.com](http://www.globalens.com)

---